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Leadex Data Report, Part 3
Aircraft Data and Flight Summaries

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Aircraft data obtained from WP-3D, C131A, and Twin Otter flights over the Leadex ice camp region during the period 30 Mar-23 Apr 92 are presented. The data include tracks and times of all aircraft flights; plots and tabulations of dropsonde data acquired from the NOAA WP-3D aircraft; WP-3D weather observer inflight logs and satellite images for each flight; spectral optical depth measurements; strip chart plots of meteorological data from the C131A and Twin Otter aircraft; and selected temperature soundings acquired during respective aircraft ascents and descents.

This document is Part 3 of a series of Leadex data compilation reports. Part 1 provides weather analyses, forecast products, and selected satellite images for each day of Leadex. Part 2 contains rawinsonde plotted and tabular data from Deadhorse, Alaska, and the Leadex ice camp, plus ice station (buoy) data from four locations around the ice camp, at frequent intervals.

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Thanks are expressed to the principal investigators (see facing page) who provided printouts of their data, and gave permission to use selected materials in a combined report that should prove useful to the entire Leadex research community.

Leadex Aircraft Data and Flight Summaries
March 30-April 23, 1992

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LEADEX DATA REPORT, PART 3, AIRCRAFT DATA AND FLIGHT SUMMARIES

1. INTRODUCTION

The Leads Experiment (Leadex) was conducted on and around an ice camp established in the Beaufort Sea approximately 200 nm northeast of Deadhorse, Alaska, during the period 25 March through 24 April 1992. One of the main purposes of the experiment from a meteorological point of view was to determine the effect of weather systems moving through the area on changes in lead configuration and, specifically, on the opening and closing of such leads.

In addition to surface-based measurements, several aircraft participated in the program gathering data from a variety of instruments. These included dropsondes, radiometers, lidars, gust probes, hot wire probes to measure liquid water content, instruments to measure ice crystal concentration, thermistors to detect ambient air temperature, pyrogeometers to measure downward infrared flux, photometers to measure aerosol optical depth, and a variety of other sensors to measure the physical and chemical composition of Arctic haze and the background Arctic atmosphere.

The purpose of this data compilation is to assist the general meteorological research effort through the publication of examples of some of the aircraft data to suggest possible use in correlation with satellite data, as input to numerical modeling, and in mesoscale and synoptic scale analysis.

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Extracted from:

NOAA Technical Memorandum EPL CMDL- 5

ANALYSIS OF METEOROLOGICAL CONDITIONS DURING AGASP-IV: MARCH 30 - APRIL 23,1992

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January 1993

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2. FLIGHT 401, MARCH 30-31, 1992

2.1 Objective

The NOAA WP-3D arrived in Anchorage (ANC) on March 18. After 2 days of crew rest and instrumentation preparation, the aircraft was available for the first sampling mission. There was considerable moisture and cloudiness over the Beaufort Sea during this period, because of persistent southerly flow over Alaska. An AGASP mission was not flown immediately because of the cloudiness and the inability to make representative turbidity measurements.

The first flight eventually was called by the LEADEX crew to study the structure of the mesoscale wind field over the pack ice using dropwindsondes and the boundary layer structure in a region of open leads. The region in the vicinity of the "Ice Camp" (72.53°N, 144.38°W) was selected for this study. The flight track (Fig. 2.1) was from ANC to over Fairbanks (FAI) and then to a point over the crest of Brooks Range at 69°N 144°W, in the vicinity of Mt. Michelson. From that point the NOAA WP-3D aircraft proceeded to 74°N 141.3°W where a crossing pattern was begun to provide the proper distribution to the dropwindsondes, centered on the Ice Camp.

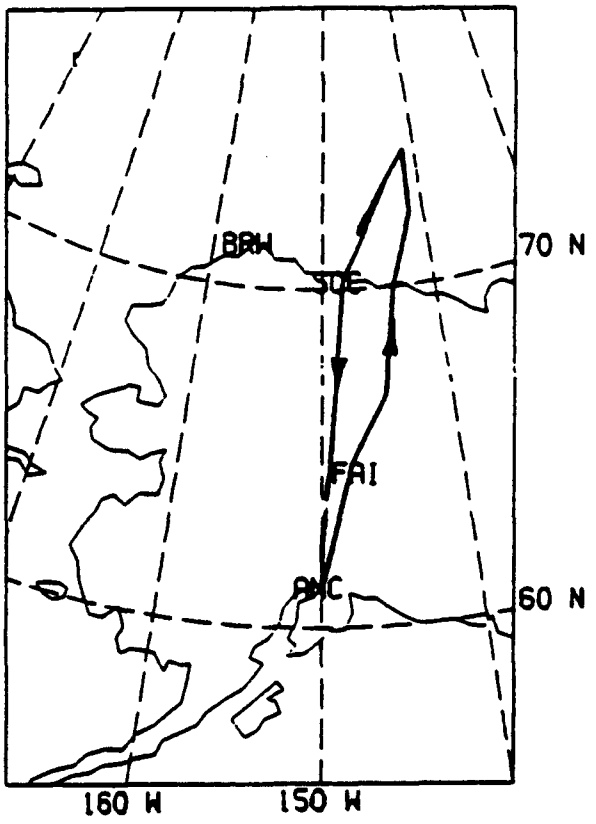


Figure 2.1. Horizontal projection of the aircraft flight track on a latitude-longitude grid, March 30-31, 1992.

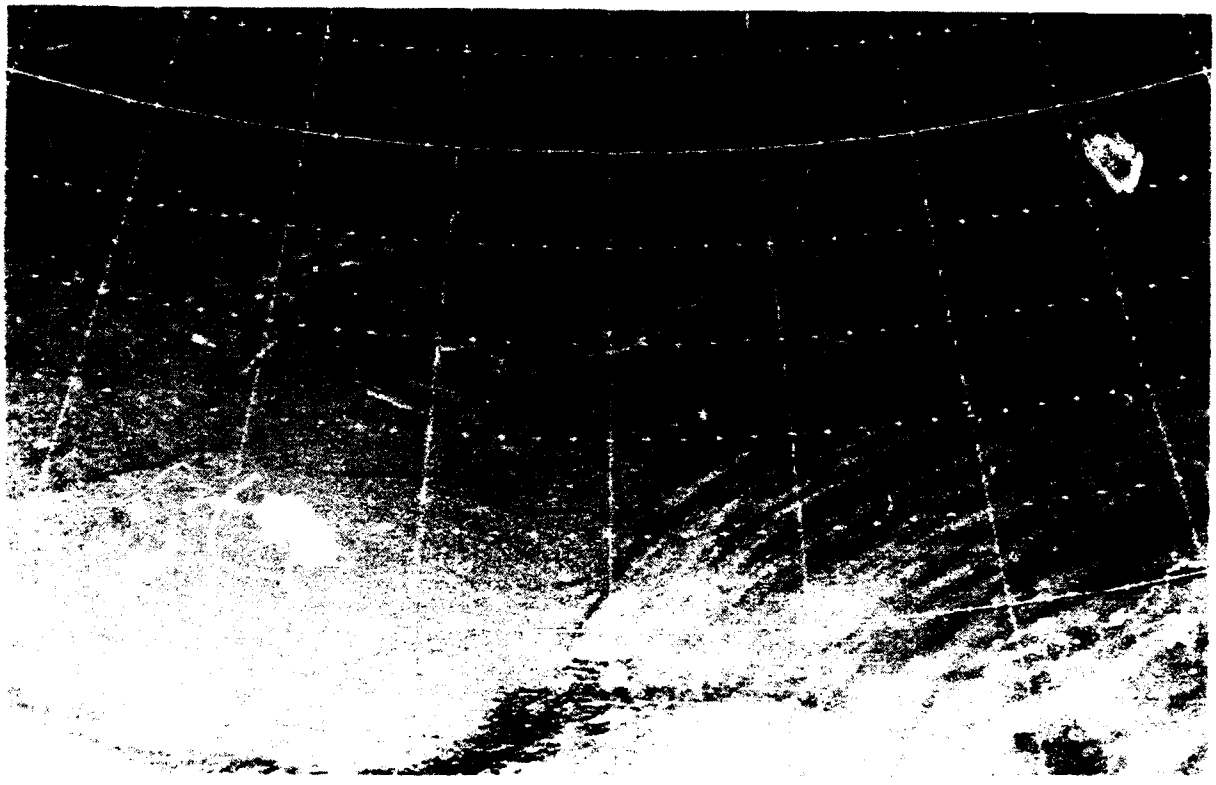
The aircraft reached cruising altitude of 5.8 km at 62.3°N, 149.5°W, 21 minutes into the flight and maintained this pressure altitude (PA) until the descent to the surface was begun at 72°N, 145.7°W. The slow, uniform descent from 485 mb to 1020 mb took 34 minutes, an average rate of ~16 mb min^{-1} (171 m min^{-1}). The low-level survey was confined to the lowest 70 m. After only 31 minutes at low altitude the number one engine failed and low-level sampling was terminated (73.2°N, 143.4°W). The aircraft returned to ANC via a southerly track over FAI.

2.2 Flight Log

Because of technical difficulties with the metalog software, a detailed flight log is available only for select portions of the flight. The header for each entry in the flight log contains the time HH:MM in UTC, the latitude in degrees north, the longitude in degrees west, and the static pressure in millibars at flight level. For each flight, log comments can be referenced to the aircraft profiles in the respective latitude-altitude cross-section of potential temperature using these variables. Note that UTC and Z are used interchangeably for times in this report.

17:11	Take off from ANC.
17:43 63.22 149.00 485	Ozone as plotted on the strip chart recorder on this flight has an 18 ppbv offset from the panel reading. Example: panel - 48 ppbv; chart - 66 ppbv. Offset is linear.
18:30 66.55 145.28 485	Problems encountered on this flight: 1) nephelometer strip chart is not recording; 2) ozone plots to strip chart with an offset; 3) CN data not being recorded by aircraft data acquisition system (ADAS); 4) belt on aerosol transfer pump (ATP) is loud (need to tighten)!; 5) check to verify that ADAS is seeing Dasibi signal; 6) CO_2 flasks can't be fully pressurized at high altitudes - change inlet to forward-facing.
20:36 72.00 145.50 486	Down at lowest legs; (radar altitude (RA): 15-20 m, RA: 60 m); ozone was at 5-10 ppbv.
20:38 72.05 145.80 485	Starting descent over the Beaufort Sea.
20:40 72.15 145.52 500	Hazy or cloudy at this level, hard to tell which.
20:46 71.99 146.31 600	Slight increase in ozone, aerosol scattering is holding steady.
20:48 71.85 146.48 620	Very white, milky obscured visibility.
20:57 72.10 146.12 770	Still milky white, can barely discern the horizon, no evidence of layering.
20:59 72.00 146.36 811	Out of clouds, horizon is now clearly visible. aerosol scattering decreasing.
21:02 71.86 146.68 850	Scattered high cirrus overhead, aerosol scattering dropping fast.
21:05 71.86 146.38 900	Maximum temperature, light turbulence, in clouds again, clouds are thickening.
21:08 71.86 146.75 950	Very cloudy, overcast, horizon is not visible.
21:09 71.81 146.85 960	Winds SE 17 kt. Aerosol scattering increasing in the boundary layer.
21:11 71.80 146.75 1000	Horizon not visible, cloudy, light turbulence.

21:14	71.90	146.41	1021	Beginning low-level patterns, 16 m.
21:17	72.10	146.11	1021	Level at 20 m, horizon is not visible, estimated visibility 0.25 mi.
21:30	72.60	144.90	1014	Opening up to the north, the ice is uniform here, getting brighter.
21:33	72.72	144.60	1017	Brighter now. Heading toward the Ice Camp.
21:35	72.80	144.40	1016	Out from under the clouds. Slight turbulence. Ice Camp to left of plane, at 21:3514.
21:38	72.93	144.12	1017	Scattered to broken clouds aloft.
21:40	73.02	144.10	1017	Ozone was shut off because the ATP was really loud.
21:42	73.10	143.72	1017	Getting into low cloud again, aerosol scattering going up.
21:45	73.21	143.38	1018	Aerosol scattering climbing to 90 x 10^{-6} m^{-1} momentarily, patches of ice crystals are possibly the cause, just lost the #1 engine.
21:46	73.28	143.28	989	End of low-level run, returning to ANC by the most direct route.
21:52	73.07	143.46	773	Aerosol scattering at background levels.
22:04	72.46	144.60	514	Returning to ANC at 18,000 ft. No stratospheric data on this flight.
00:46	61.29	150.25	916	At 1 km during descent into Anchorage, nephelometer turned off.
00:50	61.11	150.10	957	ASASP and FSSP probes off for landing.
00:51				Landing at Anchorage.



NOAA-11 visible data. 30 March 1992, 2148 UTC.

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3. FLIGHT 402, APRIL 10-11, 1992

3.1 Objective

On April 5 the replacement engine was successfully flight tested and the WP-3D was certified ready to continue the sampling program. For the next few days conditions north of the Brooks Range were less than favorable for monitoring Arctic haze. For the period April 6-10, BRW reported broken to overcast conditions with westerly winds, changing to clear to scattered conditions early on April 7. Later in the day (1700Z) the wind shifted to easterly and the cloud cover returned. By 1000Z April 8, BRW was reporting light snow. Light snow and fog continued until 00004Z April 10. On the basis of a forecast for clearing and a shift to northerly winds of 5-10 m s^{-1} in the surface layer and northeasterlies of 8-15 m s^{-1} aloft during the next 24 hours in the BRW region, an AGASP flight was scheduled for April 10-11.

The WP-3D took off at 1715Z April 10 and followed a flight plan taking it over Fairbanks, at which point the plane turned toward the north, following latitude 148°W to 72°N (Fig. 3.1). The aircraft reached flight altitude (6.1 km, 465 mb) 20 minutes after takeoff. During the period 1757 to 1815Z, the aircraft climbed to 7.3 km in search of the tropopause. At 1834 the aircraft left that altitude, climbing to 7.95 km (1839Z). The WP-3D remained at that altitude until 1951Z when the descent profile was begun.

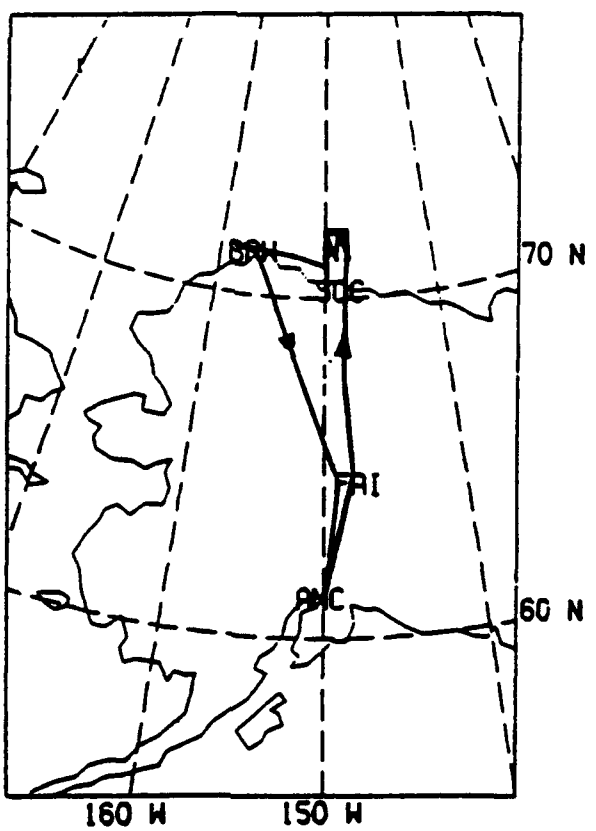


Figure 3.1. Horizontal projection of the aircraft flight track on a latitude-longitude grid, April 10-11, 1992.

The portion of the flight path over the Beaufort Sea consisted of three segments, starting with a vertical profile 220 km upwind, northeast of BRW, followed by a low-level traverse on a north-south heading to sample the plumes from the Prudhoe Bay region. The third leg consisted of a cross-wind traverse to the north of BRW at the top of the planetary boundary layer. The profile began with a westerly segment from 1942 to 1952Z, to provide a clear view of the sun for turbidity measurements. The aircraft descended at an average rate of about 200 m min^{-1} (16 mb min^{-1}). At 2022Z, the aircraft conducted a second westerly segment for turbidity measurements. The descent was continued at 2033Z, reaching the lower sampling level of 1015 mb (0.15 km) at 2057Z. A third radiation segment was flown from 2107 to 2119Z.

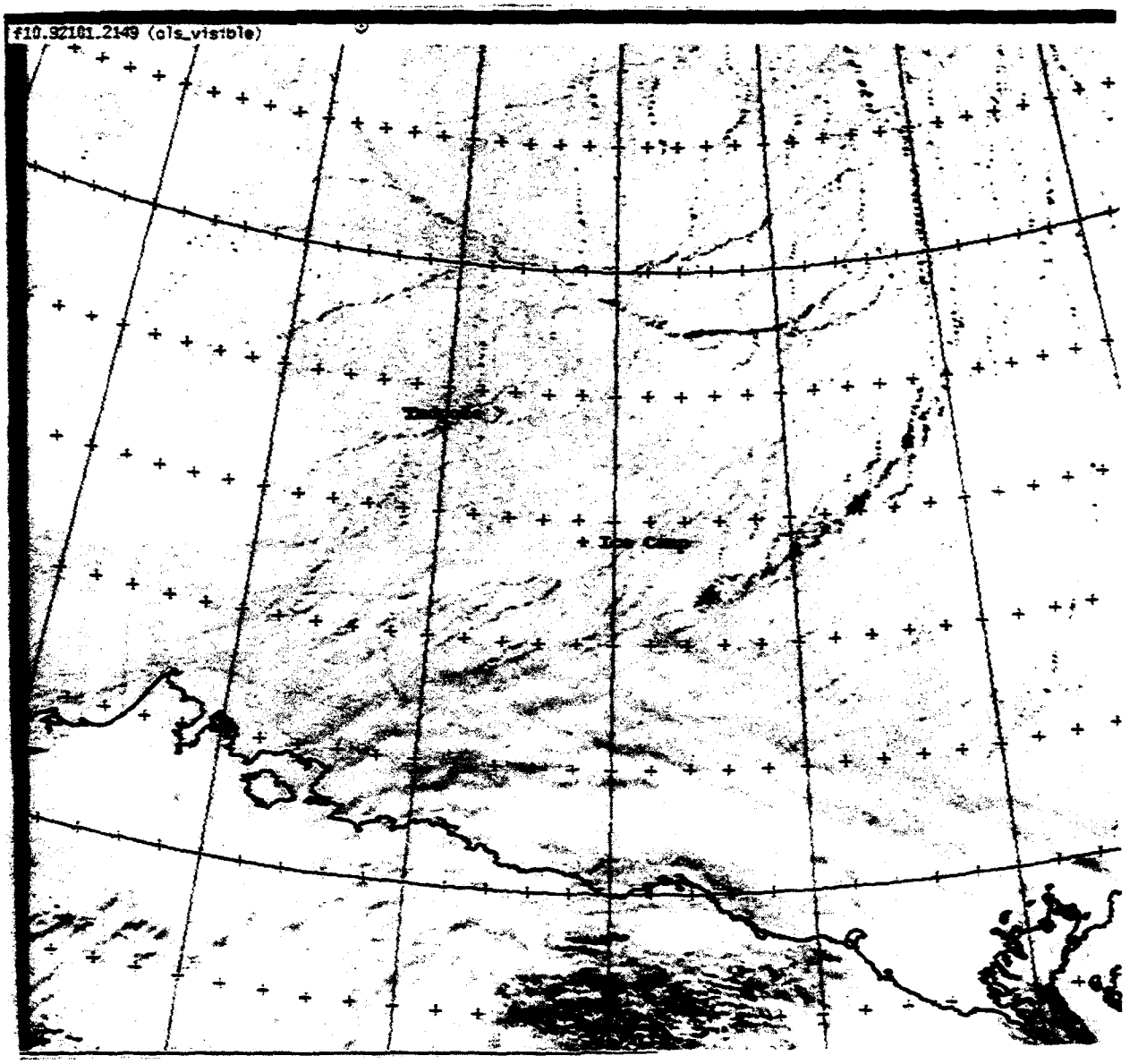
The second portion of the flight consisted of a level segment along 150°W from 72°N to 70°N, at 150 m altitude, and back to 71°N, at 330 m altitude (991 mb). This segment started at 2119Z, reaching the southernmost point at 2202Z and ending at 2224Z. From 71°N, 150°W the aircraft took a heading of 290° to sample a cross section of air upwind of BRW. At 156.61°W, the longitude of BRW, the WP-3D passed about 13 km to the north of the station. The first half of this segment was flown at a height of 150 m (1018 mb), the second part at 90 m (1029 mb). At 159°W (2330Z) the aircraft turned toward the east and began a gradual climb to a maximum altitude of 9.5 km. (0040Z), after which the airplane began a gradual descent into Anchorage via Fairbanks. The WP-3D landed at 0242Z.

3.2 Flight Log

17:15				Take off, flight 402.
17:31	62.10	149.60	503	Undercast, partly cloudy to here.
17:34	62.27	149.49	466	Horizon is not visible.
17:35	62.36	149.43	464	Ice crystals, cirrus in this region.
17:38	62.58	149.24	464	Ground not visible.
17:53	63.67	148.76	464	Clear at flight altitude now.
17:53	63.69	148.74	465	Clouds below over Alaska Range.
17:59	64.12	148.47	443	Clear at altitude, scattered clouds below
18:00	64.15	148.45	435	Started detecting higher ozone. Gradually climbing through 6.5 km, which appeared from the FAI sounding to be roughly the base of the tropopause.
18:10	65.00	147.99	426	1200Z Fairbanks sounding shows a stable layer from 410 to 360 mb.
18:11	65.13	147.10	423	Cannot discern the horizon now, clearer south of Fairbanks.
18:12	65.19	148.01	418	Orographic clouds below.
18:15	65.43	148.07	391	Orographic undercast, horizon obscured.
18:31	66.67	148.33	391	Horizon obscured, cirrus.
18:32	66.68	148.33	391	Brownish layer on the horizon.
18:33	66.72	148.34	39[illegible]	Seems obscured at altitude.
18:34	66.82	357.00	391	Undercast over the Brooks Range.
18:41	67.34	148.44	358	Clear above, thin undercast below, ozone peak.
18:46	67.72	148.48	358	Brooks Range is obscured, over crest of mountains now.
18:49	68.01	148.48	358	Brooks visible through thin clouds.

18:53	68.30	148.48	358	Brooks are barely visible.
18:58	68.68	148.46	358	Thin obstruction below.
18:59	68.77	148.45	358	Dropwindsonde no. 1 released.
19:05	69.22	148.45	358	Thin obstruction below.
19:06	69.31	148.45	358	Dropwindsonde no. 2 released.
19:22	70.64	148.34	358	Breaks in the undercast.
19:27	71.04	148.25	358	Horizon is obscured, Pat Sheridan thinks it is haze.
19:35	71.70	148.10	359	Approx. 5 minutes to start of radiation profile pattern.
19:42	72.07	147.72	359	Begin radiation (RAD) pattern at 7950 m.. Start RAD run #1.
19:52	71.99	150.31	359	Starting the descent profile, following the level radiation leg.
19:52	71.99	150.35	361	Visibility is obscured. Ozone in a range of 70-90 ppbv.
19:56	71.99	150.05	387	Visibility obstruction is uniform, increase in aerosol scattering, drop in ozone.
19:58	71.83	149.65	404	Tropopause at 395 mb.
20:00	71.71	149.40	414	For the past half hour, ozone has shown a very strong anticorrelation with nephelometer channel #3 (larger particles.
20:02	71.62	149.22	427	Inverse correlation in ozone and aerosol scattering at the tropopause.
20:09	71.71	148.60	1011	Visibility obscuration is uniform.
20:17	71.99	148.05	704	Ice looks slightly fuzzy.
20:20	72.02	147.88	795	Start RAD run #2 at 1536 m PA.
20:21	71.99	148.11	841	Begin midlevel radiation run.
20:34	72.03	150.15	852	Descent to 500 ft.
20:55	71.68	148.66	1008	Slight turbulence.
20:56	71.72	148.58	1012	Aerosol scattering holding steady at about 10×10^{-6} m^{-1}.
21:07	71.99	148.00	1014	Start RAD run #3 at ~150 m radar altitude (RA) (~500 ft).
21:10	71.99	148.50	1014	Slight turbulence.
21:20	71.97	149.96	1015	Turning toward Deadhorse, run at 500 ft.
21:22	71.82	149.97	1015	Visibility 3-4 mi, cloudy or hazy.
21:23	71.80	149.97	1015	Slight turbulence.
21:47	70.61	149.88	1013	Visibility down to about 1 mi.
22:13	70.46	150.02	987	Slight turbulence.
22:17	70.64	150.02	990	Slight turbulence.
22:23	70.89	150.02	991	Over the ice, visibility slightly improved, est. 3-4 mi.
22:24	70.93	150.06	991	Visibility est. 3-4 mi.
22:29	71.00	150.70	991	At 1000 ft RA.
22:43	71.21	152.80	1016	Visibly increased to 5-6 mi.
23:00	71.35	155.03	1018	Track: 281°. Not many leads at east end of run, but by ~156°W, we are flying over leads.
23:18	71.47	157.59	1031	Descend from 100 ft RA to 17 m RA. Collect DMS sample for ~5 minutes over ice with leads.
23:41	71.35	157.55	899	While north of BRW, visibility est. 6-8 mi.

23:44	71.32	157.22	881	Significant patches of open water north of BRW.
23:43	71.33	157.32	887	At this point there is a brownish layer above us.
23:44	71.31	157.15	878	The brownish layer contrasts with the white haze looking into the sun.
23:49	71.21	156.50	819	Passed directly over BRW.
23:50	71.15	156.45	799	Ground obscured by clouds or haze. Slight increase in CN and aerosol scattering.
23:57	70.78	156.05	682	Hazy looking into the sun.
00:02	70.00	155.67	608	The nephelometer and CN counter don't operate well at these rates of climb.
00:03	70.47	155.62	572	Nephelometer and CN counters are responding irrationally.
00:05	70.39	155.51	510	Ground is barely visible.
00:15	69.74	154.66	343	Obscured here, cirrus clouds.
00:17	69.58	154.46	343	Now it appears we are above the layer.
00:25	69.05	153.80	313	PA: 8875 m. In stratosphere, high ozone. Nephelometer channel #2 and CN showing increases. Nephelometer channel #3 still low.
00:37	68.15	152.81	287	Still climbing in the stratosphere. PA: 9377 m (~31,000 ft), CN concentrations were sustained over the past ~15 minutes at 2000-4000 cm^{-3}.
01:01	66.43	150.95	374	We are descending looking for an aerosol layer.
01:03	66.26	150.78	388	Out of stratosphere, very light turbulence.
01:03	66.31	150.82	383	Visibility obscured by ice crystals or haze, est. about 1 mi.
01:06	66.12	150.63	406	Descending through 7000 m PA. Larger particles (nephelometer #3) increased in a layer at ~6800 m PA. Another layer at ~6000-6200 m PA.
01:16	65.47	149.91	482	Scattered Cu clouds below.
01:17	65.45	149.88	484	Some Ci at altitude.
01:30	64.71	149.16	490	PA: 5700 m. Slight nephelometer larger particle enrichments.
01:54	63.37	149.64	605	Obscured at this level now.
01:58	63.15	149.75	641	Clouds at this level.
02:03	62.88	149.93	641	Obscured by Sc.
02:08	62.64	149.90	641	We are above the clouds now.
02:16	62.21	150.11	641	Back in the clouds again.
02:42				Land in Anchorage.



DMSP visible data. 10 April 1992, 2149 UTC.

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4. FLIGHT 403, APRIL 13-14, 1992

4.1 Objective

On the basis of a forecast of increasing surface wind speeds from the southeast, a flight was scheduled by the LEADEX staff to study the flux of heat and moisture from a large lead. Leads 120 km to the east of the Ice Camp (72.9°N, 145.9°W) and 80 km to the west were prime candidates for study. Because of the forecast of low clouds, fog, and light snow in the Barrow region at the time, it was decided to locate the aerosol profile in the vicinity of the Ice Camp (72.78°N, 145.98°W) where drier conditions were reported.

In addition to the transit segments to the region of study, the flight consisted of a slow-descent profile for aerosol, turbidity, and gas measurements and extensive time for monitoring the plume from a large lead (Fig. 4.1). The flight departed Anchorage at 1709Z reached transit altitude of 6.1 km (466 mb) at 1734Z, and remained at that altitude, on a northerly bearing, until 1806Z (65.2°N, 148°W). At that point, about 40 km north of FAI, the WP-3D began a climb to 7.3 km (392 mb). From 1815Z (65.84°N, 148°W) to 1906Z (69.75°N, 145.40°W) the aircraft maintained 7.3 km, and from 1911Z (70.10°N, 145.01°W) to 2001Z (72.95°N, 147.08°W) it was

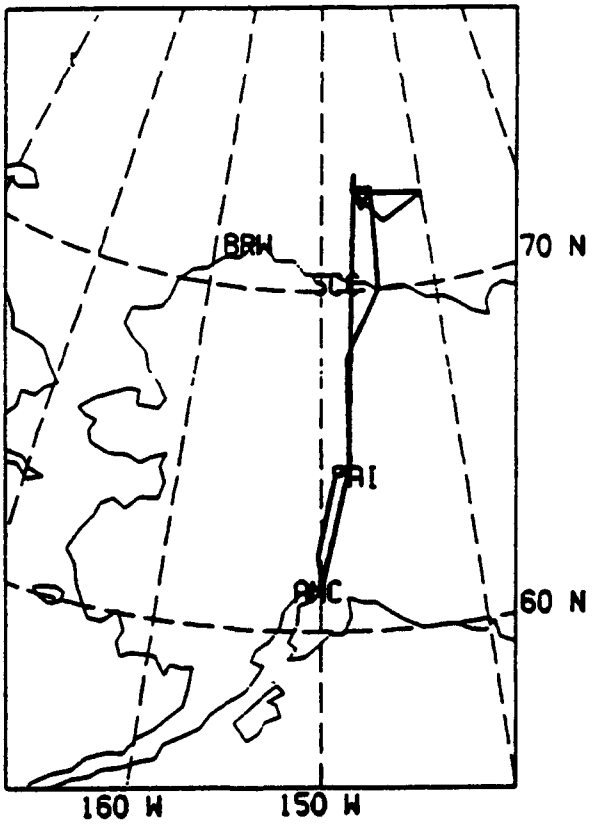


Figure 4.1. Horizontal projection of the aircraft flight track on a latitude-longitude grid, April 13-14, 1992.

at 7.9 km (359 mb). The descent profile, which followed, was conducted at an average rate of 234 m min^{-1} (18 mb min^{-1}) to a level of 1002 mb at 2204Z. Level segments for the purpose of turbidity measurements were flown at the top (359 mb) and bottom (997 mb) of the profile and at 1.5 km (826 mb) as well.

Low-level searching and sampling of leads began at 2206Z and continued until 2348Z, during which time the WP-3D was between 15 and 300 m altitude. At 2348Z (73.40°N, 146.75°W) the aircraft began the ascent profile, and reached a cruising altitude of 7.9 km (359 mb) was reached at 0023Z. This altitude was maintained with a southerly heading until 0109 when the aircraft climbed to 9.1 km (300 mb). After a brief climb to 10.1 km at 0205Z (65.05°N, 148.07°W) the aircraft began the descent to Anchorage. The plane landed at 0321Z.

4.2 Flight Log

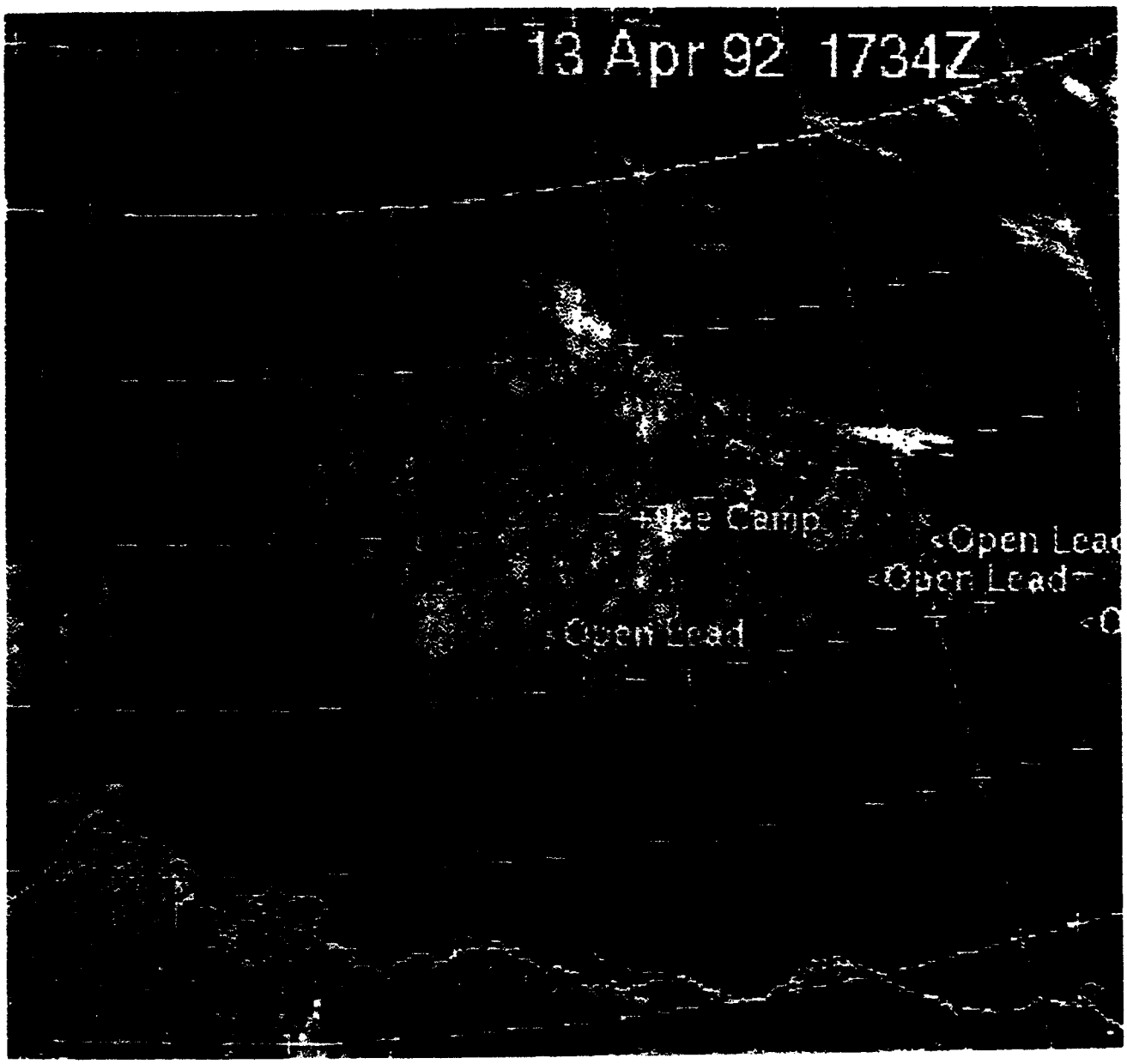
17:09				Takeoff from ANC, flight 403.
17:14	61.41	150.06	26	High cloud cover ANC.
17:14	61.45	150.03	800	Good visibility at low levels.
17:21	61.85	149.82	611	Air is very dry yet hazy at this level.
17:24	62.06	149.00	556	Aerosol scattering is steady.
17:25	62.13	149.67	546	Slight turbulence.
17:27	62.24	149.60	522	Entering a Ci cloud.
17:27	62.27	149.59	519	Turbulence is slight.
17:34	62.67	149.33	465	Clouds above.
17:35	62.79	149.27	465	Aerosol scattering dropped.
17:36	62.87	149.24	465	Ozone up.
17:38	63.06	149.12	465	East of Denali and level with the top.
17:39	63.10	149.09	465	Ozone has climbed to >90 ppbv. Is this air of stratospheric origin? Winds are southwesterly at this level.
17:41	63.26	148.100	465	The high ozone values the last 3 minutes were directly downwind of Denali.
17:49	63.92	148.60	465	Clear at the surface.
17:49	63.93	148.59	465	Hazy or thin Ci at flight level.
17:52	64.11	148.47	465	Aerosol scattering and ozone continue to drop, a very clean period.
17:54	64.29	148.34	465	Aerosol scattering and ozone climbing now.
17:55	64.33	148.31	465	CN is <100 cm^{-3}.
17:59	64.64	148.08	465	From all appearances there is no Ci here.
17:59	64.66	148.06	465	It is clear below as well.
17:59	64.69	148.05	465	But there is a haze layer on the horizon.
18:01	64.81	147.99	465	Over Fairbanks.
18:01	64.86	147.96	465	Beginning run up 148°W.
18:03	64.97	147.97	465	Ground appears hazy.
18:16	65.96	147.99	392	Visibility at flight altitude is estimated to be 2-4 mi.
18:19	66.18	147.99	392	Significant haze, Ci at this altitude.
18:21	66.33	147.99	392	Nephelometer and ozone sensors operational after a 2-3

				min break.
18:22	66.38	147.99	392	Large aerosol scattering peak.
18:22	66.40	147.99	392	Horizon capped with a brownish haze.
18:24	66.55	147.99	392	Aerosol scattering decreasing.
18:24	66.57	147.99	392	No change in humidity to indicate ice crystals.
18:30	67.06	147.98	392	Ozone and aerosol scattering unchanged.
18:31	67.11	147.98	392	Still clear to surface, hazy at flight altitude.
18:34	67.35	148.00	392	Aerosol scattering steady.
18:44	68.15	147.78	392	Started leg C, 2 min ago.
18:46	68.29	147.60	392	Aerosol scattering of (2-2.5) $\times 10^{-6}$ m^{-1} for the last 30 min.
18:52	68.72	146.10	392	There is a brown layer below the tropopause.
18:52	68.75	146.96	392	It is hazy over the Brooks Range.
18:54	68.91	146.72	392	Passed the crest of the Brooks.
18:56	69.03	146.54	392	Dropwindsonde no. 1 released.
19:02	69.51	145.80	392	Dropwindsonde no. 2 released.
19:04	69.62	145.62	392	Leaving the Brooks at this point.
19:06	69.77	145.38	390	Considerable obscuration at flight level. Slight turbulence at his level.
19:12	70.14	144.98	359	Crossed the northern Alaskan coast at 7940 m PA. Some open and lots of refrozen leads near the coast.
19:13	70.20	144.95	358	Slight turbulence.
19:13	70.26	144.95	358	Began leg D, 3 min ago. Still not in stratosphere.
19:15	70.39	144.97	359	Top of climb heading north.
19:17	70.49	144.98	358	Visibility good to surface.
19:17	70.51	144.98	358	Two brownish layers visible on the horizon.
19:19	70.66	144.99	358	Dropwindsonde no. 3 released.
19:20	70.69	144.99	358	Hitting some stratospheric air. Ozone is up.
19:24	71.00	145.01	358	Ozone and aerosol scattering dropping.
19:25	71.10	145 .00	358	Top of troposphere, seem to be losing the brownish layer.
19:30	71.48	145.01	359	Aerosol transfer pump off. Ozone and CN down.
19:33	71.70	145.02	359	Dropwindsonde no. 4 off.
19:34	71.81	145.03	359	Visibility to surface is good.
19:36	71.98	145.02	359	Go with descent as planned.
19:37	72.06	145.01	359	Ozone sensor temporarily inoperative.
19:37	72.07	145.01	359	Aerosol scattering is steady.
19:38	72.10	145.00	359	Ozone and CN back up. Pump is quieter.
19:39	72.22	145.00	358	No indication of plumes off leads.
19:41	72.34	145.03	359	Ozone back, climbing to >140 ppbv range.
19:44	72.56	144.99	359	Ozone between 110 and 130 ppbv.
19:46	72.76	144.98	359	Very slight turbulence.
19:49	72.97	144.69	359	Turned to start RAD run #1
19:49	73.00	144.99	359	Beginning turn to leg E.
19:51	72.99	144.69	359	Performed nephelometer clean-air check at 7940 m.
19:54	72.97	145.36	359	Beginning radiation segment.
19:56	72.97	145.86	359	Horizon is obscured, visibility estimate is 5 mi.

19:56	72.97	145.95	359	Clear.
20:06	72.85	146.68	416	Into leg F, descending. Ozone dropped to about 70 ppbv, now climbing.
20:13	72.45	145.86	494	Ozone dropping over the last 3 min.
20:14	72.41	145.89	502	Aerosol scattering climbing now 6×10^{-6} m^{-1}.
20:15	72.44	146.02	519	Stratosphere at about 6 km.
20:16	72.54	145.82	552	Is this leg G?
20:17	72.56	145.78	560	ATP off to tighten connector. Ozone and CN down.
20:19	72.67	145.56	613	ATP back on. Ozone and CN working.
20:20	72.71	145.48	641	Cannot see horizon.
20:20	72.74	145.43	656	Nephelometer off.
20:29	72.99	145.11	826	Start RAD run #2 at 1687 m Horizon is visible now, no appreciable haze.
20:30	72.99	145.30	826	Layer on horizon just below the tropopause.
20:32	72.97	145.67	826	Inversion at 800 mb.
20:35	72.97	146.07	826	Basically clear here.
20:35	72.97	146.18	826	End of radiation segment.
20:42	73.02	147.04	826	Beginning leg I.
20:42	73.02	147.04	826	Radiation segment completed.
20:43	72.97	146.90	833	Horizon now obscured.
20:48	72.75	146.45	864	Horizon obscured.
20:53	72.52	146.03	897	Haze, diffuse visible.
21:11	72.08	144.40	996	Start 150 m elevation radiation #3 segment.
21:13	72.96	145.36	996	Clear aloft, visibility estimated 5-7 mi.
21:20	72.95	146.52	996	Univ. of Wash. Convair off the port wing.
21:23	72.95	147.01	996	End of radiation segment.
21:24	72.99	146.10	996	Entering leg L.
21:48	72.22	144.62	996	Visibility is improving to 5-7 mi, estimated.
21:50	72.18	144.53	996	Ozone steady.
21:50	72.16	144.48	996	Aerosol scattering and CN steady.
21:52	72.10	144.30	996	Nearing the end of leg L.
22:04	72.18	142.95	999	Descend to 60 m RA.
22:11	72.33	141.92	1009	Background boundary layer, not much open water at all. Lots of refrozen leads, few are open.
22:35	72.76	140.69	1010	Change of plans. We will head back toward Ice Camp where there was lots of open water.
22:39	72.79	141.42	999	During the low pass visibility was 5-7 mi.
22:42	72.00	141.89	998	Visibility about 5 mi, clear aloft.
22:44	72.83	142.27	998	Ozone got as low as 1-2 ppbv during the low pass.
23:08	72.95	146.91	998	Over an open lead.
23:13	73.06	146.88	1010	Descend to 16 m RA. In plume from open lead.
23:14	73.11	146.79	1016	Light turbulence in the plume from the lead.
23:15	73.18	146.73	1016	In plume from lead at this time.
23:16	73.22	146.73	1016	Climb to turn. Back in plume.
23:17	73.24	146.73	1016	In plume.

23:17	73.27	146.73	1016	In plume.
23:18	73.32	146.75	1014	Out of plume.
23:22	73.37	146.79	1005	North of lead, repositioning for a run back.
23:24	73.26	146.73	997	Beginning the ascent.
23:26	73.16	146.75	984	Heading back along the lead.
23:27	73.11	146.80	972	Visibility reduced in this region.
23:28	73.11	146.81	970	Cannot discern the horizon.
23:30	73.00	146.02	950	This is the end of Nick's climb.
23:30	72.98	146.93	945	We are downwind of the lead.
23:34	72.45	147.18	938	Spiraling down for another low pass.
23:36	72.90	147.14	947	Heading down for a second low pass at the lead.
23:39	73.04	146.91	1001	Ozone dropping fast.
23:40	73.06	146.88	1005	At 50 m RA, descending to 16 m RA.
				Air temperature (TA): -24°C over lead.
23:41	73.12	146.77	161	Ozone at 10 ppbv.
23:42	73.13	146.75	1015	Downwind from the lead.
23:43	73.19	146.69	1011	Turning to reposition on the lead.
23:44	73.24	146.73	1016	In lead plume.
23:44	73.25	146.73	1016	In lead plume.
23:45	73.26	146.73	1016	In lead plume.
23:45	73.28	146.74	1016	Over lead.
23:48	74.01	146.08	1015	Over the ice.
23:49	73.45	146.73	990	Climbing at 500 ft min^{-1}.
00:01	72.89	146.86	757	Horizon obscured, visibility estimated at 6 mi.
00:05	72.71	146.91	692	Change in climb rate to 1000 ft min^{-1}.
00:07	72.62	146.93	641	Visibility obscured 3-5 mi.
00:16	72.06	147.06	429	Cloudy
00:21	71.80	147.12	360	Leveling at this altitude.
00:25	71.52	147.14	359	Still in upper tropospheric air.
00:28	71.34	147.16	358	Slight turbulence, possibly approach tropopause.
01:00	69.32	147.50	358	Obscured at flight altitude in Ci.
01:03	69.10	147.55	358	Still in upper tropospheric air. Decide to climb more.
01:05	68.95	147.58	358	No low clouds visible. The horizon generally obscured.
01:06	68.88	147.60	358	Brown haze at top of troposphere.
01:09	68.73	147.11	355	Climbed 9 km PA.
01:13	68.44	147.66	310	Power outage - lost converter. Power back on 6 min later.
01:22	67.92	147.64	299	Tropopause?
01:28	67.42	147.80	299	Good visibility toward the ground.
01:39	66.71	147.92	300	PA: 9168 m, Ozone: 160 ppbv.
01:43	66.45	147.92	300	Ozone: back down to 60 ppbv.
01:53	65.82	148.02	300	Still in upper tropospheric air.
02:04	65.12	148.07	261	At 33,000 ft PA! Ozone still low at 40 ppbv.
02:06	64.97	148.09	260	We can't stay in the stratosphere.
02:06	64.93	148.10	260	At the tropopause.
02:12	64.66	148.43	270	Turned toward SW, toward ANC

14:29	64.60	148.76	286	Out of the stratosphere.
02:14	64.59	148.81	286	No low- or mid-level clouds, light haze.
02:28	63.87	149.48	390	Sun dogs below indicate a Ci layer.
02:41	63.11	149.84	485	Due east of Denali now.
02:42	63.10	149.85	485	Some low clouds over the peaks.
02:44	62.10	149.90	485	Significant haze at this level.
02:44	62.98	149.91	485	Visibility obscured by Ci.
02:56	62.30	150.16	608	Lower clouds, broken.
02:59	62.11	150.30	661	Just passed through a cloud layer.
03:01	61.99	150.39	690	Another cloud layer.
03:21				Land in Anchorage.



NOAA infrared (Ch4) data. 13 April 1992, 1734 UTC.

5. FLIGHT 404, APRIL 15-16, 1992

5.1 Objective

The speed of the surface winds in the LEADEX study area was forecast to increase over the next 24 hours. The direction of the low-level winds was shifting from the southeast to northeast, placing the LEADEX study area upwind of the Barrow observatory. The LEADEX staff called the flight to study the changes in the flow as air passed over a large lead. The strong winds were consistent with the maximum extent of open water and large sea-to-air fluxes of heat and moisture.

The NOAA WP-3D aircraft took off from Anchorage at 1806Z on April 15, and began the now familiar track to the North Slope via FAI (Fig. 5.1). Cruising altitude of 6.1 km (465 mb) was reached at 1828Z. The aircraft remained at this altitude to 69.9°N, 145.5°W (2003Z) when it descended to 5.5 km (506 mb). This altitude was maintained until the beginning of the descent profile at 2132Z at 71.72°N, 148.40°W. An average descent rate of 200 m min^{-1} or 17.6 mb min^{-1} was used until 18 m (1019 mb) was reached at 2208Z. Level, cross-sun segments were flown at 5.5 km (506 mb) and at 1.6 km (834 mb) for the purpose of obtaining consistent turbidity measurements. For the next 2 hours and 56 minutes the WP-3D conducted profiles in the first 300 m in the vicinity of the large lead to the west of the Ice Camp (72.80°N, 146.60°W).

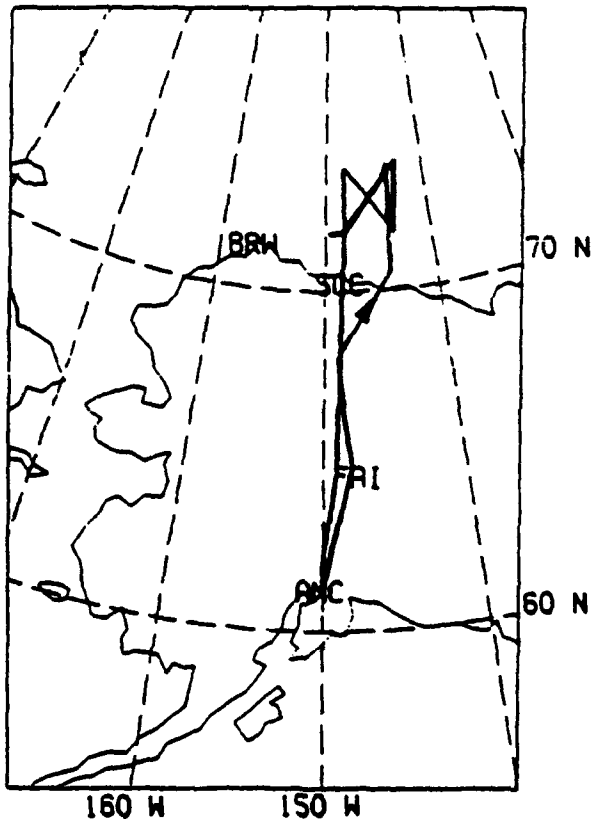


Figure 5.1. Horizontal projection of the aircraft flight track on a latitude-longitude grid, April 15-16, 1992.

The return flight was begun at 0104Z, from 71.80°N, 148.18°W, when the aircraft began the climb to cruise flight altitude (7.65 km, 374 mb), which was reached at 0137Z. The climb was interrupted at 0113Z with a level segment at 3.1 km (696 mb), lasting 11 minutes. The aircraft remained at 7.6 km until beginning the descent to Anchorage (0312Z). The NOAA WP-3D landed at 0339Z.

The extent of the lead to the west of the Ice Camp can be seen in the satellite image of 2330Z, April 15 (Fig. 5.2). By all appearances the lead opened during the 54 hours after the previous image Fig. 4.4, when it was difficult to locate. Surface visibility was better north of 71°N than along the coast. Clear conditions were reported at the Ice Camp.

5.2 Flight Log

18:06				Takeoff.
18:07	61.17	149.97	984	Raining in Anchorage at take-off.
18:13	61.56	149.99	714	Entered cloud base.
18:15	61.67	149.94	665	At top of Sc.
18:23	62.18	149.59	527	Sc below; Cs above.
18:34	63.01	149.17	465	Broken clouds below; As/Cs above.
18:35	63.07	149.11	465	In upper tropospheric air.
19:00	65.11	148.08	465	Entered base of As.
19:24	67.06	148.70	465	Clear below; Ci above.
19:28	67.24	148.81	465	Clear above and below; at Ci level.
19:32	67.71	148.91	465	Visibility medium (cannot see horizon).
20:14	70.62	144.22	505	In cloud layer; visibility low.
20:24	71.34	143.88	505	Still in clouds.
20:38	72.35	143.67	505	Leg A-B parallel to long. 143.
21:02	73.43	144.05	505	"Medium-low" visibility.
21:16	72.62	146.24	506	Ozone starting to climb. Nephelometer channel. No. 3 shows anticorrelation with ozone.
21:49	71.71	149.40	791	Descent near ice camp. Passing through 2100 m PA.
21:51	71.67	149.68	830	Descending through 1900 m PA.
22:02	71.61	148.15	956	Descending through 400 m PA.
22:20	72.23	147.00	1015	DMS system is not working. Inlet has frozen up probably because of rainy morning in Anchorage. Will stop trying to take DMS measurements. For the next 1.5 hours, we flew several 50 ft and 200 ft (RA) legs.
00:34	73.55	148.25	1007	We smelled our own exhaust during the constant-altitude turn.
00:42	73.09	148.17	1018	No clouds - good visibility.
00:52	72.49	148.17	1015	Crossed big lead.
01:04	71.77	148.17	1005	Climbing to 3060 m.
01:06	71.65	148.21	913	At higher altitudes, reduced visibility due to haze.
01:22	70.62	148.36	696	Level at 3060 m.
01:34	69.82	148.47	411	Above Sc.

01:40	69.32	148.54	374	Clear above and below.
01:50	68.58	148.63	374	Very thin Cs above.
01:51	68.48	148.65	374	Entering Ci.
02:00	67.79	148.72	374	Still in Ci.
02:01	67.73	148.72	374	In upper tropospheric air.
02:14	66.74	148.85	374	Coming into and leaving As/Cs.
02:19	66.35	148.00	374	Cirrostratus above.
02:40	64.85	149.04	374	Scattered cloud below; As/Cs above.
02:40	64.83	149.04	374	Entered Ci.
02:42	64.69	149.05	374	Just left Ci.
02:43	64.61	149.06	374	Ac just below.

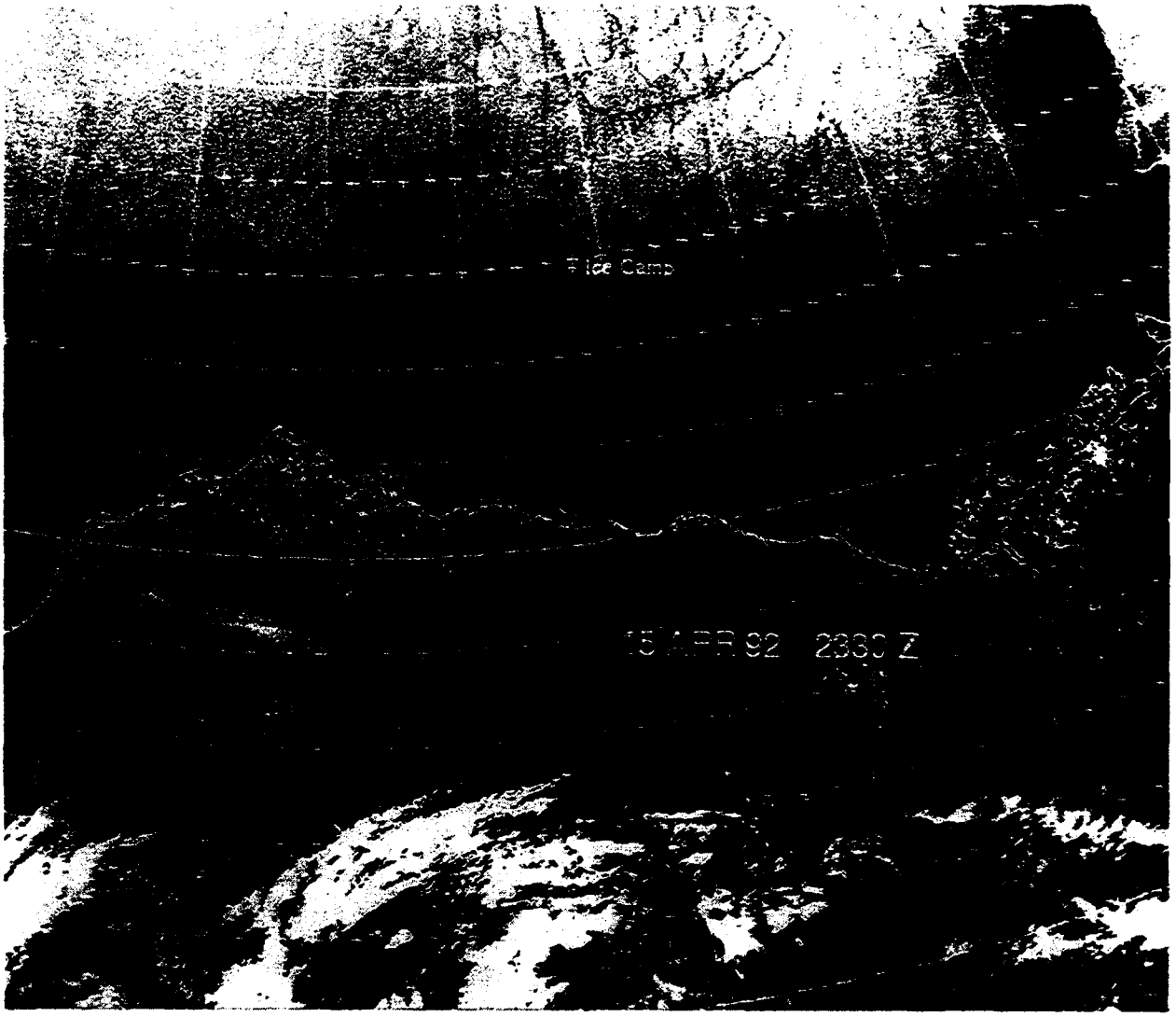


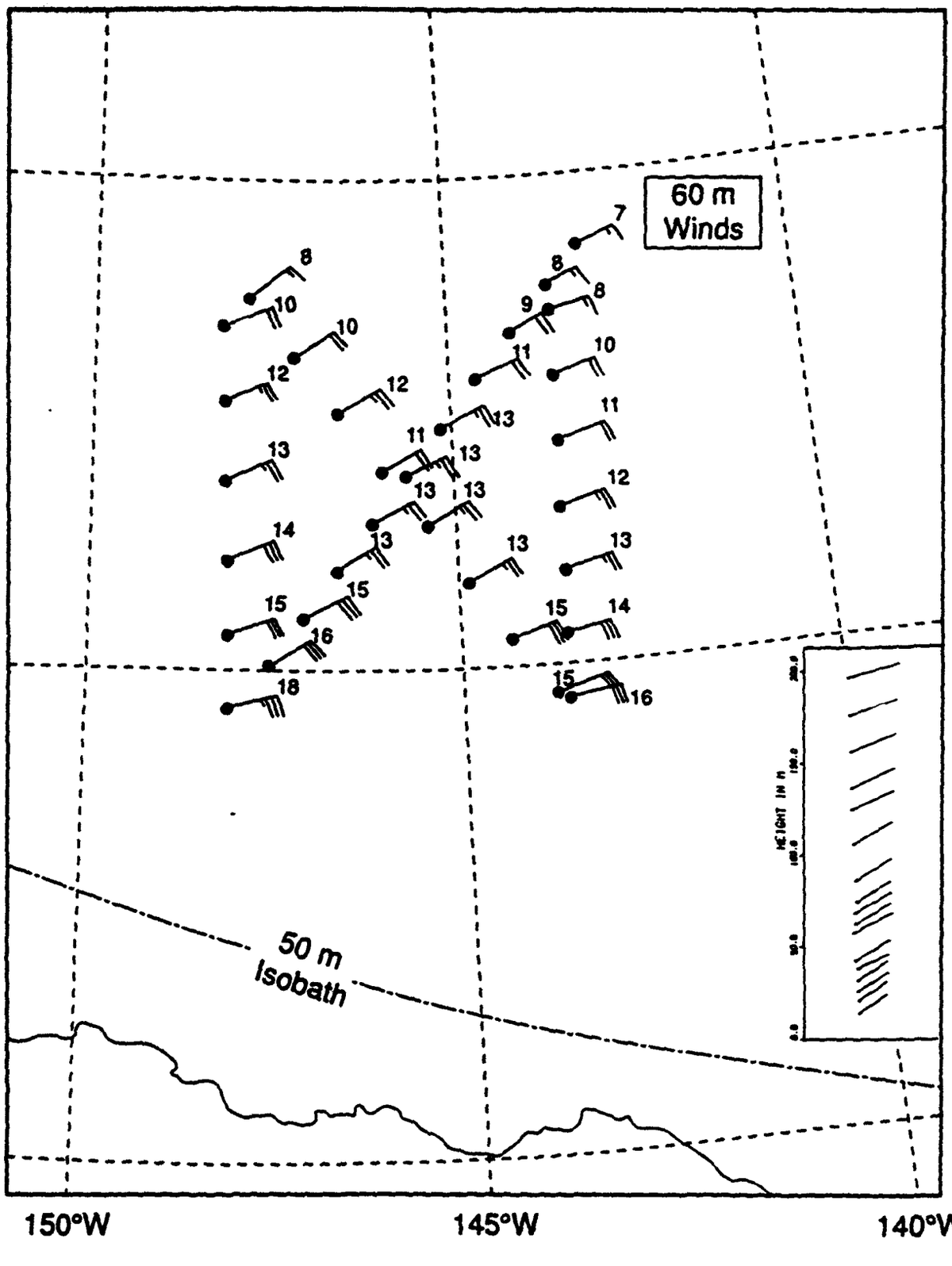
Figure 5.2. Infrared satellite image of the Alaska North Slope and Beaufort Sea taken 2330Z, April 15, 1992. The Ice Camp is shown.

2:58	63.54	149.57	374	Entering very thin As.
3:19	62.02	150.33	533	Sc below.
3:31	61.34	150.41	865	Cloudy on final approach to Anchorage.
3:39:				Landed in ANC.

Flight-level winds at 60 m measured by a NOAA WP-3D on 15 April 1992. The winds are plotted in the conventional manner (one full barb = 5 m s^{-1}) with the wind speed (m s^{-1}) also indicated at each wind barb. The inset represents a vertical wind profile collected by the aircraft at the southeast corner of the pattern. The magnitude of the winds is scaled by the topmost arrow for the height of 200 m, which represents a wind speed of 20 m s^{-1}.

The spatial derivatives in the aircraft-observed winds include a three-fold increase in the surface stress from north to south over a distance of ~200 km, a mean divergence over the area of ~1.5 x 10^{-5} s^{-1}, a mean vorticity of ~-5 x 10^{-5} s^{-1}, and a mean deformation of ~5 x 10^{-5} s^{-1} with an axis of dilatation along 48°-228°.

0000 UTC
16 April 1992



6. FLIGHT 405, APRIL 16-17, 1992

6.1 Objective

With the surface winds at the Ice Camp (72.80°N, 146.62°W) forecast to increase to 15-18 m s^{-1}, backing to a more northerly direction in the 24-h period after flight 404, the LEADEX staff decided to study the drag coefficient and lead plumes under those conditions. With the forecast of cold-air advection came the expectation of continued drying in the lower troposphere over the Beaufort Sea. It was agreed to perform the drag coefficient measurements over solid ice 100-200 km upwind of Barrow.

Takeoff on April 16 was delayed until 2029Z because of the required 15 hours of crew rest between flights on successive days. The NOAA WP-3D reached the transit altitude of 6.1 km (466 mb) at 2050Z and remained at that altitude until 2129Z at 65.40°N, 148.8.1°W (Fig. 6.1). At that point the aircraft climbed to 7.3 km (392 mb), reaching that level at 2140Z. The aircraft remained at that altitude until 2243Z (71.16°N, 147.75°W), at which time it climbed to 7.6 km (375 mb). This altitude was maintained until the beginning of the descent profile at 2311Z at 73.20°N, 146.30°W. The profile was completed at 2349Z with level segment at 967 mb for the

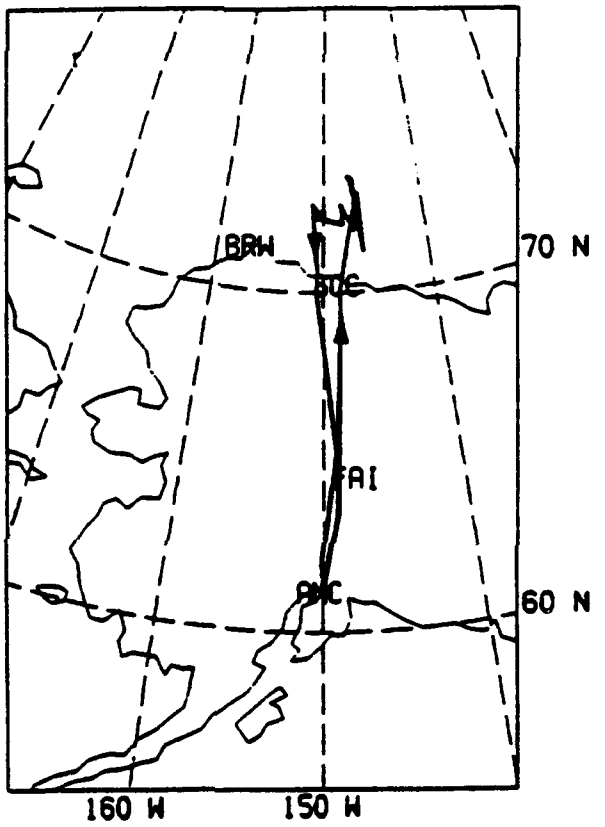


Figure 6.1. Horizontal projection of the aircraft flight track on a latitude-longitude grid, April 16-17, 1992.

purpose of turbidity measurements. From 2350Z (73.55°N, 147.10°W) to 0116Z (72.53°N, 146.92°W) the WP-3D traversed a major lead west of the Ice Camp, remaining below 0.9 km the entire time. The individual traverses were conducted at altitudes of 20, 60, 130, 160, and 850 m. Following a brief sounding to 800 mb at 0112Z, a series of drag coefficient measurements were made at various heights over solid ice. The drag coefficient profiles took the form of a series of "L"-shaped patterns with the major axis oriented cross wind. The L patterns were flown at heights of approximately 20, 60, 110, and 180 m, from 0137 to 0313Z.

The climb to cruise altitude for the return to Anchorage began at 0314Z at 72.39°N, 151.30°W. At that point the aircraft was about 220 km northeast of Barrow. From 0347 to 0414Z (70.75°N, 150.30°W, 572 mb) the WP-3D conducted a series of maneuvers to test the effects of aircraft motion on the turbulence sensing instrumentation. At 0426Z the aircraft leveled off at 7.9 km (359 mb), at 0440Z it climbed to 8.6 km (328 mb), and then at 0454Z to 9.2 km (300 mb). The descent to Anchorage began at 0537Z after a brief climb to 10.8 km (237 mb) at 63.57°N, 149.86°W. The aircraft landed about 0625Z.

6.2 Flight Log

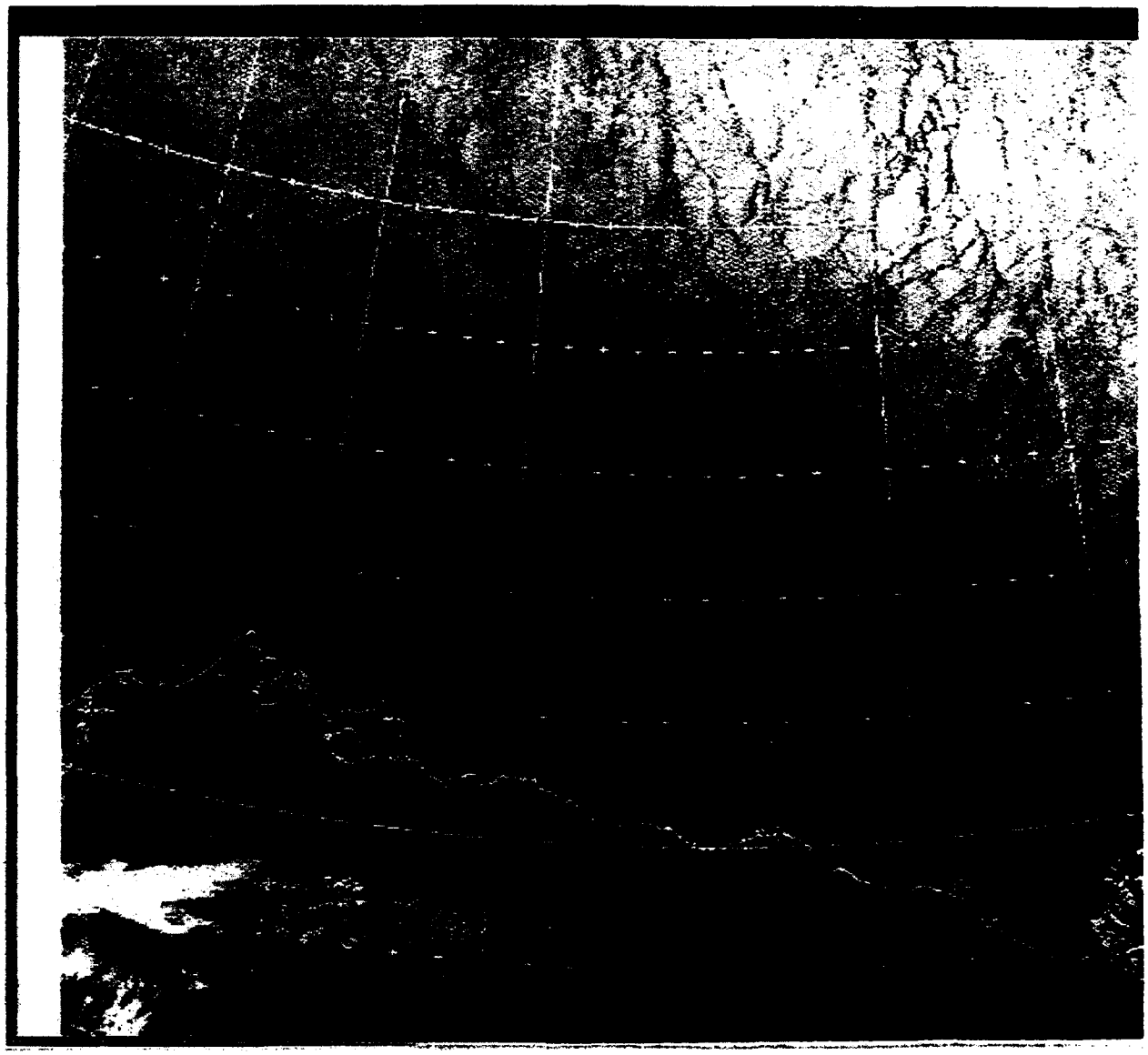
20:29				Takeoff.
20:32	61.17	149.97	879	Just left the Cook Inlet.
20:32	61.17	149.97	853	Good surface visibility, mid-level cloud overcast, Ac.
20:36	61.56	149.10	684	Thick overcast.
20:37	61.65	149.94	644	Ozone down from >90 ppm.
20:39	61.75	149.88	604	In the clouds.
20:39	61.76	149.87	600	Surface partially obscured.
20:41	61.91	149.82	561	Ground is almost totally obscured from view now.
20:42	61.95	149.79	551	Still in cloud.
20:45	62.14	149.67	508	Still in cloud.
20:45	62.14	149.67	508	Surface totally obscured.
20:47	62.28	149.60	487	Surface is now barely visible directly below plane.
20:48	62.32	149.58	481	Still in the clouds, but about to break out.
20:48	62.33	149.57	479	Slight turbulence.
20:48	62.37	149.56	475	Just above the clouds now.
20:50	62.44	149.51	467	Big jump in aerosol scattering at the top of cloud layer, ice crystals.
20:51	62.53	149.46	465	Totally obscured below, bright sun above.
20:51	62.55	149.44	465	Horizon not visible.
20:52	62.64	149.39	465	Horizon not visible.
20:54	62.78	149.31	465	Still above the main cloud layer.
20:55	62.81	149.29	465	Aerosol scattering up, ice crystals?
20:55	62.83	149.28	465	In clouds now.
20:57	62.94	149.21	465	Slight turbulence.
20:59	63.10	149.12	465	Immediately below the top of the clouds.
20:59	63.13	149.10	465	Ground is partially obscured.
21:03	63.47	148.90	465	Still in the clouds.
21:09	63.91	148.88	466	Just turned north to 149°W.

21:10	63.95	148.88	465	Aerosol scattering variations indicate ice crystals are being sampled.
21:10	63.97	148.88	466	Ozone dropping.
21:10	63.10	148.88	465	Ground barely visible.
21:10	64.01	148.88	465	Cloud observation at flight altitude.
21:11	64.06	148.88	466	Horizon is barely visible.
21:11	64.07	148.88	465	Still in clouds, but thinner now.
21:12	64.14	148.88	465	Breaking out of the clouds.
21:12	64.15	148.88	465	Big drop in aerosol scattering.
21:12	64.16	148.88	465	Ozone steady.
21:13	64.19	148.88	465	Patchy clouds at the surface.
21:13	64.24	148.88	465	Thin Ci above, low Cu on the horizon.
21:16	64.43	148.86	465	Clear underneath the plane, clear to the right.
21:17	64.50	148.85	465	Thin Ci aloft.
21:17	64.51	148.08	465	Patchy clouds below now.
21:17	64.55	148.84	465	Clouds on the horizon both right and left.
21:18	64.59	148.84	465	Ground is locally obscured.
21:18	64.00	148.83	465	Clouds just below flight level.
21:19	64.69	148.82	465	Cu form below, patchy.
21:19	64.73	148.81	465	Clear below now.
21:20	64.81	148.81	465	CN fluctuating now.
21:22	64.90	148.81	465	Ozone up.
21:22	64.95	148.81	465	Back in the Ci again.
21:22	64.97	148.82	465	Horizon obscured.
21:23	65.01	148.82	465	Ozone steady.
21:24	65.08	148.82	465	Above Ci now.
21:24	65.09	148.82	465	Patchy undercast.
21:25	65.17	148.82	465	Slight turbulence.
21:25	65.21	148.82	465	Very light turbulence.
21:28	65.39	148.82	465	Breaks in undercast.
21:28	65.41	148.82	465	Clouds below are aligned with the topography.
21:29	65.51	148.81	455	Aerosol scattering variable Because of ice crystals in the sample.
21:30	65.56	148.81	450	Undercast Because of low and mid clouds.
21:31	65.64	148.79	437	Aerosol scattering back to normal.
21:34	65.83	148.76	422	Climbing, looking for the tropopause.
21:35	65.96	148.75	412	Slight turbulence.
21:36	66.02	148.75	408	Horizon obscured. Ci below.
21:37	66.09	148.74	404	Tropopause at 6.9 km.
21:39	66.23	148.74	396	Undercast, horizon not discernible.
21:40	66.28	148.74	393	Possibly still in Ci.
21:48	66.94	148.71	391	Undercast, horizon still not visible.
21:49	66.98	148.71	391	Surface visible now.
21:50	67.07	148.71	391	Variations in aerosol scattering indicate ice crystals in the sample.
21:51	67.10	148.70	391	Cloudy, surface obscured.
21:51	67.12	148.70	391	Slight turbulence.
21:53	67.25	148.68	391	Visibility obscured by Ci clouds now.

21:53	67.26	148.68	391	Ice crystal contamination of nephelometer here.
21:55	67.44	148.66	391	Still obscured.
21:56	67.47	148.66	391	Winds backing, Ci clearly above.
21:57	67.60	148.64	392	Nephelometer returning to normal.
21:59	67.73	148.62	391	In Ci, visibility obscured.
22:01	67.85	148.61	391	Over the crest of the Brooks Range.
22:02	67.98	148.60	392	Ci obscuring visibility.
22:05	68.20	148.00	391	Still in Ci.
22:07	68.32	148.57	391	Breaking top of clouds.
22:08	68.38	148.56	392	Nephelometer off for calibration.
22:08	68.40	148.56	392	Small breaks in the low clouds.
22:12	68.69	148.55	391	Scattered clouds below.
22:14	68.89	148.54	391	Ci just below flight level.
22:21	69.48	148.45	392	Clear aloft.
22:22	69.50	148.45	391	Horizon still fuzzy.
22:22	69.53	148.45	392	Low clouds confined to north slope of the Brooks Range.
22:23	69.65	148.46	392	Horizon is now visible.
22:24	69.69	148.46	392	No indication of haze. No layers visible.
22:25	69.81	148.45	392	Surface now obscured by clouds.
22:28	70.02	148.42	392	Surface obscured by clouds.
22:35	70.62	148.16	392	Clear view of surface now.
22:36	70.64	148.15	392	Horizon obscured by clouds.
22:36	70.68	148.13	392	Coast visible. ozone is 35 ppm.
22:38	70.83	148.02	392	Obscured now.
22:38	70.85	147.10	392	Horizon obscured.
22:39	70.88	147.97	392	View of surface is clear.
22:41	71.04	147.85	392	Thin Ci haze.
22:42	71.19	147.76	391	Moving out of the Ci.
22:43	71.24	147.73	386	Brighter now, still in thin Ci.
22:44	71.29	147.71	381	Ice surface is visible.
22:45	71.36	147.66	374	Climbing.
22:46	71.43	147.61	374	Still in Ci haze.
22:47	71.53	147.54	374	Nephelometer measuring ice crystals in the sampling path.
22:47	71.57	147.52	374	Drop in aerosol scattering at this point.
22:48	71.61	147.49	374	Aerosol scattering down.
22:49	71.69	147.44	374	The horizon has a grayish sublayer topped by a whitish layer.
22:50	71.74	147.40	374	Leads are visible below.
22:51	71.85	147.32	374	We seem to be out of the Ci now.
22:52	71.94	147.25	374	Many leads are visible.
22:54	72.04	147.17	374	Slight discoloring to haze. Large lead 4 mi east.
22:56	72.24	147.02	374	Slight turbulence.
23:05	72.90	146.46	374	Thin Ci haze.
23:05	72.91	146.43	374	Surface is clearly visible.
23:06	72.94	146.35	374	Horizon is obscured.
23:08	73.05	146.03	374	From ODW, wind shift at 680 mb, top of stable layer 780 mb.

23:09	73.15	145.91	374	Variations in ozone and nephelometer values possibly due to turning of the aircraft.
23:10	73.19	146.14	375	Starting the descent.
23:12	73.23	146.41	389	Base of isothermal layer at 930 mb.
23:18	73.25	146.89	484	Ozone and aerosol scattering are steady.
23:22	73.33	146.80	555	Sharp top to the haze.
23:23	73.37	146.85	568	Brownish tinge at top of haze.
23:27	73.37	147.12	678	Significant backscatter from haze.
23:30	73.42	147.14	764	Horizon obscured.
23:31	73.37	147.19	790	Horizon obscured.
23:32	73.36	146.97	827	Light turbulence.
23:37	73.41	146.90	966	All steady.
23:38	73.42	146.99	966	Level.
23:39	73.36	147.13	966	Horizon obscured, estimated visibility 3-4 mi.
23:40	73.32	147.13	966	maximum aerosol scattering during descent was at 2.5 km, 730 mb.
23:43	73.24	147.31	966	Visibility increased to 5-6 mi.
23:44	73.30	147.37	966	All steady.
23:45	73.33	147.41	966	Starting down.
23:45	73.36	147.43	973	Drag pattern to #2.
23:46	73.37	147.38	987	Generally hazy condition on the surface.
23:46	73.37	147.32	1000	Turbulence at this level.
23:49	73.29	147.10	1023	Moderate turbulence.
23:50	73.23	147.09	1014	Point B.
23:52	73.18	147.01	1007	Horizon is visible at this altitude.
23:53	73.20	147.13	1012	Northbound leg at 20 m.
23:54	73.25	147.13	1023	Over leads.
23:55	73.30	147.12	1024	Drag pattern no. 3.
23:55	73.31	147.12	1023	Drag pattern point A.
23:56	73.35	147.01	1004	Steady turbulence.
00:00	73.22	147.14	1003	Ozone and aerosol variables are steady.
00:01	73.18	147.08	1004	Horizon is visible.
00:02	73.19	147.11	1004	Moderate turbulence.
00:02	73.22	147.11	1014	Steady.
00:10	73.22	147.12	1012	Steady at previous values.
00:13	73.19	147.15	1018	Downwind of lead at 30 m.
00:28	73.30	147.01	1011	Steady.
00:31	73.27	147.39	1016	CN reacts to the turns.
00:36	73.32	147.04	1014	Steady.
00:44	73.27	146.93	1010	Steady.
00:55	73.22	147.09	915	Going to do the drag measurements.
00:57	73.13	147.02	916	Dark gray layer on the horizon.
01:03	72.82	146.83	953	Approaching the Ice Camp.
01:12	72.70	146.89	914	Blowing snow is visible.
01:13	72.65	146.90	914	No apparent ozone depletion at 18 m. Why?

01:22	72.23	146.91	800	The previous pattern was the detailed lead study.
01:22	72.20	146.90	800	The next pattern is the stacked "L" pattern.
01:23	72.15	146.88	800	This is to be run over uniform ice as a background study.
01:38	72.20	147.53	1013	Drag pattern no. 3.
01:41	72.35	147.81	1018	Down wind of the large lead.
01:42	72.37	147.87	1018	Local obstruction, Arctic fog.
01:42	72.39	147.90	1018	Visibility 0.5 mi.
01:44	72.45	148.02	1018	Only aerosol scattering is climbing gradually.
01:45	72.48	148.07	1019	Moderate turbulence.
01:46	72.52	148.15	1019	Point B, drag pattern 3.
01:48	72.59	148.17	1002	Steady.
01:48	72.60	148.23	1002	Obstruction, blowing snow, Arctic steam.
01:59	72.04	148.07	1000	End of leg 4 of the drag pattern.
02:00	72.03	147.97	1000	At point A.
02:04	72.12	148.35	1011	Moderate turbulence.
02:04	72.13	148.36	1011	Steady.
02:05	72.16	148.42	1011	Visibility estimated 1-2 mi.
02:13	72.47	149.11	1007	End of leg 5.
02:14	72.50	149.13	1005	Point B.
02:15	72.47	149.11	1005	Begin leg no. 6.
02:18	72.39	149.81	1012	Steady.
02:19	72.38	149.87	1012	This is a 40 mi run to end 60 mi NE of BRW.
02:20	72.36	150.05	1012	Estimated visibility to be 1 mi.
02:26	72.24	151.08	TAS	End of leg 6.
02:26	72.24	151.12	1003	At point C.
02:29	72.22	151.18	1016	Begin leg 7.
02:34	72.28	150.71	962	CN is increasing.
02:34	72.29	150.68	959	Sampled the P-3 plume on the last two turns.
02:39	72.37	150.13	1015	Visibility about 0.5-1 mi.
02:40	72.39	150.00	1005	Point B.
02:41	72.42	150.07	988	Begin leg 8.
02:43	72.34	150.13	985	Light turbulence on this leg.
02:44	72.32	150.13	985	Steady ozone and aerosol concentrations.
02:49	72.06	150.06	983	End of leg 8.
02:49	72.05	150.04	983	At point A.
02:52	72.03	150.14	187	Steady.
02:53	72.10	150.29	1010	Begin leg 9.
02:54	72.11	150.31	1013	Moderate turbulence.
02:57	72.26	150.59	1015	Estimated visibility 1-2 mi.
02:59	72.33	150.74	1014	Visibility at 1 mi.
03:00	72.40	150.85	1016	Aerosol scattering gradually increasing.
03:01	72.43	150.92	1016	Visibility down to < 1 km, estimated.
03:03	72.49	151.02	1014	End leg 9.
03:03	72.51	151.08	1015	Begin leg 10.
03:04	72.56	151.18	996	Point B.



NOAA-11 infrared (Ch4) data. 16 April 1992, 1506 UTC.

03:06	72.61	151.14	998	Visibility about 1 mi up here.
03:09	72.60	151.34	998	Horizon is not visible, estimated visibility about 1-2 mi here.
03:11	72.49	151.37	1014	Begin leg 10.5.
03:12	72.45	151.34	1015	Moderate turbulence.
03:12	72.44	151.34	1015	Proceeding from B to A.
03:14	72.37	151.28	1015	A/C plume sampled in the last turn.
03:10	71.97	151.20	979	Lost data signal for a few min.
03:28	71.73	151.14	880	Top of inversion at 926 mb.
03:30	71.62	151.10	860	Secondary temperature inversion at this level.
03:42	71.03	150.77	651	Aerosol scattering dropping.
03:43	70.10	150.77	637	Ground partially obscured.
03:44	70.94	150.76	615	Obstruction increasing.
04:14	69.69	150.49	526	Just completed 15 min of maneuvers to test the flux-measuring instruments. During these tests 0 G was reached. Scattered clouds near the surface.
04:19	69.39	150.39	415	Undercast now.
04:19	69.37	150.38	410	Sc or low Ac.
04:21	69.24	150.36	398	Horizon is not visible.
04:25	68.99	150.27	372	Aerosol scattering and ozone seem to be out of phase.
04:25	68.95	150.25	372	Tropopause, ozone at >90 ppbv.
04:25	68.93	150.24	361	Stratosphere penetration.
04:31	68.52	150.09	358	Ac undercast.
04:35	68.22	150.01	358	Brooks Range visible in isolated spots.
04:41	67.82	149.89	327	Obstruction, ice crystals.
04:43	67.67	149.87	328	Nephelometer highly variable, normal now.
04:43	67.63	149.87	328	Ozone steady.
04:47	67.37	149.78	328	Obstruction again.
04:47	67.35	149.77	328	Aerosol scattering heading up.
04:56	66.74	149.59	316	Undercast of Ac.
05:21	65.00	149.70	284	Made stratosphere.
05:29	64.28	149.81	247	In stratosphere at last.
05:47	62.87	150.02	318	Out of stratosphere.
06:25				Landed in ANC.

7. FLIGHT 406, APRIL 18-19, 1992

7.1 Objective

Although flight 406 had the same objectives as flight 405, including the aircraft maneuvers to test the effect of aircraft orientation on the turbulence measurements, it was conducted in a different location. The low-level segment was moved to a more northerly position on the lead to take advantage of the stronger surface winds in the vicinity.

The flight originated at 1711Z and reached cruising altitude for the northbound transit at 17:27Z (see Fig. 7.1). Starting at 6.1 km (465 mb), the aircraft soon (1737Z) climbed to 6.7 km (427 mb). The aircraft remained at that altitude until the start of the slow descent at 1955Z (73.33°N, 144.79°W). At 2033Z the aircraft reached 1025 mb, the base of the profile. From 2034Z to 2152Z the WP-3D flew a series of traverses upwind and downwind of a major lead at heights of approximately 20, 60, 140, and 160 m. Following a brief sounding to 800 mb, at 2205Z, a series of L-shaped patterns were flown at altitudes of approximately 20, 60, 110, 150, and 260 m. In all cases the long segment of the pattern was flown perpendicular to the mean wind direction at that level. This segment of the flight ended at 0026Z when the aircraft began

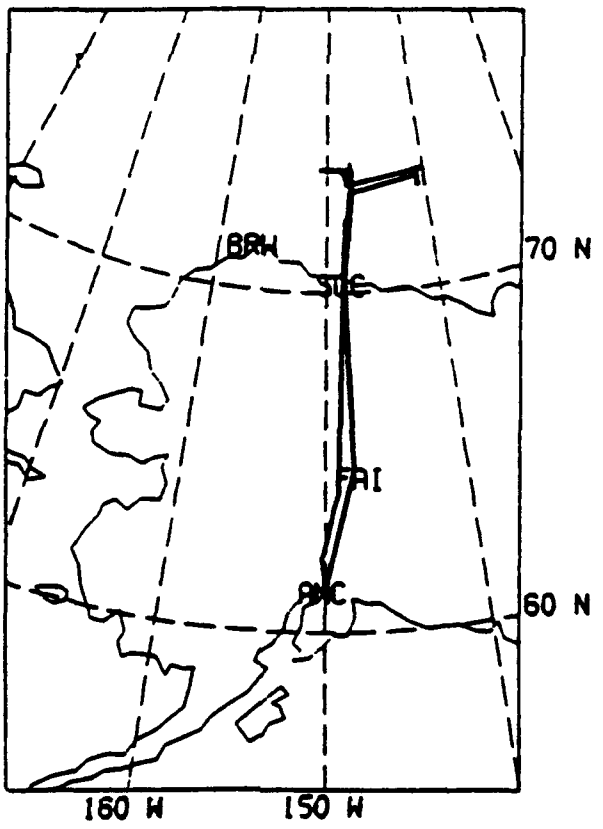


Figure 7.1. Horizontal projection of the aircraft flight track on a latitude-longitude grid, April 18-19, 1992.

the climb for the return to Anchorage. The ascent profile started at 73.11°N, 147.60°W, and ended 20 minutes later at 72.22°N, 148.26°W at 4.6 km (571 mb). The WP-3D passed about 7 km to the east of the Ice Camp (72.96°N, 148.09°W) at 0029Z. As in flight 405, a series of maneuvers were performed to test the influence of the aircraft motion on the turbulence instrumentation; they lasted 28 minutes. At 0114Z, 71.23°N, at 148.32°W the aircraft resumed the climb to cruise altitude. At 7.6 km (375 mb) at 70.60°N, 148.40°W the WP-3D leveled off and remained at that altitude until 0135Z when it climbed to 8.2 km; 20 minutes later it climbed to 10.1 km (261 mb). The aircraft remained at that altitude until 0242Z at 64.76°N, 149.04°W, when the descent into Anchorage was begun. The aircraft landed at 03:41Z.

7.2 Flight Log

17:11				Takeoff.
17:16	61.42	149.86	731	Entering midlevel Ac cloud layer.
17:18	61.59	149.89	647	Atop middle cloud layer.
17:19	61.61	149.89	643	Overcast above.
17:20	61.69	149.88	600	Scattered Cu below now.
17:23	61.92	149.78	513	Scattered Cu below, thin Ci overcast above.
17:24	61.99	149.74	492	Partially obscured here.
17:25	62.02	149.72	480	Light turbulence in Ci.
17:26	62.11	149.69	465	Still in Ci.
17:27	62.14	149.67	465	Ozone and aerosol scattering are not being displayed.
17:30	62.38	149.05	464	Nearing top of Ci.
17:31	62.43	149.51	465	Atop Ci layer.
17:31	62.44	149.50	465	Clear above.
17:35	62.71	149.36	436	Looks like the dew point instrument has about a 3 min delay at these temps.
17:36	62.73	149.34	430	Level at 6700 m.
17:42	63.18	149.07	426	Horizon is obscured.
17:43	63.20	149.05	426	Back in the Ci.
17:43	63.28	149.00	426	Above the obscuration again.
17:44	63.36	148.95	426	Stratocumulus layer below.
17:44	63.37	148.95	426	Undercast.
17:46	63.52	148.86	426	Back in the obscuration again.
17:46	63.53	148.85	426	Slight turbulence.
17:47	63.59	148.82	426	Horizon obscured.
17:48	63.66	148.77	426	Still in clouds.
17:51	63.90	148.62	426	Still in clouds.
17:52	63.92	148.60	426	Getting brighter.
17:53	64.05	148.53	426	Nearing top of clouds.
17:54	64.11	148.49	426	Near the top of clouds.
17:55	64.15	148.46	426	Horizon still not visible.
17:57	64.30	148.37	426	Horizon still obscured
17:59	64.49	148.24	426	Still in clouds, horizon is not visible.
18:00	64.53	148.21	426	Ground is partially visible.

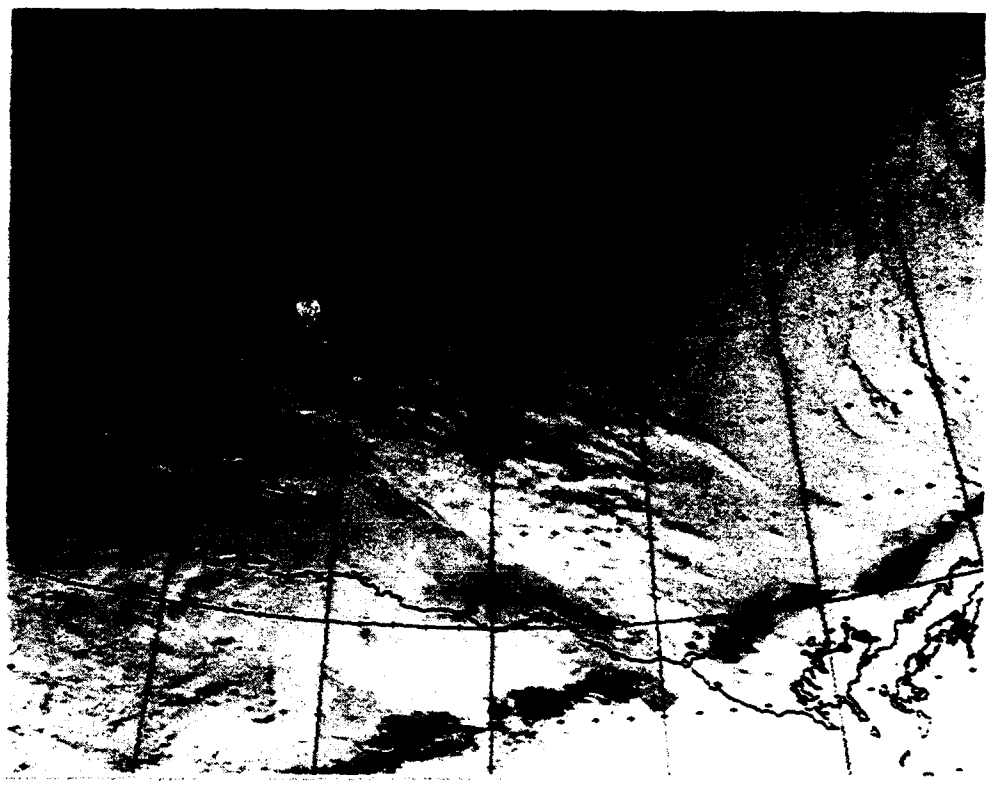
18:02	64.65	148.11	426	Clouds are thin at this point.
18:02	64.67	148.09	426	Horizon is in view.
18:02	64.74	148.00	426	Low scattered clouds.
18:03	64.75	147.99	426	Clearing at flight level.
18:06	64.95	147.99	426	Widely scattered clouds below, thin obscuration at flight level.
18:06	65.01	148.02	426	Horizon is visible.
18:39	65.16	148.06	426	Hazy on the horizon.
18:08	65.19	148.07	426	Scattered clouds below.
18:10	65.32	148.08	426	Brown tinge to haze atop clouds looking toward SE.
18:11	65.43	148.10	426	Horizon obscured again.
18:12	65.46	148.10	426	Clouds at flight level seem to be decreasing as we go north.
18:12	65.52	148.11	426	Widely scattered low cumulus below.
18:31	67.07	148.39	426	Clear at flight level.
18:31	67.11	148 21	426	Undercast of low clouds at the surface.
18:38	67.67	148.47	426	Undercast with top at about 6000 ft.
18:39	67.72	148.47	426	Cloud layer on the horizon.
18:49	68.54	148.45	427	Low clouds edge at ridge of Brooks.
18:50	68.65	148.00	427	Clear above.
18:52	68.84	148.45	426	Clear below.
18:53	68.89	148.45	427	Clouds ahead, low stratus.
18:56	69.16	148.44	427	Sc undercast now.
18:57	69.21	148.44	426	Horizon is not visible to starboard.
19:02	69.65	148.44	426	There is a reddish brown tint to the haze to the SE.
19:09	70.17	148.39	427	Nephelometer clean-air check performed at 1906Z.
19:14	70.66	148.29	427	St undercast at this location.
19:19	71.03	148.19	426	Dropwindsonde no. 1 released.
19:26	71.59	148.01	427	Horizon not visible.
19:26	71.61	148.01	427	Undercast, Sc.
19:31	72.06	147.85	427	Ice surface is barely visible now.
19:35	72.34	147.74	427	Horizon barely visible.
19:35	72.36	147.73	427	Surface obscured.
19:35	72.41	147.71	427	No indication of haze layers on the horizon.
19:41	72.87	147.00	427	Clearing some below.
19:41	72.92	147.54	427	Horizon barely visible.
19:42	72.97	147.52	427	Dropwindsonde #2 released.
19:43	73.04	147.49	427	Top of inversion is at 907 mb based on the sonde.
19:45	73.18	147.43	427	Turning toward NE.
19:45	73.21	147.25	427	Mid-level Ac layer optically obscuring surface.
19:48	73.23	146.67	427	Surface is clear, scattered to broken midlevel clouds.
19:51	73.27	145.87	427	Clearing as we go north.
19:55	73.34	144.71	435	Start descent over ice, some cloud streaks on surface.
19:55	73.34	144.62	441	Whitish layer on the horizon topped by a single brownish layer.
19:59	73.40	143.56	515	Clear now.
20:04	73.45	142.52	602	Aerosol scattering decreasing.
20:04	73.45	142.41	613	Slightly elevated aerosol scattering for last 8 min.

20:05	73.46	142.21	632	Ozone steady.
20:10	73.50	141.09	756	Aerosol scattering gradually increasing.
20:15	73.51	140.13	843	Turning.
20:15	73.50	140.14	843	Aerosol scattering increasing, may be turn influenced.
20:19	73.45	140.86	876	Aerosol scattering gradually increasing.
20:21	73.42	141.46	949	Aerosol scattering starting to drop.
20:23	73.46	141.30	959	Grayish brown layer visible.
20:30	73.51	140.72	990	Thin brownish haze layer visible.
20:33	73.38	140.82	1024	Light turbulence.
20:35	73.30	140.87	1007	Observation pass upwind of lead.
20:35	73.29	140.78	1006	Estimated visibility 2-4 mi.
20:38	73.36	140.87	1023	Start 50 ft (RA) run over large open lead, light turbulence downwind of lead.
20:40	73.45	140.76	1024	Ozone, aerosol scattering, and CN steady last 5 min.
20:41	73.48	140.73	1018	End downwind leg, climb to 500 ft (RA) to turn.
20:43	73.52	140.58	1008	Steady for last 12 min.
20:45	73.50	140.72	1020	Back down at 50 ft (RA) - over more slushy part of lead. Ice crystal haze here, estimated visibility 2-3 mi.
20:46	73.44	140.00	1024	Beginning 18 m run over slush.
20:50	73.30	140.91	1020	Climbed to 500 ft (RA) to turn.
20:51	73.25	140.82	1007	Beginning 32 m run over downwind edge of lead.
20:54	73.29	140.86	1020	Start 100 ft (RA) run over downwind edge of lead. About half open water and half slush.
20:57	73.45	140.75	1023	End of run.
20:58	73.47	140.73	1012	Climb to 500 ft (RA) to turn.
20:59	73.49	140.60	1005	32 m on downwind side.
21:00	73.50	140.73	1005	Ozone and aerosol scattering very steady.
21:01	73.48	140.79	1013	P-3 plume contaminated samples during the last turn.
21:01	73.41	140.83	1023	Start 100 ft (RA) run over downwind edge of lead. Trying to stay more over the slush now.
21:02	73.41	140.85	1023	Turning into the SW, intercepted the P-3 plume again.
21:04	73.32	140.89	1022	Moderate turbulence.
21:05	73.29	140.89	1021	End of 32 m run.
21:05	73.24	140.89	1017	End of 100 ft run. Climb to turn.
21:07	73.24	140.91	1008	Starting run.
21:07	73.26	140.91	1018	64 m level.
21:08	73.28	140.91	1018	Intercepted the P-3 plume again on the last turn.
21:09	73.32	140.90	1018	61 m over the slush.
21:12	73.47	140.82	1016	Slight climb in aerosol scattering.
21:17	73.46	140.81	1024	Start run at 50 ft (RA) on upwind side of big lead. Mostly over open water, saw plume again on turn.
21:18	73.41	140.80	1025	50 ft downwind.
21:18	73.38	140.83	1024	50 ft upwind.
21:19	73.36	140.86	1024	End of run.
21:20	73.33	140.89	1019	Climb for turn and reverse course.

21:24	73.24	140.86	1007	Beginning a run.
21:24	73.26	140.89	1012	Descending to 50 ft (RA) for run over mostly open water. Sniffed P-3 exhaust again.
21:25	73.31	140.88	1024	18 m center of lead.
21:29	73.47	140.76	1023	End of run.
21:29	73.50	140.72	1008	Next is 18 m over pack downwind of lead. Climb to turn.
21:32	73.48	140.89	1022	Start 50 ft run over solid ice on downwind side of lead.
21:33	73.44	140.93	1025	Light turbulence to moderate turbulence, good lead plume signal.
21:33	73.42	140.94	1024	Rougher over ice than lead.
21:35	73.35	140.99	1024	Ice is rough in this region.
21:36	73.29	141.00	1015	End of run. Climb to turn.
21:38	73.29	141.09	1018	P-3 exhaust intercepted again on the last turn.
21:38	73.29	141.01	1024	P-3 exhaust again.
21:39	73.30	140.89	1024	Crisscrossing the lead. Start 50 ft run at an angle to the lead. Could only sample for a short time over the lead.
21:40	73.29	140.88	1017	Now over ice. Lead aerosol sampling stopped.
21:43	73.28	141.20	1006	Caught P-3 plume again.
21:45	73.30	141.10	1021	31 m perpendicular to lead.
21:46	73.29	140.97	1022	Start 100 ft (RA) perpendicular run over lead. 30 s later over ice. Lead aerosol sampling stopped.
21:47	73.29	140.80	1022	CN is variable, check P-3 exhaust displacement.
21:48	73.27	140.69	1006	Visibility reduced looking into the sun.
21:49	73.28	140.70	1006	Visibility estimated to be 2-3 mi.
21:50	73.30	140.95	1022	Another 15 m run over lead. Then climb 61 m per min.
21:51	73.30	141.11	1014	CN was very high last 2-4 min. Start ascent.
21:52	73.31	141.40	1008	Ozone and aerosol scattering steady.
21:53	73.30	141.53	994	Ozone and aerosol scattering steady during climb.
21:59	73.24	142.60	891	Haze layer here.
22:00	73.23	142.82	869	The haze layer is at 1.1 km.
22:03	73.19	143.53	803	Out of haze layer.
22:05	73.18	143.80	799	CN steady through this layer.
22:06	73.17	144.19	800	Top of layer.
22:07	73.16	144.26	799	Ozone continuing to increase.
22:07	73.16	144.33	798	Going down to 30 m.
22:14	73.09	145.81	831	Still in haze layer.
22:17	73.04	146.55	846	Few patchy Ci aloft.
22:17	73.04	146.59	847	Haze bands visible on horizon.
22:18	73.03	147.00	857	Descending.
22:21	72.96	147.49	936	Estimated visibility 4-6 km.
22:22	72.94	147.69	960	Aerosol scattering decreasing.
22:28	72.92	147.73	1000	Ozone and aerosol scattering steady for last 5 min.
22:30	73.01	147.51	1005	Beginning stacked "L"s.
22:33	73.16	147.61	1018	Steady.
22:34	73.17	147.61	1018	Light turbulence.

22:34	73.24	147.61	1018	Scattered thin Ci aloft.
22:50	73.29	147.99	1006	Estimated visibility 4-6 km.
22:50	73.27	148.01	1006	Scattered Ci aloft.
22:57	73.13	148.23	1013	Light turbulence this leg.
23:10	73.55	148.87	1013	CN gradually decreasing.
23:12	73.54	149.36	1013	Ozone and aerosol scattering steady.
23:39	73.60	148.92	986	Ci thickening, broken now.
23:51	73.49	147.50	987	Broken Ci overhead, visibility 4-6 km.
23:52	73.46	147.50	987	Visibility variable.
00:05	73.52	147.58	1020	Gradual increase in aerosol scattering.
00:24	73.19	147.50	1013	Overcast midlevel Ac.
00:32	72.87	148.20	989	Just passed the Ice Camp.
00:32	72.85	148.20	986	Sun obscured.
00:33	72.81	148.20	972	Broken midlevel clouds now.
00:36	72.68	148.22	918	Ozone and aerosol scattering increasing.
00:39	72.56	148.22	851	Sun obscured.
00:39	72.54	148.23	829	Big jump in aerosol scattering.
00:41	72.47	148.23	778	Both aerosol scattering and ozone dropping.
00:44	72.02	148.26	602	Out of layer.
00:45	72.24	148.26	578	Begin maneuvers to test the flux-measuring system (pitch, yaw, turns, etc.).
01:13	71.30	148.33	572	End maneuvers.
01:16	71.05	148.37	532	Undercast of Ac.
01:17	71.00	148.37	508	Clear above.
01:17	71.00	148.37	508	For the previous 30 min we have been doing maneuvers to test the flux system.
01:18	70.92	148.38	470	It might be interesting to see how this affects the aerosol measurements.
01:19	70.83	148.39	433	ODW no. 3 dropped at 71.2°N.
01:22	70.62	148.41	375	Undercast stratocumulus.
01:23	70.59	148.41	374	Aerosol scattering decreasing to threshold levels.
01:34	69.81	148.52	374	Climbing for the stratosphere.
01:35	69.70	148.53	357	Ozone is low for this altitude.
01:36	69.64	148.54	345	Ozone dip.
01:38	69.50	148.56	343	Aerosol scattering dropping.
01:38	69.49	148.56	343	Dropwindsonde #4 for the day.
01:39	69.44	148.57	343	Big decrease in ozone and aerosol scattering.
01:39	69.42	148.57	343	Did dip in ozone and aerosol scattering coincide with the ODW release?
01:42	69.23	148.60	343	Ozone and aerosol scattering values have recovered.
01:48	68.81	148.63	343	Second nephelometer clean-air check at 8247m PA.
02:14	66.88	148.87	300	Observing higher ozone values with continued climbing.
02:15	66.79	148.87	299	By all visual observations we are at the tropopause.
02:15	62.00	148.87	296	Ozone is going up.
02:16	66.71	148.88	292	Ozone and aerosol scattering increasing fast.

02:16	66.68	148.88	289	In stratosphere now, ozone is >90 ppbv.
02:18	66.57	148.90	282	Ozone over 190 ppbv.
02:18	66.54	148.88	280	Aerosol scattering steady.
02:22	66.28	148.91	272	Horizon obscured by Cs.
02:22	66.26	148.91	272	Opaque below.
02:23	66.21	148.92	271	Brownish haze layer at the tropopause.
02:25	66.07	148.93	266	In stratospheric air. Ozone: 250 ppbv.
02:29	65.70	148.98	260	CN is high >12,000 cm^{-3}.
02:37	65.16	149.01	261	PA: 10,088 m. Ozone: 220 ppbv.
02:40	64.87	149.04	260	Still in stratosphere.
02:41	64.79	149.04	263	Starting down.
02:47	64.35	149.07	286	Cloud cover to the west.
02:48	64.32	149.07	286	Clear below and to the east.
02:49	64.25	149.08	291	Ozone: 200 ppbv.
02:50	64.15	149.10	301	Going down to try to skim the tropopause.
02:54	63.90	149.19	313	Approaching the tropopause.
02:55	63.83	149.23	313	Slight turbulence.
02:59	63.59	149.48	326	At the tropopause.
03:00	63.00	149.56	335	Below the tropopause but CN is still high.
03:01	63.46	149.57	338	Ozone dropped to 75 ppbv.
03:02	63.36	149.62	343	Scattered Cu around Mt. McKinley.
03:06	63.10	149.75	363	Clear above, scattered Cu below.
03:12	62.70	149.94	439	Slight turbulence.
03:13	62.67	149.96	446	Ground is obscured.
03:14	62.62	150.00	461	Still above the clouds.
03:16	62.47	150.10	494	Ground visible below the plane.
03:16	62.45	150.11	499	Clouds to the west.
03:17	62.42	150.12	504	Clear above.
03:21	62.10	150.29	600	Lower patchy Cu, clear above.
03:24	61.99	150.36	636	Slight turbulence, end of log.
03:41				Landed in Anchorage.



NOAA-10 visible (Ch1) data. 18 April 1992, 2004 UTC.

8. FLIGHT 407, APRIL 21-22, 1992

8.1 Objective

The seventh flight in the series was dedicated to aerosol and gas sampling in the Barrow region and to providing a comparison of measurements with those from a Russian aircraft sampling the Siberian Arctic at the same time. A secondary interest was in sampling the plume from a large Palynya, to the west of BRW.

The WP-3D took off from Anchorage at 1742Z and climbed to a cruising altitude of 6.1 km (466 mb). This altitude was maintained from 1800Z, at 62.18°N, 149.62°W, to 1934Z, at 68.92°N, 153.28°W. The aircraft followed the same track as in previous flights as far as Fairbanks, after which it turned toward Barrow (see Fig. 8.1). By 1929Z the aircraft had climbed to 6.3 km (427 mb) and remained at this altitude until the beginning of the descent profile. The slow descent began at 2021Z at 71.45°N, 158.90°W, and concluded at 2223Z, 71.21°N, 157.63°W, and at an altitude of 16 m (1018 mb). Level segments of 10-15 min duration were interspersed in the sounding at 3.0 km (702 mb), 1.5 km (848 mb), and 0.15 km (999 mb). At the conclusion of the sounding the aircraft was about 34 km west of Barrow. For the next 40 minutes

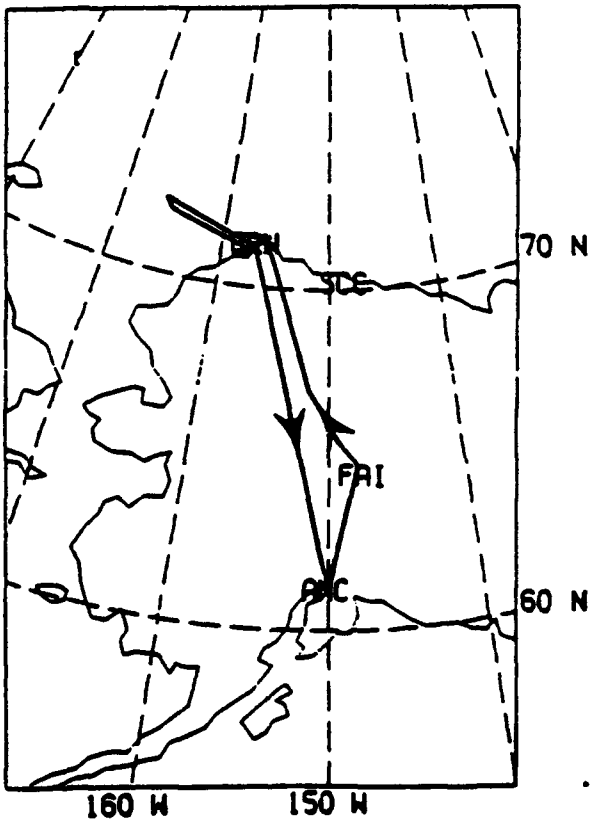


Figure 8.1. Horizontal projection of the aircraft flight track on a latitude-longitude grid, April 21-22, 1992.

the WP-3D conducted along- and cross-wind sampling segments at 16 m. A brief sounding from the surface to 5.9 km was begun at 2304Z, at 71.19°N, 157.60°W, after which at 2358Z, at 71.93°N, 165.90°W, the WP-3D descended to an altitude of 0.1 km to rendezvous with the Russian plane.

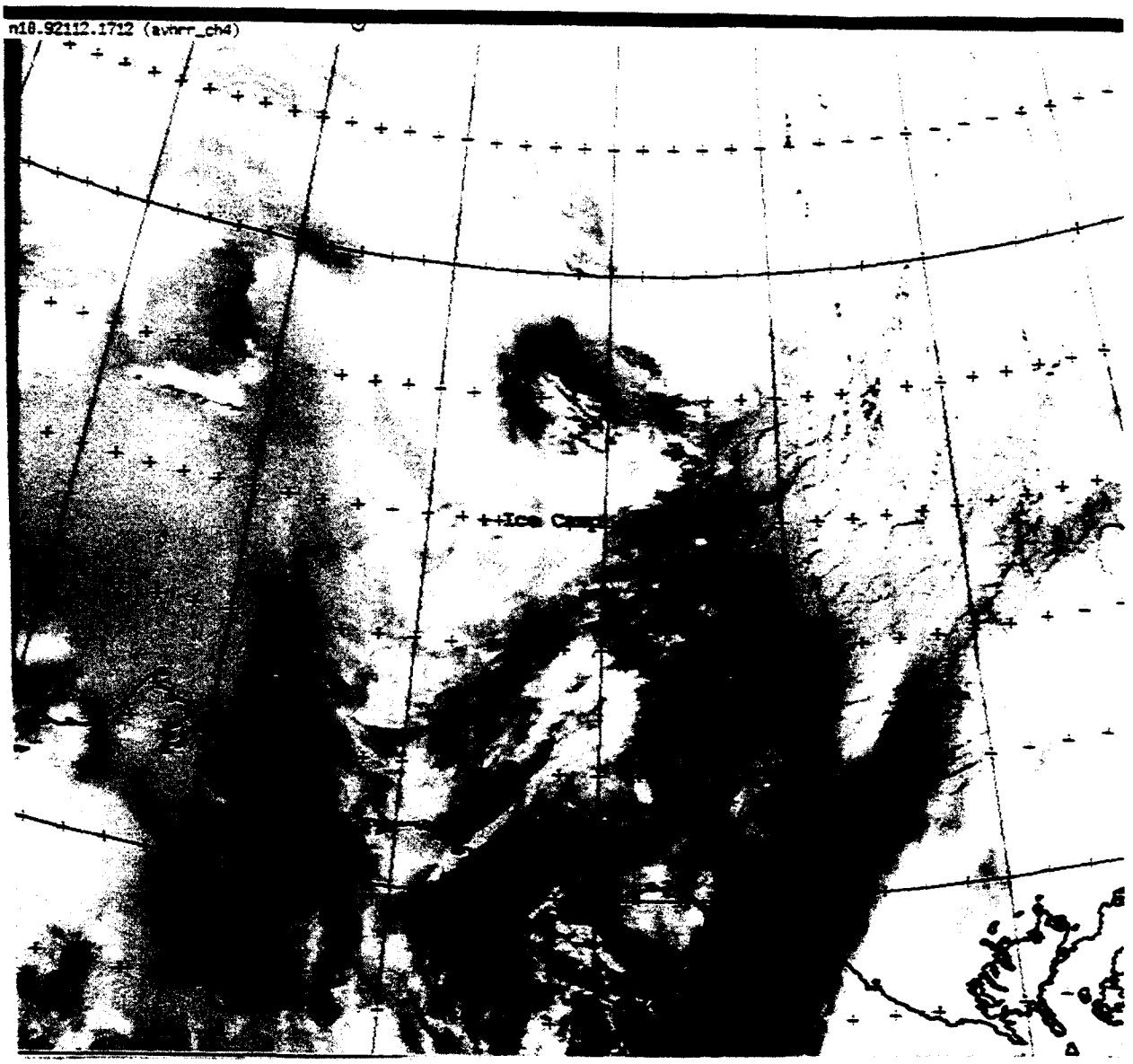
Following the sounding, the aircraft turned to the south and then southeast to return to Anchorage. The ascent to cruise altitude began at 0004Z, at 72.25°N, 165.92°W. Cruise altitude of 7.6 km (375 mb) was attained after only 14 minutes, a climb rate of 0.5 km min^{-1} (45 mb min^{-1}). After 18 minutes at 7.6 km the aircraft climbed to 9.5 km (286 mb). The aircraft maintained this altitude from 0055Z, at 71.06°N, 156.53°W, to 0138Z, at 68.06°N, 154.02°W. After a brief climb to 10.1 km (261 mb), and a 14 min segment at that level, the aircraft began the descent to Anchorage at 0204Z (66.18°N 152.77°N). The aircraft landed at about 0329Z.

8.2 Flight Log

No electronic metadata were taken on this flight. The flight notes are those of PS.

17:42	Takeoff.
18:08 62.74 149.33 465	Clean-air check performed on nephelometer.
18:44 65.30 148.80 466	Power interruption - all scientific systems will have a glitch.
19:07 66.83 151.40 466	Printout resumes.
20:03 71.10 155.54 427	Nearing Barrow coastline. High thin clouds almost up to aircraft level.
20:42 71.49 157.48 701	Just north of Barrow coastline. PA: 10,000 ft.
21:05 71.50 156.33 848	Descending through 5,000 ft (RA). Very near Barrow. Fly for a while at 500 ft RA.
22:21 71.30 157.27 1001	Start offshore run at 60 ft RA.
22:25 71.13 157.63 1017	Climb to turn.
22:32 71.18 158.03 1016	Start 50 ft RA run.
22:36 71.31 157.66 1017	Climb to turn.
22:40 71.22 157.31 1002	Start 50 ft RA run.
22:50 71.00 158.55 1017	Climb to turn.
22:53 71.02 158.62 1015	Start 60 ft RA run over open water.
23:02 71.12 157.40 1009	End 60 ft run. Climb.
23:10 71.30 158.50 951	Ascending through 650 m PA. Rendezvous with Russian Aircraft AN-26
00:12 72.20 164.63 497	Rendezvous with Russian Aircraft AN-26. Ascending through 5800 m PA.
00:33 71.76 160.55 375	PA: 7636 m; ozone: 90 ppbv.
00:37 71.69 159.80 375	Dropped below the tropopause. Ozone: 40 ppbv.
00:45 71.50 158.25 326	8800 m and climbing. Ozone: 90 ppbv.
00:53 71.20 156.70 292	Ozone now up to 126 ppbv.
00:54 71.12 156.61 288	Ozone: 150 ppbv; PA: 9475 m.

01:01	70.66	156.19	286	Severe yaw maneuvers started. Strange signals on nephelometer and possibly other systems.
01:06	70.21	155.80	286	In stratospheric air. Ozone: 145 ppbv; PA: 9475 m.
01:52	67.07	153.33	261	Ozone: 220 ppbv.
02:04	66.17	152.77	261	Ozone: 240 ppbv.
02:50	63.25	151.18	365	Passed over Denali summit.
03:13	61.79	150.52	670	Descending through 3600 m. Ozone: 56 ppbv.
03:29				Land in Anchorage.



NOAA-10 infrared (Ch4) data. 21 April 1992, 1712 UTC.

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9. FLIGHT 408, APRIL 22-23, 1992

9.1 Objective

Flight 408 was a dedicated AGASP flight. The objective was to monitor the chemical composition of the aggregate plume from the energy complex in the Prudhoe Bay region. Recent observations of NO and NO_x at Barrow tended to suggest the influence of the Prudhoe Bay complex on measurements made under what were previously thought to be "clean" wind directions (Jaffee et al., 1991). Because of the limited number of flight hours remaining, this flight was shorter than the preceding flights.

The NOAA WP-3D took off at 2041Z and followed the same general track of the preceding flights toward FAI (see Fig. 9.1). Cruising altitude of 6.1 km (465 mb) was reached at 2058Z and was maintained until the start of the descent profile at 2301Z (70.93°N, 148.66°W). The profile was terminated at an elevation of 350 m (982 mb) at 2314Z (70.78°N, 147.03°W). A series of level L-shaped traverses were made to the north and west of the Prudhoe Bay complex to sample the effluent downwind of the facility, after a brief upwind sample to the east. From

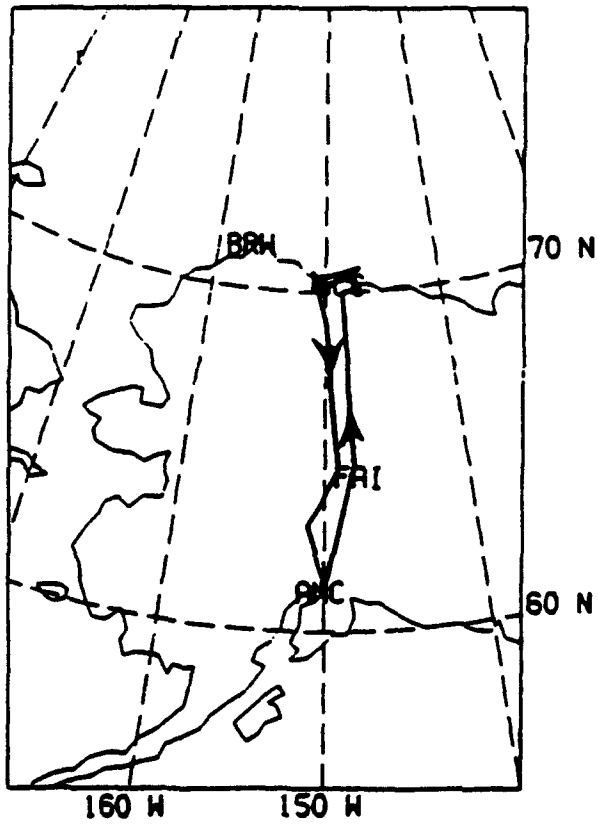


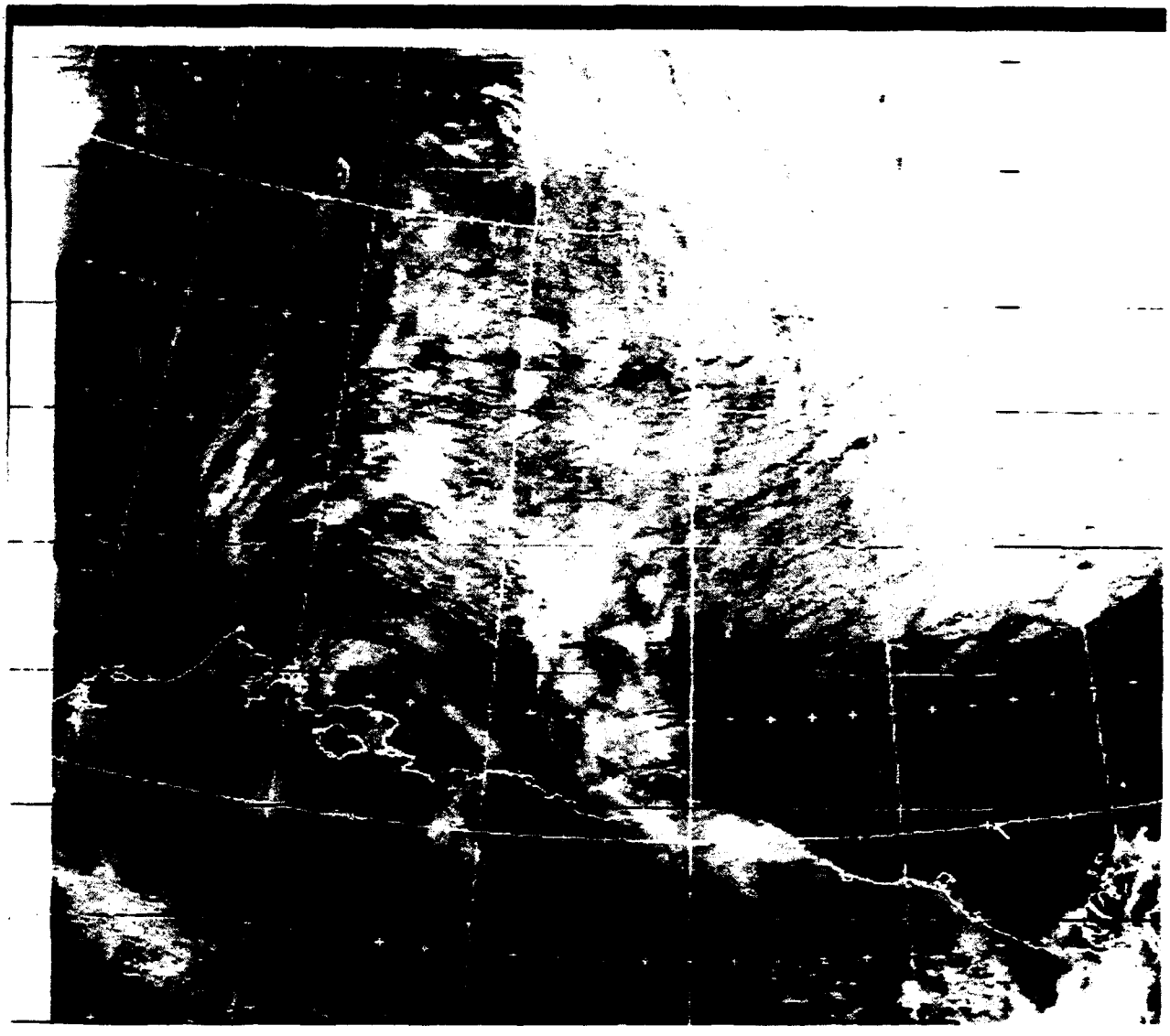
Figure 9.1. Horizontal projection of the aircraft flight track on a latitude-longitude grid, April 22-23, 1992.

2314Z to 2339Z the aircraft sampled a 73 km line along 147°W, which was about 54 km east of Deadhorse (70.20°N, 148.47°W) at the closest point. The aircraft was at an altitude of 345 m on the southbound leg and at 457 m on the return. Sampling segments were flown to the north and west at 450 m (2340Z to 0043Z) and at 160 m (0046 to 0203Z) altitude. The climb for the return flight began immediately thereafter.

At 70.46°N (150.84°W) the aircraft began a rapid climb of only 18 minutes to cruise altitude of 7.6 km. At 0249Z (67.60°N, 149.63°W) the WP-3D climbed to 8.9 km, and at 0309Z (66.26°N, 149.38°W) it climbed again to 9.5 km. At these levels the search for the top of the troposphere was realized, but after only 6 minutes at 65.25°N, 149.17°W, the aircraft departed the stratosphere on the descent into Anchorage. The aircraft landed at 0431Z.

9.2 Flight Log

20:41	Takeoff.
20:45 61.33 150.18 848	Noticed that PMS (aerosol optical probes) clock is 7 minutes 42 seconds ahead of the airplane clock. This must be taken into account when analyzing the PMS probe data.
21:14 63.16 149.08 466	Data system for PMS probes was given the correct time.
21:41 64.99 148.04 466	Performed nephelometer clean-air check.
23:01 70.94 148.67 466	Started descent over Prudhoe Bay facility.
23:03 71.03 148.47 518	Descending through 5100 m PA.
23:05 71.03 148.01 586	Descending through 4400 m PA.
23:43 70.46 147.89 976	Halfway through diagonal leg entering downwind region. RA: 462 m (1200 ft level legs).
23:53 70.46 149.49 976	Crossed over Pipeline at 1200 ft RA on westbound leg of upper (higher altitude) bowtie pattern.
00:44 70.55 147.74 983	Descending through 340 m PA.
01:02 70.44 147.96 1007	On level 500 ft. RA leg.
02:03 70.46 150.96 1005	Started climb for home.
02:13 70.04 150.24 481	Climbing through 6000 m.
02:18 69.79 150.15 405	Ascending through 7200 m PA.
04:11 62.02 150.52 544	Descending through 5000 m PA. Lat.: 62°N.
04:14 61.89 150.43 604	Descending through 4000 m PA. Lat.: 61.8°N.
04:31	Landing in Anchorage.



NOAA-10 infrared (Ch4) data. 23 April 1992, 0427 UTC.

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Extracted from:

NOAA Technical Memorandum ERL CMDL (To be assigned)

THE ANALYSIS OF HAZE DISTRIBUTION, AEROSOL CHEMISTRY, AND OPTICAL DEPTHS FOR THE FOURTH ARCTIC GAS AND AEROSOL SAMPLING PROGRAM (AGASP IV), MARCH-APRIL 1992

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SPECTRAL OPTICAL DEPTH MEASUREMENTS

Between March 30 and April 23 over 1200 (handheld) measurements were made with a standard dual-wavelength sunphotometer during seven flights aboard the NOAA WP-3D aircraft. Measurements were made at four wavelengths spanning the solar and near infrared spectra at 380nm, 500nm, 778nm, and 860nm, at altitudes ranging from 50 meters above the pack ice into the stratosphere. Sequences of sunphotometer measurements were made at the four wavelengths within ± 30° of solar zenith during cloud-free periods, viewing through specially fitted quartz glass windows in the NOAA P3. The sunphotometers were carefully calibrated before and after the field program. The instruments were found to be very stable based on their consistent calibration histories. Thus, the measured data, and resultant calculated aerosol optical depths are of very high quality.

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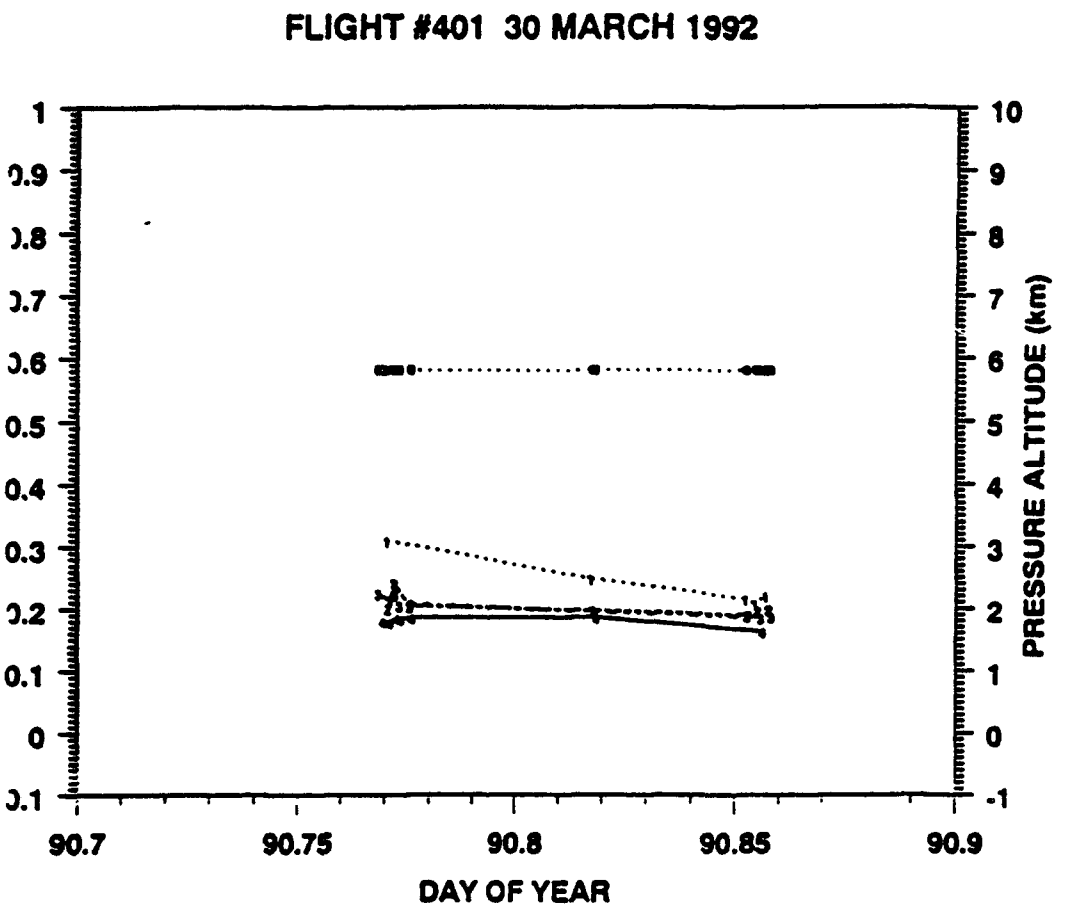
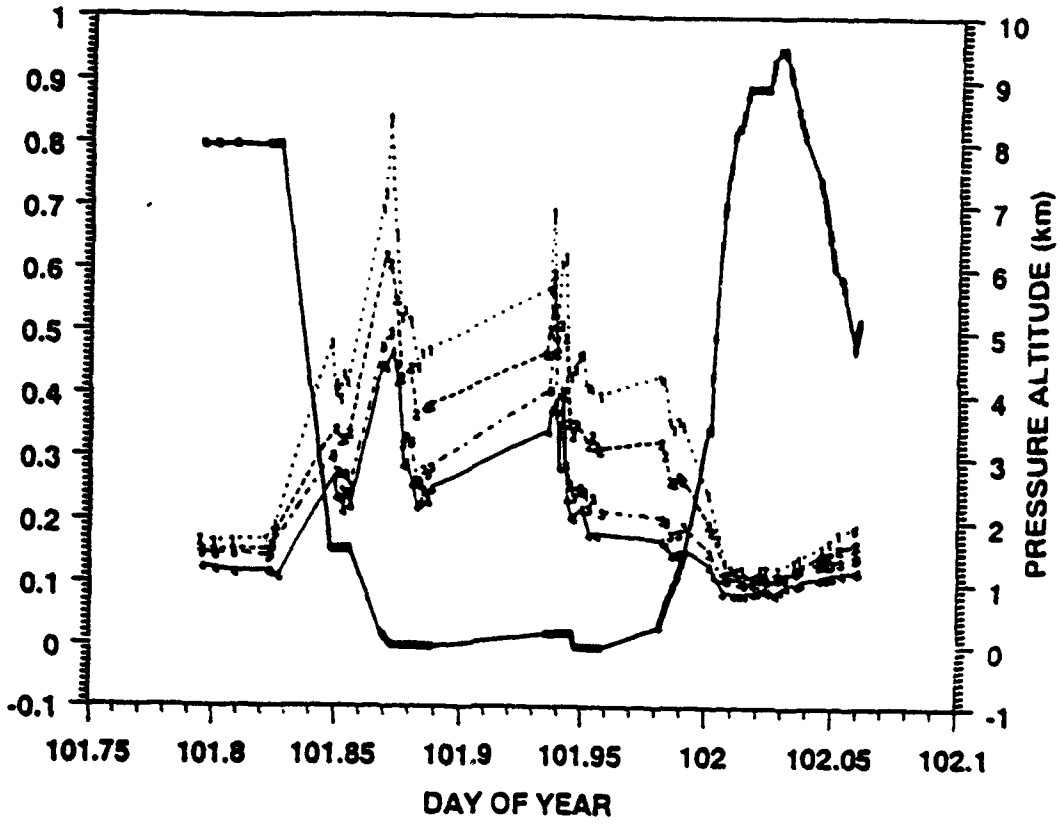
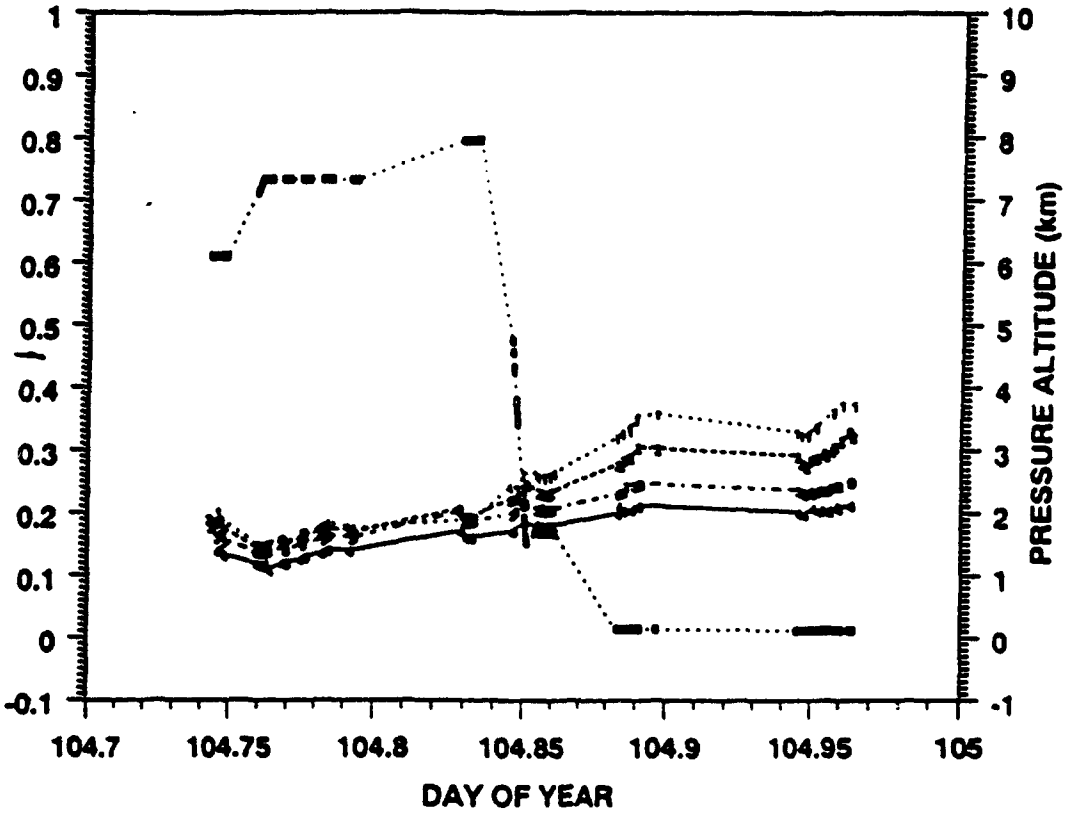


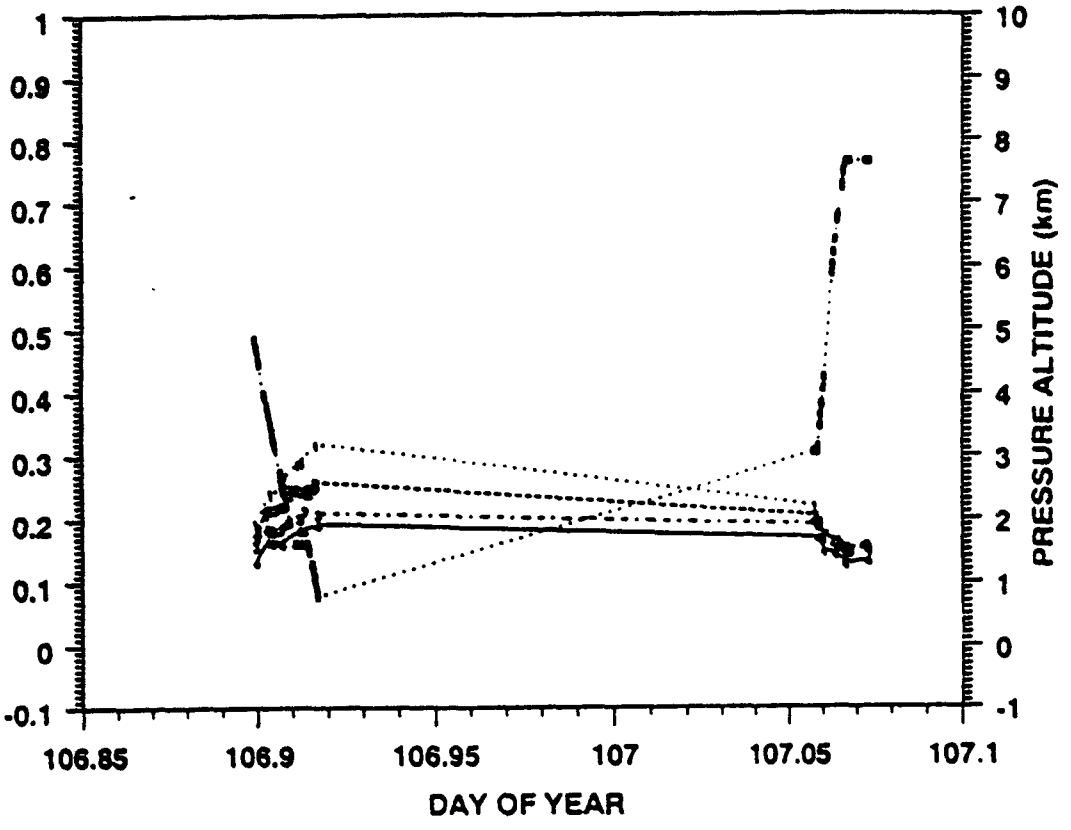
Time series of spectral optical depth measurements made during Flight 401.



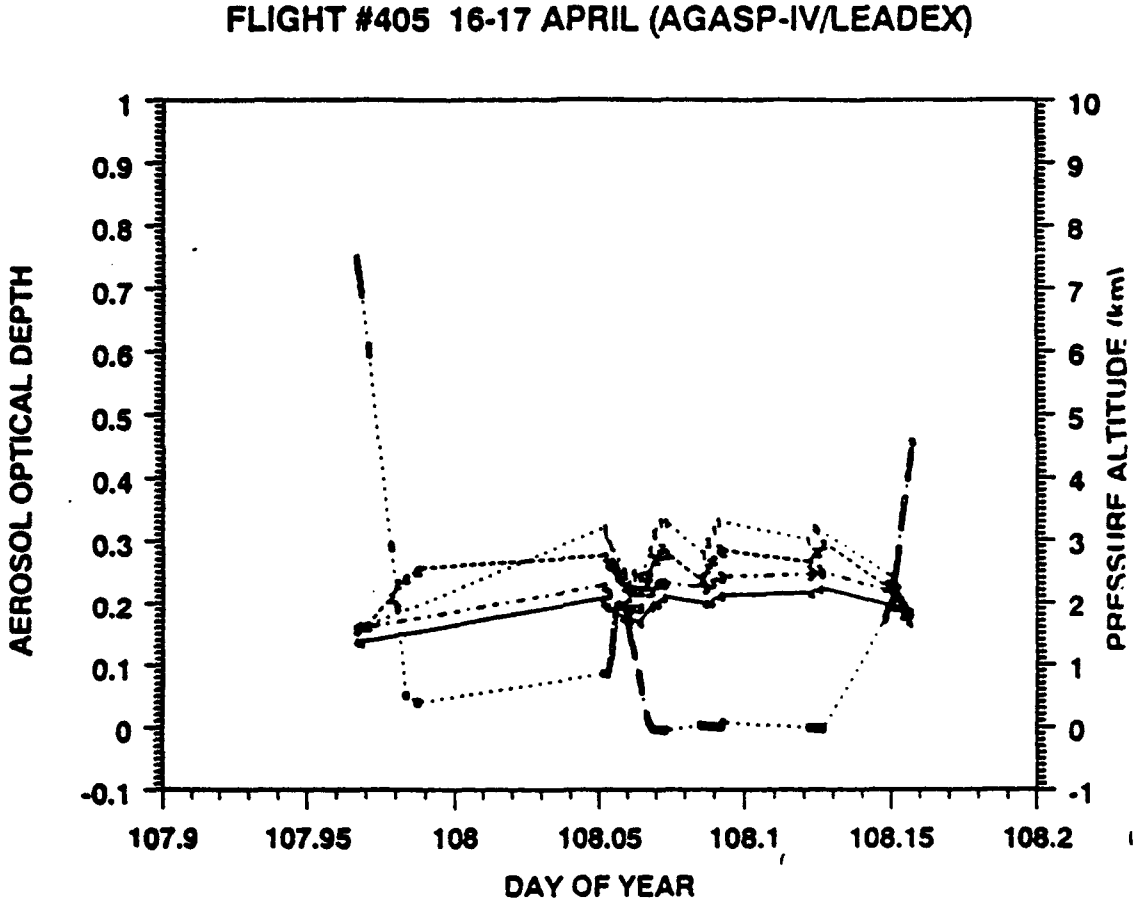
Time series of spectral optical depth measurements made during Flight 402.



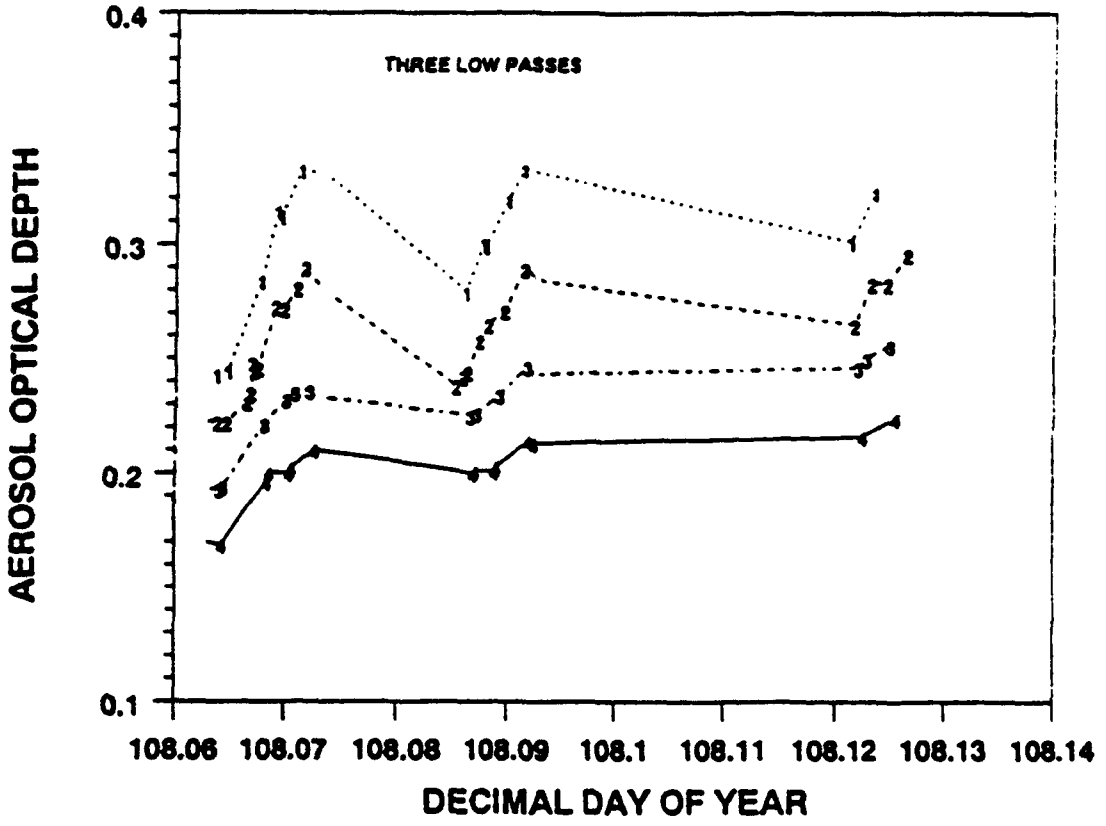
Time series of spectral optical depth measurements made during Flight 403.



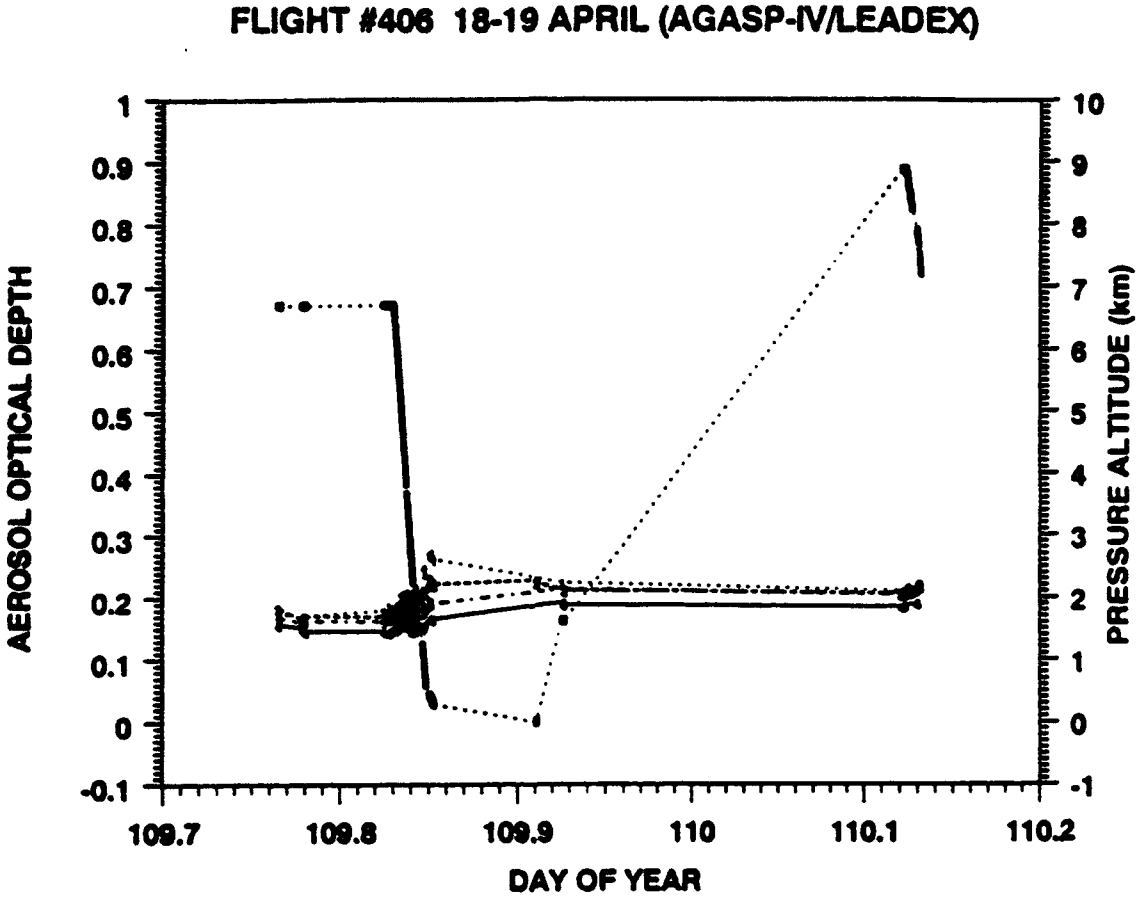
Time series of spectral optical depth measurements made during Flight 404.



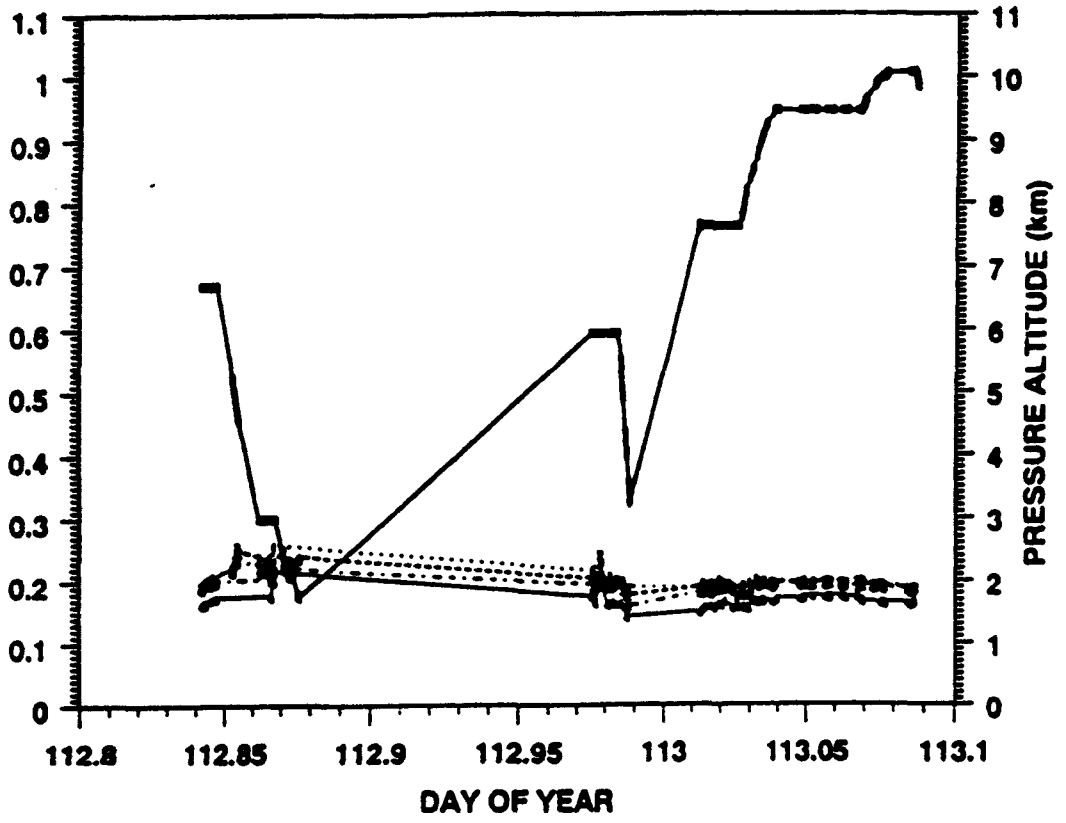
Time series of spectral optical depth measurements made during Flight 405.



Expanded view of optical depth measurements made during three low-level overpasses of a large open lead, Flight 405.



Time series of spectral optical depth measurements made during Flight 406.



Time series of spectral optical depth measurements made during Flight 407.

OVERVIEW OF NOAA P-3 METEOROLOGICAL RESEARCH DURING LEADEX

N. A. BOND/PMEL/NOAA AND B. A. WALTER/SAIC

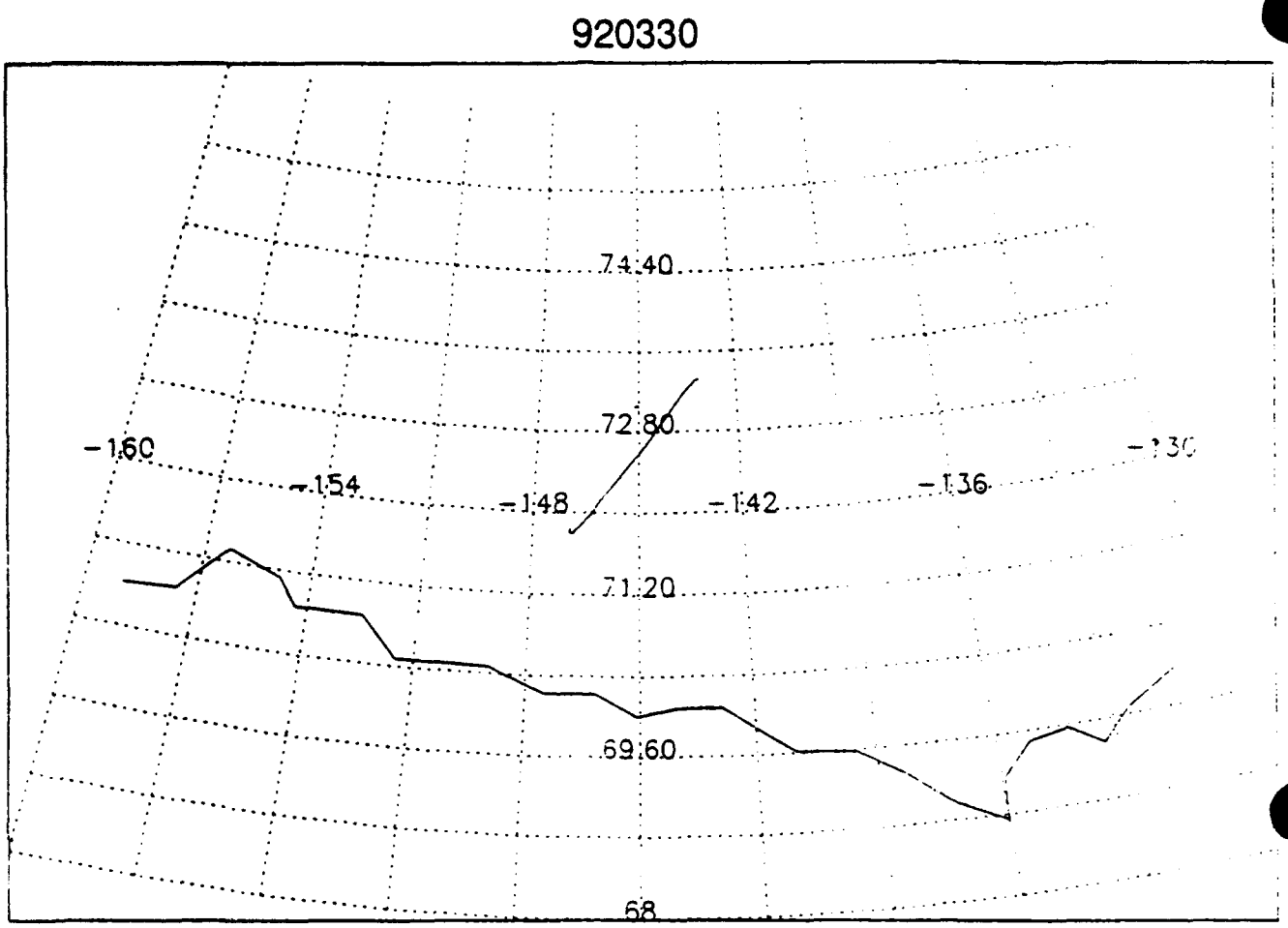
A NOAA WP-3D was used during the spring of 1992 for air chemistry studies as part of the Arctic Gas and Aerosol Sampling Program (AGASP) and for meteorological studies as part of LEADEX. The meteorological observations focused on four kinds of phenomena: (1) the mesoscale structure of the wind field associated with a sea-ice deformation event, (2) the mean and turbulent structures associated with plumes generated by large leads, (3) the turbulent momentum flux profiles over pack ice during strong winds, and (4) topographically-generated structures near coastlines. A short summary of the objectives of each of these aspects is provided below.

Winds provide the primary mechanism for deformation of sea ice, which results in lead and ridge formation. Because the deformation is the result of gradients in the wind field, features such as fronts and mesoscale vortices are expected to play a major role. The NOAA P-3 was used to document the low-level wind field over a region ~200 km on a side during a period of moderately strong forcing. A case study for this event will describe the variability in this forcing as a function of horizontal scale.

The heat and moisture fluxes associated with the plumes over leads can be significant to the arctic boundary layer. The heat fluxes from large individual leads or ensembles of small leads decrease the static stability near the surface, and the moisture fluxes can be important for ice crystal formation and hence for the long-wave radiative fluxes. The P-3 was used to investigate the structure of a ~1 km wide plume during strong (~15 m/s) wind conditions. These observations will be used to quantify the processes important to the structure of the plume, and to compare with numerical and empirical models of plumes.

By necessity, the surface wind stress over pack ice is generally parameterized in terms of the geostrophic surface wind and a drag coefficient. The value of this coefficient is uncertain, especially in strong wind situations when the ice is typically rough. Turbulent flux and mean momentum profiles were observed over rough pack ice during a period of strong winds. These profiles are being used to describe the mean low-level atmospheric structure in these conditions, and to provide a high-quality estimate of the geostrophic drag coefficient.

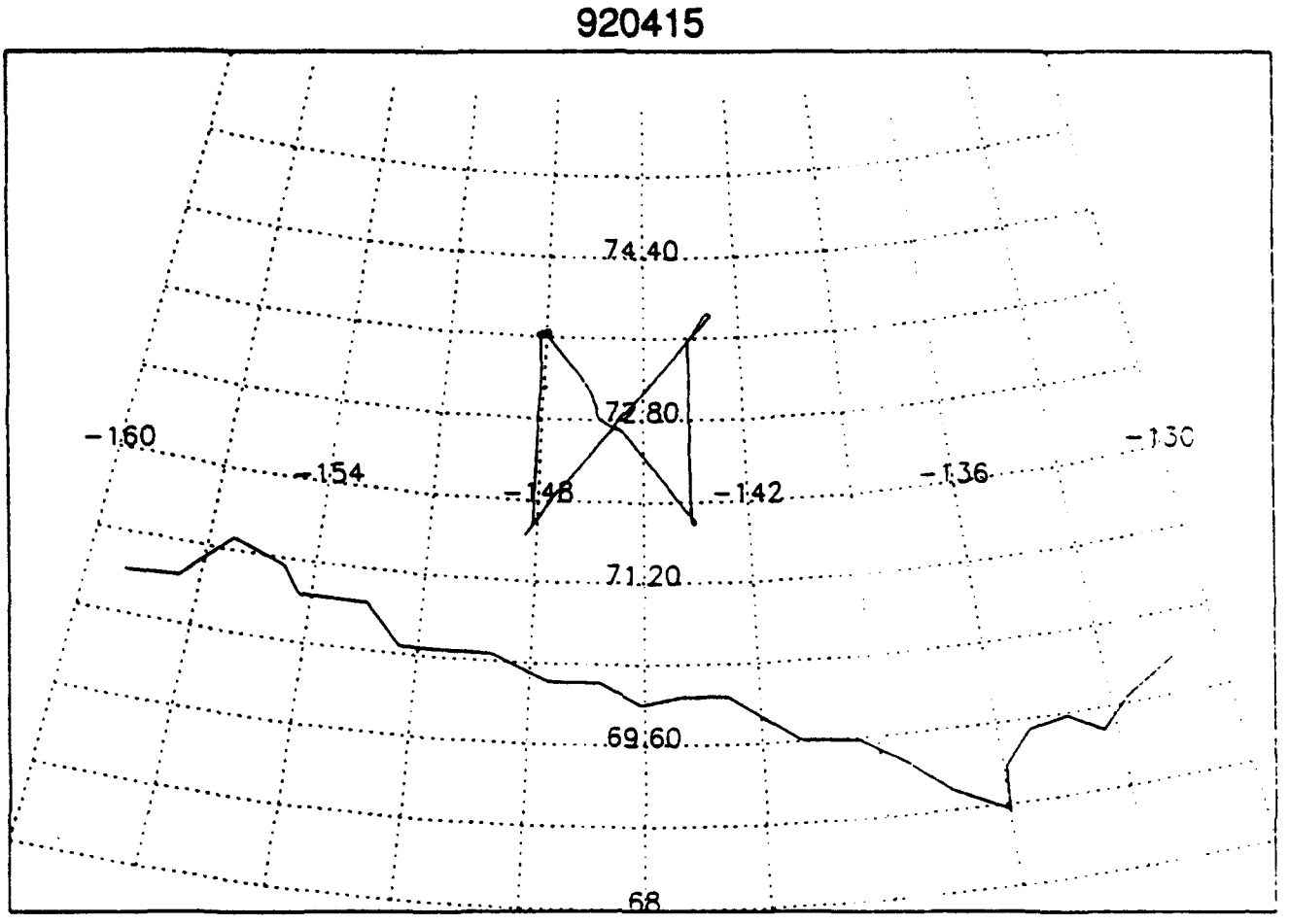
The terrain at coastlines can force significant mesoscale phenomena. These phenomena are important in their own right, and can influence sea-ice forcing and polynya in the coastal zone. The effects of terrain are not fully understood, especially in situations when the large-scale background flow is evolving. Aircraft observations were collected in the vicinity of Deadhorse north of the Brooks Range and in the vicinity of the Seward Peninsula and Bering Strait. The focus of these measurements was on the topographical forcing of low-level jets.



March 30, 1992 - This was a short flight over the beaufort sea that was aborted due to an engine failure on the NOAA P-3.

920330:

TIME	LAT	LON	RA (m)	TA (°C)	WSPD (ms^{-1})	WDIR
210901	71.85	-146.92	306.2	-17.78	7.23	125
211001	71.80	-146.93	178.5	-19.60	8.85	90
211101	71.83	-146.80	116.2	-19.12	8.51	82
211201	71.87	-146.68	54.0	-18.53	8.60	78
211301	71.91	-146.57	19.7	-18.30	7.90	71
211401	71.95	-146.46	18.2	-18.50	7.85	72
211501	71.99	-146.37	20.2	-18.70	7.98	67
211601	72.03	-146.29	20.0	-18.87	8.02	69
211701	72.07	-146.21	20.8	-19.22	8.71	69
211801	72.11	-146.12	35.7	-19.38	9.32	71
211901	72.16	-146.03	59.7	-19.75	9.92	72
212001	72.19	-145.93	61.2	-19.98	9.95	73
212101	72.24	-145.83	62.8	-20.12	9.82	75
212201	72.28	-145.73	59.5	-20.08	9.71	75
212301	72.32	-145.63	59.3	-20.20	9.20	74
212401	72.36	-145.54	59.5	-20.15	9.21	73
212501	72.40	-145.44	59.2	-20.35	9.56	72
212601	72.44	-145.34	58.5	-20.38	9.47	71
212701	72.48	-145.24	59.2	-20.50	9.80	72
212801	72.52	-145.14	60.2	-20.50	9.85	72
212901	72.57	-145.04	62.0	-20.53	9.35	75
213001	72.61	-144.95	62.0	-20.62	9.26	76
213101	72.65	-144.85	59.5	-20.62	9.28	79
213201	72.69	-144.74	61.3	-20.50	8.80	81
213301	72.74	-144.65	64.8	-20.65	8.73	78
213401	72.78	-144.55	64.8	-20.73	9.14	78
213501	72.82	-144.46	72.8	-20.63	9.37	80
213601	72.86	-144.36	65.7	-20.45	9.39	80
213701	72.91	-144.26	64.2	-20.38	9.52	78
213801	72.95	-144.16	63.3	-20.25	9.26	80
213901	72.99	-144.06	59.8	-20.17	9.19	80
214001	73.04	-143.96	59.3	-20.02	8.83	83
214101	73.08	-143.86	59.0	-19.93	8.82	85
214201	73.12	-143.76	61.0	-19.92	9.17	86
214301	73.17	-143.66	64.2	-19.97	9.54	88
214401	73.21	-143.55	62.3	-19.88	9.48	93
214501	73.24	-143.42	95.8	-20.02	9.20	90
214601	73.28	-143.30	391.0	-19.73	8.48	102
214701	73.32	-143.19	760.7	-14.15	8.42	115



April 15, 1992 - This flight consisted of a low level butterfly -shaped pattern with the center of the butterfly near the ice camp. Only one second flight-level data are available.

920415:

TIME	LAT	LON	RA (m)	TA (°C)	WSPD (ms^{-1})	WDIR
220401	71.65	-148.33	170.2	-18.30	19.72	72
220501	71.69	-148.25	80.3	-18.97	16.59	59
220601	71.74	-148.17	35.3	-18.73	14.62	58
220701	71.78	-148.10	20.3	-19.00	13.58	55
220801	71.82	-148.01	21.8	-19.03	14.42	56
220901	71.86	-147.94	19.8	-19.55	13.81	56
221001	71.90	-147.86	19.0	-19.30	14.26	58
221101	71.94	-147.78	17.3	-18.98	14.36	58
221201	71.98	-147.70	27.8	-19.37	14.20	58
221301	72.03	-147.62	62.0	-19.93	15.68	59
221401	72.07	-147.54	60.7	-20.38	15.68	58
221501	72.10	-147.44	61.3	-20.48	15.55	58
221601	72.14	-147.35	68.3	-20.42	16.02	60
221701	72.18	-147.26	64.0	-20.07	15.71	59
221801	72.21	-147.15	60.5	-20.12	15.08	59
221901	72.25	-147.06	67.0	-20.45	15.21	60
222001	72.29	-146.97	61.7	-20.67	14.90	58
222101	72.32	-146.88	62.0	-21.05	14.71	59
222201	72.36	-146.78	64.0	-21.05	14.44	60
222301	72.40	-146.69	58.3	-20.98	13.94	60
222401	72.44	-146.60	58.8	-21.25	13.86	59
222501	72.48	-146.50	57.2	-21.33	14.02	60
222601	72.52	-146.41	58.8	-21.48	13.85	60
222701	72.56	-146.32	59.7	-21.75	13.80	61
222801	72.60	-146.23	57.7	-21.73	13.72	62
222901	72.64	-146.13	61.0	-21.70	13.56	63
223001	72.67	-146.03	58.2	-21.92	12.93	62
223101	72.71	-145.93	60.3	-22.08	13.05	63
223201	72.75	-145.83	59.2	-22.15	12.77	63
223301	72.79	-145.74	63.7	-22.28	13.07	64
223401	72.83	-145.65	62.0	-22.23	13.23	64
223501	72.87	-145.54	57.5	-22.32	12.67	63
223601	72.90	-145.43	60.0	-22.57	12.71	64
223701	72.94	-145.33	69.0	-22.65	12.78	64
223801	72.98	-145.23	65.5	-22.62	12.68	64
223901	73.02	-145.12	62.0	-22.40	12.53	64
224001	73.06	-145.02	62.5	-22.50	11.77	64
224101	73.10	-144.92	61.5	-22.60	12.01	64
224201	73.14	-144.82	61.5	-22.77	11.58	65
224301	73.17	-144.71	52.8	-22.77	11.04	66
224401	73.21	-144.61	32.0	-22.45	10.34	65
224501	73.25	-144.50	19.2	-22.33	9.43	65
224601	73.29	-144.39	17.5	-22.18	8.86	64
224701	73.33	-144.28	16.8	-22.65	8.49	63
224801	73.37	-144.17	18.0	-22.88	8.83	62
224901	73.40	-144.06	18.3	-22.85	8.87	63
225001	73.44	-143.96	48.3	-23.27	8.78	65
225101	73.49	-143.85	59.0	-23.57	9.22	65
225201	73.53	-143.74	58.5	-23.60	9.07	63
225301	73.57	-143.63	42.3	-23.40	8.86	63
225401	73.61	-143.53	17.2	-23.07	7.61	61
225501	73.64	-143.41	17.7	-23.28	7.40	61
225601	73.68	-143.29	18.5	-23.28	7.11	63
225701	73.72	-143.18	18.3	-23.30	6.80	63
225801	73.76	-143.05	17.2	-23.35	6.87	62
225901	73.80	-142.94	118.0	-23.22	8.25	79

230001	73.84	-142.90	158.0	-23.32	7.92	100
230101	73.82	-143.08	95.0	-23.58	7.53	92
230201	73.77	-143.18	29.3	-23.38	5.46	78
230301	73.72	-143.28	17.5	-23.25	5.48	76
230401	73.67	-143.38	18.5	-23.15	5.66	72
230501	73.62	-143.48	44.5	-23.27	6.50	73
230601	73.58	-143.59	63.8	-23.47	7.91	77
230701	73.52	-143.62	60.8	-23.40	8.32	76
230801	73.47	-143.61	60.0	-23.35	8.78	75
230901	73.42	-143.61	60.8	-22.97	8.68	73
231001	73.36	-143.61	60.8	-22.78	9.35	73
231101	73.31	-143.60	62.2	-22.85	9.54	72
231201	73.25	-143.60	60.5	-22.53	9.91	72
231301	73.19	-143.60	63.5	-22.58	10.33	73
231401	73.14	-143.60	60.8	-22.38	10.51	73
231501	73.08	-143.60	64.2	-22.18	10.84	73
231601	73.03	-143.60	60.8	-22.20	10.79	71
231701	72.97	-143.61	58.5	-21.72	10.99	70
231801	72.92	-143.61	61.2	-21.70	11.28	72
231901	72.86	-143.60	62.8	-21.75	11.30	71
232001	72.80	-143.60	64.7	-21.25	11.75	74
232101	72.75	-143.60	62.2	-21.53	12.00	73
232201	72.69	-143.60	57.2	-21.48	12.07	71
232301	72.64	-143.61	57.2	-21.13	12.51	70
232401	72.58	-143.62	58.2	-20.90	12.57	71
232501	72.52	-143.63	60.3	-20.78	12.76	71
232601	72.47	-143.63	60.8	-20.68	13.33	72
232701	72.41	-143.63	61.2	-20.52	12.99	72
232801	72.36	-143.62	58.3	-19.87	13.63	75
232901	72.30	-143.62	57.8	-19.47	13.57	76
233001	72.24	-143.62	57.3	-19.72	14.33	78
233101	72.19	-143.62	57.8	-20.37	14.26	77
233201	72.13	-143.62	60.2	-20.10	14.43	77
233301	72.08	-143.62	60.5	-20.10	14.42	77
233401	72.02	-143.62	59.0	-19.85	14.89	76
233501	71.96	-143.62	62.5	-19.85	15.39	76
233601	71.91	-143.63	61.2	-19.88	15.76	78
233701	71.85	-143.63	59.5	-19.72	15.81	77
233801	71.80	-143.62	123.3	-20.03	18.46	75
233901	71.80	-143.52	144.3	-20.05	17.85	73
234001	71.85	-143.60	85.8	-20.02	15.89	70
234101	71.90	-143.71	58.0	-19.78	14.85	70
234201	71.95	-143.83	60.3	-19.77	14.62	68
234301	72.00	-143.94	61.7	-19.92	14.52	68
234401	72.04	-144.05	60.2	-19.97	14.73	69
234501	72.09	-144.16	61.0	-20.23	14.25	68
234601	72.14	-144.26	61.3	-19.77	14.80	70
234701	72.19	-144.38	63.5	-19.35	14.13	69
234801	72.24	-144.49	59.2	-19.87	13.68	68
234901	72.29	-144.60	60.0	-20.33	14.06	66
235001	72.33	-144.71	59.7	-20.07	14.04	64
235101	72.38	-144.82	59.5	-20.33	14.14	63
235201	72.42	-144.94	64.7	-20.52	14.40	62
235301	72.47	-145.05	60.5	-20.50	13.58	62
235401	72.52	-145.16	60.8	-20.70	13.70	62
235501	72.57	-145.27	61.7	-20.77	13.23	61
235601	72.61	-145.38	63.3	-21.02	13.22	62
235701	72.66	-145.50	72.8	-21.00	13.05	63
235801	72.70	-145.65	64.0	-21.12	12.18	64
235901	72.73	-145.83	70.2	-21.45	12.18	64

1	72.76	-146.01	66.5	-21.40	12.35	64
101	72.79	-146.17	61.7	-21.37	11.59	61
201	72.83	-146.31	62.3	-21.70	12.85	61
301	72.89	-146.36	61.2	-21.63	12.52	58
401	72.94	-146.40	60.7	-21.88	12.22	60
501	72.99	-146.47	58.3	-21.85	12.04	61
601	73.04	-146.55	62.0	-21.82	11.62	61
701	73.09	-146.63	61.2	-21.98	10.88	59
801	73.14	-146.74	60.2	-21.82	10.53	59
901	73.19	-146.84	59.3	-21.95	10.37	57
1001	73.24	-146.95	60.7	-21.97	10.37	58
1101	73.28	-147.07	59.8	-21.97	10.02	57
1201	73.33	-147.20	60.2	-22.05	9.88	55
1301	73.37	-147.32	59.7	-22.02	9.46	56
1401	73.42	-147.45	60.3	-22.03	9.40	56
1501	73.46	-147.57	59.3	-22.02	9.44	57
1601	73.51	-147.69	60.8	-22.03	9.16	54
1701	73.55	-147.82	62.3	-22.32	8.83	50
1801	73.60	-147.94	135.7	-22.50	10.29	64
1901	73.64	-148.06	152.0	-22.15	12.05	71
2001	73.68	-147.96	150.7	-22.05	12.45	81
2101	73.64	-147.88	149.0	-22.37	10.41	77
2201	73.61	-148.04	149.3	-22.33	10.92	68
2301	73.66	-148.08	149.0	-22.10	12.38	75
2401	73.65	-147.95	149.0	-22.40	10.70	77
2501	73.61	-148.06	148.8	-22.25	10.63	68
2601	73.65	-148.15	149.5	-22.23	12.26	71
2701	73.64	-148.02	148.0	-22.20	11.05	78
2801	73.61	-148.11	148.3	-22.12	10.68	69
2901	73.64	-148.23	149.2	-22.05	12.26	69
3001	73.66	-148.12	150.3	-22.27	12.41	77
3101	73.62	-148.05	148.7	-22.28	10.78	77
3201	73.60	-148.21	149.7	-22.15	10.97	67
3301	73.63	-148.30	148.2	-22.18	12.30	71
3401	73.61	-148.20	117.8	-22.48	11.12	73
3501	73.56	-148.18	57.7	-22.33	9.63	67
3601	73.50	-148.17	61.5	-21.93	9.76	68
3701	73.44	-148.15	60.2	-21.85	9.92	67
3801	73.39	-148.14	59.3	-21.90	10.05	66
3901	73.33	-148.12	61.0	-21.77	10.22	66
4001	73.27	-148.12	61.5	-21.75	10.60	66
4101	73.21	-148.12	60.0	-21.85	11.39	67
4201	73.15	-148.11	60.7	-21.67	11.43	68
4301	73.10	-148.11	62.5	-21.43	11.46	68
4401	73.04	-148.11	61.5	-21.25	11.97	68
4501	72.98	-148.11	60.2	-21.27	12.23	67
4601	72.92	-148.11	60.7	-21.27	12.58	66
4701	72.86	-148.11	58.2	-21.17	12.89	67
4801	72.80	-148.11	60.2	-21.15	13.20	67
4901	72.74	-148.11	61.2	-20.83	13.46	68
5001	72.68	-148.11	63.3	-20.37	13.83	68
5101	72.62	-148.11	61.7	-20.48	14.19	67
5201	72.56	-148.11	62.0	-20.77	14.33	66
5301	72.50	-148.11	59.7	-20.60	14.61	67
5401	72.44	-148.11	57.5	-20.60	14.39	67
5501	72.38	-148.12	59.8	-20.10	14.68	69
5601	72.32	-148.12	56.2	-20.08	14.99	70
5701	72.26	-148.12	63.0	-19.80	15.22	71
5801	72.21	-148.12	57.7	-19.57	15.93	71
5901	72.15	-148.13	62.8	-19.80	16.28	70

10001	72.09	-148.13	60.0	-19.52	16.10	72
10101	72.03	-148.13	61.7	-19.53	16.97	71
10201	71.97	-148.13	63.2	-19.37	16.71	72
10301	71.91	-148.12	59.5	-19.18	17.21	73
10401	71.85	-148.11	169.7	-17.88	19.96	79
10501	71.79	-148.13	492.8	-12.02	24.17	96

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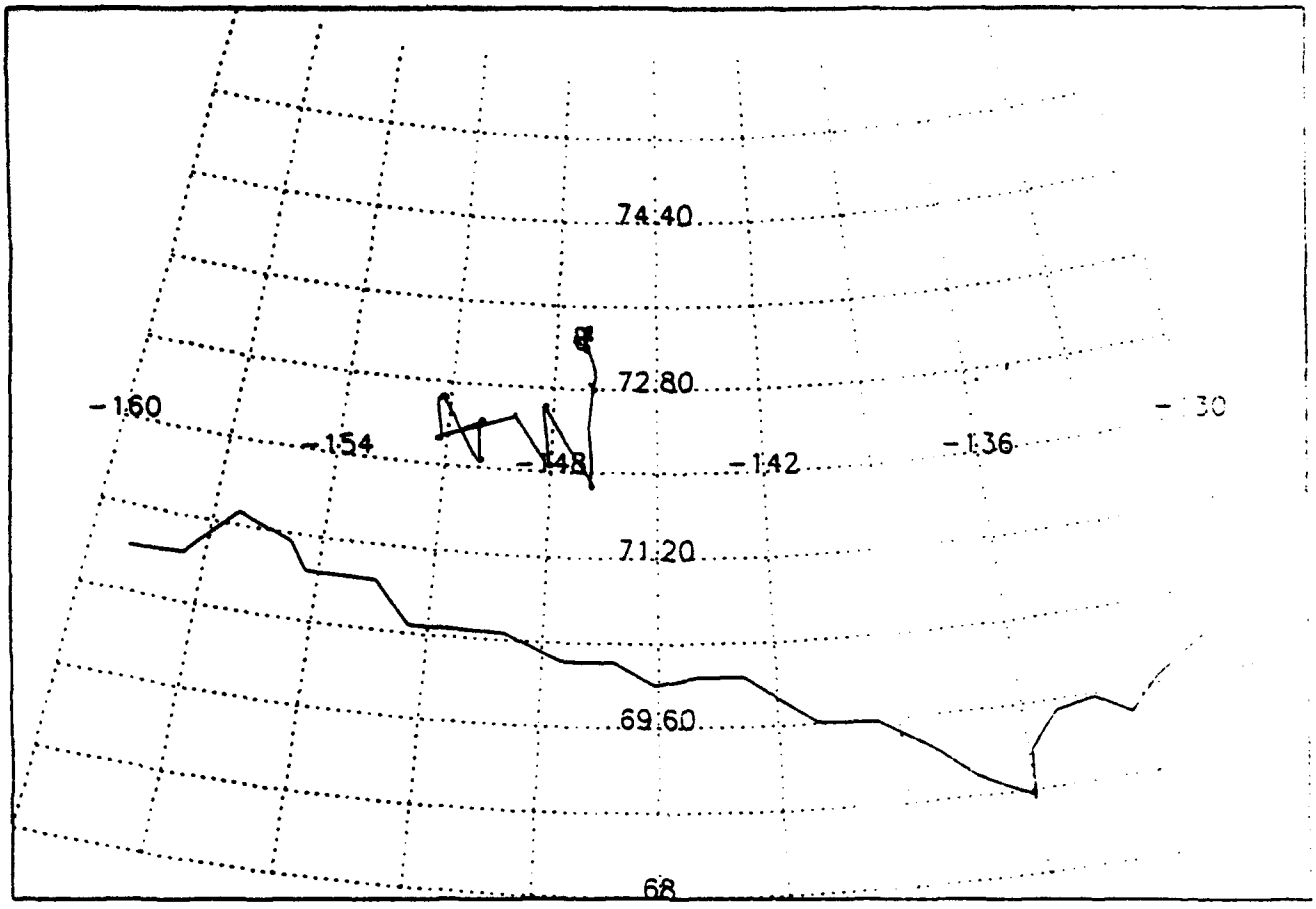
920416



April 16, 1992 - This flight was designed to: (1) measure the heat fluxes coming from an open lead, and (2) measure the momentum fluxes to calculate the air-ice drag coefficient over multi-year ice in high wind conditions. The turbulence data were unfortunately not recorded, but one second flight level data are available.

920416:

TIME	LAT	LON	RA (m)	TA (°C)	WSPD (ms^{-1})	WDIR
234141	73.28	-147.15	445.5	-12.72	22.58	101
234241	73.24	-147.22	445.0	-12.75	21.23	97
234341	73.28	-147.35	445.8	-12.78	21.43	93
234441	73.33	-147.41	441.7	-13.05	21.25	91
234541	73.38	-147.46	295.5	-14.88	22.24	91
234641	73.40	-147.33	157.3	-18.37	18.35	76
234741	73.39	-147.18	147.2	-18.58	17.32	76
234841	73.35	-147.13	33.0	-18.58	12.95	73
234941	73.30	-147.13	33.0	-18.32	12.55	73
235041	73.25	-147.12	137.3	-18.65	17.74	75
235141	73.22	-147.01	134.2	-18.67	15.37	75
235241	73.20	-147.16	97.2	-18.55	15.65	67
235341	73.25	-147.16	23.2	-18.25	12.40	61
235441	73.30	-147.15	25.8	-18.38	12.23	61
235541	73.35	-147.15	151.8	-19.10	17.52	71
235641	73.37	-147.04	152.5	-18.98	15.97	71
235741	73.38	-147.21	86.3	-18.78	14.21	75
235841	73.32	-147.20	20.8	-18.07	12.14	72
235941	73.27	-147.18	126.8	-18.67	15.91	74
41	73.24	-147.10	157.5	-18.62	17.06	76
141	73.21	-147.08	150.2	-18.60	16.47	71
241	73.24	-147.13	55.2	-18.53	13.88	61
341	73.29	-147.13	31.8	-18.40	12.89	58
441	73.34	-147.12	99.0	-19.07	15.05	62
541	73.39	-147.09	135.8	-19.02	17.18	69
641	73.41	-146.96	135.3	-19.05	15.17	67
741	73.40	-147.12	82.2	-18.93	14.16	72
841	73.34	-147.14	29.7	-18.43	12.08	69
941	73.29	-147.15	49.5	-18.50	12.49	69
1041	73.24	-147.14	123.3	-18.73	16.09	73
1141	73.20	-147.04	136.8	-18.57	15.74	73
1241	73.17	-147.12	127.5	-18.53	16.21	68
1341	73.21	-147.18	40.5	-18.28	13.41	60
1441	73.26	-147.18	29.7	-18.18	13.20	59
1541	73.31	-147.17	49.3	-18.55	13.71	58
1641	73.36	-147.18	165.0	-18.75	19.06	70
1741	73.39	-147.10	168.0	-18.52	17.23	75
1841	73.37	-147.22	79.7	-18.83	15.15	70
1941	73.32	-147.18	63.2	-18.68	13.96	69
2041	73.27	-147.17	116.7	-18.68	15.36	72
2141	73.23	-147.11	166.0	-18.48	18.34	74
2241	73.19	-147.07	160.7	-18.58	16.17	69
2341	73.22	-147.18	52.0	-18.42	14.38	59
2441	73.27	-147.16	17.3	-18.08	12.89	59
2541	73.32	-147.15	92.3	-18.22	16.05	64
2641	73.36	-147.10	193.8	-17.25	21.03	81
2741	73.35	-146.98	86.2	-18.58	14.39	68
2841	73.32	-147.16	72.0	-18.43	13.60	65
2941	73.30	-147.35	151.2	-18.85	16.72	70
3041	73.31	-147.50	115.3	-18.80	17.00	70
3141	73.30	-147.38	27.3	-18.02	14.70	64
3241	73.32	-147.24	16.2	-18.03	13.31	62
3341	73.33	-147.09	114.2	-18.55	17.44	65

3841	73.37	-147.04	141.2	-18.73	18.69	70
3941	73.37	-146.96	110.2	-18.87	15.55	70
3641	73.34	-147.12	59.2	-18.43	13.09	68
3741	73.31	-147.29	128.2	-18.33	16.12	74
3841	73.26	-147.36	157.5	-18.43	17.81	73
3941	73.26	-147.50	123.2	-18.50	18.49	69
4041	73.29	-147.38	82.3	-18.32	16.87	67
4141	73.30	-147.24	88.8	-18.45	17.13	67
4241	73.31	-147.09	147.2	-18.57	19.12	75
4341	73.29	-146.98	122.0	-18.58	17.95	67
4441	73.32	-147.03	58.5	-18.25	12.94	67
4541	73.30	-147.22	60.2	-18.08	13.64	68
4641	73.28	-147.41	163.2	-18.40	18.22	77
4741	73.23	-147.41	166.3	-18.52	19.36	77
4841	73.20	-147.31	142.5	-18.42	19.58	70
4941	73.21	-147.19	94.3	-18.40	16.62	63
5041	73.26	-147.18	18.8	-17.92	13.51	60
5141	73.31	-147.18	62.3	-18.38	14.72	61
5241	73.36	-147.17	294.0	-14.50	22.78	88
5341	73.36	-147.10	628.5	-12.42	21.98	97
5441	73.30	-147.12	863.5	-11.73	21.89	99
5541	73.25	-147.10	860.8	-11.62	22.35	98
5641	73.19	-147.05	857.0	-11.82	22.83	97
5741	73.14	-146.99	853.5	-11.77	23.09	95
5841	73.10	-146.93	850.8	-11.78	22.93	97
5941	73.05	-146.89	847.8	-11.60	22.71	97
10041	73.00	-146.85	847.5	-11.68	23.24	98
10141	72.96	-146.81	845.5	-11.67	23.18	100
10241	72.91	-146.80	791.0	-11.87	23.31	101
10341	72.86	-146.84	365.0	-13.47	24.44	98
10441	72.80	-146.86	200.3	-16.90	22.65	80
10541	72.81	-146.82	90.2	-18.08	16.24	62
10641	72.85	-146.93	154.8	-18.30	19.57	68
10741	72.87	-146.96	188.8	-17.93	21.12	77
10841	72.85	-146.92	96.3	-18.03	18.63	72
10941	72.80	-146.83	291.2	-15.52	22.12	83
11041	72.81	-146.74	652.3	-11.93	22.24	98
11141	72.80	-146.88	846.8	-11.65	23.10	100
11241	72.74	-146.90	850.3	-11.48	23.08	100
11341	72.69	-146.91	848.8	-11.25	23.21	99
11441	72.64	-146.92	848.8	-11.20	23.56	99
11541	72.59	-146.93	850.5	-11.28	23.96	98
11641	72.54	-146.95	995.8	-10.82	24.36	95
11741	72.49	-146.96	1141.8	-10.77	24.68	97
11841	72.45	-146.97	1433.0	-11.88	24.70	97
11941	72.40	-146.96	1774.7	-12.53	23.00	97
12041	72.36	-146.95	1857.5	-12.72	22.84	98
12141	72.30	-146.93	1854.7	-12.10	22.51	99
12241	72.24	-146.91	1852.5	-12.03	22.51	100
12341	72.19	-146.89	1849.2	-12.00	22.93	97
12441	72.13	-146.87	1772.5	-11.58	23.29	98
12541	72.08	-146.86	1606.8	-11.88	24.43	99
12641	72.03	-146.87	1457.2	-11.57	25.01	101
12741	71.97	-146.87	1311.5	-10.83	26.58	102
12841	71.92	-146.87	1164.5	-9.98	27.83	101
12941	71.87	-146.87	1024.8	-9.62	29.23	99
13041	71.86	-146.78	887.3	-10.03	27.45	92
13141	71.92	-146.85	751.7	-9.55	26.15	91
13241	71.97	-146.96	603.3	-9.95	26.31	96

13341	72.03	-147.07	459.5	-10.38	28.04	97
13441	72.08	-147.18	322.5	-14.13	27.61	89
13541	72.13	-147.29	184.2	-16.62	23.62	72
13641	72.17	-147.38	112.5	-16.65	21.61	68
13741	72.21	-147.48	61.2	-16.28	18.58	64
13841	72.25	-147.56	23.8	-16.00	17.15	65
13941	72.30	-147.64	19.2	-15.70	15.99	63
14041	72.34	-147.72	18.3	-15.83	16.44	63
14141	72.38	-147.80	19.7	-16.20	16.83	62
14241	72.43	-147.88	20.8	-16.28	16.26	63
14341	72.47	-147.96	18.8	-16.20	15.70	61
14441	72.51	-148.04	17.0	-16.20	15.53	61
14541	72.55	-148.12	44.5	-16.70	16.83	63
14641	72.59	-148.20	138.0	-16.80	21.45	69
14741	72.62	-148.16	143.8	-17.18	20.86	70
14841	72.63	-148.29	132.2	-16.95	21.12	76
14941	72.58	-148.29	112.5	-17.15	20.92	73
15041	72.54	-148.27	112.3	-17.02	20.79	72
15141	72.49	-148.24	116.7	-16.85	21.34	73
15241	72.44	-148.22	115.2	-16.77	21.65	73
15341	72.39	-148.19	129.2	-16.95	22.52	74
15441	72.34	-148.17	119.7	-16.32	22.89	75
15541	72.29	-148.15	119.2	-16.40	22.53	73
15641	72.24	-148.13	115.3	-16.55	23.75	74
15741	72.19	-148.11	114.7	-16.42	23.19	73
15841	72.14	-148.09	121.7	-16.43	23.39	73
15941	72.10	-148.07	135.2	-16.73	24.64	73
20041	72.08	-147.98	135.0	-16.60	23.02	73
20141	72.05	-148.05	112.2	-16.32	22.08	67
20241	72.08	-148.16	60.8	-16.05	20.23	66
20341	72.13	-148.26	59.8	-16.03	20.01	65
20441	72.17	-148.35	58.7	-16.22	21.03	66
20541	72.21	-148.44	60.5	-15.85	19.92	65
20641	72.25	-148.52	62.7	-15.98	19.67	65
20741	72.29	-148.61	58.0	-16.33	19.35	65
20841	72.33	-148.70	59.3	-16.30	20.12	64
20941	72.37	-148.79	58.7	-16.22	18.88	62
21041	72.42	-148.88	58.2	-16.47	18.55	61
21141	72.46	-148.97	60.8	-16.73	18.82	63
21241	72.50	-149.06	88.0	-16.72	19.57	66
21341	72.54	-149.14	119.5	-17.05	22.25	70
21441	72.53	-149.07	105.8	-16.90	19.68	72
21541	72.50	-149.23	62.7	-16.25	18.37	68
21641	72.48	-149.41	56.0	-16.33	18.16	68
21741	72.46	-149.59	59.2	-16.43	18.32	67
21841	72.44	-149.77	60.0	-16.53	17.87	67
21941	72.42	-149.95	60.3	-16.57	17.86	66
22041	72.40	-150.13	61.2	-16.68	17.63	65
22141	72.38	-150.31	57.8	-16.57	16.68	64
22241	72.36	-150.49	61.0	-16.58	16.74	64
22341	72.34	-150.66	60.7	-16.25	16.52	64
22441	72.32	-150.84	60.3	-16.07	16.50	64
22541	72.30	-151.02	100.0	-16.35	20.19	68
22641	72.27	-151.18	140.7	-16.88	22.21	70
22741	72.23	-151.27	138.7	-16.87	22.27	65
22841	72.26	-151.30	68.0	-16.25	21.46	66
22941	72.27	-151.19	53.0	-16.03	19.48	66
23041	72.28	-151.06	149.2	-16.52	22.38	66
23141	72.30	-150.95	247.2	-16.72	26.48	73
23241	72.31	-150.85	330.8	-14.68	29.23	83

23341	72.33	-150.75	423.2	-11.37	29.99	94
23441	72.35	-150.65	450.3	-11.27	29.74	94
23541	72.36	-150.55	376.2	-12.83	29.83	92
23641	72.38	-150.45	277.3	-16.38	28.08	79
23741	72.40	-150.34	178.5	-17.00	23.96	69
23841	72.41	-150.23	75.2	-16.57	20.24	64
23941	72.42	-150.11	40.2	-16.55	17.34	63
24041	72.44	-149.99	167.8	-16.82	22.69	68
24141	72.47	-150.02	242.2	-16.37	24.87	80
24241	72.44	-150.13	255.8	-16.67	26.47	81
24341	72.39	-150.12	257.2	-16.83	25.92	80
24441	72.34	-150.10	256.0	-16.35	26.82	81
24541	72.29	-150.09	254.5	-16.37	27.34	80
24641	72.25	-150.08	251.5	-16.77	26.69	78
24741	72.20	-150.07	250.0	-16.65	26.47	79
24841	72.15	-150.05	257.8	-16.40	26.80	80
24941	72.10	-150.03	258.5	-16.17	27.69	79
25041	72.09	-149.93	257.0	-16.03	24.54	79
25141	72.07	-150.07	223.0	-16.28	24.45	72
25241	72.11	-150.17	128.8	-16.50	21.00	65
25341	72.15	-150.26	44.7	-16.00	18.50	63
25441	72.19	-150.34	30.8	-15.67	16.66	62
25541	72.24	-150.42	35.5	-15.75	16.92	61
25641	72.28	-150.50	31.2	-16.23	16.68	59
25741	72.32	-150.58	33.8	-16.23	17.46	61
25841	72.36	-150.67	29.5	-16.33	17.03	60
25941	72.40	-150.75	32.8	-16.52	16.87	61
30041	72.45	-150.82	33.8	-16.65	16.75	60
30141	72.49	-150.90	31.3	-16.95	16.80	59
30241	72.53	-150.98	40.8	-16.82	18.02	60
30341	72.57	-151.06	60.8	-16.82	18.54	63
30441	72.61	-151.15	170.8	-17.08	23.95	69
30541	72.64	-151.11	169.2	-17.12	23.50	68
30641	72.68	-151.17	170.8	-17.02	21.14	73
30741	72.65	-151.33	165.5	-16.93	23.99	72
30841	72.63	-151.26	169.7	-17.03	23.84	67
30941	72.65	-151.33	167.5	-16.98	23.11	73
31041	72.61	-151.37	87.2	-16.82	21.01	70
31141	72.56	-151.35	35.5	-16.60	19.30	68
31241	72.51	-151.32	31.3	-16.78	17.88	68
31341	72.46	-151.29	30.7	-16.73	17.82	69
31441	72.41	-151.25	35.3	-16.55	18.15	68
31541	72.36	-151.22	82.3	-16.58	20.67	69
31641	72.32	-151.20	153.8	-16.87	23.94	72
31741	72.27	-151.18	228.8	-16.90	26.71	76

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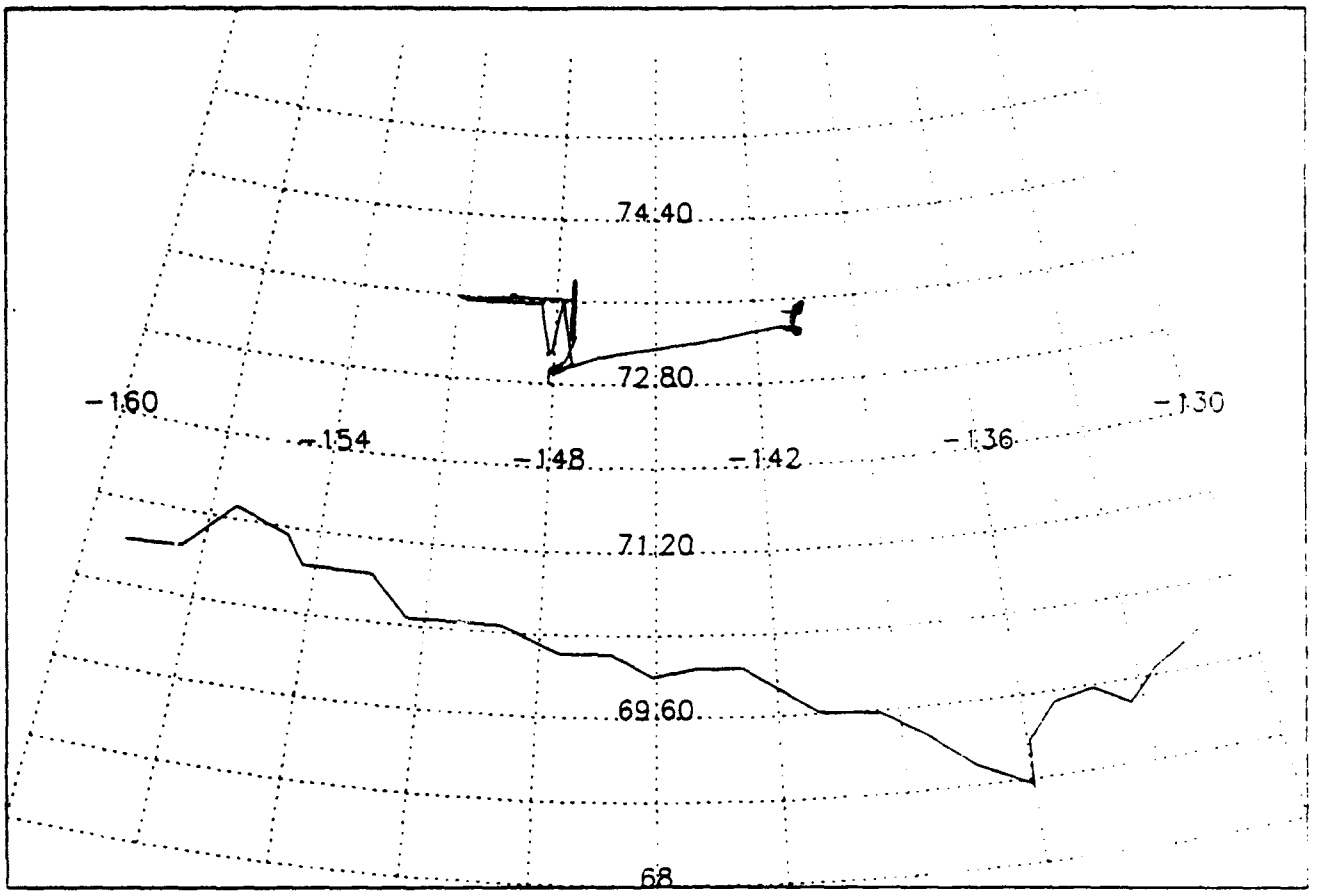
920418



April 18, 1992 - This flight pattern was a repeat of that flown on April 16. This time both the one second flight-level and the 40 HZ turbulence data were recorded. The lead stack was flown near 73.3°N, 141°W, and the drag coefficient pattern near 73.5°N, 147°W. Low-level winds were from the east at about 25-30 kts.

920418:

TIME	LAT	LON	RA (m)	TA (°C)	WSPD (ms^{-1})	WDIR
202421	73.48	-141.24	479.8	-10.05	17.39	114
202521	73.48	-141.09	455.3	-10.37	17.44	113
202621	73.47	-140.95	417.0	-10.22	17.18	114
202721	73.46	-140.81	374.5	-10.63	17.71	117
202821	73.46	-140.67	339.7	-11.05	18.51	120
202921	73.51	-140.61	298.2	-11.82	19.59	120
203021	73.54	-140.71	258.3	-12.15	19.78	117
203121	73.50	-140.77	173.3	-17.63	16.30	101
203221	73.46	-140.78	45.5	-17.58	12.66	88
203321	73.41	-140.84	23.7	-17.18	11.36	87
203421	73.36	-140.88	128.0	-17.97	14.88	92
203521	73.32	-140.85	142.2	-18.02	14.53	94
203621	73.29	-140.80	139.8	-18.02	14.80	97
203721	73.32	-140.91	102.3	-17.82	13.55	98
203821	73.37	-140.89	28.5	-17.27	11.12	96
203921	73.42	-140.85	15.7	-17.25	9.90	96
204021	73.46	-140.80	17.2	-17.32	10.51	94
204121	73.50	-140.74	102.2	-18.05	12.24	95
204221	73.55	-140.69	141.7	-18.55	13.36	96
204321	73.55	-140.56	145.2	-18.62	14.14	98
204421	73.58	-140.63	129.5	-18.55	14.59	93
204521	73.54	-140.71	43.3	-17.63	12.03	87
204621	73.49	-140.76	16.0	-17.27	11.50	86
204721	73.44	-140.83	17.7	-17.10	10.82	86
204821	73.40	-140.88	17.2	-16.80	10.79	85
204921	73.35	-140.92	50.0	-16.95	11.81	90
205021	73.30	-140.96	139.5	-17.83	13.46	95
205121	73.28	-140.87	137.5	-17.65	12.29	94
205221	73.25	-140.81	132.7	-17.50	13.63	98
205321	73.28	-140.88	69.5	-17.40	11.47	98
205421	73.33	-140.87	27.8	-16.88	10.64	98
205521	73.38	-140.86	27.8	-17.12	10.20	95
205621	73.42	-140.83	28.8	-17.23	10.24	95
205721	73.47	-140.78	49.3	-17.47	11.07	96
205821	73.51	-140.72	162.0	-18.18	13.97	102
205921	73.52	-140.60	161.5	-18.23	14.05	102
210021	73.54	-140.69	138.2	-18.08	14.86	99
210121	73.50	-140.80	38.2	-17.30	11.99	89
210221	73.45	-140.85	27.3	-16.80	11.30	87
210321	73.40	-140.88	27.5	-16.78	11.32	90
210421	73.36	-140.89	28.5	-16.60	11.38	89
210521	73.31	-140.90	108.5	-17.32	13.10	92
210621	73.28	-140.84	135.5	-17.37	13.92	95
210721	73.26	-140.90	90.3	-17.05	12.97	98
210821	73.31	-140.91	58.2	-17.03	11.53	97
210921	73.35	-140.90	57.0	-17.02	12.11	98
211021	73.40	-140.90	58.7	-17.02	11.67	97
211121	73.44	-140.87	57.8	-17.23	11.65	95
211221	73.49	-140.83	112.8	-17.78	13.38	99
211321	73.54	-140.78	141.2	-17.82	14.16	100
211421	73.54	-140.65	142.2	-17.87	13.69	99
211521	73.56	-140.59	137.8	-17.92	14.63	100
211621	73.53	-140.69	47.0	-17.18	13.12	91

211721	73.48	-140.75	17.0	-16.67	11.62	89
211821	73.43	-140.80	17.7	-16.53	11.75	90
211921	73.39	-140.85	55.3	-16.80	13.03	91
212021	73.34	-140.90	140.2	-17.35	15.75	95
212121	73.30	-140.93	142.3	-17.28	15.20	94
212221	73.29	-140.79	142.2	-17.07	15.09	96
212321	73.26	-140.71	142.0	-17.02	15.97	96
212421	73.27	-140.86	79.2	-16.77	14.07	96
212521	73.32	-140.88	15.8	-16.28	11.26	96
212621	73.36	-140.87	18.0	-16.38	11.49	97
212721	73.41	-140.85	15.7	-16.32	11.13	98
212821	73.46	-140.80	15.8	-16.45	10.80	96
212921	73.50	-140.75	101.7	-17.38	13.29	98
213021	73.54	-140.69	137.5	-17.77	14.63	100
213121	73.56	-140.76	106.8	-17.52	15.31	96
213221	73.52	-140.87	34.0	-16.68	12.85	90
213321	73.47	-140.92	18.7	-15.95	12.65	89
213421	73.43	-140.95	18.2	-15.90	12.80	89
213521	73.38	-140.98	18.8	-15.92	12.35	89
213621	73.33	-140.99	88.7	-16.50	14.70	91
213721	73.29	-141.06	134.0	-16.90	16.26	97
213821	73.31	-141.10	32.7	-16.07	12.26	92
213921	73.32	-140.95	44.8	-16.02	12.09	94
214021	73.32	-140.82	133.7	-16.80	15.16	94
214121	73.32	-140.77	53.3	-16.33	14.29	93
214221	73.33	-140.96	74.0	-16.23	14.82	95
214321	73.32	-141.13	148.0	-16.98	16.54	97
214421	73.33	-141.21	88.3	-16.52	14.09	95
214521	73.32	-141.07	32.2	-15.88	11.54	92
214621	73.32	-140.92	37.2	-16.10	11.75	90
214721	73.32	-140.78	142.7	-16.98	15.60	94
214821	73.29	-140.73	149.3	-17.00	15.20	96
214921	73.31	-140.73	72.5	-16.42	14.39	96
215021	73.32	-140.92	46.8	-16.08	13.72	95
215121	73.33	-141.11	115.8	-16.57	15.65	98
215221	73.33	-141.30	184.2	-17.08	17.40	102
215321	73.33	-141.49	247.8	-15.85	19.52	111
215421	73.32	-141.69	319.7	-11.53	21.45	122
215521	73.31	-141.88	481.2	-9.58	20.57	118
215621	73.30	-142.06	664.0	-8.98	19.61	120
215721	73.29	-142.24	838.3	-8.53	17.88	119
215821	73.28	-142.43	1006.2	-8.75	17.52	118
215921	73.27	-142.62	1174.7	-8.98	17.41	120
220021	73.26	-142.82	1333.0	-9.27	17.85	119
220121	73.25	-143.01	1501.0	-8.68	17.42	120
220221	73.24	-143.20	1667.8	-8.65	16.86	121
220321	73.22	-143.40	1833.8	-8.50	16.20	125
220421	73.21	-143.59	1902.3	-8.43	15.59	123
220521	73.21	-143.80	1903.3	-8.37	15.96	123
220621	73.20	-144.03	1901.2	-8.28	15.82	126
220721	73.19	-144.25	1867.5	-8.23	15.90	127
220821	73.18	-144.48	1729.7	-8.80	16.67	123
220921	73.17	-144.70	1614.7	-8.70	16.22	126
221021	73.16	-144.92	1599.8	-8.23	15.88	129
221121	73.15	-145.14	1598.7	-8.08	15.79	129
221221	73.14	-145.36	1597.2	-8.48	16.05	126
221321	73.12	-145.58	1595.0	-8.18	15.82	124
221421	73.11	-145.80	1596.2	-8.02	15.62	125
221521	73.10	-146.02	1596.5	-8.30	16.03	123

231421	73.57	-149.67	60.3	-15.45	15.87	87
231521	73.57	-149.87	60.3	-15.43	16.24	87
231621	73.57	-150.06	60.3	-15.47	15.72	86
231721	73.57	-150.26	59.0	-15.27	15.86	85
231821	73.57	-150.45	65.0	-15.32	16.26	87
231921	73.57	-150.65	140.5	-15.93	17.87	89
232021	73.59	-150.81	143.3	-15.95	17.79	90
232121	73.59	-150.94	118.5	-15.80	16.13	87
232221	73.58	-150.82	30.5	-15.03	13.23	84
232321	73.58	-150.68	96.7	-15.43	15.19	84
232421	73.58	-150.54	173.0	-15.95	17.18	89
232521	73.58	-150.41	254.3	-13.52	19.78	104
232621	73.59	-150.28	343.2	-9.45	18.95	117
232721	73.59	-150.15	419.7	-8.70	20.48	119
232821	73.60	-150.02	351.3	-9.02	19.63	120
232921	73.61	-149.88	265.7	-13.42	20.41	110
233021	73.61	-149.74	171.5	-15.93	17.70	91
233121	73.61	-149.61	100.5	-15.78	16.10	88
233221	73.61	-149.47	36.2	-15.13	13.38	85
233321	73.61	-149.32	166.5	-15.35	16.33	92
233421	73.63	-149.23	268.5	-13.43	21.06	112
233521	73.65	-149.40	261.3	-14.13	21.55	107
233621	73.62	-149.38	263.2	-14.22	19.92	107
233721	73.62	-149.26	264.3	-13.95	19.60	107
233821	73.62	-149.11	264.5	-14.43	19.75	107
233921	73.62	-148.97	264.3	-14.28	19.56	107
234021	73.62	-148.82	265.7	-14.53	19.26	106
234121	73.62	-148.68	266.8	-14.85	19.27	107
234221	73.62	-148.54	265.8	-14.62	19.23	107
234321	73.62	-148.39	266.7	-15.12	18.61	107
234421	73.62	-148.24	267.0	-14.43	19.56	110
234521	73.62	-148.09	269.0	-15.03	19.19	108
234621	73.62	-147.95	268.7	-15.35	18.55	107
234721	73.62	-147.80	269.2	-15.23	18.99	108
234821	73.62	-147.65	270.7	-15.43	19.03	109
234921	73.62	-147.50	270.7	-15.20	19.16	108
235021	73.59	-147.45	268.0	-15.07	20.20	106
235121	73.54	-147.45	266.3	-15.30	20.03	105
235221	73.49	-147.46	265.8	-14.72	19.96	105
235321	73.45	-147.46	263.7	-14.98	19.81	105
235421	73.40	-147.46	263.2	-14.87	20.43	106
235521	73.36	-147.47	262.0	-15.13	20.39	105
235621	73.32	-147.47	259.7	-15.27	20.58	104
235721	73.28	-147.48	262.2	-15.28	19.95	104
235821	73.26	-147.39	208.2	-15.53	18.84	100
235921	73.25	-147.54	106.2	-15.02	16.19	96
21	73.30	-147.55	21.3	-14.50	13.27	92
121	73.34	-147.54	20.2	-14.57	13.03	93
221	73.39	-147.54	17.8	-14.58	13.31	93
321	73.44	-147.54	20.7	-14.53	12.75	94
421	73.49	-147.54	19.5	-14.67	12.43	94
521	73.54	-147.53	16.7	-14.87	12.73	93
621	73.58	-147.53	17.7	-15.05	12.69	93
721	73.63	-147.52	17.8	-15.32	12.67	94
821	73.68	-147.52	18.2	-15.35	12.78	95
921	73.73	-147.52	15.8	-15.53	12.57	94
1021	73.78	-147.52	84.3	-16.20	14.83	96
1121	73.92	-147.49	126.5	-16.63	15.77	93

1221	73.79	-147.44	54.5	-15.93	14.91	90
1321	73.74	-147.44	22.0	-15.47	13.62	88
1421	73.69	-147.44	18.3	-15.27	13.29	87
1521	73.64	-147.43	18.8	-15.10	13.67	88
1621	73.60	-147.43	41.5	-15.12	13.99	89
1721	73.55	-147.43	61.2	-15.15	14.47	90
1821	73.50	-147.43	59.5	-14.93	14.53	90
1921	73.46	-147.43	60.5	-14.92	15.19	90
2021	73.41	-147.43	60.0	-14.85	15.57	89
2121	73.36	-147.43	64.0	-14.90	15.32	90
2221	73.32	-147.44	63.0	-14.70	15.59	90
2321	73.27	-147.44	61.2	-14.62	15.10	90
2421	73.22	-147.44	57.8	-14.32	15.63	93
2521	73.17	-147.50	23.8	-13.93	14.50	92
2621	73.13	-147.56	73.8	-14.22	15.27	94
2721	73.08	-147.60	158.8	-14.97	17.48	96
2821	73.03	-147.68	178.3	-15.10	18.24	98
2921	72.99	-147.79	176.0	-15.05	17.95	99
3021	72.97	-147.96	176.0	-15.05	18.32	99
3121	72.94	-148.13	188.5	-15.13	18.10	97
3221	72.90	-148.14	265.5	-14.70	19.70	104
3321	72.85	-148.15	399.8	-10.38	18.44	120

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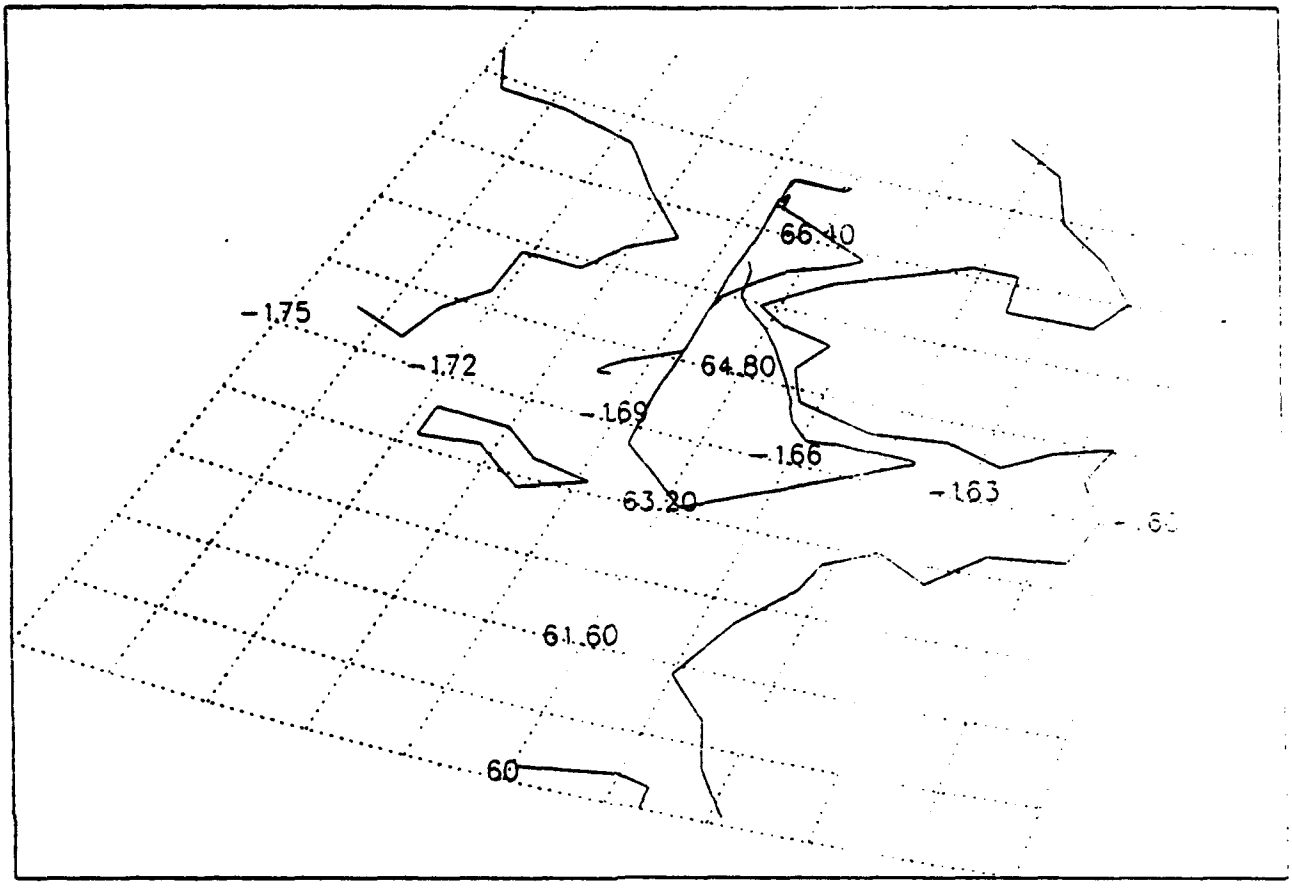

The Bering Strait flight of 24 April 1992

The flight of 24 April 1992 consisted of observations of the low-level flow in the vicinity of the Seward Peninsula and the eastern portion of Bering Strai. The synoptic situation was dominated by a strong ridge over the interior of Alaska, resulting in moderate southerly flow over the study area and weak stable stratification near the surface. The principal objective of the flight was to map the topographically-induced pressure and wind perturbations. The strongest boundary layer winds were found on the north side (downstream) of the Cape Prince of Wales. The observed flow structures might be able to ascribed to hydraulic effects. Most meteorological applications of hydraulic theory have involved a cool boundary layer capped by a strong inversion, but the case of 24 April featured continuous and weak stratification. A preliminary simulation by NRL's experimental NORAPS numerical model yielded mesoscale structures similar to those observed.

920424:

TIME	LAT	LON	RA (m)	TA (°C)	WSPD (ms^{-1})	WDIR
194201	66.03	-168.46	705.5	-2.60	10.17	205
194301	65.98	-168.39	410.5	-2.38	13.53	190
194401	65.93	-168.32	185.2	-2.77	16.43	185
194501	65.89	-168.30	142.3	-4.05	16.63	178
194601	65.84	-168.28	97.3	-3.95	15.97	175
194701	65.79	-168.27	91.8	-3.97	15.98	171
194801	65.75	-168.25	91.5	-3.97	16.21	168
194901	65.70	-168.24	89.8	-4.08	16.68	165
195001	65.66	-168.22	105.8	-4.28	16.25	158
195101	65.61	-168.17	94.8	-4.13	15.27	147
195201	65.57	-168.11	95.5	-4.20	12.32	143
195301	65.54	-168.04	95.2	-4.17	12.29	148
195401	65.50	-167.95	98.0	-4.22	12.86	148
195501	65.47	-167.85	97.2	-4.20	12.53	145
195601	65.44	-167.76	96.5	-4.20	11.67	144
195701	65.40	-167.67	97.0	-4.23	12.07	141
195801	65.37	-167.58	98.0	-4.28	11.16	148
195901	65.33	-167.50	98.3	-4.28	11.44	152
200001	65.30	-167.42	98.8	-4.30	11.54	154
200101	65.26	-167.35	99.0	-4.32	11.24	156
200201	65.22	-167.27	97.5	-4.38	11.23	157
200301	65.18	-167.20	100.8	-4.37	11.53	158
200401	65.14	-167.13	98.8	-4.38	11.03	160
200501	65.09	-167.07	92.0	-4.22	11.72	158
200601	65.05	-167.00	93.5	-4.28	11.88	157
200701	65.01	-166.94	96.3	-4.17	11.65	157
200801	64.97	-166.88	97.7	-3.98	11.93	156
200901	64.93	-166.82	92.0	-3.67	12.42	154
201001	64.89	-166.76	92.2	-3.70	12.32	149
201101	64.84	-166.70	32.8	-3.35	10.88	144
201201	64.80	-166.64	20.5	-3.45	10.40	139
201301	64.75	-166.58	22.7	-3.70	9.71	136
201401	64.70	-166.53	33.7	-3.87	9.82	132
201501	64.66	-166.47	96.2	-4.12	11.77	130
201601	64.61	-166.44	91.2	-4.57	11.02	121
201701	64.56	-166.40	92.3	-4.22	10.21	116
201801	64.51	-166.35	92.0	-3.77	8.49	118
201901	64.47	-166.29	91.7	-4.73	8.57	99
202001	64.43	-166.23	93.0	-4.85	7.78	97
202101	64.39	-166.14	92.0	-4.83	7.22	99
202201	64.35	-166.05	93.0	-4.88	6.46	99
202301	64.31	-165.96	132.8	-3.68	5.48	121
202401	64.28	-165.86	120.8	-4.22	4.80	103
202501	64.29	-165.74	91.3	-5.12	5.28	79
202601	64.29	-165.61	89.7	-5.30	5.11	73
202701	64.31	-165.49	88.8	-5.27	4.71	74
202801	64.32	-165.37	88.8	-5.20	4.87	79
202901	64.31	-165.24	89.7	-5.05	4.99	80
203001	64.31	-165.12	87.8	-5.02	4.52	78
203101	64.31	-165.00	89.2	-4.98	3.91	75
203201	64.31	-164.87	87.5	-4.93	3.51	79
203301	64.31	-164.74	87.0	-5.02	3.16	84
203401	64.31	-164.62	120.2	-5.17	2.94	92
203501	64.32	-164.49	234.7	-3.95	1.70	96

203601	64.32	-164.37	296.0	-3.05	0.67	167
203701	64.31	-164.24	296.3	-3.12	0.65	240
203801	64.31	-164.09	293.7	-2.92	0.90	231
203901	64.28	-164.02	290.5	-2.77	3.10	234
204001	64.25	-164.12	292.2	-2.35	4.38	232
204101	64.22	-164.23	293.7	-2.27	4.68	232
204201	64.19	-164.33	279.2	-2.45	3.94	227
204301	64.16	-164.43	195.3	-2.92	3.85	214
204401	64.13	-164.54	145.5	-3.42	4.24	193
204501	64.10	-164.65	143.0	-3.37	4.25	186
204601	64.07	-164.76	143.5	-3.15	4.09	191
204701	64.04	-164.86	121.2	-3.13	4.38	184
204801	64.01	-164.96	89.7	-3.18	4.50	173
204901	63.97	-165.06	91.2	-2.70	5.35	181
205001	63.94	-165.17	92.3	-2.60	5.63	183
205101	63.91	-165.27	91.2	-2.77	5.14	186
205201	63.88	-165.37	92.0	-3.13	5.31	183
205301	63.85	-165.47	90.2	-3.30	5.38	182
205401	63.82	-165.57	37.5	-3.98	4.79	158
205501	63.78	-165.67	24.3	-3.98	4.84	151
205601	63.75	-165.77	78.8	-2.98	6.27	170
205701	63.72	-165.87	156.0	-1.52	8.34	198
205801	63.69	-165.97	165.3	-1.48	8.81	198
205901	63.66	-166.07	241.7	-1.57	9.13	195
210001	63.63	-166.16	208.0	-1.57	9.56	194
210101	63.60	-166.26	92.3	-2.28	8.02	183
210201	63.57	-166.35	95.3	-2.62	7.71	178
210301	63.54	-166.45	88.7	-2.57	8.02	179
210401	63.51	-166.55	89.5	-2.42	8.10	180
210501	63.48	-166.64	89.7	-2.55	7.86	177
210601	63.45	-166.74	89.3	-2.58	7.35	177
210701	63.41	-166.84	89.5	-2.78	6.97	177
210801	63.38	-166.93	88.8	-2.87	6.99	176
210901	63.35	-167.03	86.8	-2.62	6.91	175
211001	63.32	-167.13	107.7	-2.52	7.07	175
211101	63.28	-167.22	143.7	-2.27	6.61	191
211201	63.31	-167.33	102.7	-2.13	5.69	188
211301	63.35	-167.42	91.7	-2.17	5.42	187
211401	63.39	-167.52	92.5	-2.25	5.29	184
211501	63.43	-167.61	90.0	-2.15	5.42	175
211601	63.47	-167.70	87.7	-2.03	5.84	176
211701	63.51	-167.80	86.3	-1.60	6.24	181
211801	63.55	-167.89	89.5	-1.65	6.28	182
211901	63.59	-167.99	86.7	-1.42	7.60	185
212001	63.63	-168.09	86.8	-1.48	7.72	189
212101	63.67	-168.19	84.0	-1.48	8.01	186
212201	63.71	-168.29	83.5	-1.55	8.39	186
212301	63.74	-168.40	81.5	-1.53	8.10	185
212401	63.78	-168.50	118.0	-1.63	7.80	184
212501	63.83	-168.57	101.7	-1.55	6.80	178
212601	63.89	-168.58	84.3	-1.38	6.81	174
212701	63.95	-168.59	88.0	-1.40	6.54	171
212801	64.01	-168.60	86.5	-1.40	6.39	171
212901	64.07	-168.60	84.8	-1.33	6.47	173
213001	64.13	-168.61	84.0	-1.30	7.11	177
213101	64.19	-168.62	84.2	-1.38	7.43	175
213201	64.25	-168.62	88.8	-1.48	7.63	173
213301	64.31	-168.63	86.0	-1.42	7.41	173

213401	64.37	-168.63	84.7	-1.33	7.40	174
213501	64.43	-168.63	83.7	-1.35	7.10	174
213601	64.49	-168.62	82.3	-1.38	7.17	171
213701	64.55	-168.61	83.5	-1.47	7.35	170
213801	64.61	-168.61	81.3	-1.57	7.17	167
213901	64.67	-168.60	84.7	-1.77	7.64	165
214001	64.73	-168.59	86.2	-1.92	7.90	163
214101	64.79	-168.59	85.8	-1.98	8.35	164
214201	64.85	-168.58	83.0	-2.00	8.04	163
214301	64.91	-168.59	83.2	-2.07	8.03	163
214401	64.97	-168.59	82.5	-2.25	7.60	158
214501	65.03	-168.59	81.7	-2.45	7.93	157
214601	65.10	-168.59	83.0	-2.45	8.48	158
214701	65.15	-168.60	81.2	-2.72	7.98	159
214801	65.22	-168.60	80.5	-2.83	7.52	161
214901	65.28	-168.60	80.3	-2.88	7.49	159
215001	65.34	-168.60	80.0	-2.95	7.81	155
215101	65.40	-168.60	81.7	-3.10	8.19	155
215201	65.46	-168.59	79.2	-3.13	8.69	155
215301	65.52	-168.58	78.0	-3.25	9.06	156
215401	65.58	-168.59	78.5	-3.25	9.25	159
215501	65.64	-168.60	81.0	-3.30	9.81	161
215601	65.70	-168.60	82.3	-3.30	9.23	164
215701	65.76	-168.61	82.0	-3.33	9.49	165
215801	65.82	-168.62	82.5	-3.33	10.53	172
215901	65.88	-168.62	80.8	-3.33	10.59	180
220001	65.94	-168.61	80.3	-3.30	10.97	179
220101	66.00	-168.60	79.5	-3.18	10.52	186
220201	66.07	-168.60	77.7	-3.13	11.94	185
220301	66.13	-168.59	79.5	-3.08	11.13	188
220401	66.19	-168.57	80.0	-3.07	9.21	190
220501	66.25	-168.56	78.2	-2.97	11.95	189
220601	66.32	-168.56	82.5	-3.05	12.06	192
220701	66.38	-168.56	83.5	-2.98	10.67	192
220801	66.44	-168.56	85.5	-3.00	10.42	193
220901	66.50	-168.57	82.2	-3.00	10.68	192
221001	66.57	-168.58	82.7	-3.02	9.90	190
221101	66.63	-168.59	86.5	-3.00	9.24	189
221201	66.69	-168.60	124.0	-3.33	10.99	191
221301	66.75	-168.61	156.5	-3.57	11.97	186
221401	66.77	-168.49	158.0	-3.62	13.69	185
221501	66.74	-168.49	154.2	-3.57	12.61	193
221601	66.78	-168.54	155.5	-3.58	12.98	184
221701	66.77	-168.46	154.2	-3.57	13.67	191
221801	66.78	-168.55	154.8	-3.58	12.58	186
221901	66.79	-168.46	157.8	-3.58	14.01	188
222001	66.78	-168.52	158.7	-3.57	12.65	188
222101	66.81	-168.47	154.3	-3.60	14.04	187
222201	66.79	-168.50	165.5	-3.57	12.81	189
222301	66.82	-168.47	165.3	-3.65	14.35	186
222401	66.79	-168.44	164.3	-3.67	14.93	186
222501	66.75	-168.44	164.5	-3.62	15.72	187
222601	66.70	-168.44	166.3	-3.57	15.60	189
222701	66.68	-168.53	163.8	-3.52	13.75	194
222801	66.73	-168.59	108.5	-3.20	11.60	190
222901	66.80	-168.59	86.5	-3.00	9.90	190
223001	66.86	-168.59	82.8	-3.02	9.20	188
223101	66.92	-168.59	90.3	-3.07	9.40	186
223201	66.98	-168.59	128.2	-3.43	11.20	179
223301	67.01	-168.48	81.5	-3.05	10.58	174

223401	67.01	-168.33	85.2	-3.08	10.31	177
223501	67.02	-168.19	84.2	-3.20	9.65	175
223601	67.02	-168.04	83.8	-3.20	10.06	171
223701	67.02	-167.90	86.3	-3.23	10.02	169
223801	67.02	-167.76	123.8	-3.67	10.38	171
223901	67.04	-167.64	148.3	-3.98	10.85	175
224001	67.06	-167.54	146.2	-3.98	13.13	177
224101	67.02	-167.57	142.8	-3.90	12.25	182
224201	67.01	-167.69	47.8	-3.03	9.11	182
224301	67.01	-167.83	28.0	-2.75	8.22	181
224401	67.01	-167.97	26.3	-2.72	8.32	185
224501	67.00	-168.12	26.2	-2.60	8.99	185
224601	67.00	-168.26	26.0	-2.57	9.44	186
224701	67.00	-168.40	95.7	-3.07	10.72	188
224801	66.99	-168.53	136.8	-3.37	12.95	184
224901	66.94	-168.55	28.0	-2.42	9.50	178
225001	66.89	-168.57	26.5	-2.37	8.15	179
225101	66.84	-168.57	24.5	-2.33	8.85	180
225201	66.79	-168.58	24.2	-2.30	9.65	182
225301	66.74	-168.59	79.8	-2.80	10.88	183
225401	66.69	-168.58	100.2	-2.98	12.25	179
225501	66.67	-168.45	88.2	-2.83	12.03	180
225601	66.65	-168.33	89.8	-2.92	11.30	179
225701	66.63	-168.20	88.7	-2.93	10.75	181
225801	66.61	-168.08	91.2	-2.90	10.93	179
225901	66.59	-167.96	92.3	-2.97	10.65	176
230001	66.57	-167.83	92.2	-3.03	9.63	173
230101	66.55	-167.71	85.3	-2.93	9.31	170
230201	66.52	-167.59	85.3	-2.85	9.07	169
230301	66.50	-167.47	87.8	-2.87	9.18	167
230401	66.48	-167.35	93.7	-2.83	9.41	165
230501	66.45	-167.23	94.8	-2.78	9.82	166
230601	66.43	-167.11	94.3	-2.83	9.19	164
230701	66.41	-166.99	93.0	-2.72	9.12	167
230801	66.38	-166.87	92.8	-2.65	9.28	171
230901	66.36	-166.75	95.5	-2.60	9.31	178
231001	66.34	-166.63	166.2	-2.95	10.92	188
231101	66.30	-166.63	123.3	-2.60	11.02	194
231201	66.27	-166.73	89.3	-2.42	10.56	188
231301	66.24	-166.83	90.2	-2.40	10.10	180
231401	66.21	-166.93	91.8	-2.33	8.83	177
231501	66.18	-167.04	91.7	-1.95	8.33	178
231601	66.15	-167.15	89.2	-1.73	8.42	181
231701	66.12	-167.26	89.2	-1.63	7.79	184
231801	66.09	-167.38	90.5	-1.87	10.40	192
231901	66.07	-167.50	89.5	-2.12	12.53	196
232001	66.04	-167.61	89.8	-2.30	14.08	196
232101	66.02	-167.72	90.0	-2.47	13.90	192
232201	65.98	-167.80	89.5	-2.72	13.83	190
232301	65.94	-167.87	90.8	-2.90	13.83	186
232401	65.90	-167.95	90.7	-3.02	14.06	183
232501	65.87	-168.03	91.2	-2.75	14.25	180
232601	65.83	-168.11	89.3	-2.50	12.17	178
232701	65.79	-168.17	87.0	-2.78	12.97	179
232801	65.75	-168.24	89.0	-3.13	12.98	174
232901	65.71	-168.31	90.5	-3.17	12.88	170
233001	65.66	-168.38	88.0	-2.98	12.18	167
233101	65.62	-168.45	90.0	-2.92	11.94	167
233201	65.58	-168.51	91.5	-2.80	12.00	170

233301	65.53	-168.54	89.5	-2.63	11.91	168
233401	65.48	-168.56	87.8	-2.55	12.55	167
233501	65.43	-168.58	89.0	-2.38	12.63	168
233601	65.38	-168.59	90.5	-2.37	12.09	167
233701	65.33	-168.59	90.3	-2.25	12.44	169
233801	65.28	-168.58	91.5	-2.18	12.31	169
233901	65.23	-168.58	90.8	-2.07	12.16	170
234001	65.18	-168.58	93.3	-1.82	12.70	172
234101	65.13	-168.58	91.0	-1.68	12.46	170
234201	65.08	-168.58	92.2	-1.63	11.18	168
234301	65.03	-168.58	94.2	-1.48	11.11	170
234401	64.98	-168.58	93.8	-1.33	11.77	173
234501	64.93	-168.57	93.5	-1.28	12.43	177
234601	64.89	-168.63	93.5	-1.22	12.38	181
234701	64.86	-168.73	91.8	-1.10	12.31	183
234801	64.82	-168.83	94.8	-1.03	11.98	187
234901	64.79	-168.93	93.8	-0.93	11.44	190
235001	64.76	-169.02	95.0	-0.93	11.70	189
235101	64.73	-169.12	95.7	-0.85	11.73	190
235201	64.70	-169.22	95.5	-0.92	11.74	190
235301	64.67	-169.32	95.0	-1.08	12.34	188
235401	64.64	-169.41	94.7	-1.07	12.39	188
235501	64.61	-169.50	90.7	-1.00	12.37	187
235601	64.57	-169.58	90.8	-1.00	12.27	186
235701	64.53	-169.66	111.2	-0.97	12.08	189
235801	64.50	-169.74	167.3	-0.82	11.94	193
235901	64.47	-169.66	93.8	-0.98	9.99	179
1	64.47	-169.53	42.8	-0.65	8.32	175

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LEADEX DROPSONDE (ODW) PROCESSING SUMMARY

The overall quality of the LEADEX sondes was fair to good when compared with that of previous ODW data sets. However, the quality of the humidity data measured by the LEADEX sondes was somewhat worse than the quality of both the temperature and wind data. This is consistent with previous ODW data sets which have shown that ODW-measured humidity values tend to be too high, particulary when sondes have been dropped through layers at or near saturation.

ODW temperatures measured at flight-level were ~1 deg. Celsius warmer than those measured by NOAA aircraft. However, no correction was applied to the ODW temperatures since hydrostatic surface pressure estimates computed using the ODW temperatures were in good agreement with in-situ surface pressures. Consequently, aircraft-measured flight-level temperatures are probably about 1 deg. C too cold.

The geopotential heights of all sondes dropped over land were not computed. This was done because neither the launch or the splash geopotential is known for sondes dropped over land of unknown elevation.

Certain processing procedures are routinely applied to all sondes and have not been described in the table below. The most important of these procedures are:

1) Sonde-estimated surface pressures (splash pressures) alone are unreliable. Surface pressures are therefore estimated by a combination of sonde estimates and hydrostatic integrations beginning with flight-level data at launch. Adjustments, increasing linearly with time after launch, were made to the pressure profiles to accomodate the surface corrections. These adjustments have not been listed in the edits described below. Final, processed estimates of surface pressure are accurate to within 1-2 mb.

2) All sondes are edited in the region just after launch, as sensors can take 30 seconds or more to reach ambient conditions. Flight-level data are used for these short interpolations.

3) Unless indicated differently in the table below, all thermodynamic data are run through a 20-second filter to remove noise. Unfiltered humidity measurements, which depend on inputs from both the temperature and humidity sensors, tend to be particularly noisy.

4) Unless noted differently, all omega signals are filtered with a 270-second filter.

More detailed comments concerning the edits made for each of the LEADEX sondes are given below.

Note: The abbreviations P, T and H stand for pressure, temperature and humidity, respectively.

Sonde	Comments
4550	Minor P edits made from 640-720 mb.
23905	No editing. All temperature data bad due to interference P edited from ~950 mb to the surface. PTH smoothed 40 s
4553	Minor editing of T from ~490-520 mb. Minor omega editing.
23899	Minor editing of T from ~800-860. PTH smoothed 40 s.
4554	No editing. PTH smoothed 40 s. Omega filtered 450 s.
23125	P edited from ~485-540 mb due to lost signal. T and H data bad for entire drop due to lost signal. Omega set missing from ~485-540 mb due to lost signal.
4551	T edited near 880 mb to correct T runaway. Minor omega editing.
23038	Sonde over land. No editing. Omega filtered 360 s.
1457	Sonde over land. T and H bad below ~630 mb due to lost signal. P edited from ~850 mb to surface. PTH smoothed 40 s. Omega filterd 450 s.
1455	Sonde over land. No editing.
23039	Sonde over land. P edited from ~460-560, ~600-700, and ~700-840 mb due to signal interference. PTH smoothed 40 s.
4548	No editing. PTH data smoothed 40 s.
23906	No editing.
23041	Sonde over land. No editing.
1452	Sonde over land. T set missing below ~620mb due to lost signal. P edited from ~650-700 mb due to signal interference. PTH and omega data set missing below ~700 mb due to lost signal.
4547	No editing.
23036	H set missing for entire drop. P edited from ~800-900 mb Surface P estimated based on ODW splash pressure.
23040	No editing.
23903	No editing.
23902	No editing.
23035	Sonde over land. No editing.
23067	No editing.
1580	No editing. PTH smoothed 40 s. Omega filtered 450 s.
23453	H set missing for entire drop. Surface pressures estimated based upon surrounding ODW surface pressures and synoptic surface analyses. Omega filtered 360 s.
23130	No editing. Omega filtered 450 s.
1547	Sonde over land. Omega filtered 360 s.
23070	Bad sonde. Not included on final tape.
109	Omega filtered 450 s.
110	Sonde over land. P edited from ~560-620 mb. PTH smoothed 40 s.
23071	Sonde over land. T edited from ~400-440 mb. PTH smoothed 40 s. Omega filtered 360 s.
135	Sonde over land. T edited from ~400-420 mb and ~430-460 mb due to signal interference. PTH smoothed 40 s.
3579	Sonde over land. No editing.
22860	Sonde over land. Omega set missing for entire drop due to signal interference.
3083	No editing.
22862	Omega filtered 450 s.
3578	No editing.

Documentation for the LEADEX distribution tape follows. Also included is a copy of a NOAA Technical Memorandum which gives a detailed description of ODW processing procedures. Any questions regarding the reading of the tape, or the data processing procedures used to produce it, should be directed to:

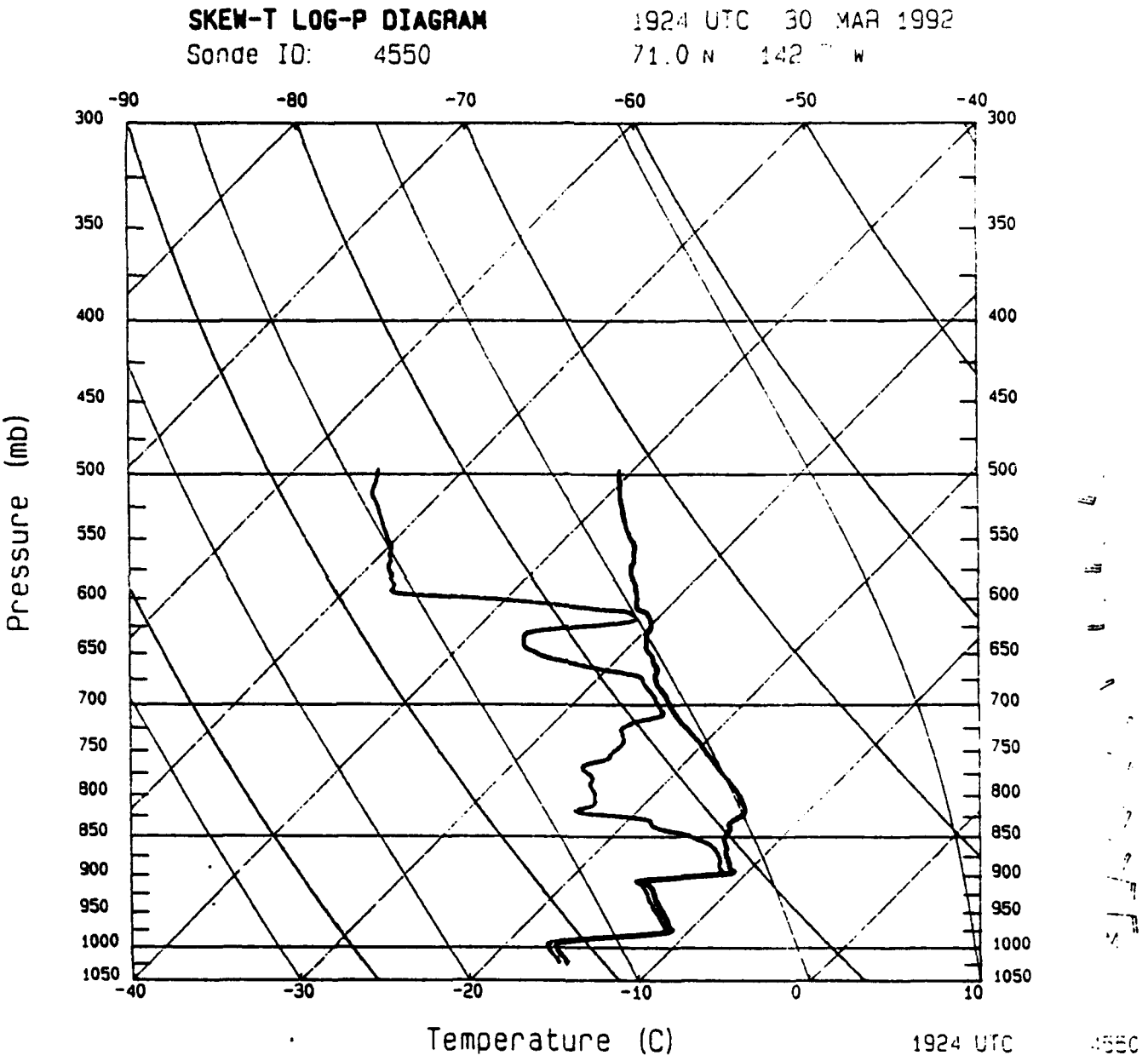
John Kaplan
AOML/HRD
4301 Rickenbacker Causeway
Miami, FL 33149

Phone 305-361-4505 (Commercial)
305-361-4505 (FTS)

Program: TAPELIST Run at 11:09 AM THU 8 APR 1993

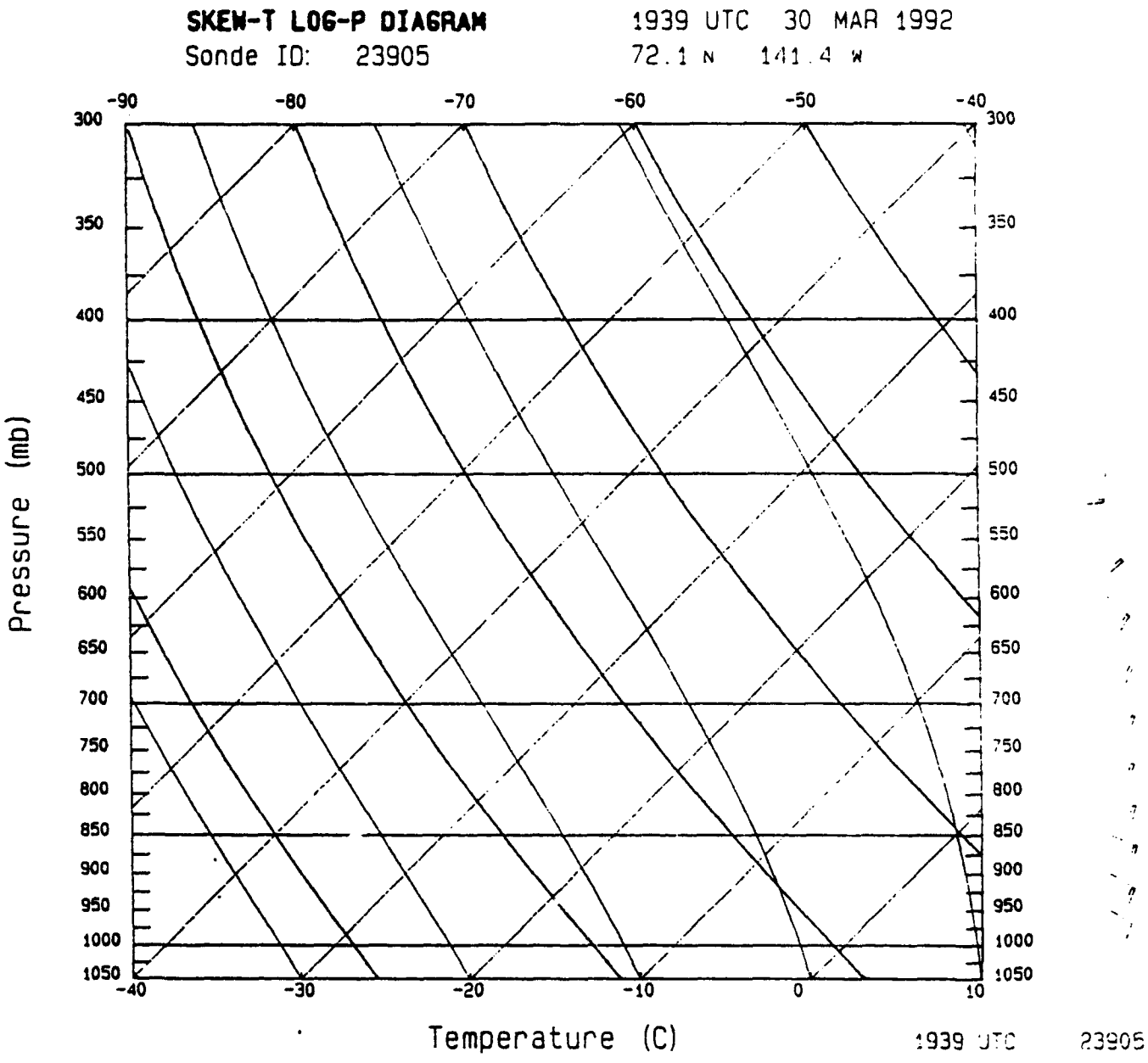
ODW postprocessed data tape inventory: LEADEX

SEQ	SONDE	DATE (yymmdd)	TIME (hhmm)	LAT (deg)	LON (deg)	FLT LVL (mb)
1	4550	920330	1924	71.0	-142.7	485
2	23905	920330	1939	72.1	-141.4	485
3	4553	920330	1948	72.9	-141.5	485
4	23899	920330	2004	74.0	-141.3	485
5	4554	920330	2015	73.3	-143.1	485
6	23125	920330	2028	72.5	-145.1	485
7	4551	920330	2037	72.0	-145.9	485
8	23038	920410	1858	68.7	-148.5	358
9	1457	920410	1905	69.2	-148.4	359
10	1455	920413	1856	69.0	-146.6	392
11	23039	920413	1902	69.5	-145.8	392
12	4548	920413	1919	70.6	-145.0	359
13	23906	920413	1933	71.7	-145.0	359
14	23041	920415	1954	69.3	-146.7	466
15	1452	920415	2000	69.7	-146.0	466
16	4547	920415	2015	70.7	-144.2	506
17	23036	920415	2031	71.8	-143.7	506
18	23040	920415	2059	73.6	-143.5	506
19	23903	920415	2120	72.4	-146.8	506
20	23902	920416	122	70.7	-148.3	696
21	23035	920416	139	69.5	-148.5	375
22	23067	920416	2247	71.6	-147.6	375
23	1580	920418	1920	71.2	-148.2	428
24	23453	920418	1944	73.1	-147.5	428
25	23130	920419	116	71.1	-148.3	535
26	1547	920419	140	69.4	-148.5	344
27	109	920421	2026	71.5	-157.7	501
28	110	920422	57	70.9	-156.4	286
29	23071	920422	108	70.1	-155.7	286
30	135	920422	128	68.8	-154.6	286
31	3579	920422	2235	69.0	-148.6	465
32	22860	920422	2243	69.7	-148.6	465
33	3083	920422	2257	70.6	-148.7	465
34	22862	920424	1901	64.4	-164.2	465
35	3578	920425	45	63.9	-161.9	445


SKEW-T LOG-P DIAGRAM
1924 UTC 30 MAR 1992
Sonde ID: 4550
71.0 N 142 W
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
Pressure (mb)
-40
-30
-20
-10
0
10
Temperature (C)
1924 UTC

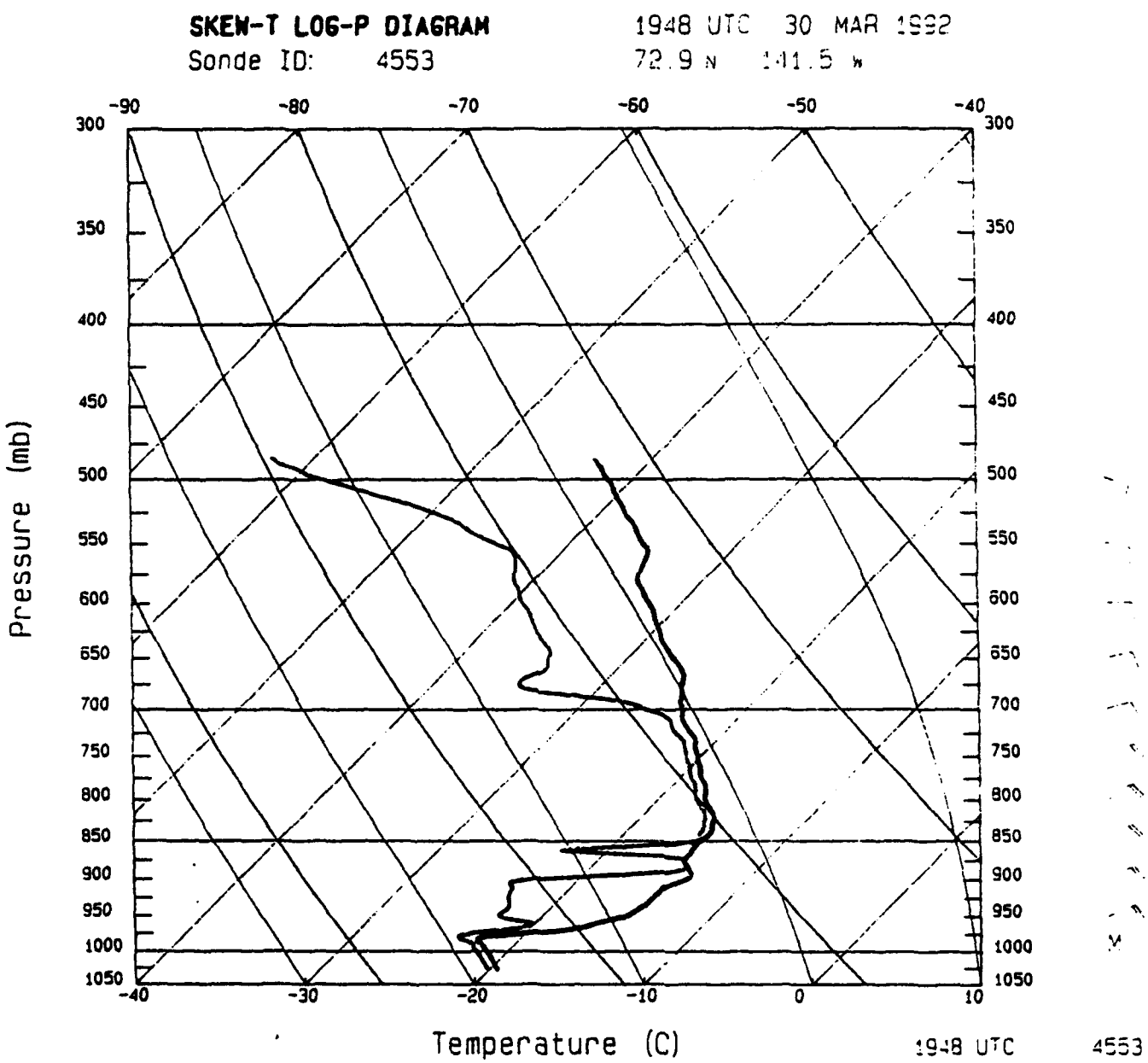
Sonde # 4550 Date 920330 Time 192442 GMT
Lat 71.0 Lon -142.7 Press 485.1 mb Height 5442 m
Flight level wind: 202 deg at 14.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
490.0	-41.3	21.8	5374	201	13.8	4.9	12.9	-99.0
500.0	-40.7	21.7	5237	200	13.7	4.7	12.9	-99.0
510.0	-39.9	21.4	5102	199	13.5	4.4	12.8	-99.0
520.0	-39.0	21.6	4969	196	13.1	3.6	12.6	-99.0
530.0	-38.2	22.2	4838	194	12.8	3.1	12.4	-99.0
540.0	-37.3	22.7	4709	191	12.5	2.4	12.3	-99.0
550.0	-36.2	22.9	4582	189	12.3	1.9	12.1	-99.0
560.0	-35.3	23.1	4457	188	12.0	1.7	11.9	.9
570.0	-34.7	23.4	4333	187	11.8	1.4	11.7	.9
580.0	-34.1	23.9	4212	186	11.5	1.2	11.4	.9
590.0	-33.1	24.0	4092	185	11.1	1.0	11.1	.9
600.0	-32.4	37.9	3974	183	10.8	.6	10.8	.9
610.0	-31.7	80.7	3857	182	10.5	.4	10.5	.9
620.0	-30.3	91.3	3742	178	9.9	-.3	9.9	.9
630.0	-29.8	53.6	3628	175	9.0	-.8	9.0	.9
640.0	-29.3	50.7	3515	170	8.4	-1.5	8.3	.9
650.0	-28.5	53.8	3405	163	7.8	-2.3	7.5	.9
660.0	-27.6	64.8	3295	152	7.2	-3.4	6.4	.9
670.0	-26.9	86.5	3187	142	7.0	-4.3	5.5	.9
680.0	-26.3	94.0	3080	131	7.0	-5.3	4.6	.8
690.0	-25.3	94.4	2974	122	7.1	-6.0	3.8	.8
700.0	-24.4	94.6	2869	116	7.5	-6.7	3.3	.8
710.0	-23.5	95.0	2766	113	7.8	-7.2	3.0	.8
720.0	-22.6	78.6	2663	111	8.0	-7.5	2.9	.8
730.0	-21.5	70.8	2562	110	8.0	-7.5	2.7	.8
740.0	-20.5	68.5	2461	111	8.0	-7.5	2.9	.8
750.0	-19.6	63.8	2362	112	7.9	-7.3	3.0	.8
760.0	-18.6	59.0	2263	114	7.7	-7.0	3.1	.8
770.0	-17.7	50.4	2166	116	7.6	-6.8	3.3	.8
780.0	-16.8	51.5	2069	118	7.5	-6.6	3.5	.8
790.0	-15.9	49.4	1973	121	7.3	-6.3	3.8	.8
800.0	-15.0	49.3	1878	123	7.4	-6.2	4.0	.8
810.0	-14.3	48.6	1784	125	7.6	-6.2	4.4	.8
820.0	-13.7	43.6	1691	127	7.6	-6.1	4.6	.8
830.0	-13.8	65.6	1599	127	7.4	-5.9	4.5	.8
840.0	-13.6	70.1	1508	128	7.3	-5.8	4.5	.8
850.0	-13.4	84.9	1418	126	7.2	-5.8	4.2	.9
860.0	-13.0	92.6	1329	124	7.0	-5.8	3.9	.8
870.0	-12.5	96.0	1241	121	6.8	-5.8	3.5	.8
880.0	-11.9	96.6	1153	116	6.7	-6.0	2.9	.8
890.0	-11.3	95.7	1067	111	6.6	-6.2	2.4	.9
900.0	-11.7	95.3	981	104	6.9	-6.7	1.7	.9
910.0	-15.5	96.4	897	100	7.5	-7.4	1.3	.9
920.0	-14.6	96.8	814	97	8.4	-8.3	1.0	.9
930.0	-14.0	97.0	732	95	9.3	-9.3	.8	.9
940.0	-13.4	97.1	651	94	9.9	-9.9	.7	.9
950.0	-12.7	97.2	570	94	10.5	-10.5	.7	.9
960.0	-12.0	97.3	490	95	10.8	-10.8	.9	.9
970.0	-11.5	97.4	411	95	10.9	-10.9	.9	.9
980.0	-11.5	97.4	332	-99	-99.0	-99.0	-99.0	-99.0
990.0	-15.9	96.0	255	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-16.9	96.1	179	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-16.3	96.5	105	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-15.6	96.6	30	-99	-99.0	-99.0	-99.0	-99.0
1024.1	-15.4	96.4	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
1939 UTC 30 MAR 1992
Sonde ID: 23905
72.1 N 141.4 W
-90 -80 -70 -60 -50 -40
300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050
Pressure (mb)
-40 -30 -20 -10 0 10
Temperature (C)
1939 UTC 23905

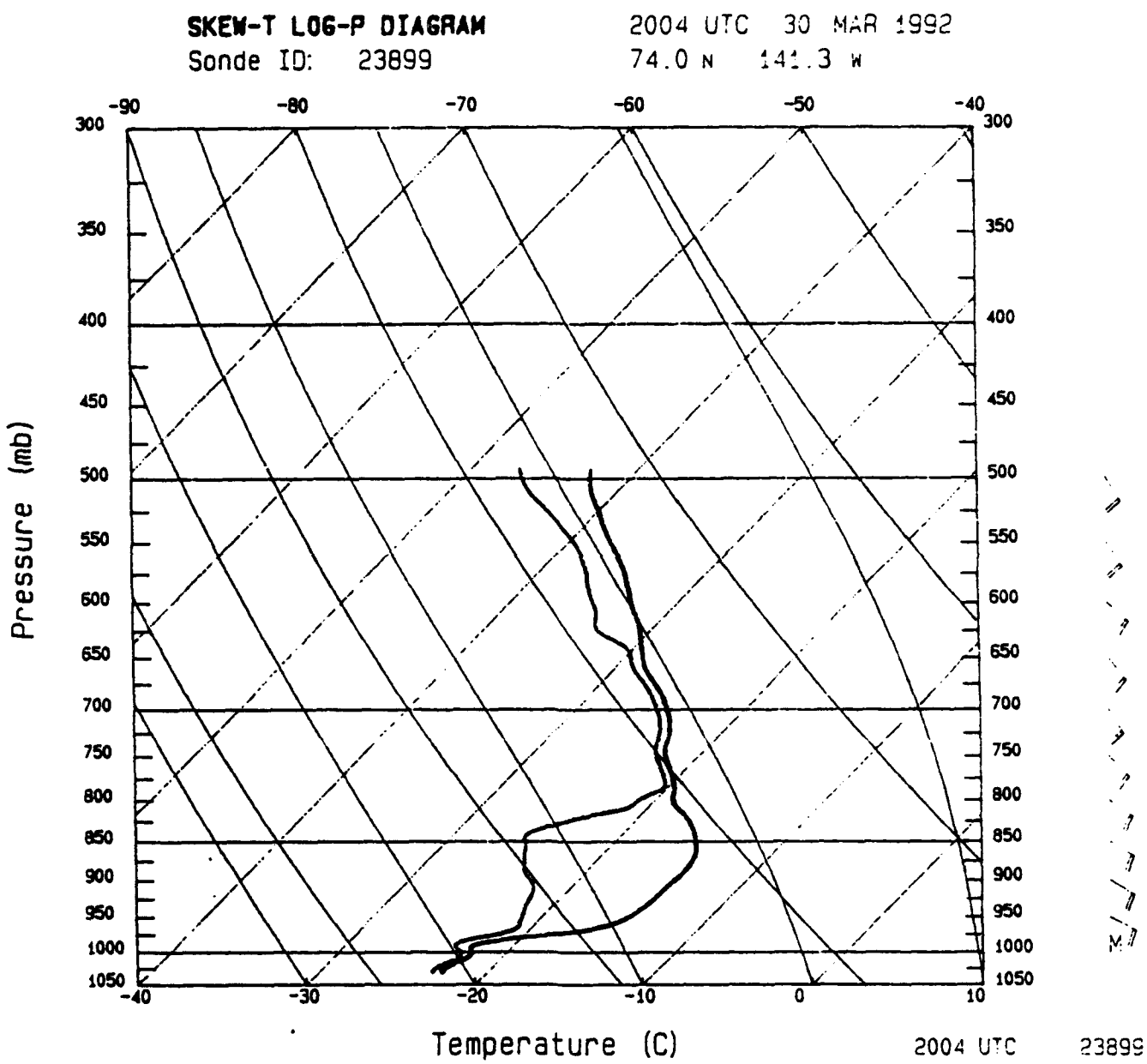
Sonde # 23905 Date 920330 Time 193912 GMT
Lat 72.1 Lon -141.4 Press 485.3 mb Height 5443 m
Flight level wind: 192 deg at 7.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
490.0	-99.0	24.6	-99	188	6.9	1.0	6.8	-99.0
500.0	-99.0	23.6	-99	185	6.9	.6	6.9	-99.0
510.0	-99.0	21.4	-99	180	6.8	.0	6.8	-99.0
520.0	-99.0	17.6	-99	170	6.9	-1.2	6.8	-99.0
530.0	-99.0	15.0	-99	162	7.2	-2.2	6.8	-99.0
540.0	-99.0	15.6	-99	154	7.6	-3.3	6.8	-99.0
550.0	-99.0	16.5	-99	147	8.2	-4.5	6.9	-99.0
560.0	-99.0	19.8	-99	142	8.4	-5.2	6.6	.8
570.0	-99.0	59.6	-99	139	8.5	-5.6	6.4	.8
580.0	-99.0	83.5	-99	136	8.5	-5.9	6.1	.8
590.0	-99.0	85.6	-99	133	8.3	-6.1	5.7	.8
600.0	-99.0	85.4	-99	131	8.0	-6.0	5.2	.8
610.0	-99.0	88.7	-99	130	7.7	-5.9	4.9	.8
620.0	-99.0	91.9	-99	129	7.3	-5.7	4.6	.8
630.0	-99.0	88.7	-99	127	7.1	-5.7	4.3	.8
640.0	-99.0	75.7	-99	126	7.0	-5.7	4.1	.8
650.0	-99.0	64.2	-99	124	7.0	-5.8	3.9	.8
660.0	-99.0	54.1	-99	123	6.9	-5.8	3.8	.8
670.0	-99.0	49.1	-99	121	7.0	-6.0	3.6	.8
680.0	-99.0	46.6	-99	120	6.9	-6.0	3.5	.8
690.0	-99.0	44.8	-99	119	6.9	-6.0	3.3	.8
700.0	-99.0	44.1	-99	118	6.8	-6.0	3.2	.8
710.0	-99.0	44.3	-99	117	6.8	-6.1	3.1	.8
720.0	-99.0	64.1	-99	118	6.8	-6.0	3.2	.8
730.0	-99.0	78.8	-99	120	6.9	-6.0	3.5	.9
740.0	-99.0	76.6	-99	120	7.1	-6.1	3.6	.9
750.0	-99.0	75.0	-99	120	7.2	-6.2	3.6	.9
760.0	-99.0	73.7	-99	121	7.3	-6.3	3.8	.9
770.0	-99.0	72.1	-99	120	7.5	-6.5	3.8	.9
780.0	-99.0	71.3	-99	120	7.5	-6.5	3.8	.8
790.0	-99.0	69.6	-99	118	7.5	-6.6	3.5	.8
800.0	-99.0	67.9	-99	117	7.5	-6.7	3.4	.8
810.0	-99.0	64.7	-99	116	7.6	-6.8	3.3	.8
820.0	-99.0	85.1	-99	114	7.8	-7.1	3.2	.8
830.0	-99.0	91.1	-99	113	7.9	-7.3	3.1	.8
840.0	-99.0	89.5	-99	113	8.1	-7.5	3.2	.8
850.0	-99.0	90.2	-99	113	8.3	-7.6	3.2	.8
860.0	-99.0	91.4	-99	113	8.4	-7.7	3.3	.8
870.0	-99.0	94.2	-99	114	8.2	-7.5	3.3	.8
880.0	-99.0	93.0	-99	116	8.0	-7.2	3.5	.8
890.0	-99.0	95.1	-99	119	7.6	-6.6	3.7	.8
900.0	-99.0	96.2	-99	122	7.1	-6.0	3.8	.8
910.0	-99.0	94.2	-99	124	6.5	-5.4	3.6	.8
920.0	-99.0	92.5	-99	126	6.2	-5.0	3.6	.8
930.0	-99.0	95.4	-99	127	5.9	-4.7	3.6	.8
940.0	-99.0	96.6	-99	126	5.8	-4.7	3.4	.8
950.0	-99.0	94.4	-99	122	6.1	-5.2	3.2	.7
959.8	-99.0	94.6	-99	118	6.7	-5.9	3.1	.7


SKEW-T LOG-P DIAGRAM
1948 UTC 30 MAR 1992
Sonde ID: 4553
72.9 N 141.5 W
Pressure (mb)
Temperature (C)
1948 UTC 4553

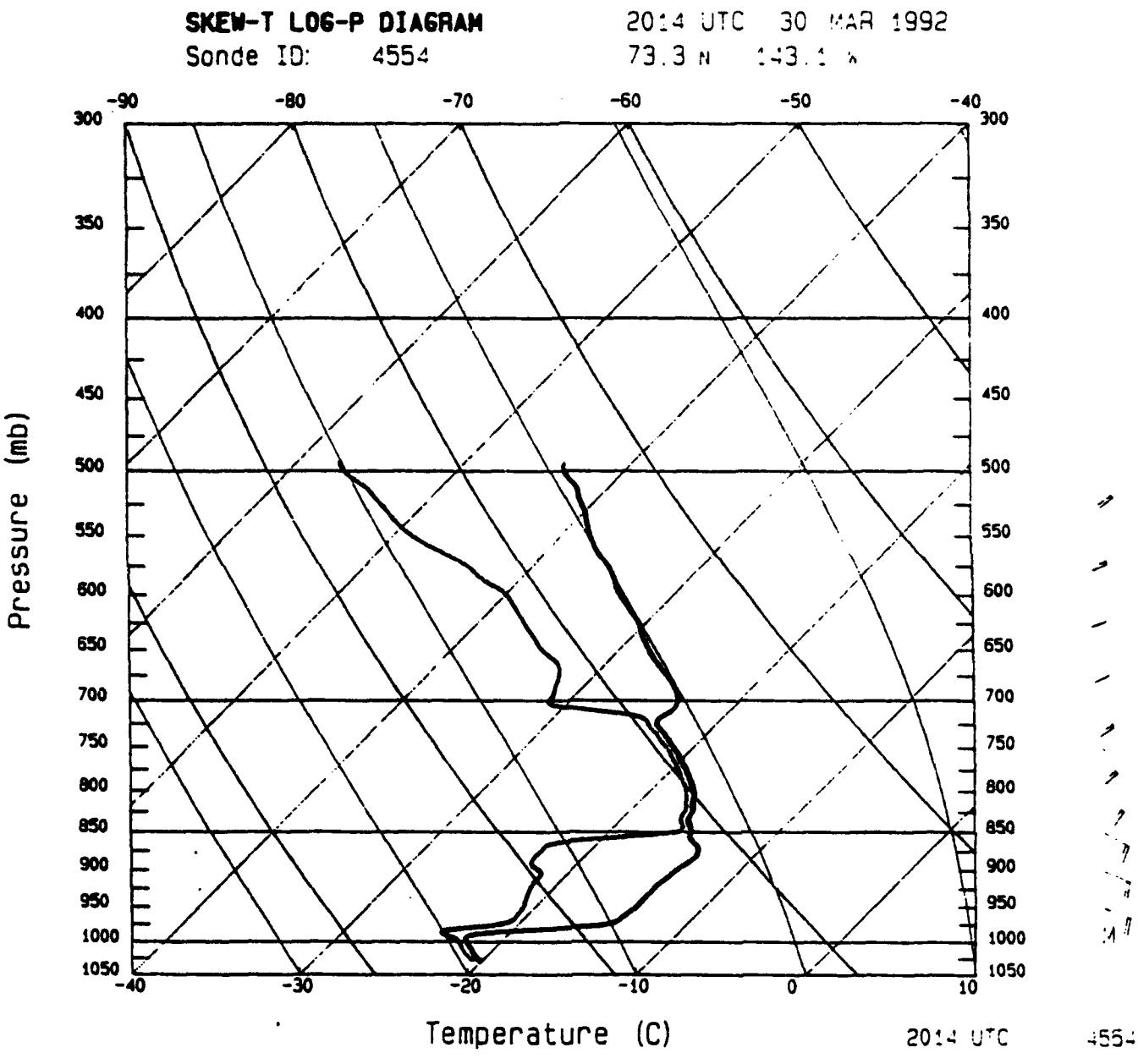
Sonde # 4553 Date 920330 Time 194838 GMT
Lat 72.9 Lon -141.5 Press 485.1 mb Height 5449 m
Flight level wind: 138 deg at 5.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
490.0	-42.9	12.4	5381	126	5.1	-4.1	3.0	-99.0
500.0	-41.6	15.5	5245	109	5.6	-5.3	1.8	-99.0
510.0	-40.4	20.8	5110	100	6.2	-6.1	1.1	-99.0
520.0	-39.2	27.6	4977	94	6.8	-6.8	.5	-99.0
530.0	-38.0	33.6	4847	98	6.6	-6.5	.9	1.4
540.0	-36.8	37.0	4718	102	6.2	-6.1	1.3	1.4
550.0	-35.7	41.6	4590	101	5.9	-5.8	1.1	1.4
560.0	-34.8	46.4	4465	99	5.7	-5.6	.9	1.3
570.0	-34.4	48.2	4341	98	5.6	-5.5	.8	1.3
580.0	-34.0	49.3	4220	97	5.6	-5.6	.7	1.3
590.0	-33.0	49.3	4100	94	5.6	-5.6	.4	1.3
600.0	-32.0	48.9	3981	90	5.6	-5.6	.0	1.2
610.0	-31.0	49.8	3864	86	5.4	-5.4	-.4	1.2
620.0	-30.1	50.3	3749	84	5.2	-5.2	-.5	1.2
630.0	-29.3	51.1	3635	81	5.1	-5.0	-.8	1.2
640.0	-28.4	52.3	3522	78	4.8	-4.7	-1.0	1.1
650.0	-27.4	50.8	3411	77	4.8	-4.7	-1.1	1.0
660.0	-26.3	48.3	3301	75	4.9	-4.7	-1.3	1.0
670.0	-25.6	42.4	3192	75	5.0	-4.8	-1.3	1.0
680.0	-25.1	42.9	3084	75	5.5	-5.3	-1.4	.9
690.0	-24.5	66.4	2978	77	6.0	-5.8	-1.3	.9
700.0	-23.9	81.7	2873	75	6.6	-6.4	-1.7	.9
710.0	-23.4	93.1	2770	73	7.0	-6.7	-2.0	.9
720.0	-22.5	92.9	2667	71	7.3	-6.9	-2.4	.9
730.0	-21.5	93.0	2566	70	7.7	-7.2	-2.6	.9
740.0	-20.9	94.7	2465	68	8.0	-7.4	-3.0	.9
750.0	-20.3	94.7	2366	66	8.4	-7.7	-3.4	.9
760.0	-19.7	95.0	2268	63	8.7	-7.8	-3.9	.9
770.0	-19.1	95.1	2170	60	8.9	-7.7	-4.4	.9
780.0	-18.4	95.2	2074	58	9.1	-7.7	-4.8	.9
790.0	-17.7	95.3	1979	56	9.4	-7.8	-5.3	.9
800.0	-17.3	95.7	1885	56	9.7	-8.0	-5.4	.9
810.0	-16.5	95.9	1792	55	10.1	-8.3	-5.8	.8
820.0	-15.8	96.0	1699	53	10.1	-8.1	-6.1	.9
830.0	-15.4	96.1	1608	53	10.2	-8.1	-6.1	.9
840.0	-15.0	96.0	1517	53	10.2	-8.1	-6.1	.9
850.0	-15.1	99.5	1428	53	10.0	-8.0	-6.0	.8
860.0	-15.2	62.3	1339	53	9.8	-7.8	-5.9	.8
870.0	-15.0	83.3	1252	54	9.6	-7.8	-5.6	.8
880.0	-14.7	98.9	1166	55	9.3	-7.6	-5.3	.8
890.0	-14.0	95.2	1080	58	9.0	-7.6	-4.8	.8
900.0	-13.7	51.0	995	61	9.1	-8.0	-4.4	.8
910.0	-14.5	46.6	911	64	9.1	-8.2	-4.0	.8
920.0	-14.6	48.3	828	66	9.2	-8.4	-3.7	.8
930.0	-14.6	49.9	746	67	9.2	-8.5	-3.6	.8
940.0	-14.8	52.5	666	67	9.2	-8.5	-3.6	.8
950.0	-15.2	53.5	585	66	9.2	-8.4	-3.7	.8
960.0	-16.5	70.8	507	64	9.2	-8.3	-4.0	.8
970.0	-18.2	77.2	429	64	9.2	-8.3	-4.0	.8
980.0	-22.3	87.7	353	-99	-99.0	-99.0	-99.0	-99.0
990.0	-22.1	95.3	278	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-21.4	94.8	204	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-20.7	95.0	131	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-20.1	95.1	58	-99	-99.0	-99.0	-99.0	-99.0
1028.0	-19.6	95.2	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2004 UTC 30 MAR 1992
Sonde ID: 23899
74.0 N 141.3 W
Pressure (mb)
Temperature (C)
2004 UTC 23899

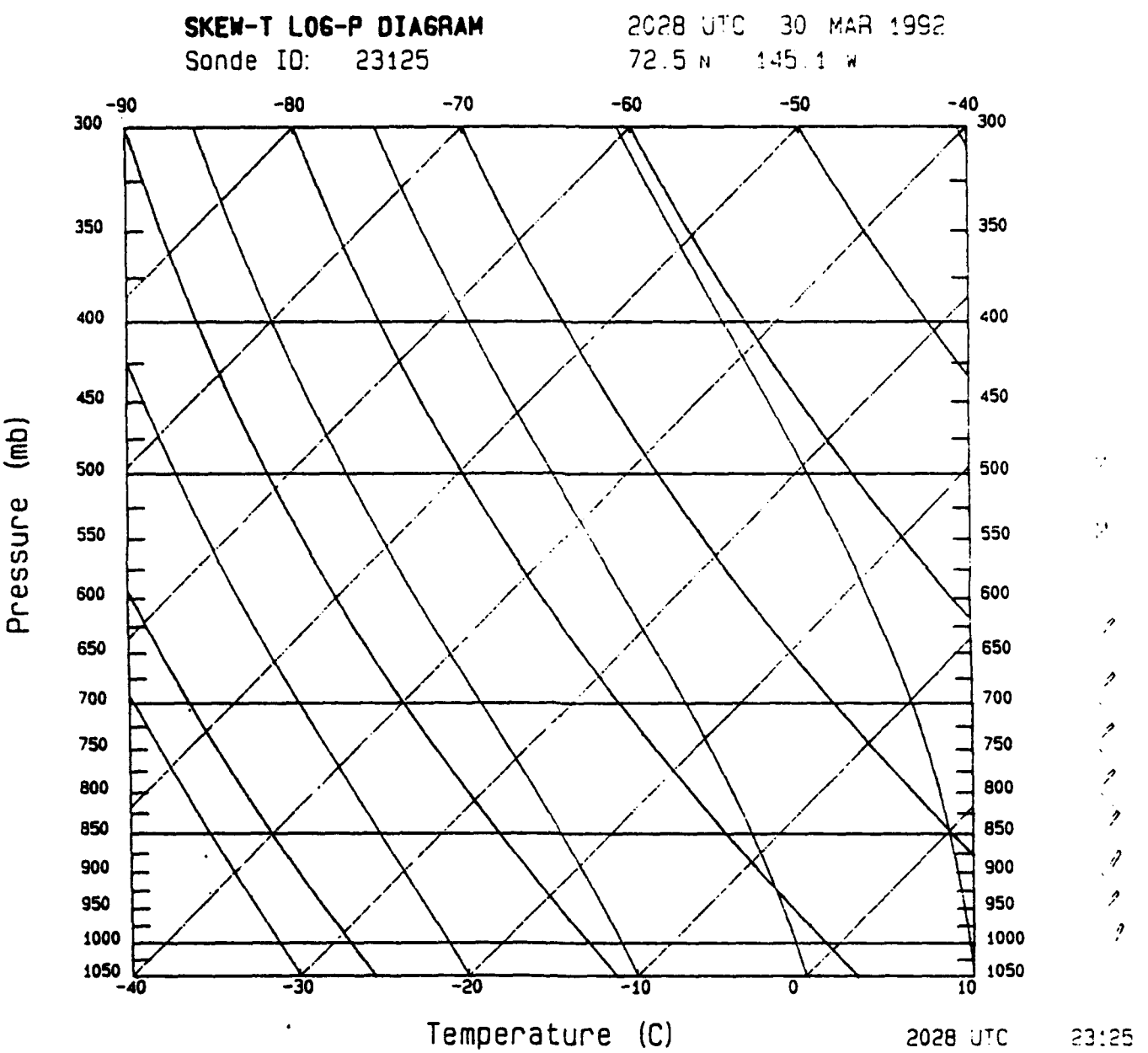
Sonde # 23899 Date 920330 Time 200426 GMT
Lat 74.0 Lon -141.3 Press 485.4 mb Height 5453 m
Flight level wind: 148 deg at 10.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
490.0	-43.1	63.0	5390	148	9.9	-5.2	8.4	-99.0
500.0	-42.4	64.9	5253	148	9.9	-5.2	8.4	-99.0
510.0	-41.6	67.5	5119	147	9.8	-5.3	8.2	-99.0
520.0	-40.5	70.9	4987	147	9.7	-5.3	8.1	-99.0
530.0	-39.5	74.3	4857	147	9.6	-5.2	8.1	-99.0
540.0	-38.5	77.6	4729	146	9.5	-5.3	7.9	-99.0
550.0	-37.4	79.7	4603	146	9.4	-5.3	7.8	.8
560.0	-36.3	79.9	4478	142	9.2	-5.7	7.2	.8
570.0	-35.2	79.6	4355	139	9.1	-6.0	6.9	.8
580.0	-34.3	79.1	4234	136	8.9	-6.2	6.4	.8
590.0	-33.5	78.9	4114	133	8.8	-6.4	6.0	.8
600.0	-32.7	79.7	3996	131	8.7	-6.6	5.7	.8
610.0	-31.8	79.6	3879	130	8.6	-6.6	5.5	.8
620.0	-31.0	77.6	3764	131	8.5	-6.4	5.6	.8
630.0	-30.3	81.8	3650	134	8.5	-6.1	5.9	.8
640.0	-29.6	90.7	3538	136	8.4	-5.8	6.0	.8
650.0	-28.9	92.9	3427	139	8.3	-5.4	6.3	.8
660.0	-28.1	93.1	3318	142	8.3	-5.1	6.5	.8
670.0	-27.2	93.4	3210	145	8.4	-4.8	6.9	.8
680.0	-26.2	93.6	3103	147	8.5	-4.6	7.1	.8
690.0	-25.3	93.8	2997	147	8.3	-4.5	7.0	.8
700.0	-24.5	94.0	2893	148	8.2	-4.3	7.0	.8
710.0	-23.8	94.2	2789	146	8.1	-4.5	6.7	.8
720.0	-23.3	94.3	2687	144	8.1	-4.8	6.6	.8
730.0	-22.8	94.5	2586	141	8.0	-5.0	6.2	.8
740.0	-22.5	94.5	2486	138	8.1	-5.4	6.0	.8
750.0	-21.9	94.7	2387	135	8.3	-5.9	5.9	.8
760.0	-21.2	94.8	2290	132	8.6	-6.4	5.8	.8
770.0	-20.5	94.9	2193	130	8.9	-6.8	5.7	.8
780.0	-19.9	95.0	2098	128	9.4	-7.4	5.8	.8
790.0	-19.4	91.4	2003	126	10.0	-8.1	5.9	.8
800.0	-18.9	83.6	1909	125	10.5	-8.6	6.0	.8
810.0	-18.1	75.6	1817	123	10.8	-9.1	5.9	.8
820.0	-17.2	59.4	1725	123	11.1	-9.3	6.0	.8
830.0	-16.4	49.2	1634	122	11.3	-9.6	6.0	.8
840.0	-15.8	42.9	1544	122	11.4	-9.7	6.0	.8
850.0	-15.2	41.8	1455	121	11.4	-9.8	5.9	.8
860.0	-14.7	41.9	1366	121	11.5	-9.9	5.9	.8
870.0	-14.4	42.2	1279	121	11.3	-9.7	5.8	.8
880.0	-14.2	43.2	1192	121	11.2	-9.6	5.8	.8
890.0	-14.1	44.7	1106	121	11.0	-9.4	5.7	.8
900.0	-14.2	48.2	1021	121	10.7	-9.2	5.5	.8
910.0	-14.3	51.3	938	121	10.7	-9.2	5.5	.8
920.0	-14.3	52.8	855	120	10.7	-9.3	5.4	.8
930.0	-14.4	53.9	773	119	10.8	-9.4	5.2	.8
940.0	-14.5	55.7	692	118	11.0	-9.7	5.2	.8
950.0	-14.8	58.4	612	118	11.2	-9.9	5.3	.8
960.0	-15.4	62.7	533	117	11.4	-10.2	5.2	.8
970.0	-17.1	71.3	454	116	11.5	-10.3	5.0	.8
980.0	-20.3	81.4	378	116	11.5	-10.3	5.0	.8
990.0	-22.4	90.0	303	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-22.2	94.3	229	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-22.1	94.7	156	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-22.6	94.6	84	-99	-99.0	-99.0	-99.0	-99.0
1030.0	-22.8	94.6	12	-99	-99.0	-99.0	-99.0	-99.0
1031.7	-22.7	94.6	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2014 UTC 30 MAR 1992
Sonde ID: 4554
73.3 N
Pressure (mb)
Temperature (C)
2014 UTC 4554

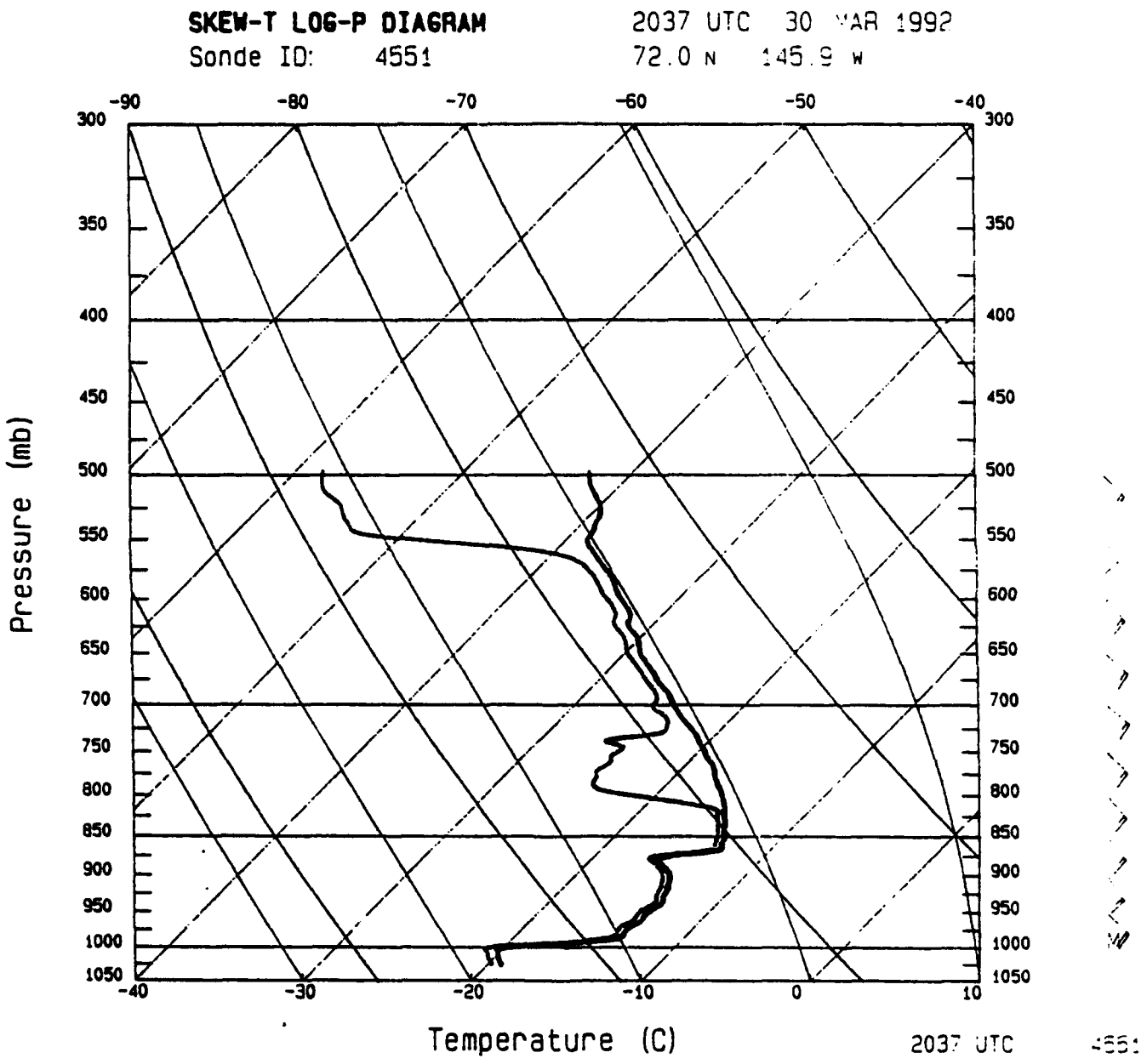
Sonde # 4554 Date 920330 Time 201455 GMT
Lat 73.3 Lon -143.1 Press 485.2 mb Height 5444 m
Flight level wind: 150 deg at 10.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
490.0	-44.3	22.6	5379	151	9.7	-4.7	8.5	-99.0
500.0	-43.7	23.7	5243	152	9.6	-4.5	8.5	-99.0
510.0	-42.2	25.4	5109	153	9.3	-4.2	8.3	-99.0
520.0	-41.2	27.2	4978	156	8.8	-3.6	8.0	-99.0
530.0	-40.1	28.7	4848	159	8.3	-3.0	7.7	-99.0
540.0	-39.2	30.6	4720	162	7.9	-2.4	7.5	-99.0
550.0	-38.3	33.2	4594	166	7.4	-1.8	7.2	-99.0
560.0	-37.3	37.1	4470	167	7.3	-1.6	7.1	.8
570.0	-36.1	41.4	4347	168	7.1	-1.5	6.9	.8
580.0	-35.0	44.3	4226	169	7.0	-1.3	6.9	.8
590.0	-34.1	47.6	4107	169	6.8	-1.3	6.7	.8
600.0	-33.2	51.6	3989	169	6.7	-1.3	6.6	.8
610.0	-32.0	52.1	3873	168	6.6	-1.4	6.5	.8
620.0	-30.9	52.2	3758	168	6.5	-1.4	6.4	.8
630.0	-30.0	52.9	3644	167	6.5	-1.5	6.3	.9
640.0	-29.2	54.5	3532	166	6.4	-1.5	6.2	.9
650.0	-28.3	55.2	3421	164	6.4	-1.8	6.2	.8
660.0	-27.3	57.4	3311	163	6.4	-1.9	6.1	.8
670.0	-26.3	57.1	3203	162	6.5	-2.0	6.2	.8
680.0	-25.2	54.4	3095	161	6.5	-2.1	6.1	.8
690.0	-24.3	52.1	2989	160	6.6	-2.3	6.2	.8
700.0	-23.7	50.7	2884	158	6.7	-2.5	6.2	.8
710.0	-23.5	62.0	2780	157	6.9	-2.7	6.4	.8
720.0	-23.8	93.0	2678	156	7.0	-2.8	6.4	.8
730.0	-23.1	95.3	2577	155	7.0	-3.0	6.3	.8
740.0	-22.1	95.5	2477	153	7.1	-3.2	6.3	.8
750.0	-21.2	95.7	2379	150	7.1	-3.5	6.1	.8
760.0	-20.3	95.9	2281	148	7.2	-3.8	6.1	.9
770.0	-19.5	96.0	2184	145	7.2	-4.1	5.9	.9
780.0	-18.8	95.7	2088	142	7.2	-4.4	5.7	.9
790.0	-18.1	95.7	1993	139	7.3	-4.8	5.5	.9
800.0	-17.4	96.1	1898	135	7.4	-5.2	5.2	.9
810.0	-16.9	96.4	1805	132	7.6	-5.6	5.1	.9
820.0	-16.5	96.6	1713	129	7.7	-6.0	4.8	.9
830.0	-16.2	96.3	1622	126	7.8	-6.3	4.6	.9
840.0	-15.7	96.2	1532	122	8.0	-6.8	4.2	.9
850.0	-15.2	93.4	1442	120	8.2	-7.1	4.1	.9
860.0	-14.8	63.0	1354	118	8.5	-7.5	4.0	.9
870.0	-13.9	46.9	1266	116	8.6	-7.7	3.8	.9
880.0	-13.5	45.4	1179	114	8.8	-8.0	3.6	.9
890.0	-13.6	46.1	1093	113	9.0	-8.3	3.5	.9
900.0	-13.9	50.6	1009	112	9.2	-8.5	3.4	.9
910.0	-14.0	53.5	925	112	9.4	-8.7	3.5	.9
920.0	-14.1	54.2	842	112	9.6	-8.9	3.6	.9
930.0	-14.1	55.0	760	111	9.7	-9.1	3.5	.9
940.0	-14.1	56.2	679	111	9.8	-9.1	3.5	.9
950.0	-14.1	57.5	598	111	9.9	-9.2	3.5	.9
960.0	-14.3	58.7	519	111	10.1	-9.4	3.6	.9
970.0	-14.4	60.0	440	112	10.2	-9.5	3.8	.9
980.0	-17.3	65.0	363	112	10.2	-9.5	3.8	.9
990.0	-22.3	86.5	288	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-22.1	95.6	214	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-21.5	95.7	141	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-20.9	95.8	68	-99	-99.0	-99.0	-99.0	-99.0
1029.4	-20.1	96.1	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2028 UTC 30 MAR 1992
Sonde ID: 23125
72.5 N 145.1 W
-90 -80 -70 -60 -50 -40
300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050
Pressure (mb)
-40 -30 -20 -10 0 10
Temperature (C)
2028 UTC 23:25

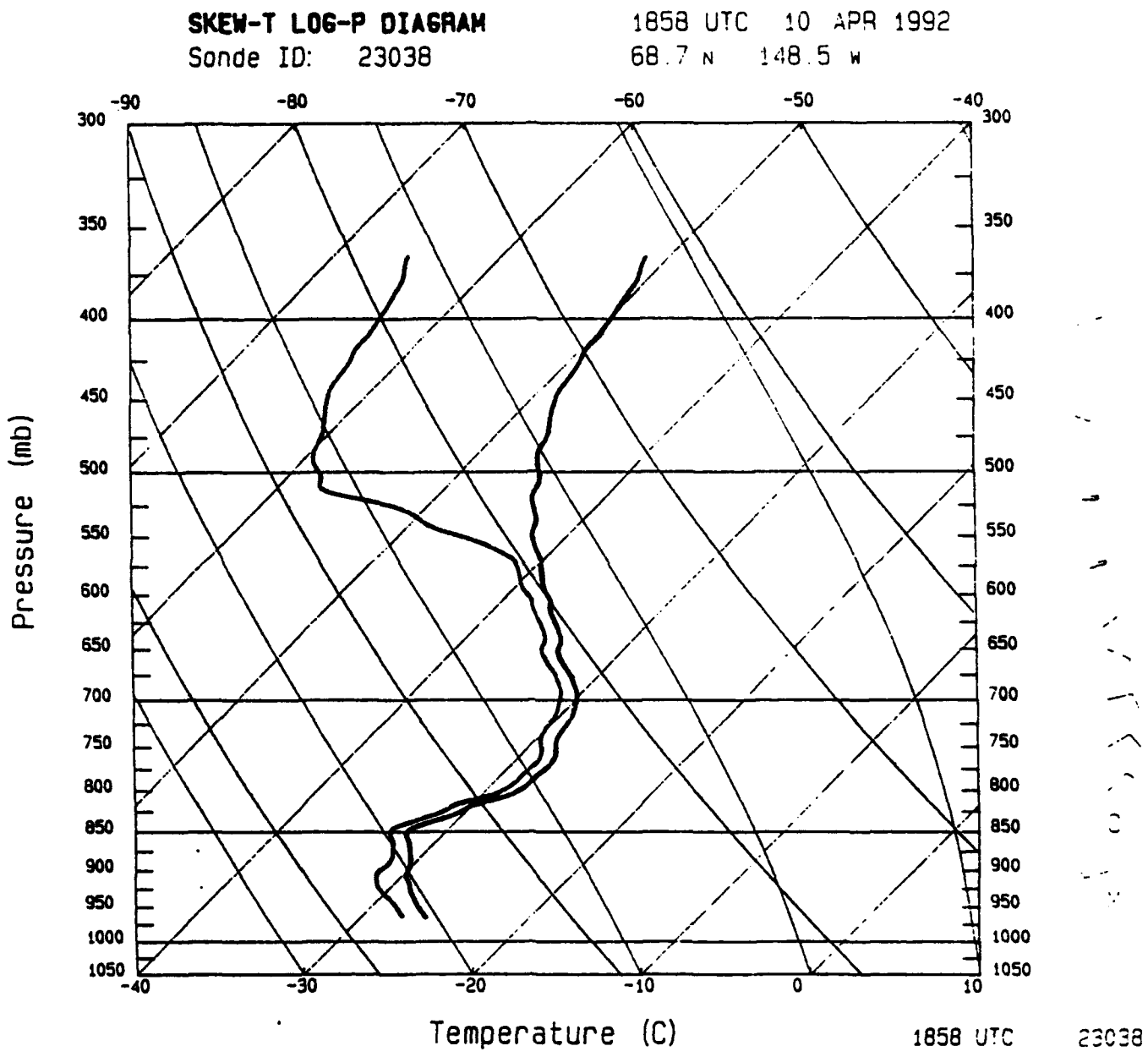
Sonde # 23125 Date 920330 Time 202816 GMT
Lat 72.5 Lon -145.1 Press 485.3 mb Height 5433 m
Flight level wind: 151 deg at 10.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
490.0	-99.0	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
500.0	-99.0	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
510.0	-99.0	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
520.0	-99.0	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
530.0	-99.0	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
540.0	-99.0	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
550.0	-99.0	-99.0	-99	142	7.3	-4.5	5.8	.9
560.0	-99.0	-99.0	-99	142	7.3	-4.5	5.8	.9
570.0	-99.0	-99.0	-99	142	7.3	-4.5	5.8	1.0
580.0	-99.0	-99.0	-99	143	7.3	-4.4	5.8	1.0
590.0	-99.0	-99.0	-99	142	7.4	-4.6	5.8	1.0
600.0	-99.0	-99.0	-99	142	7.5	-4.6	5.9	1.0
610.0	-99.0	-99.0	-99	142	7.6	-4.7	6.0	1.0
620.0	-99.0	-99.0	-99	142	7.6	-4.7	6.0	1.1
630.0	-99.0	-99.0	-99	143	7.5	-4.5	6.0	1.2
640.0	-99.0	-99.0	-99	144	7.4	-4.3	6.0	1.2
650.0	-99.0	-99.0	-99	145	7.3	-4.2	6.0	1.2
660.0	-99.0	-99.0	-99	145	7.2	-4.1	5.9	1.3
670.0	-99.0	-99.0	-99	146	7.2	-4.0	6.0	1.6
680.0	-99.0	-99.0	-99	146	7.0	-3.9	5.8	2.0
690.0	-99.0	-99.0	-99	147	7.0	-3.8	5.9	2.2
700.0	-99.0	-99.0	-99	149	7.0	-3.6	6.0	2.2
710.0	-99.0	-99.0	-99	149	7.1	-3.7	6.1	2.3
720.0	-99.0	-99.0	-99	148	7.2	-3.8	6.1	2.4
730.0	-99.0	-99.0	-99	148	7.3	-3.9	6.2	2.5
740.0	-99.0	-99.0	-99	148	7.5	-4.0	6.4	2.6
750.0	-99.0	-99.0	-99	147	7.8	-4.2	6.5	2.6
760.0	-99.0	-99.0	-99	146	8.0	-4.5	6.6	2.6
770.0	-99.0	-99.0	-99	144	8.3	-4.9	6.7	2.6
780.0	-99.0	-99.0	-99	142	8.5	-5.2	6.7	2.6
790.0	-99.0	-99.0	-99	140	8.7	-5.6	6.7	2.6
800.0	-99.0	-99.0	-99	138	9.0	-6.0	6.7	2.6
810.0	-99.0	-99.0	-99	136	9.2	-6.4	6.6	2.5
820.0	-99.0	-99.0	-99	134	9.5	-6.8	6.6	2.5
830.0	-99.0	-99.0	-99	133	9.6	-7.0	6.5	2.5
840.0	-99.0	-99.0	-99	132	9.6	-7.1	6.4	2.5
850.0	-99.0	-99.0	-99	132	9.5	-7.1	6.4	2.5
860.0	-99.0	-99.0	-99	133	9.3	-6.8	6.3	2.2
870.0	-99.0	-99.0	-99	135	8.9	-6.3	6.3	1.9
880.0	-99.0	-99.0	-99	137	8.4	-5.7	6.1	1.8
890.0	-99.0	-99.0	-99	139	8.0	-5.2	6.0	1.8
900.0	-99.0	-99.0	-99	140	7.7	-4.9	5.9	1.7
910.0	-99.0	-99.0	-99	140	7.4	-4.8	5.7	1.5
920.0	-99.0	-99.0	-99	138	7.3	-4.9	5.4	1.4
930.0	-99.0	-99.0	-99	136	7.2	-5.0	5.2	1.3
940.0	-99.0	-99.0	-99	132	7.4	-5.5	5.0	1.3
950.0	-99.0	-99.0	-99	128	7.7	-6.1	4.7	1.3
960.0	-99.0	-99.0	-99	124	8.3	-6.9	4.6	1.3
966.8	-99.0	-99.0	-99	121	8.8	-7.5	4.5	1.3


SKEW-T LOG-P DIAGRAM
2037 UTC 30 MAR 1992
Sonde ID: 4551
72.0 N 145.9 W
Pressure (mb)
Temperature (C)
2037 UTC 4551
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10

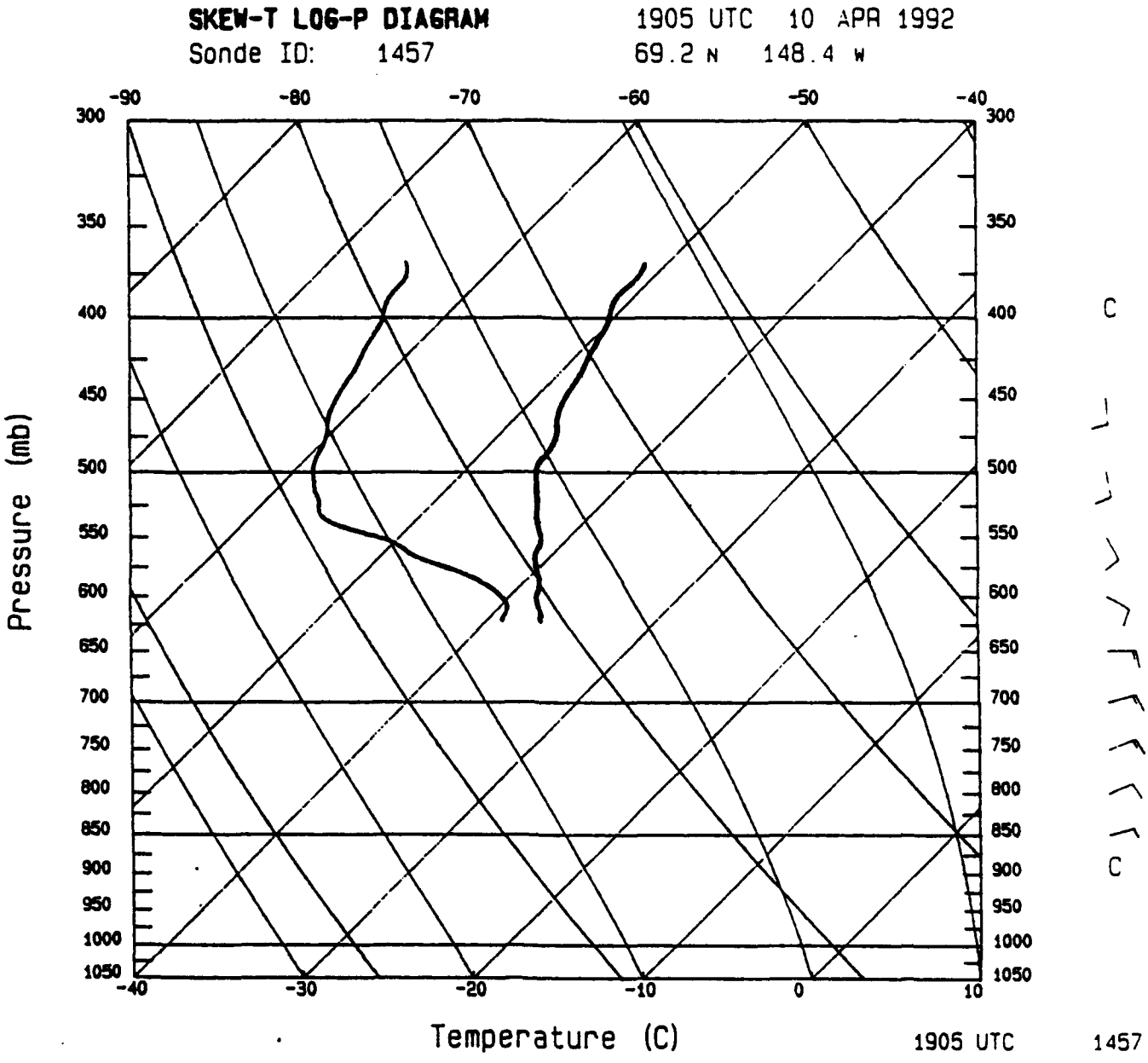
Sonde # 4551 Date 920330 Time 203743 GMT
Lat 72.0 Lon -145.9 Press 485.2 mb Height 5434 m
Flight level wind: 133 deg at 8.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
490.0	-43.1	17.7	5368	134	7.9	-5.6	5.4	-99.0
500.0	-42.5	17.7	5232	135	7.7	-5.4	5.4	-99.0
510.0	-41.5	17.6	5097	136	7.5	-5.2	5.4	-99.0
520.0	-40.3	18.9	4965	139	7.1	-4.7	5.4	-99.0
530.0	-39.5	19.8	4835	142	6.7	-4.1	5.3	-99.0
540.0	-39.1	21.7	4707	146	6.3	-3.5	5.2	-99.0
550.0	-38.8	33.3	4582	150	5.9	-2.9	5.1	-99.0
560.0	-37.7	74.5	4458	153	5.6	-2.5	5.0	1.4
570.0	-36.6	89.2	4335	153	5.6	-2.5	5.0	1.3
580.0	-35.3	90.3	4215	150	5.7	-2.8	4.9	1.3
590.0	-34.4	91.4	4095	145	6.1	-3.5	5.0	1.2
600.0	-33.4	91.9	3977	140	6.7	-4.3	5.1	1.2
610.0	-32.3	92.2	3861	136	7.6	-5.3	5.5	1.3
620.0	-31.7	92.4	3746	135	8.3	-5.9	5.9	1.3
630.0	-30.7	92.7	3633	134	8.7	-6.3	6.0	1.4
640.0	-29.8	92.9	3521	134	8.8	-6.3	6.1	1.4
650.0	-29.1	93.1	3410	134	8.6	-6.2	6.0	1.4
660.0	-28.1	93.3	3301	134	8.4	-6.0	5.8	1.4
670.0	-27.1	93.5	3193	133	8.2	-6.0	5.6	1.2
680.0	-26.1	93.6	3086	133	8.2	-6.0	5.6	1.2
690.0	-25.0	93.2	2980	132	8.2	-6.1	5.5	1.2
700.0	-24.2	90.1	2875	132	8.2	-6.1	5.5	1.2
710.0	-23.3	91.3	2772	132	8.2	-6.1	5.5	1.2
720.0	-22.3	90.4	2669	133	8.1	-5.9	5.5	1.2
730.0	-21.2	83.6	2567	134	8.2	-5.9	5.7	1.1
740.0	-20.5	61.7	2467	136	8.2	-5.7	5.9	1.1
750.0	-19.6	64.6	2367	137	8.2	-5.6	6.0	1.0
760.0	-18.8	60.6	2269	139	8.2	-5.4	6.2	.9
770.0	-18.0	55.7	2171	140	8.1	-5.2	6.2	1.0
780.0	-17.5	54.8	2075	141	8.1	-5.1	6.3	.9
790.0	-16.8	53.3	1979	141	8.0	-5.0	6.2	.9
800.0	-16.1	62.5	1885	141	7.9	-5.0	6.1	.9
810.0	-15.5	82.7	1791	141	7.9	-5.0	6.1	.9
820.0	-15.0	97.0	1698	141	7.8	-4.9	6.1	.9
830.0	-14.4	96.4	1606	141	7.6	-4.8	5.9	.9
840.0	-14.0	96.5	1516	142	7.5	-4.6	5.9	1.0
850.0	-13.5	96.6	1426	143	7.4	-4.5	5.9	1.0
860.0	-13.3	96.7	1337	144	7.4	-4.3	6.0	1.0
870.0	-13.8	96.6	1249	145	7.4	-4.2	6.1	1.1
880.0	-16.2	96.1	1162	146	7.5	-4.2	6.2	1.3
890.0	-15.2	96.3	1077	147	7.7	-4.2	6.5	1.4
900.0	-14.5	96.4	993	147	8.0	-4.4	6.7	1.5
910.0	-14.1	96.5	909	146	8.3	-4.6	6.9	1.5
920.0	-13.8	96.6	826	145	8.6	-4.9	7.0	1.5
930.0	-13.6	96.6	744	143	8.8	-5.3	7.0	1.6
940.0	-13.4	96.7	662	140	9.3	-6.0	7.1	1.7
950.0	-13.7	96.6	582	136	9.8	-6.8	7.0	1.7
960.0	-13.6	96.6	502	132	10.5	-7.8	7.0	1.8
970.0	-13.9	96.6	423	129	11.1	-8.6	7.0	1.8
980.0	-13.9	96.5	345	-99	-99.0	-99.0	-99.0	-99.0
990.0	-14.7	96.4	268	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-19.9	94.3	193	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-20.0	94.7	119	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-19.6	94.9	46	-99	-99.0	-99.0	-99.0	-99.0
1026.4	-19.2	95.1	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
1858 UTC 10 APR 1992
Sonde ID: 23038
68.7 N 148.5 W
Pressure (mb)
Temperature (C)
1858 UTC 23038
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10

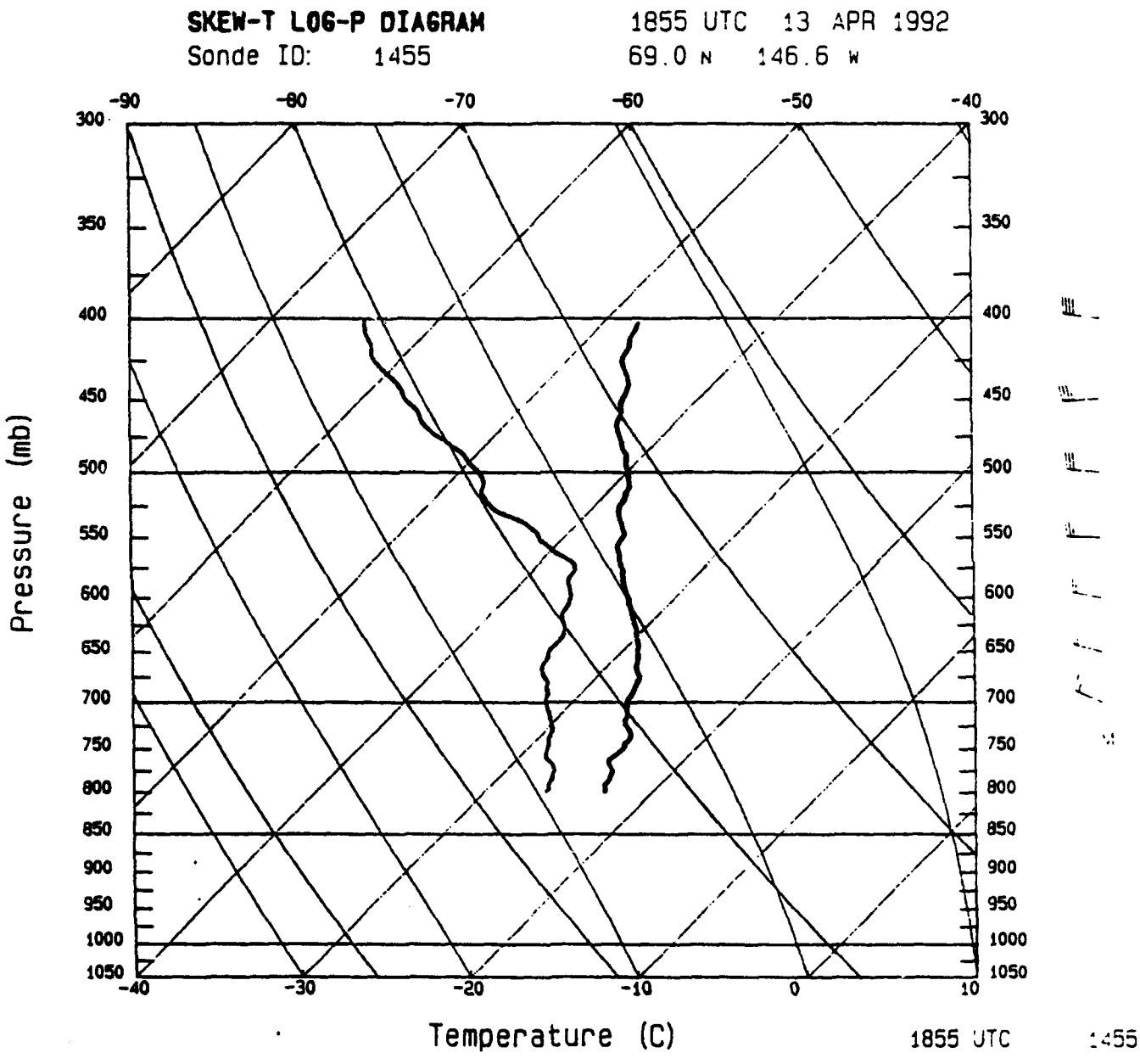
Sonde # 23038 Date 920410 Time 185824 GMT
Lat 68.7 Lon -148.5 Press 358.4 mb Height -99 m
Flight level wind: 290 deg at 8.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
360.0	-51.6	18.6	-99	288	7.5	7.1	-2.3	-99.0
370.0	-51.2	19.2	-99	285	7.1	6.9	-1.8	-99.0
380.0	-50.6	19.9	-99	279	6.3	6.2	-1.0	-99.0
390.0	-50.4	20.3	-99	267	5.2	5.2	.3	-99.0
400.0	-50.0	20.5	-99	251	4.5	4.3	1.5	-99.0
410.0	-49.8	20.6	-99	231	4.3	3.3	2.7	-99.0
420.0	-49.7	20.7	-99	220	4.3	2.8	3.3	.9
430.0	-49.3	20.9	-99	217	4.2	2.5	3.4	1.0
440.0	-49.1	20.8	-99	214	4.2	2.3	3.5	1.0
450.0	-48.7	21.3	-99	210	4.3	2.2	3.7	.9
460.0	-48.0	21.8	-99	206	4.6	2.0	4.1	.9
470.0	-47.3	22.1	-99	201	5.2	1.9	4.9	.9
480.0	-46.8	22.5	-99	198	5.7	1.8	5.4	1.0
490.0	-46.3	22.6	-99	194	6.4	1.5	6.2	1.0
500.0	-45.4	23.5	-99	191	7.0	1.3	6.9	.9
510.0	-44.8	24.2	-99	189	7.5	1.2	7.4	.9
520.0	-44.3	32.7	-99	186	8.0	.8	8.0	.9
530.0	-43.4	44.9	-99	184	8.3	.6	8.3	.9
540.0	-42.6	50.9	-99	181	8.4	.1	8.4	1.0
550.0	-42.1	64.1	-99	178	8.3	-.3	8.3	1.0
560.0	-41.2	77.1	-99	175	8.0	-.7	8.0	1.0
570.0	-40.1	84.7	-99	171	7.5	-1.2	7.4	1.0
580.0	-39.4	87.3	-99	167	7.0	-1.6	6.8	1.0
590.0	-38.6	87.8	-99	161	6.4	-2.1	6.1	1.0
600.0	-37.7	88.9	-99	156	5.8	-2.4	5.3	1.0
610.0	-36.9	90.2	-99	149	5.2	-2.7	4.5	1.0
620.0	-36.1	91.0	-99	140	4.7	-3.0	3.6	1.0
630.0	-35.2	91.3	-99	132	4.3	-3.2	2.9	1.0
640.0	-34.4	91.3	-99	123	4.1	-3.4	2.2	1.0
650.0	-33.9	91.2	-99	113	4.1	-3.8	1.6	1.0
660.0	-33.1	91.3	-99	104	4.1	-4.0	1.0	1.0
670.0	-32.2	91.6	-99	97	4.3	-4.3	.5	1.0
680.0	-31.3	91.8	-99	90	4.5	-4.5	.0	1.0
690.0	-30.5	91.7	-99	84	4.8	-4.8	-.5	1.0
700.0	-30.0	91.5	-99	79	5.1	-5.0	-1.0	1.0
710.0	-29.5	91.5	-99	74	5.3	-5.1	-1.5	1.0
720.0	-29.2	91.3	-99	69	5.5	-5.1	-2.0	1.0
730.0	-29.1	91.2	-99	65	5.8	-5.3	-2.5	1.0
740.0	-28.9	91.7	-99	62	5.9	-5.2	-2.8	1.0
750.0	-28.4	92.3	-99	60	5.9	-5.1	-2.9	1.0
760.0	-28.0	92.7	-99	57	5.7	-4.8	-3.1	.9
770.0	-27.8	92.7	-99	54	5.5	-4.4	-3.2	.9
780.0	-27.9	92.8	-99	53	5.1	-4.1	-3.1	.9
790.0	-27.9	92.8	-99	50	4.6	-3.5	-3.0	.9
800.0	-28.2	92.6	-99	47	4.0	-2.9	-2.7	1.0
810.0	-29.1	92.3	-99	42	3.3	-2.2	-2.5	.9
820.0	-30.2	91.8	-99	34	2.6	-1.5	-2.2	.9
830.0	-30.8	91.6	-99	19	1.9	-.6	-1.8	1.0
840.0	-31.9	91.1	-99	353	1.4	.2	-1.4	1.0
850.0	-32.4	91.0	-99	316	1.4	1.0	-1.0	1.0
860.0	-31.8	91.1	-99	288	1.8	1.7	-.6	.9
870.0	-31.3	90.9	-99	273	2.3	2.3	-.1	1.0
880.0	-30.8	90.3	-99	264	2.8	2.8	.3	1.0
890.0	-30.3	88.9	-99	259	3.3	3.2	.6	1.0
900.0	-30.0	86.0	-99	255	3.7	3.6	1.0	1.0
910.0	-29.6	84.2	-99	253	3.9	3.7	1.1	1.0
920.0	-29.0	83.4	-99	-99	-99.0	-99.0	-99.0	-99.0
930.0	-28.5	84.9	-99	-99	-99.0	-99.0	-99.0	-99.0
940.0	-27.9	87.0	-99	-99	-99.0	-99.0	-99.0	-99.0
950.0	-27.2	88.1	-99	-99	-99.0	-99.0	-99.0	-99.0
960.0	-26.5	88.1	-99	-99	-99.0	-99.0	-99.0	-99.0
964.0	-26.2	88.0	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
1905 UTC 10 APR 1992
Sonde ID: 1457
69.2 N 148.4 W
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10
Pressure (mb)
Temperature (C)
C
C
1905 UTC
1457

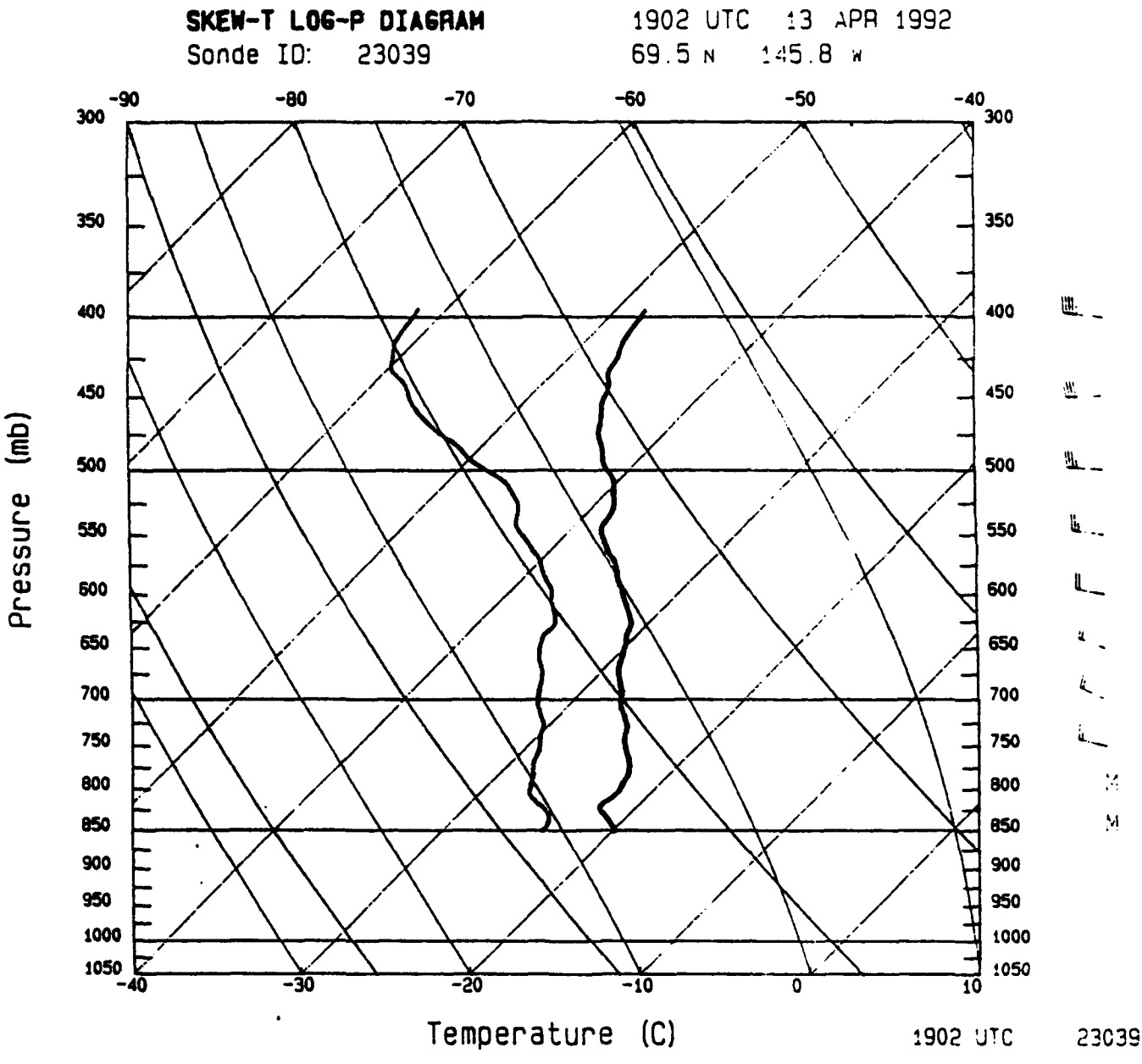
Sonde # 1457 Date 920410 Time 190501 GMT
Lat 69.2 Lon -148.4 Press 358.5 mb Height -99 m
Flight level wind: 297 deg at 3.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
360.0	-51.8	15.8	-99	294	2.7	2.5	-1.1	-99.0
370.0	-51.3	19.1	-99	292	2.5	2.3	-.9	-99.0
380.0	-51.0	20.6	-99	286	2.1	2.0	-.6	-99.0
390.0	-51.0	21.0	-99	266	1.4	1.4	.1	-99.0
400.0	-50.3	21.2	-99	228	1.2	.9	.8	-99.0
410.0	-49.8	21.2	-99	191	1.5	.3	1.5	-99.0
420.0	-49.4	21.3	-99	172	2.2	-.3	2.2	1.1
430.0	-48.9	21.4	-99	176	2.7	-.2	2.7	1.1
440.0	-48.6	21.4	-99	175	3.3	-.3	3.3	1.0
450.0	-48.3	21.5	-99	175	4.0	-.3	4.0	1.0
460.0	-47.8	21.6	-99	175	4.6	-.4	4.6	1.1
470.0	-47.0	21.6	-99	174	5.2	-.5	5.2	1.0
480.0	-46.4	21.9	-99	172	5.8	-.8	5.7	1.0
490.0	-46.2	22.5	-99	171	6.2	-1.0	6.1	1.0
500.0	-45.8	23.0	-99	169	6.6	-1.3	6.5	1.0
510.0	-45.0	23.4	-99	167	6.8	-1.5	6.6	1.0
520.0	-44.2	24.2	-99	165	6.9	-1.8	6.7	1.0
530.0	-43.5	24.7	-99	162	6.9	-2.1	6.6	1.0
540.0	-42.7	27.5	-99	157	6.8	-2.7	6.3	1.0
550.0	-41.8	35.9	-99	153	6.7	-3.0	6.0	1.0
560.0	-41.2	43.7	-99	147	6.5	-3.5	5.5	1.0
570.0	-40.7	51.5	-99	141	6.3	-4.0	4.9	1.0
580.0	-39.8	62.8	-99	134	6.2	-4.5	4.3	1.0
590.0	-39.0	72.3	-99	127	6.0	-4.8	3.6	1.0
600.0	-38.5	80.7	-99	119	6.1	-5.3	3.0	1.0
610.0	-37.7	83.4	-99	112	6.3	-5.8	2.4	1.0
620.0	-37.0	80.6	-99	105	6.5	-6.3	1.7	1.0
630.0	-99.0	-99.0	-99	99	6.7	-6.6	1.0	1.0
640.0	-99.0	-99.0	-99	94	7.0	-7.0	.5	1.0
650.0	-99.0	-99.0	-99	89	7.3	-7.3	-.1	1.0
660.0	-99.0	-99.0	-99	85	7.7	-7.7	-.7	1.0
670.0	-99.0	-99.0	-99	82	8.1	-8.0	-1.1	1.0
680.0	-99.0	-99.0	-99	79	8.4	-8.2	-1.6	1.0
690.0	-99.0	-99.0	-99	77	8.8	-8.6	-2.0	1.0
700.0	-99.0	-99.0	-99	75	8.9	-8.6	-2.3	1.0
710.0	-99.0	-99.0	-99	74	9.0	-8.7	-2.5	1.0
720.0	-99.0	-99.0	-99	72	9.1	-8.7	-2.8	1.0
730.0	-99.0	-99.0	-99	71	9.1	-8.6	-3.0	1.0
740.0	-99.0	-99.0	-99	69	8.9	-8.3	-3.2	1.0
750.0	-99.0	-99.0	-99	69	8.7	-8.1	-3.1	1.1
760.0	-99.0	-99.0	-99	68	8.4	-7.8	-3.1	1.1
770.0	-99.0	-99.0	-99	68	7.9	-7.3	-3.0	1.1
780.0	-99.0	-99.0	-99	67	7.3	-6.7	-2.9	1.1
790.0	-99.0	-99.0	-99	67	6.7	-6.2	-2.6	1.1
800.0	-99.0	-99.0	-99	67	6.0	-5.5	-2.3	1.1
810.0	-99.0	-99.0	-99	67	5.3	-4.9	-2.1	1.1
820.0	-99.0	-99.0	-99	67	4.5	-4.1	-1.8	1.1
830.0	-99.0	-99.0	-99	68	3.9	-3.6	-1.5	1.1
840.0	-99.0	-99.0	-99	71	3.2	-3.0	-1.0	1.1
850.0	-99.0	-99.0	-99	75	2.5	-2.4	-.6	1.1
860.0	-99.0	-99.0	-99	81	1.9	-1.9	-.3	1.1
870.0	-99.0	-99.0	-99	94	1.4	-1.4	.1	1.1
880.0	-99.0	-99.0	-99	118	1.0	-.9	.5	1.2
890.0	-99.0	-99.0	-99	150	1.0	-.5	.9	1.2
900.0	-99.0	-99.0	-99	176	1.2	-.1	1.2	1.2
900.0	-99.0	-99.0	-99	176	1.2	-.1	1.2	1.2


SKEW-T LOG-P DIAGRAM
1855 UTC 13 APR 1992
Sonde ID: 1455
69.0 N 146.6 W
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10
Pressure (mb)
Temperature (C)
1855 UTC
1455

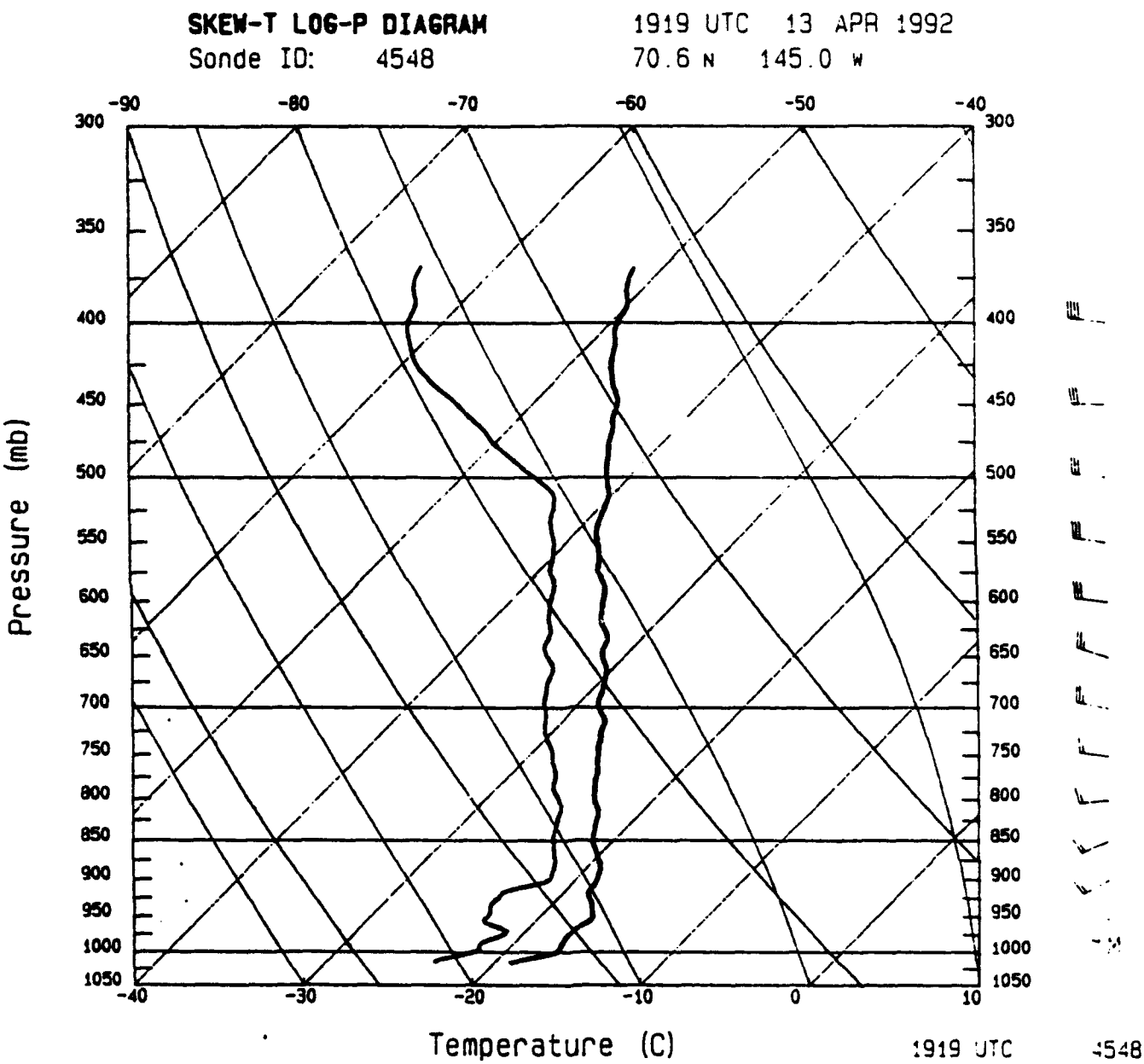
Sonde # 1455 Date 920413 Time 185553 GMT
Lat 69.0 Lon -146.6 Press 392.3 mb Height -99 m
Flight level wind: 277 deg at 20.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
400.0	-48.1	15.1	-99	276	19.8	19.7	-2.1	-99.0
410.0	-47.7	16.3	-99	275	19.6	19.5	-1.7	-99.0
420.0	-47.1	17.9	-99	273	19.2	19.2	-1.0	-99.0
430.0	-46.2	19.6	-99	271	18.9	18.9	-.3	-99.0
440.0	-45.0	21.7	-99	268	18.5	18.5	.6	-99.0
450.0	-44.5	24.1	-99	266	18.2	18.2	1.3	-99.0
460.0	-43.7	27.0	-99	266	17.2	17.2	1.2	.9
470.0	-43.1	29.6	-99	269	16.2	16.2	.3	.9
480.0	-42.0	33.2	-99	271	15.6	15.6	-.3	.9
490.0	-40.9	36.4	-99	273	15.4	15.4	-.8	.9
500.0	-40.0	39.4	-99	274	15.5	15.5	-1.1	.9
510.0	-39.1	40.7	-99	274	15.5	15.5	-1.1	.9
520.0	-38.7	42.6	-99	273	15.5	15.5	-.8	.8
530.0	-38.3	48.2	-99	272	15.2	15.2	-.5	.8
540.0	-37.3	56.6	-99	271	14.5	14.5	-.3	.8
550.0	-36.5	60.8	-99	271	13.6	13.6	-.2	.8
560.0	-36.1	67.5	-99	271	12.3	12.3	-.2	.8
570.0	-35.3	75.0	-99	272	10.9	10.9	-.4	.8
580.0	-34.5	75.0	-99	274	9.7	9.7	-.7	.8
590.0	-33.7	72.5	-99	277	8.6	8.5	-1.0	.8
600.0	-32.8	72.0	-99	279	7.8	7.7	-1.2	.8
610.0	-32.0	69.3	-99	282	7.4	7.2	-1.5	.8
620.0	-31.2	66.8	-99	283	7.2	7.0	-1.6	.8
630.0	-30.4	66.7	-99	283	7.3	7.1	-1.6	.8
640.0	-29.7	64.6	-99	283	7.5	7.3	-1.7	.8
650.0	-29.1	61.2	-99	283	7.8	7.6	-1.8	.8
660.0	-28.5	60.0	-99	285	8.1	7.8	-2.1	.8
670.0	-27.9	58.9	-99	286	8.4	8.1	-2.3	.8
680.0	-27.3	60.6	-99	288	8.6	8.2	-2.7	.8
690.0	-27.0	62.4	-99	290	8.6	8.1	-2.9	.8
700.0	-26.8	64.2	-99	292	8.6	8.0	-3.2	.8
710.0	-26.3	65.2	-99	293	8.4	7.7	-3.3	.8
720.0	-25.8	66.8	-99	292	8.2	7.6	-3.1	.8
730.0	-25.0	65.9	-99	290	7.9	7.4	-2.7	.8
740.0	-24.5	65.2	-99	285	7.6	7.3	-2.0	.8
750.0	-24.3	66.8	-99	279	7.3	7.2	-1.1	.8
760.0	-24.5	70.4	-99	-99	-99.0	-99.0	-99.0	-99.0
770.0	-24.0	73.8	-99	-99	-99.0	-99.0	-99.0	-99.0
780.0	-23.5	73.4	-99	-99	-99.0	-99.0	-99.0	-99.0
790.0	-23.3	74.1	-99	-99	-99.0	-99.0	-99.0	-99.0
798.7	-22.9	73.7	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
1902 UTC 13 APR 1992
Sonde ID: 23039
69.5 N 145.8 W
Pressure (mb)
Temperature (C)
1902 UTC 23039
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10

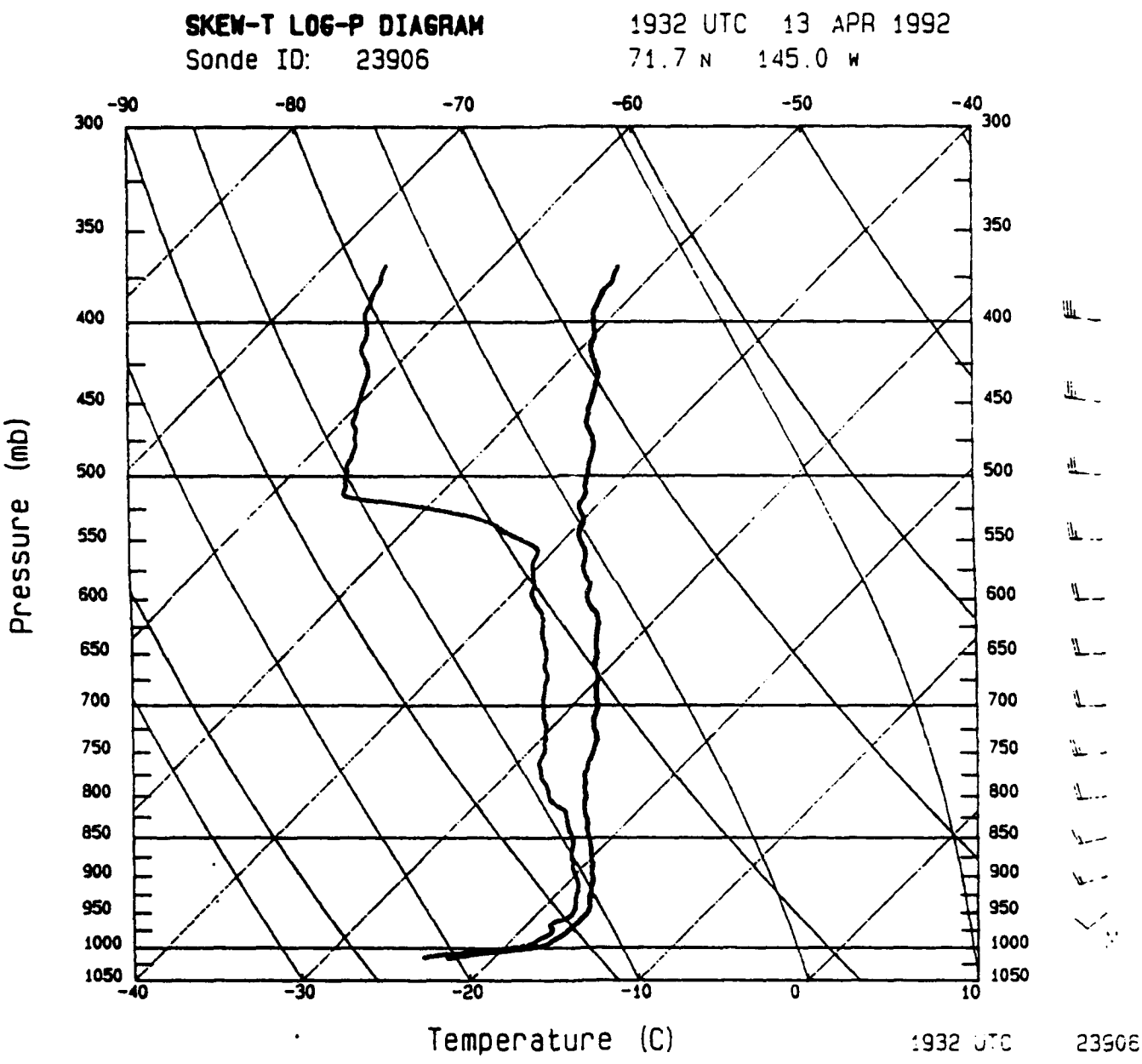
Sonde # 23039 Date 920413 Time 190239 GMT
Lat 69.5 Lon -145.8 Press 392.2 mb Height -99 m
Flight level wind: 277 deg at 23.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
400.0	-48.2	21.8	-99	276	22.6	22.5	-2.4	-99.0
410.0	-48.0	21.8	-99	275	22.2	22.1	-1.9	-99.0
420.0	-47.5	22.0	-99	273	21.5	21.5	-1.1	-99.0
430.0	-47.0	23.2	-99	271	20.9	20.9	-.4	-99.0
440.0	-46.3	25.9	-99	269	20.3	20.3	.4	-99.0
450.0	-45.6	28.1	-99	268	19.8	19.8	.7	-99.0
460.0	-45.0	30.6	-99	268	19.1	19.1	.7	.8
470.0	-44.2	34.4	-99	269	18.4	18.4	.3	.8
480.0	-43.3	39.2	-99	270	17.9	17.9	-.0	.8
490.0	-42.4	42.8	-99	272	17.5	17.5	-.6	.8
500.0	-41.3	47.2	-99	273	17.1	17.1	-.9	.8
510.0	-40.1	51.9	-99	274	16.8	16.8	-1.2	.8
520.0	-39.4	54.9	-99	275	16.2	16.1	-1.4	.8
530.0	-38.7	57.0	-99	276	15.4	15.3	-1.6	.8
540.0	-38.5	59.1	-99	277	14.3	14.2	-1.7	.8
550.0	-37.9	62.3	-99	277	13.2	13.1	-1.6	.8
560.0	-36.9	64.1	-99	278	12.0	11.9	-1.7	.8
570.0	-35.8	64.9	-99	278	11.1	11.0	-1.5	.8
580.0	-34.9	65.3	-99	279	10.5	10.4	-1.6	.8
590.0	-34.1	66.4	-99	279	9.9	9.8	-1.5	.8
600.0	-33.2	66.9	-99	280	9.6	9.5	-1.7	.8
610.0	-32.3	65.8	-99	281	9.3	9.1	-1.8	.8
620.0	-31.5	65.7	-99	283	9.2	9.0	-2.1	.8
630.0	-30.8	65.1	-99	286	9.2	8.8	-2.5	.8
640.0	-30.5	62.9	-99	288	9.1	8.7	-2.8	.8
650.0	-30.0	62.5	-99	289	9.0	8.5	-2.9	.8
660.0	-29.6	63.4	-99	291	9.0	8.4	-3.2	.8
670.0	-29.2	65.4	-99	292	9.0	8.3	-3.4	.8
680.0	-28.5	65.4	-99	294	8.9	8.1	-3.6	.8
690.0	-27.8	64.1	-99	295	8.9	8.1	-3.8	.8
700.0	-27.3	63.7	-99	295	8.8	8.0	-3.7	.8
710.0	-26.7	64.0	-99	295	8.7	7.9	-3.7	.8
720.0	-26.0	63.9	-99	294	8.6	7.9	-3.5	.8
730.0	-25.3	64.0	-99	292	8.3	7.7	-3.1	.8
740.0	-24.9	63.9	-99	289	8.1	7.7	-2.6	.8
750.0	-24.3	63.6	-99	285	7.7	7.4	-2.0	.8
760.0	-23.7	62.3	-99	279	7.4	7.3	-1.2	.8
770.0	-23.0	60.5	-99	272	7.1	7.1	-.2	.8
780.0	-22.5	60.6	-99	266	6.9	6.9	.5	.8
790.0	-22.3	61.7	-99	260	6.7	6.6	1.2	.8
800.0	-22.1	62.8	-99	255	6.5	6.3	1.7	.8
810.0	-22.1	65.8	-99	-99	-99.0	-99.0	-99.0	-99.0
820.0	-22.3	73.3	-99	-99	-99.0	-99.0	-99.0	-99.0
830.0	-21.5	74.9	-99	-99	-99.0	-99.0	-99.0	-99.0
840.0	-20.7	72.9	-99	-99	-99.0	-99.0	-99.0	-99.0
850.0	-20.0	69.8	-99	-99	-99.0	-99.0	-99.0	-99.0
851.6	-19.9	69.3	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
1919 UTC 13 APR 1992
Sonde ID: 4548
70.6 N 145.0 W
Pressure (mb)
Temperature (C)
1919 UTC 4548

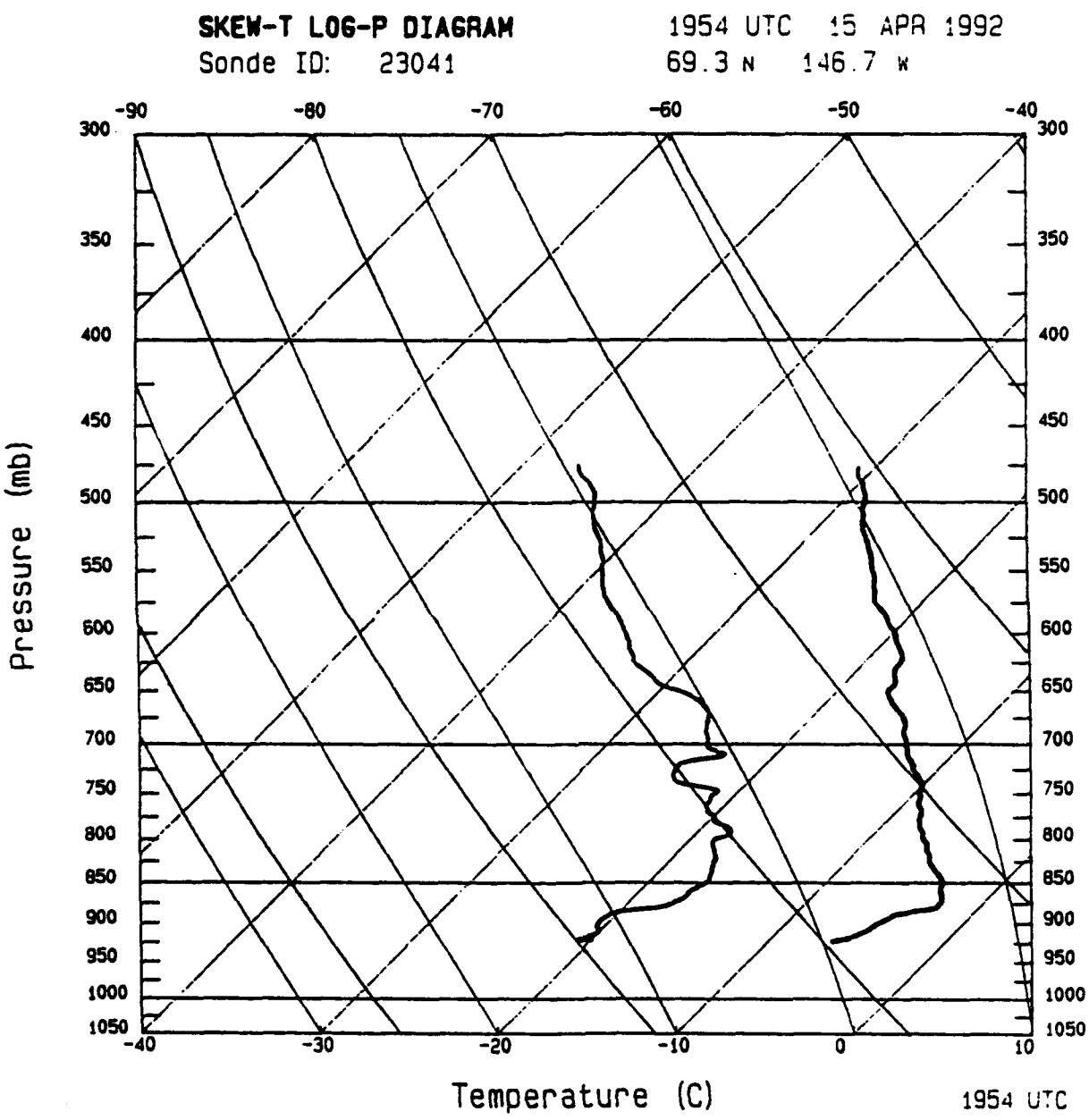
Sonde # 4548 Date 920413 Time 191914 GMT
Lat 70.6 Lon -145.0 Press 358.9 mb Height 7280 m
Flight level wind: 280 deg at 24.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
360.0	-52.3	22.4	7261	280	23.4	23.0	-4.1	-99.0
370.0	-51.8	22.5	7083	279	23.1	22.8	-3.6	-99.0
380.0	-51.1	22.7	6910	279	22.7	22.4	-3.6	-99.0
390.0	-50.1	23.3	6741	278	21.5	21.3	-3.0	-99.0
400.0	-49.6	23.9	6575	276	20.2	20.1	-2.1	-99.0
410.0	-48.8	24.7	6413	275	18.9	18.8	-1.6	-99.0
420.0	-48.0	26.2	6255	273	17.5	17.5	-.9	-99.0
430.0	-47.1	28.3	6099	271	16.6	16.6	-.3	.7
440.0	-46.0	31.4	5947	271	16.4	16.4	-.3	.7
450.0	-44.9	35.3	5797	270	15.9	15.9	-.0	.7
460.0	-44.4	40.5	5650	271	15.8	15.8	-.3	.7
470.0	-43.6	45.4	5505	272	15.8	15.8	-.6	.7
480.0	-42.9	50.5	5364	273	15.7	15.7	-.8	.7
490.0	-42.2	56.9	5225	275	16.0	15.9	-1.4	.8
500.0	-41.4	64.0	5089	276	16.0	15.9	-1.7	.8
510.0	-40.5	70.1	4953	277	16.1	16.0	-2.0	.8
520.0	-39.9	73.0	4821	278	16.5	16.3	-2.3	.8
530.0	-39.5	74.3	4690	278	16.6	16.4	-2.3	.8
540.0	-39.0	76.1	4562	278	16.4	16.2	-2.3	.8
550.0	-38.2	77.2	4436	277	16.4	16.3	-2.0	.8
560.0	-37.4	76.1	4312	276	16.1	16.0	-1.7	.8
570.0	-36.7	75.6	4190	275	15.5	15.4	-1.4	.8
580.0	-35.9	75.0	4069	275	15.5	15.4	-1.4	.8
590.0	-35.1	74.2	3950	275	14.9	14.8	-1.3	.8
600.0	-34.5	73.7	3833	277	14.5	14.4	-1.8	.9
610.0	-33.9	74.0	3717	278	14.5	14.4	-2.0	.9
620.0	-33.3	73.9	3603	280	13.8	13.6	-2.4	.9
630.0	-32.3	72.3	3491	283	13.8	13.4	-3.1	.9
640.0	-31.8	71.1	3379	285	13.9	13.3	-3.6	.9
650.0	-31.4	73.0	3270	287	13.2	12.6	-3.9	.9
660.0	-30.5	74.1	3162	287	13.1	12.5	-3.8	1.0
670.0	-30.0	73.4	3055	287	13.1	12.5	-3.8	1.0
680.0	-29.5	73.0	2949	286	13.0	12.5	-3.6	1.0
690.0	-29.1	73.9	2845	283	12.3	12.0	-2.8	1.0
700.0	-28.6	74.1	2742	282	12.1	11.8	-2.5	1.0
710.0	-27.8	72.8	2640	280	12.0	11.8	-2.1	1.0
720.0	-27.3	72.8	2539	278	11.1	11.0	-1.5	1.0
730.0	-26.9	74.1	2440	278	10.7	10.6	-1.5	1.0
740.0	-26.5	76.8	2342	278	10.2	10.1	-1.4	1.0
750.0	-26.0	78.2	2245	276	9.1	9.1	-1.0	1.1
760.0	-25.5	78.8	2149	275	9.0	9.0	-.8	1.1
770.0	-25.0	79.9	2054	272	8.9	8.9	-.3	1.1
780.0	-24.6	80.5	1960	268	8.1	8.1	.3	1.1
790.0	-24.1	80.6	1867	266	8.1	8.1	.6	1.1
800.0	-23.6	82.6	1775	263	8.2	8.1	1.0	1.1
810.0	-22.9	82.7	1685	258	7.5	7.3	1.6	1.2
820.0	-22.4	81.5	1595	254	7.5	7.2	2.1	1.3
830.0	-22.1	81.7	1505	253	7.4	7.1	2.2	1.3
840.0	-21.7	81.3	1417	251	7.5	7.1	2.4	1.3
850.0	-21.3	81.4	1330	247	7.2	6.6	2.8	1.3
860.0	-20.7	80.8	1244	243	6.9	6.1	3.1	1.3
870.0	-20.1	80.0	1158	244	7.2	6.5	3.2	1.4
880.0	-19.5	79.5	1073	243	7.3	6.5	3.3	1.3
890.0	-19.1	78.8	989	240	7.1	6.1	3.5	1.3
900.0	-18.8	78.7	906	241	7.0	6.1	3.4	1.3
910.0	-18.6	71.8	824	240	6.7	5.8	3.3	1.4
920.0	-18.4	64.4	742	234	6.1	4.9	3.6	1.4
930.0	-17.9	61.3	662	230	5.2	4.0	3.3	1.4
940.0	-17.4	59.7	581	227	4.4	3.2	3.0	1.4
950.0	-16.9	59.0	502	205	3.5	1.5	3.2	1.3
960.0	-17.0	60.7	424	203	3.5	1.4	3.2	1.3
970.0	-17.3	71.3	346	-99	-99.0	-99.0	-99.0	-99.0
980.0	-17.3	71.1	269	-99	-99.0	-99.0	-99.0	-99.0
990.0	-17.1	66.8	193	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-17.0	67.0	117	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-18.4	66.4	43	-99	-99.0	-99.0	-99.0	-99.0
1015.9	-19.1	68.0	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
1932 UTC 13 APR 1992
Sonde ID: 23906
71.7 N 145.0 W
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10
Pressure (mb)
Temperature (C)
1932 UTC 23906

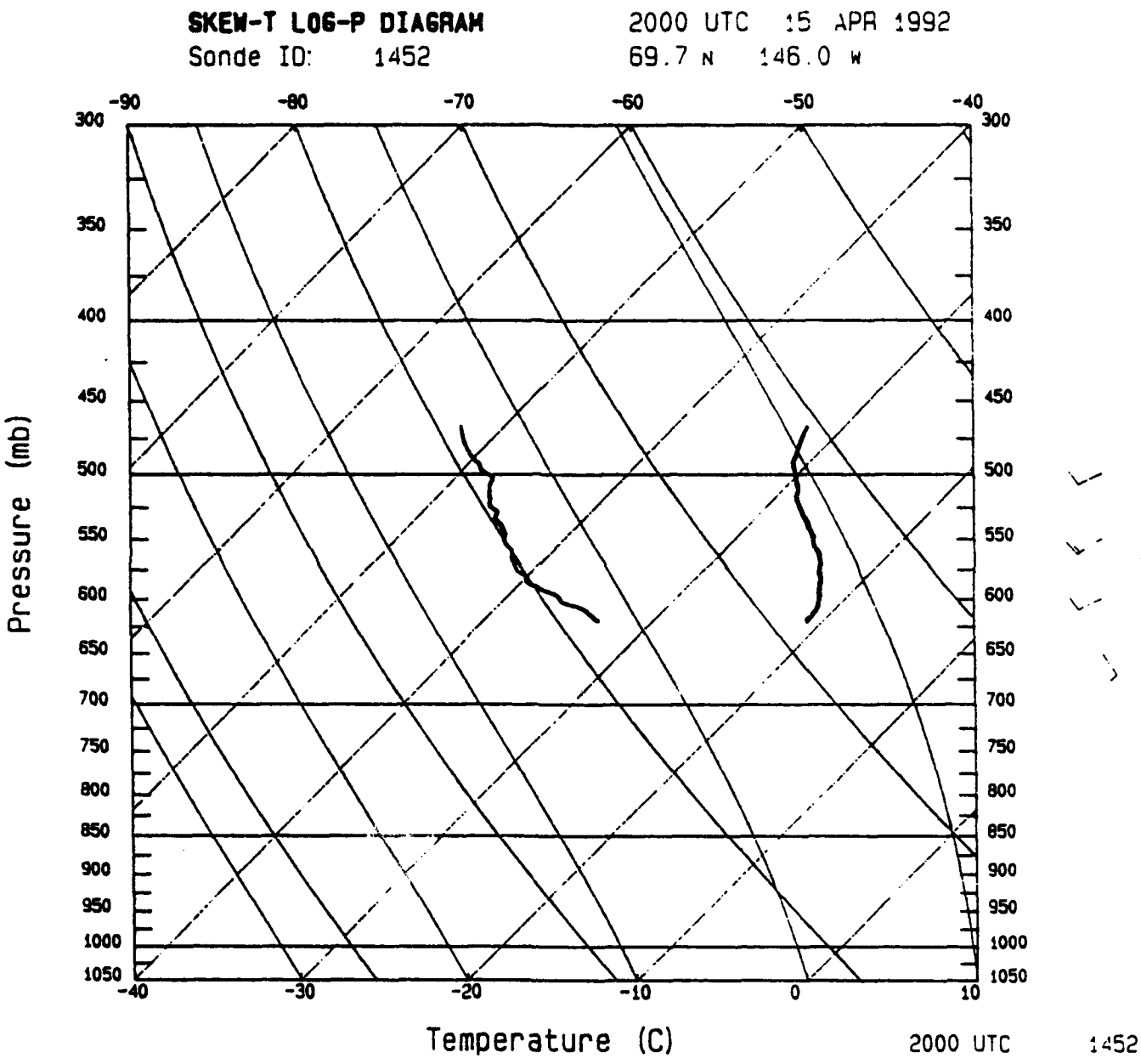
Sonde # 23906 Date 920413 Time 193253 GMT
Lat 71.7 Lon -145.0 Press 359.0 mb Height 7260 m
Flight level wind: 278 deg at 18.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
360.0	-52.9	19.2	7243	278	18.0	17.8	-2.5	-99.0
370.0	-52.6	19.4	7065	278	17.9	17.7	-2.5	-99.0
380.0	-52.1	19.9	6893	277	17.9	17.8	-2.2	-99.0
390.0	-51.7	20.4	6725	276	17.7	17.6	-1.9	-99.0
400.0	-50.9	20.5	6560	276	17.6	17.5	-1.8	-99.0
410.0	-49.9	20.8	6399	275	17.5	17.4	-1.5	-99.0
420.0	-49.0	20.8	6241	274	17.4	17.4	-1.2	.8
430.0	-47.7	21.2	6087	276	17.6	17.5	-1.8	.8
440.0	-47.0	21.2	5935	277	17.7	17.6	-2.2	.8
450.0	-46.3	21.3	5786	277	17.7	17.6	-2.2	.8
460.0	-45.7	21.3	5639	277	17.7	17.6	-2.2	.8
470.0	-44.6	21.2	5496	276	17.4	17.3	-1.8	.8
480.0	-43.6	21.1	5355	275	17.1	17.0	-1.5	.8
490.0	-43.0	21.0	5216	274	16.8	16.8	-1.2	.8
500.0	-42.4	21.2	5080	274	16.8	16.8	-1.2	.8
510.0	-41.7	21.4	4946	273	16.4	16.4	-.9	.8
520.0	-41.3	28.5	4814	272	15.9	15.9	-.6	.8
530.0	-40.3	47.6	4685	272	15.4	15.4	-.5	.8
540.0	-39.7	60.7	4557	272	14.8	14.8	-.5	.8
550.0	-39.0	69.9	4431	271	14.0	14.0	-.2	.8
560.0	-38.0	75.4	4308	270	13.2	13.2	-.0	.8
570.0	-37.4	73.9	4186	270	12.4	12.4	-.0	.8
580.0	-36.6	73.1	4065	269	11.6	11.6	.2	.9
590.0	-35.8	71.9	3947	269	11.2	11.2	.2	.8
600.0	-35.2	72.9	3830	268	10.9	10.9	.4	.8
610.0	-34.2	72.9	3714	267	10.9	10.9	.6	.8
620.0	-33.3	72.9	3600	267	10.8	10.8	.6	.8
630.0	-32.8	73.1	3488	266	10.9	10.9	.8	.8
640.0	-32.2	74.3	3377	266	10.9	10.9	.8	.8
650.0	-31.5	75.0	3267	266	11.0	11.0	.8	.8
660.0	-31.1	75.5	3159	266	11.0	11.0	.8	.8
670.0	-30.3	75.2	3052	267	11.1	11.1	.6	.8
680.0	-29.8	75.1	2947	267	11.2	11.2	.6	.8
690.0	-29.2	74.9	2843	267	11.5	11.5	.6	.8
700.0	-28.6	74.0	2740	267	11.7	11.7	.6	.8
710.0	-28.2	75.4	2638	267	12.2	12.2	.6	.8
720.0	-27.7	76.7	2538	266	12.4	12.4	.9	.8
730.0	-27.0	75.8	2439	266	12.5	12.5	.9	.8
740.0	-26.5	75.7	2340	265	12.4	12.4	1.1	.8
750.0	-26.1	76.8	2243	265	12.4	12.4	1.1	.8
760.0	-25.9	76.8	2148	265	12.0	12.0	1.0	.9
770.0	-25.5	78.1	2053	264	11.7	11.6	1.2	.9
780.0	-25.1	79.3	1959	264	11.2	11.1	1.2	.9
790.0	-24.6	81.7	1866	264	10.7	10.6	1.1	.9
800.0	-24.0	82.1	1775	264	10.2	10.1	1.1	.9
810.0	-23.6	85.3	1684	263	9.8	9.7	1.2	1.0
820.0	-23.0	90.1	1594	262	9.5	9.4	1.3	1.0
830.0	-22.4	89.8	1505	261	9.3	9.2	1.5	1.0
840.0	-22.0	90.9	1417	259	9.2	9.0	1.8	1.0
850.0	-21.4	91.3	1330	258	9.1	8.9	1.9	1.0
860.0	-20.8	91.2	1244	257	9.1	8.9	2.0	1.0
870.0	-20.3	90.4	1158	257	9.0	8.8	2.0	1.0
880.0	-19.8	90.2	1074	256	8.9	8.6	2.2	1.0
890.0	-19.4	90.8	990	255	8.6	8.3	2.2	1.1
900.0	-18.9	91.4	907	253	8.2	7.8	2.4	1.0
910.0	-18.5	92.7	824	251	7.5	7.1	2.4	1.0
920.0	-18.1	93.6	743	249	6.7	6.3	2.4	1.0
930.0	-17.8	93.1	662	245	5.9	5.3	2.5	1.1
940.0	-17.3	93.0	582	239	5.2	4.5	2.7	1.1
950.0	-17.0	93.0	502	232	4.5	3.5	2.8	1.0
960.0	-17.1	92.0	424	226	3.6	2.6	2.5	.9
970.0	-17.2	89.3	346	-99	-99.0	-99.0	-99.0	-99.0
980.0	-17.3	93.4	269	-99	-99.0	-99.0	-99.0	-99.0
990.0	-17.6	93.0	193	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-18.4	93.4	118	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-21.5	90.7	44	-99	-99.0	-99.0	-99.0	-99.0
1016.1	-22.7	87.8	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
1954 UTC 15 APR 1992
Sonde ID: 23041
69.3 N 146.7 W
Pressure (mb)
Temperature (C)
1954 UTC 23041

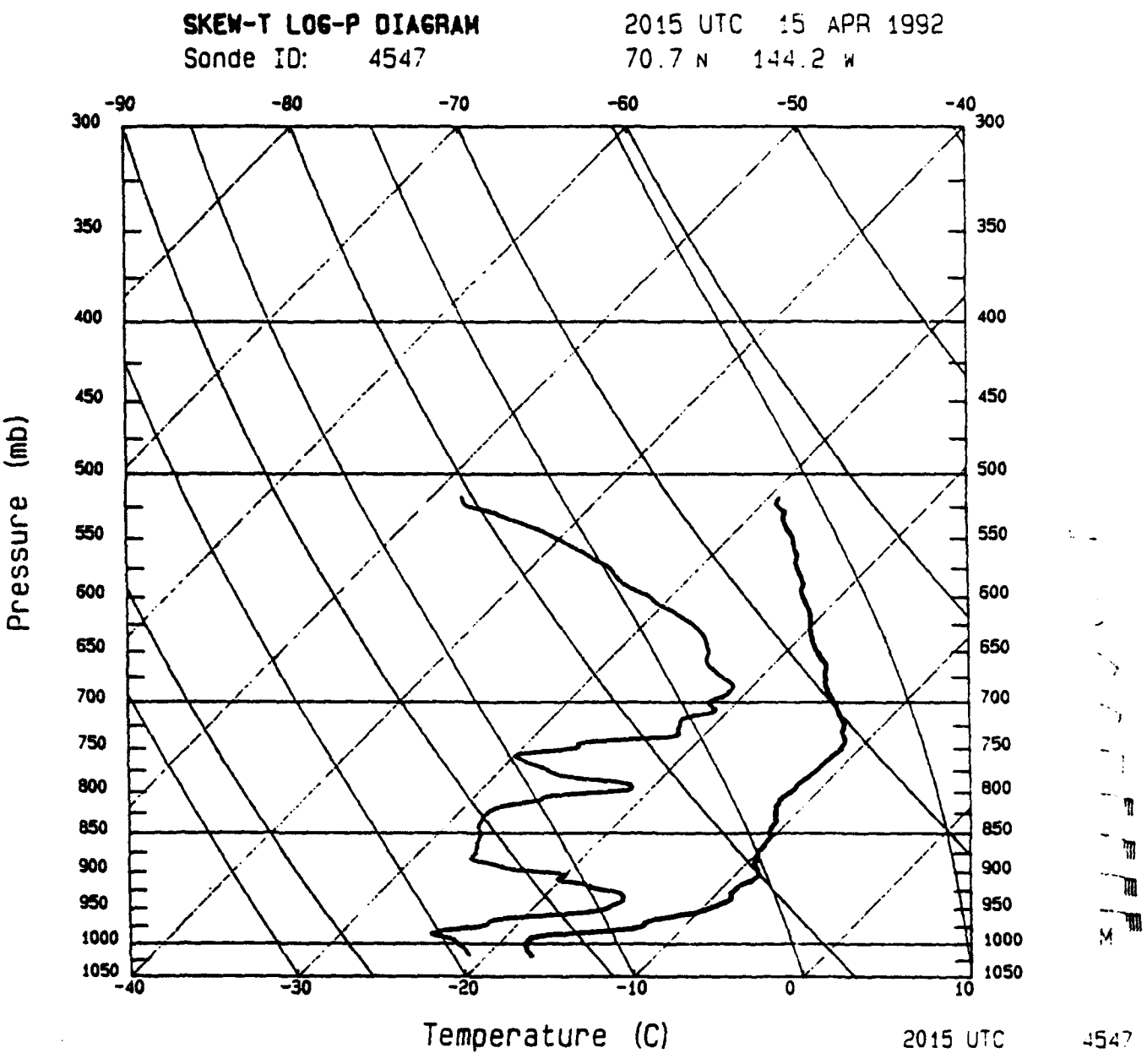
Sonde # 23041 Date 920415 Time 195430 GMT
Lat 69.3 Lon -146.7 Press 465.7 mb Height -99 m
Flight level wind: 259 deg at 16.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
470.0	-31.2	20.2	-99	258	15.1	14.8	3.1	-99.0
480.0	-30.8	21.3	-99	258	14.7	14.4	3.1	-99.0
490.0	-29.6	22.3	-99	257	13.6	13.3	3.1	-99.0
500.0	-28.7	22.8	-99	254	11.9	11.4	3.3	-99.0
510.0	-28.0	23.1	-99	251	10.2	9.6	3.3	-99.0
520.0	-27.3	23.5	-99	247	8.5	7.8	3.3	-99.0
530.0	-26.3	24.0	-99	241	7.0	6.1	3.4	1.0
540.0	-25.3	23.9	-99	239	7.0	6.0	3.6	.9
550.0	-24.5	24.0	-99	236	6.8	5.6	3.8	1.0
560.0	-23.7	24.1	-99	233	6.8	5.4	4.1	1.0
570.0	-23.0	24.5	-99	232	6.8	5.4	4.2	1.0
580.0	-22.1	25.0	-99	233	6.8	5.4	4.1	1.0
590.0	-21.0	25.3	-99	231	6.5	5.1	4.1	1.0
600.0	-19.9	25.3	-99	228	6.1	4.5	4.1	1.0
610.0	-19.1	25.7	-99	224	5.4	3.8	3.9	1.0
620.0	-18.2	25.9	-99	216	4.6	2.7	3.7	1.0
630.0	-18.0	28.1	-99	200	3.8	1.3	3.6	1.1
640.0	-17.4	30.4	-99	176	3.5	-.2	3.5	1.1
650.0	-17.1	35.3	-99	157	3.8	-1.5	3.5	1.1
660.0	-16.3	39.3	-99	142	4.2	-2.6	3.3	1.1
670.0	-15.3	39.9	-99	131	4.7	-3.5	3.1	1.1
680.0	-14.4	38.9	-99	126	5.1	-4.1	3.0	1.1
690.0	-13.9	39.0	-99	126	5.2	-4.2	3.1	1.1
700.0	-13.2	39.1	-99	128	5.0	-3.9	3.1	1.1
710.0	-12.6	42.2	-99	131	4.7	-3.5	3.1	1.1
720.0	-11.7	33.5	-99	134	4.6	-3.3	3.2	1.1
730.0	-11.0	31.8	-99	136	4.6	-3.2	3.3	1.1
740.0	-10.1	32.3	-99	135	4.4	-3.1	3.1	1.1
750.0	-9.7	39.2	-99	132	4.3	-3.2	2.9	1.0
760.0	-9.3	38.1	-99	127	4.3	-3.4	2.6	1.0
770.0	-8.5	37.5	-99	125	4.5	-3.7	2.6	1.0
780.0	-8.2	39.2	-99	120	4.7	-4.1	2.4	1.0
790.0	-7.5	42.1	-99	116	4.9	-4.4	2.1	1.1
800.0	-6.9	39.3	-99	112	5.0	-4.6	1.9	1.1
810.0	-6.2	38.3	-99	111	5.2	-4.9	1.9	1.1
820.0	-5.6	38.4	-99	109	5.2	-4.9	1.7	1.1
830.0	-5.0	37.7	-99	106	5.1	-4.9	1.4	1.1
840.0	-4.2	36.4	-99	104	5.0	-4.9	1.2	1.1
850.0	-3.5	35.4	-99	101	5.0	-4.9	1.0	1.1
860.0	-3.1	33.3	-99	100	5.1	-5.0	.9	1.1
870.0	-2.5	31.9	-99	99	4.9	-4.9	.8	1.1
880.0	-2.4	29.7	-99	-99	-99.0	-99.0	-99.0	-99.0
890.0	-4.4	27.8	-99	-99	-99.0	-99.0	-99.0	-99.0
900.0	-4.8	28.3	-99	-99	-99.0	-99.0	-99.0	-99.0
910.0	-5.1	30.0	-99	-99	-99.0	-99.0	-99.0	-99.0
920.0	-5.9	30.7	-99	-99	-99.0	-99.0	-99.0	-99.0
923.0	-6.4	33.8	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2000 UTC 15 APR 1992
Sonde ID: 1452
69.7 N 146.0 W
Pressure (mb)
Temperature (C)
2000 UTC 1452
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10

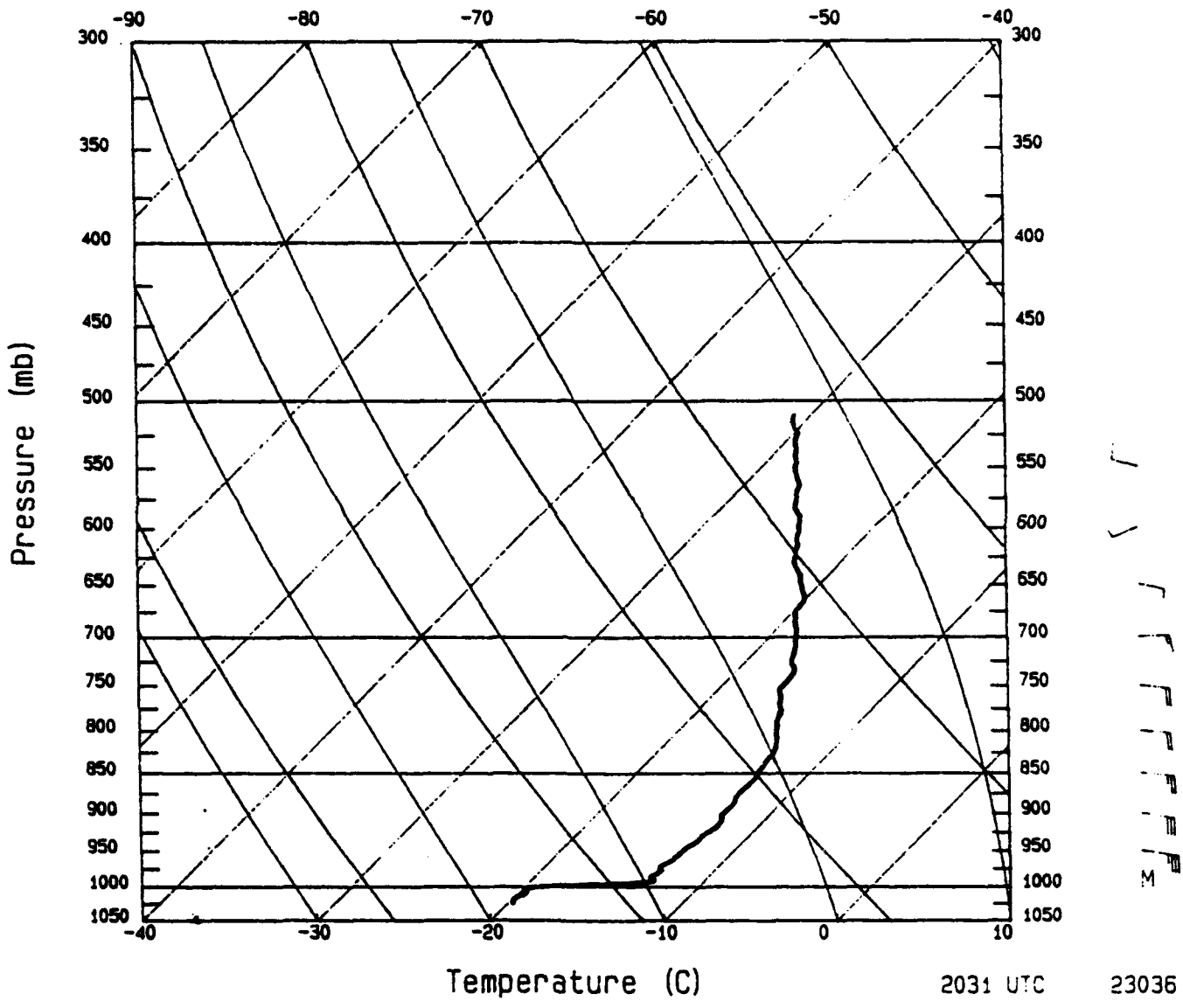
Sonde # 1452 Date 920415 Time 200000 GMT
Lat 69.7 Lon -146.0 Press 465.8 mb Height -99 m
Flight level wind: 254 deg at 7.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
470.0	-32.1	12.7	-99	252	6.9	6.6	2.1	-99.0
480.0	-31.6	13.6	-99	251	6.8	6.4	2.2	-99.0
490.0	-31.1	15.1	-99	250	6.7	6.3	2.3	-99.0
500.0	-30.2	16.4	-99	246	6.5	5.9	2.6	-99.0
510.0	-29.3	16.7	-99	242	6.3	5.6	3.0	-99.0
520.0	-28.5	17.0	-99	237	6.2	5.2	3.4	-99.0
530.0	-27.5	17.5	-99	233	6.1	4.9	3.7	-99.0
540.0	-26.4	17.6	-99	236	6.3	5.2	3.5	2.0
550.0	-25.4	17.6	-99	240	6.9	6.0	3.4	2.1
560.0	-24.4	18.2	-99	245	7.3	6.6	3.1	2.1
570.0	-23.6	18.4	-99	248	7.7	7.1	2.9	2.0
580.0	-22.8	19.8	-99	248	7.8	7.2	2.9	2.0
590.0	-22.2	21.4	-99	247	7.5	6.9	2.9	1.9
600.0	-21.6	24.8	-99	245	6.6	6.0	2.8	2.0
610.0	-21.1	29.3	-99	242	5.4	4.8	2.5	2.0
620.0	-20.9	33.0	-99	234	4.1	3.3	2.4	2.1
630.0	-99.0	36.5	-99	216	2.9	1.7	2.3	2.1
640.0	-99.0	37.5	-99	185	2.0	.2	2.0	2.2
650.0	-99.0	38.7	-99	146	2.1	-1.2	1.7	2.1
660.0	-99.0	40.4	-99	-99	-99.0	-99.0	-99.0	-99.0
670.0	-99.0	42.5	-99	-99	-99.0	-99.0	-99.0	-99.0
680.0	-99.0	46.5	-99	-99	-99.0	-99.0	-99.0	-99.0
690.0	-99.0	52.3	-99	-99	-99.0	-99.0	-99.0	-99.0
695.1	-99.0	51.8	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2015 UTC 15 APR 1992
Sonde ID: 4547
70.7 N 144.2 W
Pressure (mb)
Temperature (C)
2015 UTC 4547
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10

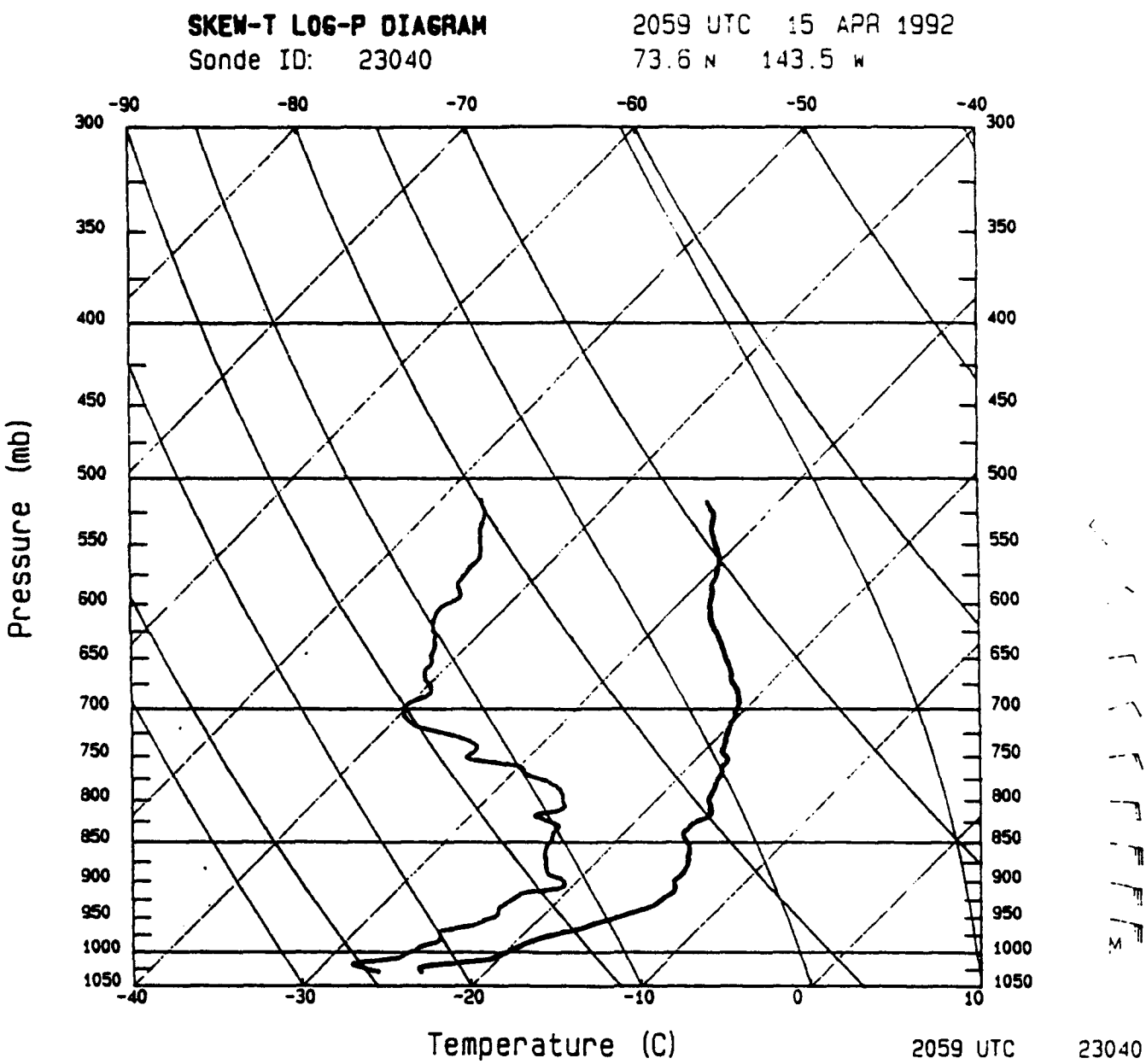
Sonde # 4547 Date 920415 Time 201500 GMT
Lat 70.7 Lon -144.2 Press 505.8 mb Height 5255 m
Flight level wind: 288 deg at 8.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
510.0	-29.5	15.0	5196	287	7.3	7.0	-2.1	-99.0
520.0	-29.4	15.8	5057	286	7.1	6.8	-2.0	-99.0
530.0	-28.2	18.7	4921	285	6.3	6.1	-1.6	-99.0
540.0	-27.4	23.2	4787	281	5.1	5.0	-1.0	-99.0
550.0	-26.2	26.6	4655	275	3.9	3.9	-.3	-99.0
560.0	-25.4	30.4	4524	264	2.8	2.8	.3	-99.0
570.0	-24.7	34.2	4395	240	1.8	1.6	.9	-99.0
580.0	-23.7	36.7	4269	217	1.5	.9	1.2	1.0
590.0	-22.9	38.7	4144	192	1.4	.3	1.4	1.0
600.0	-22.2	44.4	4020	168	1.7	-.4	1.7	1.0
610.0	-21.3	47.5	3899	151	2.0	-1.0	1.7	1.0
620.0	-20.5	52.2	3778	142	2.3	-1.4	1.8	1.0
630.0	-19.9	56.4	3660	137	2.4	-1.6	1.8	1.0
640.0	-19.1	58.0	3543	133	2.5	-1.8	1.7	1.1
650.0	-18.2	57.6	3427	129	2.4	-1.9	1.5	1.1
660.0	-17.2	55.3	3313	125	2.4	-2.0	1.4	1.1
670.0	-16.5	57.6	3200	122	2.5	-2.1	1.3	1.0
680.0	-16.0	62.1	3089	121	2.6	-2.2	1.3	1.0
690.0	-15.2	61.2	2979	120	2.7	-2.3	1.4	1.0
700.0	-14.3	53.9	2870	118	3.0	-2.6	1.4	1.0
710.0	-13.4	54.5	2762	116	3.4	-3.1	1.5	1.0
720.0	-12.6	44.9	2655	113	3.9	-3.6	1.5	1.0
730.0	-12.1	44.4	2550	110	4.4	-4.1	1.5	1.0
740.0	-11.4	36.2	2446	108	5.0	-4.8	1.5	1.0
750.0	-11.1	26.7	2343	105	5.8	-5.6	1.5	1.0
760.0	-11.2	20.5	2241	103	6.7	-6.5	1.5	1.0
770.0	-11.3	24.2	2141	101	7.9	-7.8	1.5	1.0
780.0	-11.4	28.5	2042	101	9.2	-9.0	1.8	1.0
790.0	-11.7	42.8	1944	100	10.7	-10.5	1.9	1.0
800.0	-11.6	41.3	1848	100	12.3	-12.1	2.1	1.0
810.0	-11.8	30.0	1753	101	13.9	-13.6	2.7	1.0
820.0	-11.5	24.4	1659	102	15.4	-15.1	3.2	1.0
830.0	-11.0	23.1	1566	103	16.7	-16.3	3.8	1.0
840.0	-10.7	23.0	1474	103	17.7	-17.2	4.0	1.0
850.0	-10.4	23.6	1383	103	18.4	-17.9	4.1	1.0
860.0	-10.1	23.8	1293	103	19.0	-18.5	4.3	1.0
870.0	-10.0	24.4	1204	103	19.3	-18.8	4.3	.9
880.0	-9.8	24.5	1116	102	19.6	-19.2	4.1	.9
890.0	-9.5	27.2	1029	101	19.7	-19.3	3.8	1.0
900.0	-8.8	33.2	942	100	20.0	-19.7	3.5	1.0
910.0	-8.8	39.4	857	100	20.3	-20.0	3.5	.9
920.0	-9.2	49.5	772	98	20.8	-20.6	2.9	.9
930.0	-9.2	59.5	689	98	21.2	-21.0	3.0	.9
940.0	-9.0	61.5	606	97	21.7	-21.5	2.6	.9
950.0	-9.7	62.3	524	96	22.1	-22.0	2.3	.9
960.0	-11.3	55.1	443	96	22.5	-22.4	2.4	.9
970.0	-12.6	46.6	364	-99	-99.0	-99.0	-99.0	-99.0
980.0	-13.9	45.5	286	-99	-99.0	-99.0	-99.0	-99.0
990.0	-18.4	61.5	210	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-18.4	70.4	135	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-18.0	73.1	60	-99	-99.0	-99.0	-99.0	-99.0
1018.2	-17.4	73.1	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2031 UTC 15 APR 1992
Sonde ID: 23036
71.8 N 143.7 W
Pressure (mb)
Temperature (C)
2031 UTC 23036
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10

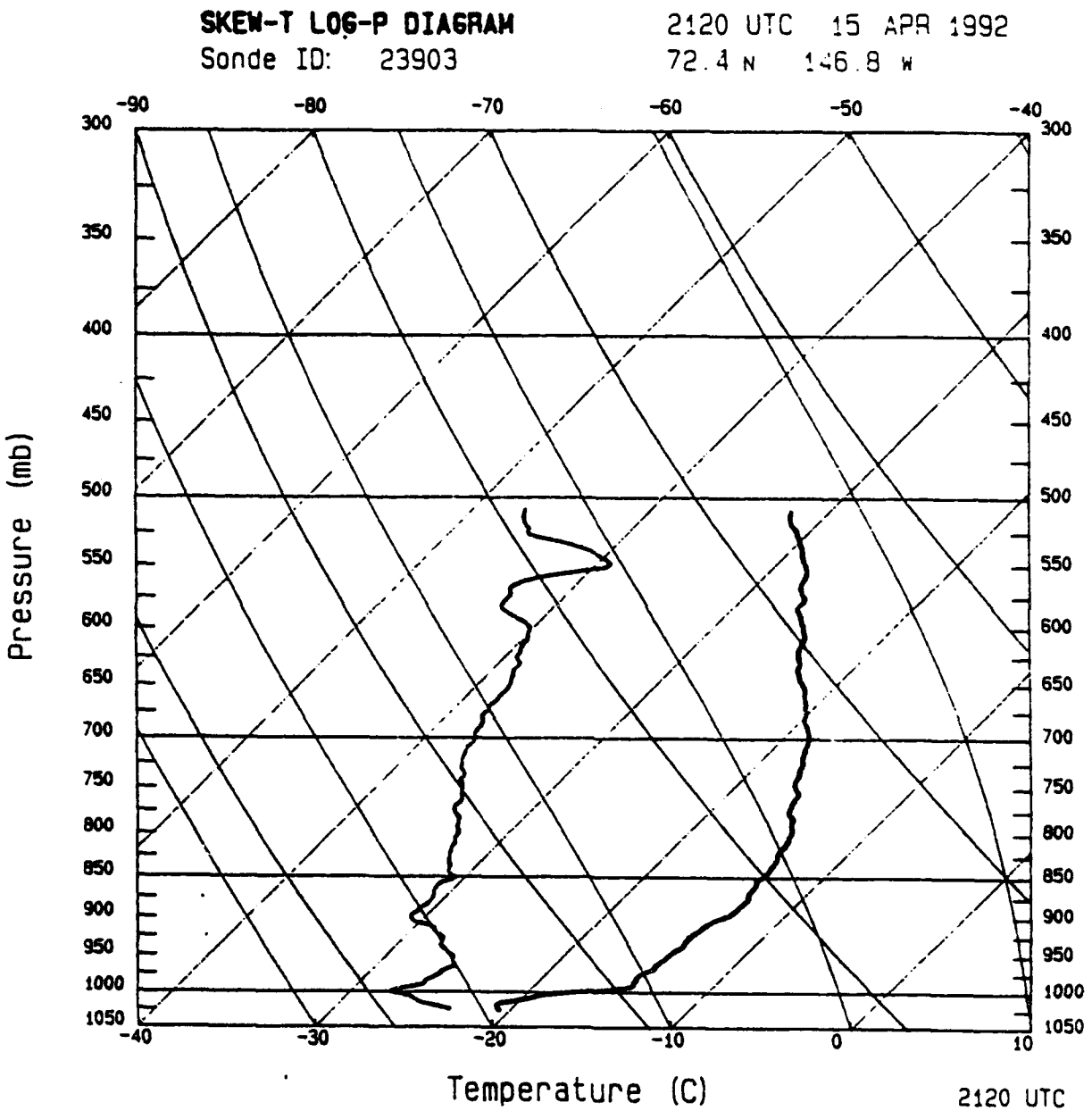
Sonde # 23036 Date 920415 Time 203100 GMT
Lat 71.8 Lon -143.7 Press 505.8 mb Height 5426 m
Flight level wind: 293 deg at 11.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
510.0	-31.0	-99.0	-99	292	10.4	9.6	-3.9	-99.0
520.0	-30.2	-99.0	-99	292	9.9	9.2	-3.7	-99.0
530.0	-29.5	-99.0	-99	291	8.9	8.3	-3.2	-99.0
540.0	-28.7	-99.0	-99	289	7.8	7.4	-2.5	-99.0
550.0	-28.0	-99.0	-99	286	6.8	6.5	-1.9	-99.0
560.0	-27.2	-99.0	-99	283	5.7	5.6	-1.3	-99.0
570.0	-26.5	-99.0	-99	277	4.6	4.6	-.6	.9
580.0	-26.0	-99.0	-99	268	3.7	3.7	.1	.9
590.0	-25.0	-99.0	-99	260	3.0	3.0	.5	.9
600.0	-24.3	-99.0	-99	247	2.3	2.1	.9	.9
610.0	-23.8	-99.0	-99	232	1.7	1.3	1.0	.9
620.0	-23.2	-99.0	-99	201	1.3	.5	1.2	.9
630.0	-22.7	-99.0	-99	152	1.1	-.5	1.0	.9
640.0	-21.8	-99.0	-99	117	1.7	-1.5	.8	.9
650.0	-21.0	-99.0	-99	102	2.8	-2.7	.6	.9
660.0	-20.3	-99.0	-99	92	4.0	-4.0	.1	.9
670.0	-20.0	-99.0	-99	88	5.2	-5.2	-.2	.9
680.0	-19.6	-99.0	-99	86	6.3	-6.3	-.4	1.0
690.0	-19.0	-99.0	-99	87	7.2	-7.2	-.4	1.0
700.0	-18.5	-99.0	-99	87	8.0	-8.0	-.4	.9
710.0	-18.0	-99.0	-99	89	8.5	-8.5	-.1	.9
720.0	-17.5	-99.0	-99	92	9.0	-9.0	.3	.9
730.0	-17.0	-99.0	-99	94	9.3	-9.3	.6	.9
740.0	-16.6	-99.0	-99	95	9.6	-9.6	.8	.9
750.0	-16.5	-99.0	-99	96	9.7	-9.6	1.0	.9
760.0	-16.1	-99.0	-99	97	9.7	-9.6	1.2	.9
770.0	-15.6	-99.0	-99	97	9.9	-9.8	1.2	.9
780.0	-15.1	-99.0	-99	96	10.1	-10.0	1.1	.9
790.0	-14.8	-99.0	-99	95	10.3	-10.3	.9	.9
800.0	-14.4	-99.0	-99	94	10.6	-10.6	.7	.9
810.0	-13.8	-99.0	-99	94	11.0	-11.0	.8	1.0
820.0	-13.4	-99.0	-99	94	11.5	-11.5	.8	1.0
830.0	-13.3	-99.0	-99	94	11.9	-11.9	.8	1.0
840.0	-13.2	-99.0	-99	95	12.3	-12.3	1.1	1.0
850.0	-13.1	-99.0	-99	95	12.8	-12.8	1.1	1.0
860.0	-13.0	-99.0	-99	96	13.2	-13.1	1.4	1.0
870.0	-13.0	-99.0	-99	97	13.5	-13.4	1.6	1.0
880.0	-13.0	-99.0	-99	98	13.9	-13.8	1.9	1.0
890.0	-12.7	-99.0	-99	99	14.4	-14.2	2.3	1.0
900.0	-12.8	-99.0	-99	99	14.8	-14.6	2.3	1.0
910.0	-12.5	-99.0	-99	99	15.3	-15.1	2.4	1.0
920.0	-12.5	-99.0	-99	100	15.8	-15.6	2.7	1.1
930.0	-12.7	-99.0	-99	99	16.3	-16.1	2.5	1.0
940.0	-12.8	-99.0	-99	99	16.7	-16.5	2.6	1.1
950.0	-13.0	-99.0	-99	99	17.0	-16.8	2.7	1.0
960.0	-13.1	-99.0	-99	99	17.3	-17.1	2.7	1.0
970.0	-13.4	-99.0	-99	99	17.5	-17.3	2.7	1.0
980.0	-13.2	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
990.0	-13.0	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-19.6	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-19.7	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-19.9	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
1023.7	-19.8	-99.0	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2059 UTC 15 APR 1992
Sonde ID: 23040
73.6 N 143.5 W
-90 -80 -70 -60 -50 -40
300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050
-40 -30 -20 -10 0 10
Pressure (mb)
Temperature (C)
2059 UTC 23040

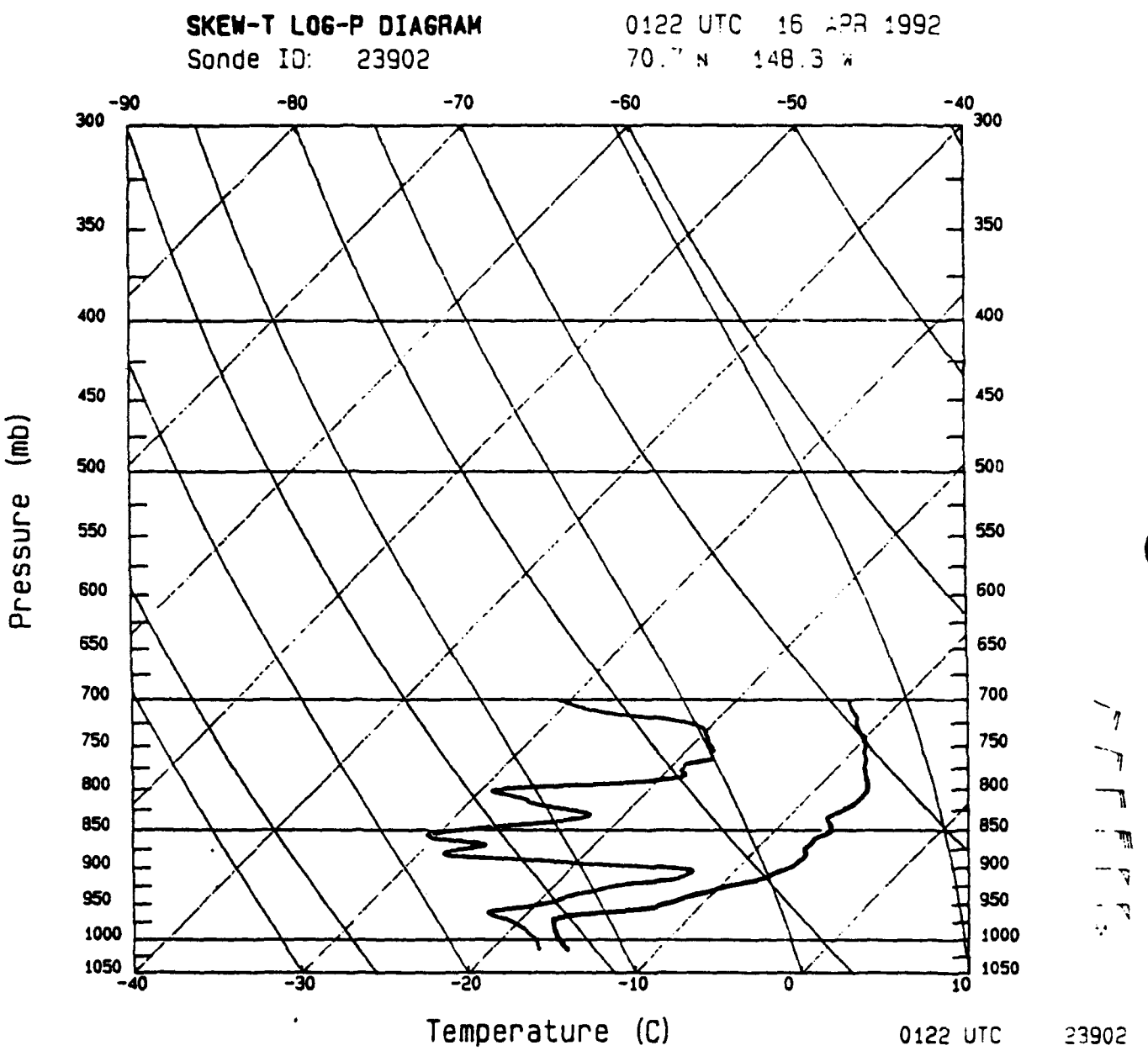
Sonde # 23040 Date 920415 Time 205900 GMT
Lat 73.6 Lon -143.5 Press 505.9 mb Height 5223 m
Flight level wind: 292 deg at 7.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
510.0	-34.8	26.1	5167	294	6.4	5.8	-2.6	-99.0
520.0	-33.8	26.0	5031	295	6.2	5.6	-2.6	-99.0
530.0	-32.9	25.8	4897	299	5.4	4.7	-2.6	-99.0
540.0	-32.2	25.6	4765	306	4.5	3.6	-2.6	-99.0
550.0	-31.3	25.4	4636	318	3.6	2.4	-2.7	-99.0
560.0	-30.3	25.0	4508	335	3.0	1.3	-2.7	-99.0
570.0	-29.8	23.9	4382	357	2.7	.1	-2.7	-99.0
580.0	-29.3	23.3	4258	13	2.6	-.6	-2.5	1.0
590.0	-28.7	23.7	4136	30	2.6	-1.3	-2.3	1.0
600.0	-28.2	22.4	4015	47	2.7	-2.0	-1.8	.9
610.0	-27.5	20.9	3897	62	3.1	-2.7	-1.5	.9
620.0	-26.7	20.5	3779	72	3.5	-3.3	-1.1	.9
630.0	-25.7	20.3	3664	77	3.8	-3.7	-.9	.9
640.0	-24.9	20.0	3549	81	4.0	-4.0	-.6	.9
650.0	-24.0	19.5	3437	82	4.1	-4.1	-.6	.9
660.0	-23.2	18.7	3325	81	4.2	-4.1	-.7	.9
670.0	-22.5	18.6	3215	78	4.3	-4.2	-.9	.9
680.0	-21.6	18.8	3106	76	4.5	-4.4	-1.1	.9
690.0	-20.9	17.6	2998	74	4.9	-4.7	-1.4	.9
700.0	-20.5	16.3	2892	71	5.2	-4.9	-1.7	.9
710.0	-20.1	16.9	2787	72	5.7	-5.4	-1.8	.9
720.0	-19.8	19.1	2683	75	6.0	-5.8	-1.6	.9
730.0	-19.5	24.4	2581	76	6.4	-6.2	-1.5	.9
740.0	-19.1	27.3	2480	79	6.7	-6.6	-1.3	.9
750.0	-18.4	25.7	2380	81	7.0	-6.9	-1.1	.9
760.0	-18.1	33.9	2281	85	7.4	-7.4	-.6	.9
770.0	-17.7	36.6	2183	87	7.8	-7.8	-.4	.9
780.0	-17.5	43.1	2087	89	8.3	-8.3	-.1	.9
790.0	-17.2	46.3	1991	91	8.7	-8.7	.2	.9
800.0	-16.8	47.5	1897	92	9.2	-9.2	.3	.9
810.0	-16.2	47.1	1803	94	9.6	-9.6	.7	.9
820.0	-16.1	42.6	1711	95	10.1	-10.1	.9	.9
830.0	-16.5	51.3	1620	96	10.7	-10.6	1.1	.9
840.0	-16.4	51.9	1530	98	11.4	-11.3	1.6	.9
850.0	-15.7	50.0	1441	98	12.0	-11.9	1.7	.9
860.0	-15.1	48.5	1352	99	12.7	-12.5	2.0	.9
870.0	-14.7	48.9	1265	100	13.2	-13.0	2.3	.9
880.0	-14.4	49.4	1178	101	13.6	-13.4	2.6	.9
890.0	-14.2	51.3	1093	102	13.7	-13.4	2.8	.9
900.0	-14.2	57.9	1008	102	13.6	-13.3	2.8	.9
910.0	-13.7	55.3	924	102	13.5	-13.2	2.8	.9
920.0	-13.9	48.3	841	103	13.2	-12.9	3.0	.9
930.0	-14.1	47.9	759	103	12.8	-12.5	2.9	.9
940.0	-14.8	50.4	678	102	12.5	-12.2	2.6	.8
950.0	-15.7	54.9	598	103	12.4	-12.1	2.8	.8
960.0	-16.7	56.6	519	102	12.4	-12.1	2.6	.8
970.0	-17.9	54.2	442	101	12.4	-12.2	2.4	.8
980.0	-19.0	61.3	365	101	12.4	-12.2	2.4	.8
990.0	-19.5	61.9	290	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-20.0	61.5	215	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-20.7	62.0	141	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-24.0	68.4	69	-99	-99.0	-99.0	-99.0	-99.0
1029.7	-23.8	80.0	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2120 UTC 15 APR 1992
Sonde ID: 23903
72.4 N 146.8 W
Pressure (mb)
Temperature (C)
2120 UTC 23903

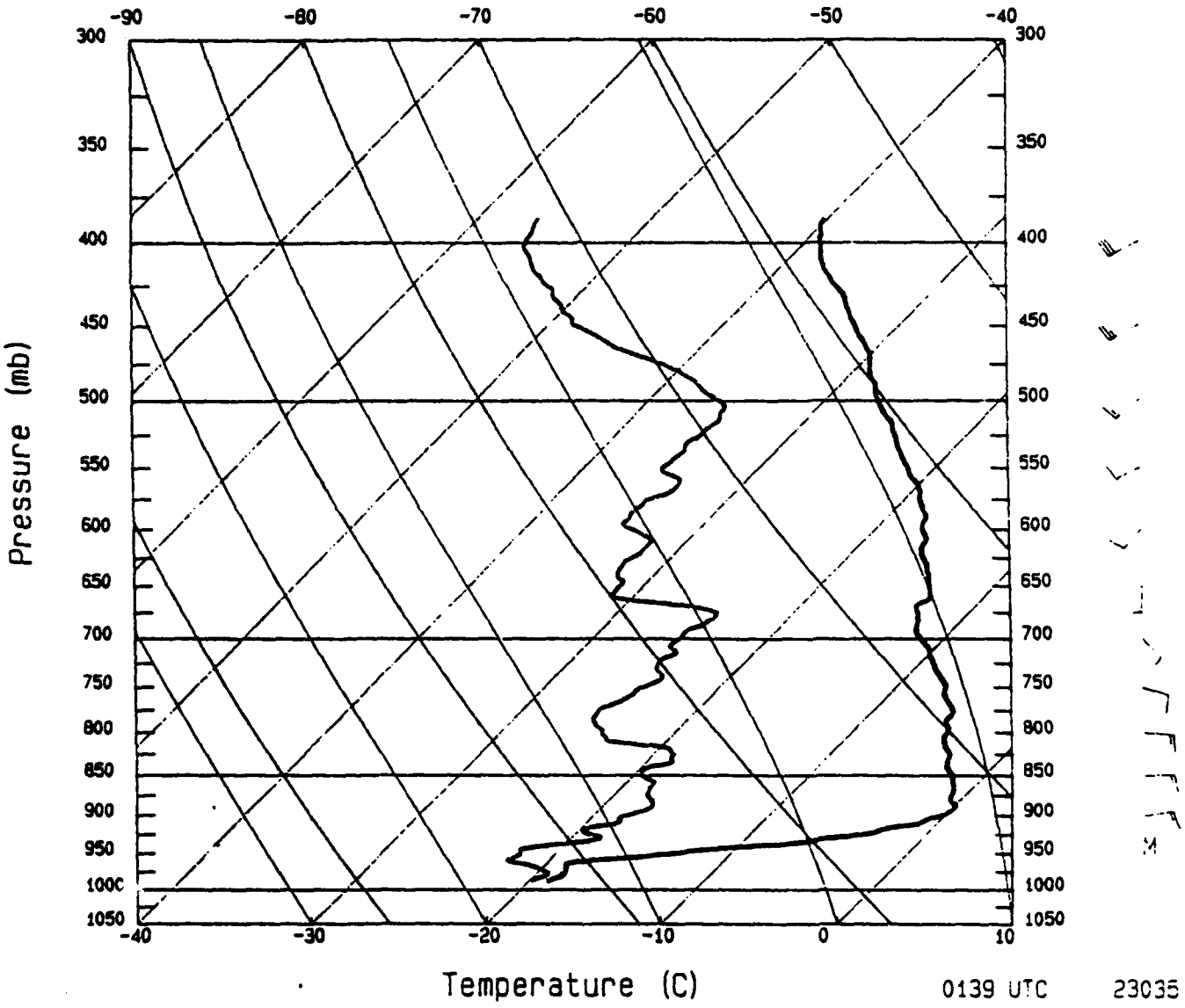
Sonde # 23903 Date 920415 Time 212000 GMT
Lat 72.4 Lon -146.8 Press 505.9 mb Height 5238 m
Flight level wind: 253 deg at 10.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
510.0	-32.1	22.7	5181	253	9.1	8.7	2.7	-99.0
520.0	-31.2	22.9	5044	253	8.2	7.8	2.4	-99.0
530.0	-30.1	25.1	4909	254	6.6	6.3	1.8	-99.0
540.0	-29.2	32.7	4775	254	5.1	4.9	1.4	-99.0
550.0	-28.3	35.3	4644	255	3.6	3.5	.9	-99.0
560.0	-27.6	23.6	4515	258	2.0	2.0	.4	-99.0
570.0	-27.1	20.8	4387	266	.6	.6	.0	1.0
580.0	-26.5	20.3	4262	65	.7	-.6	-.3	.9
590.0	-25.7	21.7	4138	76	1.9	-1.8	-.5	.9
600.0	-24.9	23.7	4016	81	2.9	-2.9	-.5	.9
610.0	-24.3	23.6	3896	84	3.7	-3.7	-.4	.9
620.0	-23.9	23.4	3777	87	4.3	-4.3	-.2	.9
630.0	-23.2	23.4	3660	88	4.7	-4.7	-.2	.9
640.0	-22.6	22.8	3545	89	5.2	-5.2	-.1	.9
650.0	-21.8	22.1	3431	91	5.7	-5.7	.1	.9
660.0	-21.1	20.9	3319	91	6.2	-6.2	.1	.9
670.0	-20.5	19.8	3208	90	6.6	-6.6	.0	.9
680.0	-19.9	19.2	3098	91	7.0	-7.0	.1	.9
690.0	-19.2	18.9	2989	90	7.2	-7.2	.0	.9
700.0	-18.5	18.4	2882	91	7.4	-7.4	.1	.9
710.0	-18.2	18.1	2776	91	7.5	-7.5	.1	1.0
720.0	-17.8	18.0	2672	90	7.7	-7.7	.0	1.0
730.0	-17.4	18.2	2569	91	8.0	-8.0	.1	1.0
740.0	-17.0	18.7	2467	92	8.2	-8.2	.3	1.1
750.0	-16.5	19.0	2366	93	8.6	-8.6	.5	1.1
760.0	-16.0	19.0	2266	95	9.0	-9.0	.8	1.1
770.0	-15.8	19.0	2168	96	9.6	-9.5	1.0	1.3
780.0	-15.2	19.3	2071	97	10.0	-9.9	1.2	1.5
790.0	-14.7	19.5	1974	96	10.5	-10.4	1.1	1.5
800.0	-14.2	19.7	1879	96	11.1	-11.0	1.2	1.5
810.0	-14.0	19.8	1785	95	11.4	-11.4	1.0	1.5
820.0	-13.9	20.1	1692	94	11.7	-11.7	.8	1.6
830.0	-13.6	20.4	1600	94	11.9	-11.9	.8	1.6
840.0	-13.4	21.1	1508	93	12.0	-12.0	.6	1.6
850.0	-13.5	22.6	1418	94	12.0	-12.0	.8	1.6
860.0	-13.3	21.5	1330	95	12.1	-12.1	1.1	1.6
870.0	-13.2	21.8	1242	96	12.0	-11.9	1.3	1.5
880.0	-13.0	21.8	1155	96	12.2	-12.1	1.3	1.5
890.0	-13.1	21.6	1068	97	12.7	-12.6	1.5	1.5
900.0	-13.4	22.2	983	98	13.4	-13.3	1.9	1.4
910.0	-13.9	25.8	899	98	14.0	-13.9	1.9	1.3
920.0	-14.0	28.7	817	97	14.6	-14.5	1.8	1.1
930.0	-14.0	31.0	735	96	15.3	-15.2	1.6	1.1
940.0	-14.0	32.1	653	95	15.9	-15.8	1.4	1.0
950.0	-14.2	35.5	573	94	16.2	-16.2	1.1	1.0
960.0	-14.4	37.6	494	93	16.4	-16.4	.9	1.0
970.0	-14.5	37.7	415	92	16.5	-16.5	.6	1.0
980.0	-14.8	37.7	338	-99	-99.0	-99.0	-99.0	-99.0
990.0	-14.6	36.3	261	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-17.8	42.2	185	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-20.1	59.7	111	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-21.0	73.9	38	-99	-99.0	-99.0	-99.0	-99.0
1025.3	-20.7	78.4	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
0122 UTC 16 APR 1992
Sonde ID: 23902
70.7 N 148.3 W
Pressure (mb)
Temperature (C)
0122 UTC 23902
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10

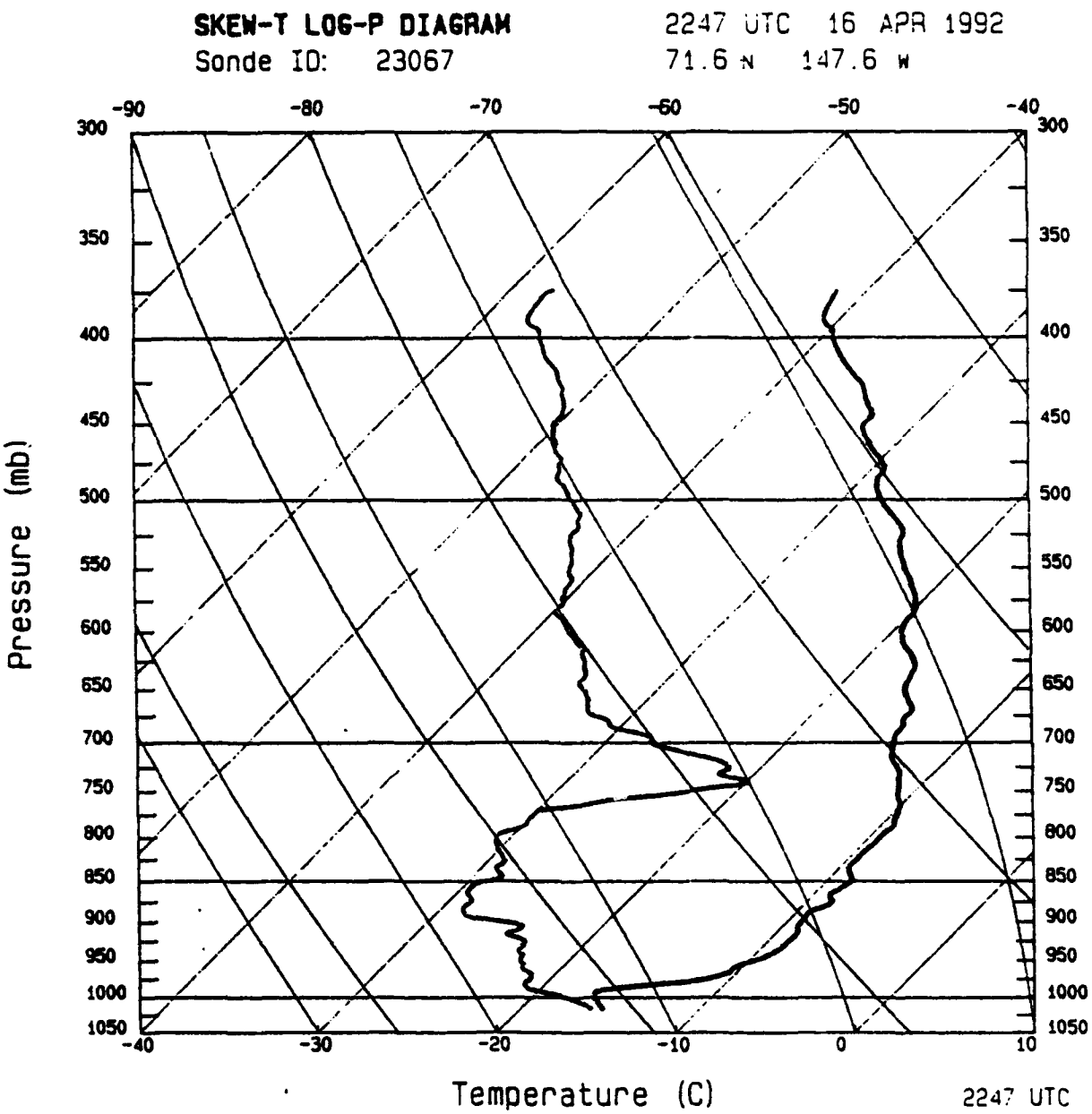
Sonde # 23902 Date 920416 Time 12236 GMT
Lat 70.7 Lon -148.3 Press 695.6 mb Height 2913 m
Flight level wind: 118 deg at 8.0 m/s

PRESS	TEMP	HUM	GEOP	WDIR	WSPD	U	V	WERR
mb	C	%	m	deg	m/s	m/s	m/s	m/s
700.0	-13.3	22.0	2865	116	8.0	-7.2	3.5	-99.0
710.0	-12.5	25.6	2757	116	8.0	-7.2	3.5	-99.0
720.0	-11.6	36.8	2650	114	8.0	-7.3	3.3	-99.0
730.0	-11.1	46.2	2544	111	8.0	-7.5	2.9	-99.0
740.0	-10.2	46.4	2440	109	8.1	-7.7	2.6	-99.0
750.0	-9.5	46.8	2336	106	8.1	-7.8	2.2	-99.0
760.0	-9.0	47.7	2234	103	8.2	-8.0	1.8	-99.0
770.0	-8.5	42.5	2132	101	8.3	-8.1	1.6	.9
780.0	-8.0	41.0	2032	97	8.6	-8.5	1.0	.9
790.0	-7.4	35.4	1933	95	9.2	-9.2	.8	.9
800.0	-6.9	16.1	1835	93	10.0	-10.0	.5	.9
810.0	-6.8	18.0	1738	92	11.2	-11.2	.4	.9
820.0	-7.0	21.8	1643	92	12.8	-12.8	.4	.8
830.0	-7.5	30.2	1548	92	14.5	-14.5	.5	.9
840.0	-7.3	25.9	1455	92	16.5	-16.5	.6	.9
850.0	-6.7	16.2	1363	92	18.5	-18.5	.6	.9
860.0	-7.1	14.3	1272	92	20.5	-20.5	.7	.8
870.0	-7.1	20.1	1182	92	22.2	-22.2	.8	.8
880.0	-6.8	16.4	1093	92	23.7	-23.7	.8	.8
890.0	-6.8	26.6	1004	92	24.9	-24.9	.9	.8
900.0	-7.0	54.6	917	92	25.8	-25.8	.9	.8
910.0	-7.8	67.7	831	92	26.4	-26.4	.9	.8
920.0	-8.9	63.4	746	92	26.6	-26.6	.9	.8
930.0	-10.3	57.6	663	91	26.4	-26.4	.5	.8
940.0	-11.5	56.2	581	90	26.0	-26.0	.0	.9
950.0	-12.5	55.7	500	88	25.3	-25.3	-.9	.8
960.0	-15.3	55.8	420	88	25.1	-25.1	-.9	.8
970.0	-18.1	76.5	342	-99	-99.0	-99.0	-99.0	-99.0
980.0	-17.7	83.6	266	-99	-99.0	-99.0	-99.0	-99.0
990.0	-17.2	86.5	190	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-16.6	88.3	114	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-15.8	87.1	39	-99	-99.0	-99.0	-99.0	-99.0
1015.3	-15.4	86.8	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
Sonde ID: 23035
0139 UTC 16 APR 1992
69.5 N 148.5 W
Pressure (mb)
Temperature (C)
0139 UTC 23035

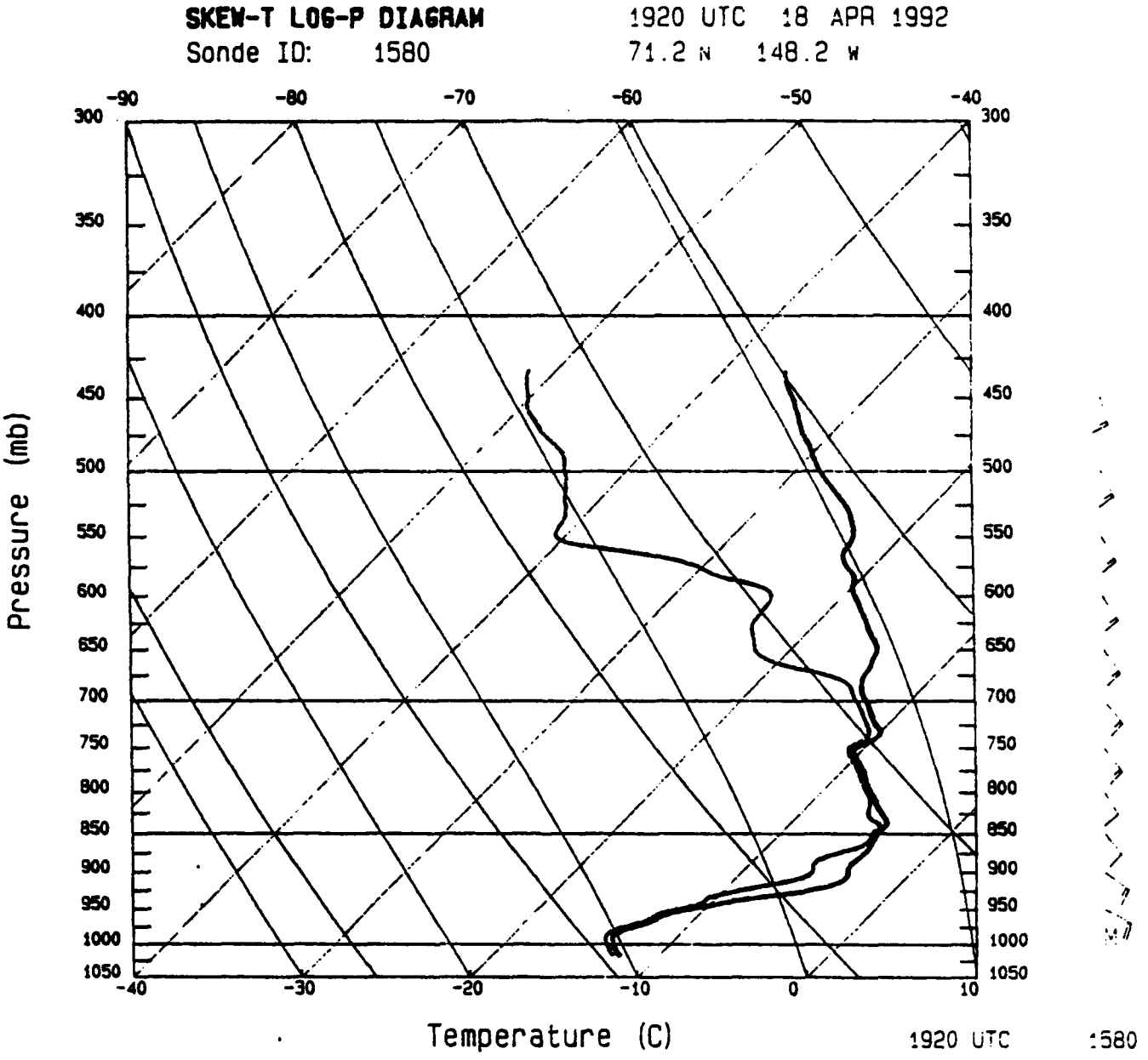
Sonde # 23035 Date 920416 Time 13931 GMT
Lat 69.5 Lon -148.5 Press 374.5 mb Height -99 m
Flight level wind: 243 deg at 16.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
380.0	-40.3	17.5	-99	243	15.8	14.1	7.2	-99.0
390.0	-40.2	17.3	-99	243	15.7	14.0	7.1	-99.0
400.0	-39.2	16.6	-99	243	15.4	13.7	7.0	-99.0
410.0	-38.1	17.3	-99	243	15.0	13.4	6.8	-99.0
420.0	-36.7	17.9	-99	243	14.6	13.0	6.6	-99.0
430.0	-35.0	18.2	-99	243	14.2	12.7	6.4	-99.0
440.0	-33.8	19.0	-99	243	13.4	11.9	6.1	.8
450.0	-32.5	20.1	-99	242	12.4	10.9	5.8	.9
460.0	-31.2	23.4	-99	240	11.5	10.0	5.7	1.1
470.0	-30.0	28.1	-99	239	10.6	9.1	5.5	1.0
480.0	-29.1	35.3	-99	236	9.7	8.0	5.4	1.0
490.0	-28.0	38.9	-99	233	8.8	7.0	5.3	1.0
500.0	-27.0	42.9	-99	231	7.8	6.1	4.9	1.0
510.0	-25.9	42.3	-99	229	6.8	5.1	4.5	1.0
520.0	-24.6	38.2	-99	231	5.8	4.5	3.7	1.1
530.0	-23.7	34.0	-99	235	5.1	4.2	2.9	1.1
540.0	-22.6	31.6	-99	241	4.8	4.2	2.3	1.1
550.0	-21.5	28.2	-99	243	4.9	4.4	2.2	1.1
560.0	-20.5	30.0	-99	243	5.1	4.5	2.3	1.0
570.0	-19.4	27.9	-99	239	5.5	4.7	2.8	.9
580.0	-18.7	24.0	-99	233	5.8	4.6	3.5	1.0
590.0	-17.8	22.2	-99	228	5.9	4.4	3.9	1.0
600.0	-17.3	23.0	-99	222	5.9	3.9	4.4	1.0
610.0	-16.4	25.4	-99	215	5.6	3.2	4.6	.9
620.0	-16.1	24.7	-99	208	5.0	2.3	4.4	1.0
630.0	-15.2	22.1	-99	200	4.4	1.5	4.1	.9
640.0	-14.4	21.3	-99	192	3.8	.8	3.7	.9
650.0	-13.8	21.9	-99	182	3.3	.1	3.3	.9
660.0	-13.1	20.8	-99	172	3.0	-.4	3.0	.9
670.0	-13.4	34.0	-99	162	2.8	-.9	2.7	.9
680.0	-12.7	38.0	-99	154	2.7	-1.2	2.4	.9
690.0	-12.2	34.9	-99	145	2.6	-1.5	2.1	.9
700.0	-11.4	32.0	-99	137	2.8	-1.9	2.0	.8
710.0	-10.3	29.5	-99	127	3.1	-2.5	1.9	.8
720.0	-9.6	28.4	-99	120	3.5	-3.0	1.8	.8
730.0	-8.9	26.9	-99	114	4.2	-3.8	1.7	.8
740.0	-8.0	27.2	-99	110	4.8	-4.5	1.6	.8
750.0	-7.2	24.5	-99	107	5.5	-5.3	1.6	.8
760.0	-6.7	23.0	-99	104	6.0	-5.8	1.5	.8
770.0	-5.9	20.3	-99	102	6.4	-6.3	1.3	.8
780.0	-5.3	19.0	-99	100	6.7	-6.6	1.2	.8
790.0	-5.1	19.4	-99	97	7.0	-6.9	.9	.8
800.0	-4.6	20.3	-99	95	7.3	-7.3	.6	.8
810.0	-4.3	21.2	-99	93	7.5	-7.5	.4	.8
820.0	-3.6	28.5	-99	92	7.7	-7.7	.3	.8
830.0	-3.0	28.8	-99	90	7.9	-7.9	.0	.8
840.0	-2.7	26.8	-99	89	8.1	-8.1	-.1	.8
850.0	-1.9	24.7	-99	88	8.3	-8.3	-.3	.8
860.0	-1.4	26.3	-99	88	8.5	-8.5	-.3	.8
870.0	-.9	25.7	-99	87	8.6	-8.6	-.5	.8
880.0	-.6	26.4	-99	85	8.7	-8.7	-.8	.8
890.0	.1	26.2	-99	84	8.6	-8.6	-.9	.8
900.0	-.3	25.2	-99	82	8.4	-8.3	-1.2	.9
910.0	-1.1	26.3	-99	80	7.9	-7.8	-1.4	.8
920.0	-3.0	26.6	-99	77	7.2	-7.0	-1.6	.8
930.0	-5.7	36.2	-99	74	6.3	-6.1	-1.7	.8
940.0	-9.4	39.3	-99	-99	-99.0	-99.0	-99.0	-99.0
950.0	-13.5	48.5	-99	-99	-99.0	-99.0	-99.0	-99.0
960.0	-18.2	69.2	-99	-99	-99.0	-99.0	-99.0	-99.0
970.0	-18.7	86.3	-99	-99	-99.0	-99.0	-99.0	-99.0
980.0	-18.5	92.9	-99	-99	-99.0	-99.0	-99.0	-99.0
988.0	-18.9	92.1	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2247 UTC 16 APR 1992
Sonde ID: 23067
71.6 N 147.6 W
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
Pressure (mb)
-40
-30
-20
-10
0
10
Temperature (C)
2247 UTC 23067

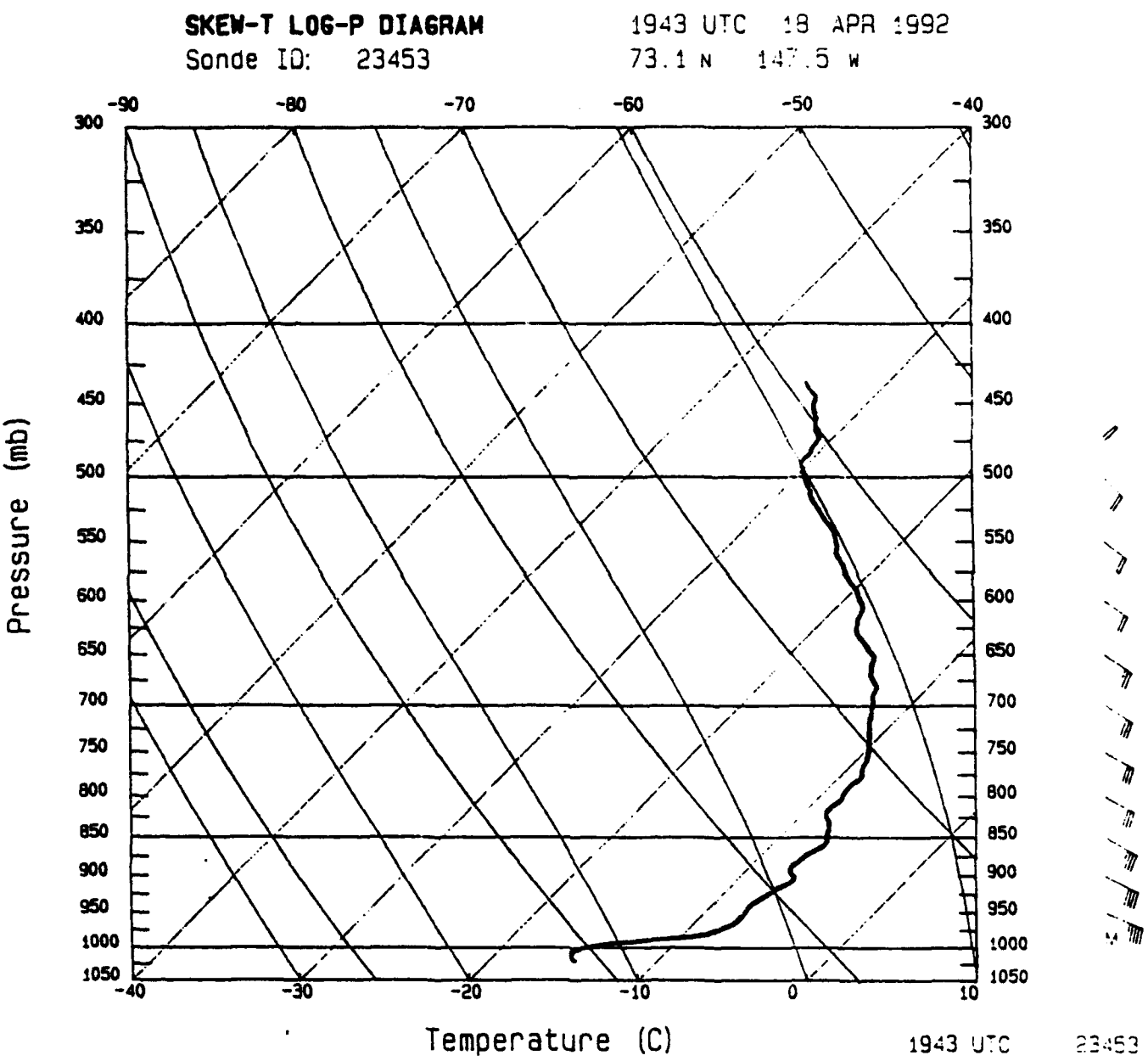
Sonde # 23067 Date 920416 Time 224740 GMT
Lat 71.6 Lon -147.6 Press 374.7 mb Height 7382 m
Flight level wind: 281 deg at 18.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
380.0	-41.6	17.0	7287	281	17.5	17.2	-3.3	-99.0
390.0	-41.0	16.6	7111	280	17.2	16.9	-3.0	-99.0
400.0	-39.5	17.3	6938	279	16.4	16.2	-2.6	-99.0
410.0	-38.0	17.4	6768	278	15.4	15.3	-2.1	-99.0
420.0	-36.4	17.8	6602	277	14.5	14.4	-1.8	-99.0
430.0	-34.8	17.6	6438	276	13.5	13.4	-1.4	-99.0
440.0	-33.6	17.5	6277	276	12.7	12.6	-1.3	.8
450.0	-32.9	17.1	6119	277	11.7	11.6	-1.4	.8
460.0	-32.0	17.1	5965	279	10.7	10.6	-1.7	.9
470.0	-30.5	16.8	5812	278	9.4	9.3	-1.3	.9
480.0	-29.3	16.7	5662	278	8.3	8.2	-1.2	.8
490.0	-28.9	17.8	5515	279	7.3	7.2	-1.1	.9
500.0	-27.9	18.4	5370	280	6.3	6.2	-1.1	.8
510.0	-26.5	18.7	5228	281	5.4	5.3	-1.0	.8
520.0	-25.2	17.8	5087	285	4.7	4.5	-1.2	.9
530.0	-24.5	17.3	4948	286	3.9	3.7	-1.1	.9
540.0	-23.7	17.6	4812	289	3.3	3.1	-1.1	.9
550.0	-22.8	17.3	4678	299	2.6	2.3	-1.3	.9
560.0	-21.8	17.2	4546	315	1.7	1.2	-1.2	.9
570.0	-20.8	16.4	4415	356	1.2	.1	-1.2	.9
580.0	-20.1	16.1	4286	53	1.4	-1.1	-.8	.9
590.0	-19.9	16.9	4160	81	2.3	-2.3	-.4	1.0
600.0	-19.5	18.3	4035	88	3.3	-3.3	-.1	.9
610.0	-18.8	19.2	3912	93	4.3	-4.3	.2	.9
620.0	-17.7	19.2	3791	96	5.2	-5.2	.5	1.0
630.0	-16.9	19.2	3671	97	6.0	-6.0	.7	1.0
640.0	-16.5	19.9	3552	97	6.8	-6.7	.8	1.0
650.0	-16.2	20.4	3436	99	8.0	-7.9	1.3	1.0
660.0	-15.4	20.8	3321	99	9.1	-9.0	1.4	1.0
670.0	-14.6	20.5	3207	99	10.2	-10.1	1.6	1.0
680.0	-14.5	23.9	3095	98	11.4	-11.3	1.6	1.0
690.0	-14.3	27.6	2984	97	12.4	-12.3	1.5	1.0
700.0	-13.9	31.4	2875	97	13.4	-13.3	1.6	1.0
710.0	-13.5	37.3	2767	97	14.2	-14.1	1.7	1.0
720.0	-12.8	44.5	2661	96	14.8	-14.7	1.5	.9
730.0	-12.0	44.1	2556	96	15.4	-15.3	1.6	.9
740.0	-11.4	49.9	2451	96	16.0	-15.9	1.7	.9
750.0	-10.9	38.3	2348	97	16.9	-16.8	2.1	.9
760.0	-10.4	25.6	2247	98	17.9	-17.7	2.5	.9
770.0	-9.9	18.7	2146	98	19.1	-18.9	2.7	.9
780.0	-9.6	17.7	2046	99	20.4	-20.1	3.2	.9
790.0	-9.4	17.3	1948	98	21.6	-21.4	3.0	1.0
800.0	-9.4	16.1	1851	98	22.9	-22.7	3.2	1.0
810.0	-9.5	17.0	1755	97	24.0	-23.8	2.9	1.0
820.0	-9.6	18.4	1660	97	25.1	-24.9	3.1	1.0
830.0	-9.6	19.3	1567	96	26.1	-26.0	2.7	1.0
840.0	-9.2	19.2	1474	96	27.1	-27.0	2.8	1.0
850.0	-8.6	18.4	1383	96	27.9	-27.7	2.9	1.1
860.0	-8.9	17.5	1292	96	28.9	-28.7	3.0	1.2
870.0	-8.9	18.3	1203	96	29.7	-29.5	3.1	1.2
880.0	-8.7	18.4	1114	96	30.6	-30.4	3.2	1.3
890.0	-9.3	19.9	1027	96	31.2	-31.0	3.3	1.3
900.0	-9.2	24.5	940	96	31.9	-31.7	3.3	1.3
910.0	-9.0	27.9	855	96	32.5	-32.3	3.4	1.3
920.0	-8.8	27.6	770	97	32.6	-32.4	4.0	1.3
930.0	-8.9	30.5	687	96	32.4	-32.2	3.4	1.3
940.0	-9.2	31.4	604	95	31.6	-31.5	2.8	1.3
950.0	-9.8	34.4	522	94	30.3	-30.2	2.1	1.3
960.0	-10.5	38.0	442	92	28.4	-28.4	1.0	1.4
970.0	-10.8	42.2	362	90	26.1	-26.1	.0	1.4
980.0	-13.1	51.0	283	-99	-99.0	-99.0	-99.0	-99.0
990.0	-16.6	71.7	207	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-16.6	86.6	131	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-15.9	92.1	56	-99	-99.0	-99.0	-99.0	-99.0
1017.6	-15.4	94.4	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
1920 UTC 18 APR 1992
Sonde ID: 1580
71.2 N 148.2 W
Pressure (mb)
Temperature (C)
1920 UTC 1580

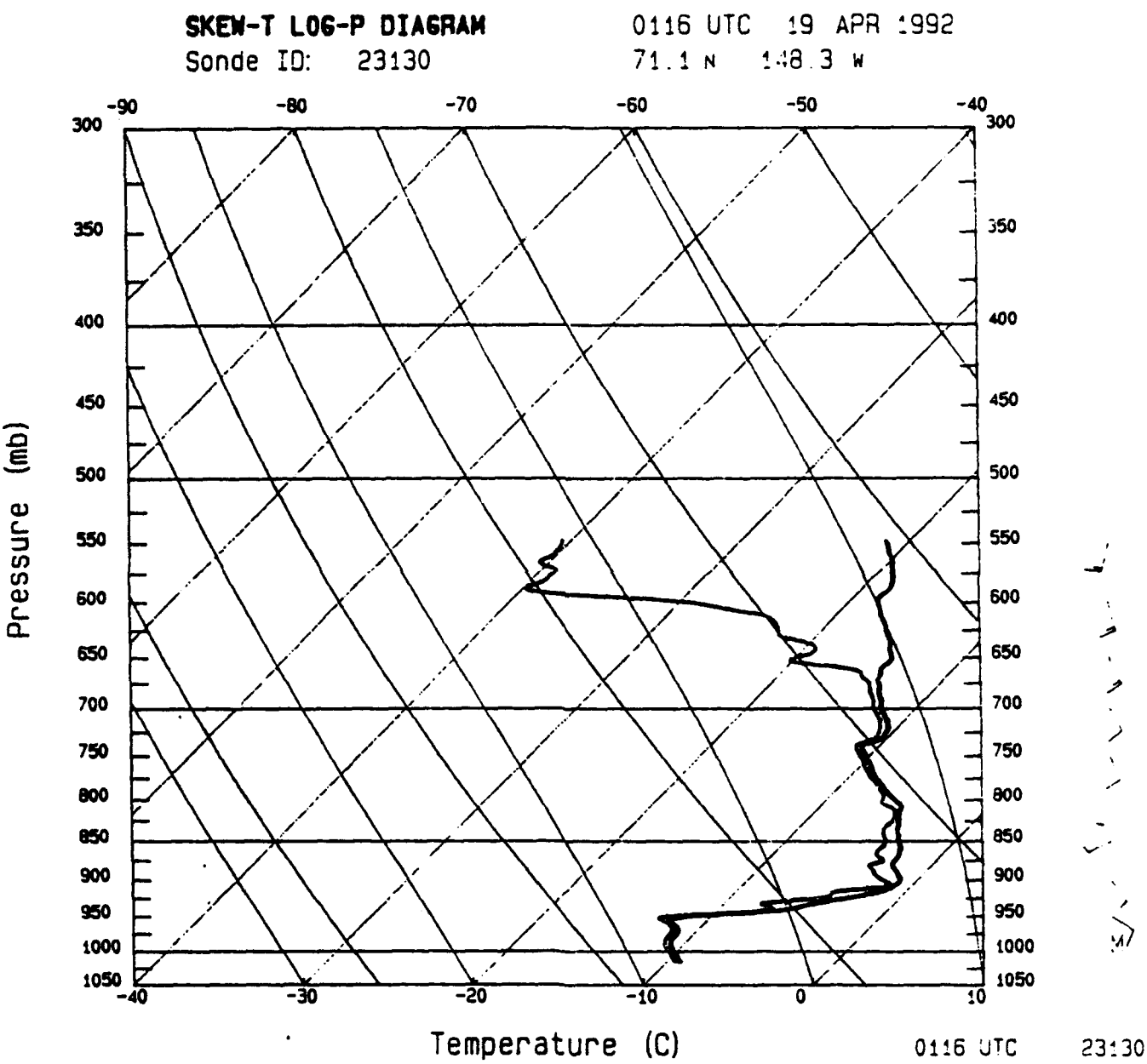
Sonde # 1580 Date 920418 Time 192041 GMT
Lat 71.2 Lon -148.2 Press 427.6 mb Height 6499 m
Flight level wind: 169 deg at 9.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
430.0	-36.5	20.4	6461	168	9.0	-1.9	8.8	-99.0
440.0	-35.6	20.2	6301	167	8.9	-2.0	8.7	-99.0
450.0	-34.3	19.9	6144	165	8.8	-2.3	8.5	-99.0
460.0	-33.2	19.8	5990	163	8.7	-2.5	8.3	-99.0
470.0	-32.2	20.9	5839	160	8.6	-2.9	8.1	-99.0
480.0	-30.9	22.2	5690	157	8.6	-3.4	7.9	-99.0
490.0	-29.7	23.4	5543	155	8.5	-3.6	7.7	.8
500.0	-28.5	22.9	5399	154	8.3	-3.6	7.5	.8
510.0	-27.2	22.1	5257	154	8.2	-3.6	7.4	.8
520.0	-25.8	20.9	5116	153	8.1	-3.7	7.2	.8
530.0	-24.6	20.4	4978	153	7.9	-3.6	7.0	.8
540.0	-23.6	19.6	4842	152	7.8	-3.7	6.9	.8
550.0	-22.9	19.2	4707	151	7.7	-3.7	6.7	.8
560.0	-22.6	26.6	4575	152	7.6	-3.6	6.7	.9
570.0	-22.0	41.5	4445	151	7.6	-3.7	6.6	.9
580.0	-20.9	47.5	4317	151	7.6	-3.7	6.6	.9
590.0	-20.1	59.0	4191	151	7.7	-3.7	6.7	.9
600.0	-19.3	65.2	4066	150	7.8	-3.9	6.8	.9
610.0	-18.4	62.0	3943	149	7.9	-4.1	6.8	.9
620.0	-17.5	58.0	3821	148	8.0	-4.2	6.8	.9
630.0	-16.6	55.5	3701	147	8.1	-4.4	6.8	.9
640.0	-15.7	54.8	3583	147	8.1	-4.4	6.8	.9
650.0	-14.9	54.4	3466	146	8.2	-4.6	6.8	.9
660.0	-14.6	59.6	3350	145	8.2	-4.7	6.7	.9
670.0	-14.2	73.1	3236	143	8.2	-4.9	6.5	.9
680.0	-14.0	90.0	3124	142	8.2	-5.0	6.5	.9
690.0	-13.5	94.9	3013	142	8.2	-5.0	6.5	1.0
700.0	-12.6	95.0	2903	141	8.1	-5.1	6.3	.9
710.0	-11.8	95.4	2794	141	8.0	-5.0	6.2	1.0
720.0	-11.1	95.6	2687	141	7.8	-4.9	6.1	.9
730.0	-10.2	94.7	2581	142	7.6	-4.7	6.0	.9
740.0	-9.9	95.4	2476	142	7.4	-4.6	5.8	.9
750.0	-10.5	96.7	2373	143	7.1	-4.3	5.7	1.0
760.0	-10.0	96.9	2271	144	6.9	-4.1	5.6	.9
770.0	-9.2	97.0	2170	146	6.6	-3.7	5.5	.9
780.0	-8.5	97.2	2070	148	6.4	-3.4	5.4	.9
790.0	-7.8	97.4	1971	149	6.1	-3.1	5.2	.9
800.0	-7.1	97.5	1873	150	6.0	-3.0	5.2	.9
810.0	-6.3	97.2	1776	149	5.8	-3.0	5.0	.9
820.0	-5.6	95.0	1679	149	5.7	-2.9	4.9	.9
830.0	-4.8	92.9	1584	147	5.7	-3.1	4.8	.9
840.0	-4.2	96.6	1490	145	5.8	-3.3	4.8	.9
850.0	-4.3	97.6	1396	142	5.9	-3.6	4.6	.9
860.0	-4.1	97.6	1304	139	6.2	-4.1	4.7	.9
870.0	-3.9	93.3	1213	136	6.6	-4.6	4.7	.9
880.0	-4.0	85.7	1123	132	7.0	-5.2	4.7	.9
890.0	-4.0	84.4	1033	129	7.5	-5.8	4.7	.9
900.0	-3.8	84.9	945	126	8.2	-6.6	4.8	.9
910.0	-3.5	80.9	858	124	8.8	-7.3	4.9	.9
920.0	-4.3	75.1	772	122	9.5	-8.1	5.0	.9
930.0	-6.5	76.7	687	120	10.2	-8.8	5.1	.9
940.0	-9.2	90.1	604	119	10.9	-9.5	5.3	.9
950.0	-10.9	95.9	522	117	11.4	-10.2	5.2	.9
960.0	-12.2	96.3	442	116	11.9	-10.7	5.2	.9
970.0	-12.8	96.4	363	-99	-99.0	-99.0	-99.0	-99.0
980.0	-13.7	96.2	285	-99	-99.0	-99.0	-99.0	-99.0
990.0	-13.9	96.1	207	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-13.5	96.2	131	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-12.9	96.1	55	-99	-99.0	-99.0	-99.0	-99.0
1017.3	-12.4	95.9	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
1943 UTC 18 APR 1992
Sonde ID: 23453
73.1 N 147.5 W
-90 -80 -70 -60 -50 -40
300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050
Pressure (mb)
-40 -30 -20 -10 0 10
Temperature (C)
1943 UTC 23453

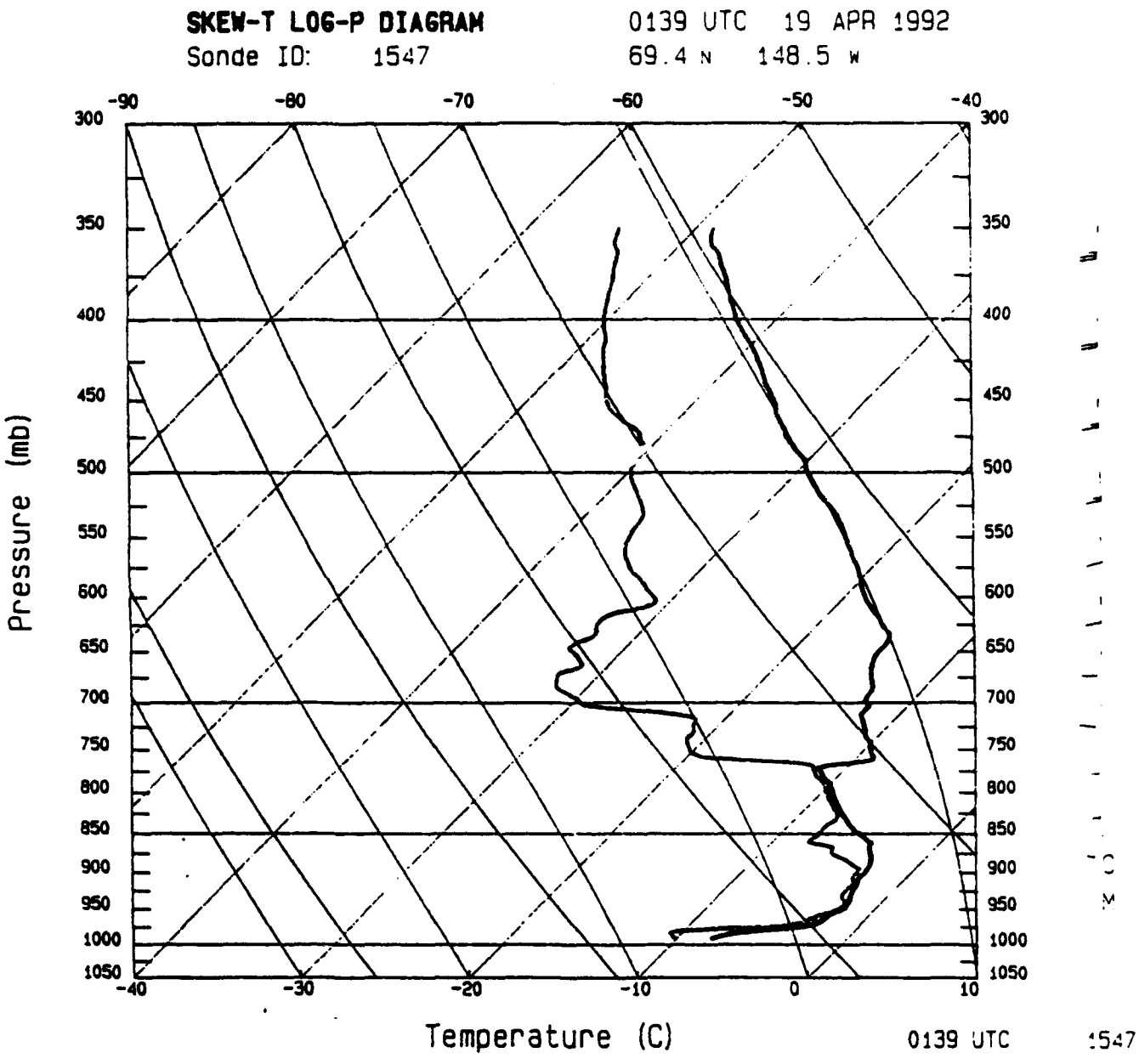
Sonde # 23453 Date 920418 Time 194356 GMT
Lat 73.1 Lon -147.5 Press 427.7 mb Height 6515 m
Flight level wind: 153 deg at 10.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
430.0	-35.2	-99.0	-99	152	10.1	-4.7	8.9	-99.0
440.0	-34.3	-99.0	-99	150	10.2	-5.1	8.8	-99.0
450.0	-33.1	-99.0	-99	147	10.5	-5.7	8.8	-99.0
460.0	-32.1	-99.0	-99	144	10.8	-6.3	8.7	-99.0
470.0	-31.2	-99.0	-99	141	11.2	-7.0	8.7	-99.0
480.0	-30.6	-99.0	-99	138	11.6	-7.8	8.6	-99.0
490.0	-30.5	-99.0	-99	136	11.9	-8.3	8.6	3.0
500.0	-29.5	-99.0	-99	134	11.7	-8.4	8.1	2.9
510.0	-28.4	-99.0	-99	132	11.5	-8.5	7.7	2.7
520.0	-27.3	-99.0	-99	130	11.2	-8.6	7.2	2.6
530.0	-26.1	-99.0	-99	129	11.0	-8.5	6.9	2.5
540.0	-24.8	-99.0	-99	127	10.7	-8.5	6.4	2.4
550.0	-23.9	-99.0	-99	126	10.5	-8.5	6.2	2.4
560.0	-23.2	-99.0	-99	125	10.4	-8.5	6.0	2.3
570.0	-22.0	-99.0	-99	124	10.4	-8.6	5.8	2.3
580.0	-21.0	-99.0	-99	124	10.5	-8.7	5.9	2.2
590.0	-19.9	-99.0	-99	124	10.8	-9.0	6.0	2.0
600.0	-19.0	-99.0	-99	124	11.1	-9.2	6.2	1.5
610.0	-18.2	-99.0	-99	124	11.5	-9.5	6.4	1.4
620.0	-17.9	-99.0	-99	124	12.0	-9.9	6.7	1.4
630.0	-17.2	-99.0	-99	124	12.5	-10.4	7.0	1.4
640.0	-16.2	-99.0	-99	124	13.0	-10.8	7.3	1.3
650.0	-15.1	-99.0	-99	124	13.4	-11.1	7.5	1.2
660.0	-14.6	-99.0	-99	123	13.8	-11.6	7.5	1.0
670.0	-14.0	-99.0	-99	123	14.1	-11.8	7.7	1.0
680.0	-13.1	-99.0	-99	122	14.4	-12.2	7.6	1.0
690.0	-12.8	-99.0	-99	121	14.6	-12.5	7.5	1.0
700.0	-12.2	-99.0	-99	121	14.9	-12.8	7.7	1.0
710.0	-11.7	-99.0	-99	120	15.2	-13.2	7.6	1.0
720.0	-11.3	-99.0	-99	119	15.4	-13.5	7.5	1.0
730.0	-10.7	-99.0	-99	118	15.6	-13.8	7.3	1.0
740.0	-10.2	-99.0	-99	118	15.8	-14.0	7.4	1.0
750.0	-9.7	-99.0	-99	117	15.9	-14.2	7.2	1.0
760.0	-9.3	-99.0	-99	117	16.0	-14.3	7.3	1.0
770.0	-9.1	-99.0	-99	117	16.1	-14.3	7.3	.9
780.0	-8.7	-99.0	-99	118	16.2	-14.3	7.6	.9
790.0	-8.9	-99.0	-99	118	16.2	-14.3	7.6	.9
800.0	-8.7	-99.0	-99	118	16.3	-14.4	7.7	.9
810.0	-8.7	-99.0	-99	119	16.4	-14.3	8.0	.9
820.0	-8.7	-99.0	-99	119	16.7	-14.6	8.1	.9
830.0	-8.1	-99.0	-99	119	17.0	-14.9	8.2	.9
840.0	-7.6	-99.0	-99	119	17.5	-15.3	8.5	.9
850.0	-7.2	-99.0	-99	119	18.0	-15.7	8.7	.9
860.0	-6.9	-99.0	-99	119	18.5	-16.2	9.0	.9
870.0	-7.3	-99.0	-99	118	19.2	-17.0	9.0	.9
880.0	-7.4	-99.0	-99	118	20.0	-17.7	9.4	.9
890.0	-7.5	-99.0	-99	117	20.8	-18.5	9.4	.9
900.0	-6.9	-99.0	-99	116	21.5	-19.3	9.4	.9
910.0	-6.8	-99.0	-99	116	22.1	-19.9	9.7	.9
920.0	-7.2	-99.0	-99	115	22.7	-20.6	9.6	.9
930.0	-7.5	-99.0	-99	114	23.1	-21.1	9.4	.9
940.0	-7.7	-99.0	-99	113	23.4	-21.5	9.1	.9
950.0	-7.6	-99.0	-99	112	23.8	-22.1	8.9	.9
960.0	-7.6	-99.0	-99	112	24.0	-22.3	9.0	.9
970.0	-7.9	-99.0	-99	112	24.0	-22.3	9.0	.9
980.0	-8.7	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
990.0	-12.1	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-15.2	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-15.6	-99.0	-99	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-15.0	-99.0	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
0116 UTC 19 APR 1992
Sonde ID: 23130
71.1 N 148.3 W
Pressure (mb)
Temperature (C)
0116 UTC 23130

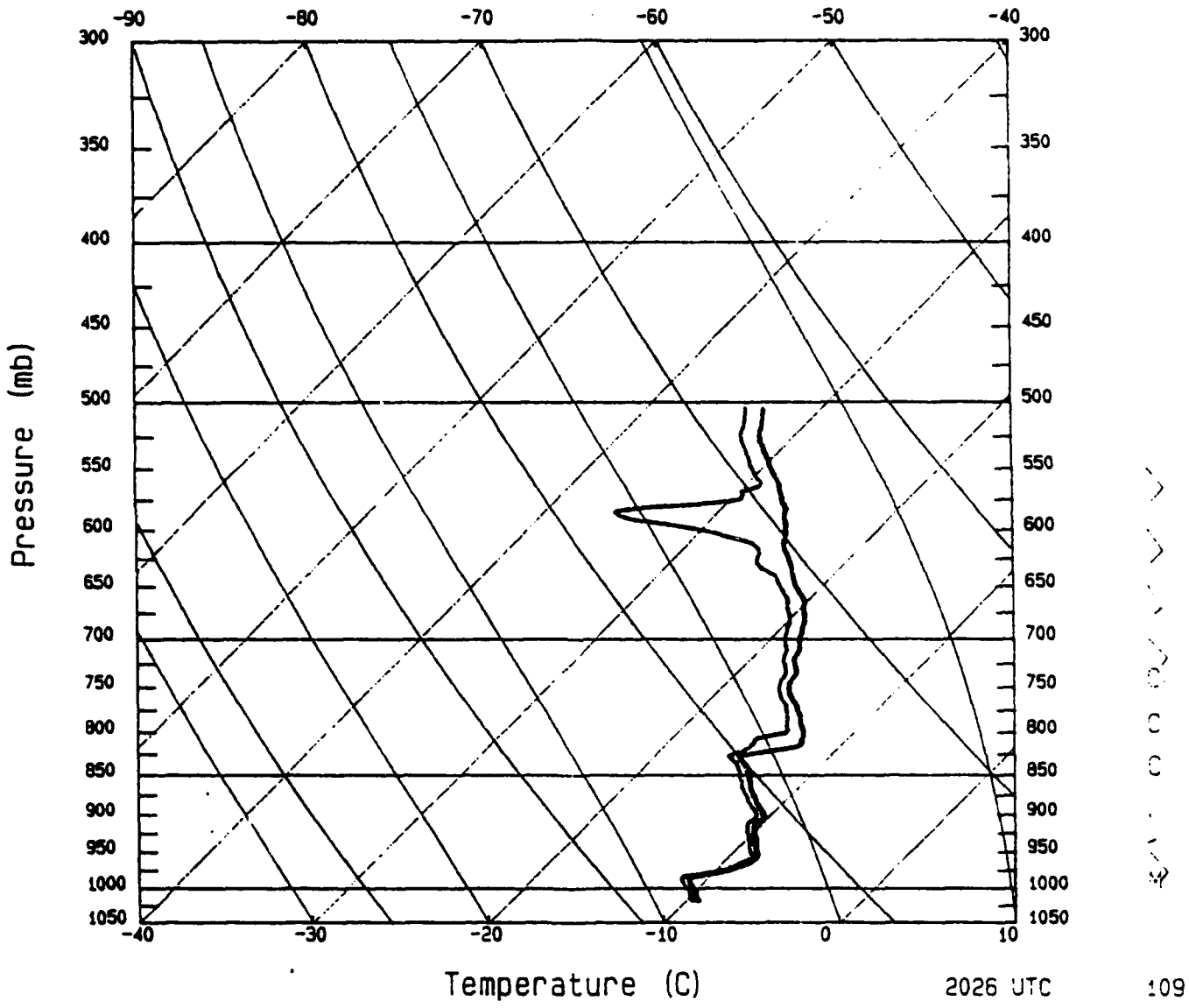
Sonde # 23130 Date 920419 Time 11640 GMT
Lat 71.1 Lon -148.3 Press 534.8 mb Height 4926 m
Flight level wind: 200 deg at 7.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
540.0	-22.2	17.3	4856	197	6.9	2.0	6.6	-99.0
550.0	-21.2	16.9	4720	195	6.8	1.8	6.6	-99.0
560.0	-20.3	15.9	4587	192	6.7	1.4	6.6	-99.0
570.0	-19.5	15.6	4456	185	6.6	.6	6.6	-99.0
580.0	-18.7	15.4	4326	179	6.6	-.1	6.6	-99.0
590.0	-18.4	14.4	4199	173	6.7	-.8	6.7	-99.0
600.0	-18.3	37.0	4073	166	6.8	-1.6	6.6	-99.0
610.0	-17.5	52.7	3950	163	6.9	-2.0	6.6	.9
620.0	-16.6	57.8	3828	161	6.9	-2.2	6.5	1.0
630.0	-15.8	58.1	3708	160	6.9	-2.4	6.5	1.0
640.0	-15.1	69.0	3589	158	6.9	-2.6	6.4	1.0
650.0	-14.4	62.8	3471	157	6.9	-2.7	6.4	1.0
660.0	-14.3	81.8	3355	155	6.9	-2.9	6.3	.9
670.0	-13.9	92.4	3241	154	6.9	-3.0	6.2	.9
680.0	-13.3	95.3	3129	154	6.8	-3.0	6.1	.9
690.0	-12.7	95.9	3017	153	6.7	-3.0	6.0	.9
700.0	-12.1	96.0	2907	153	6.5	-3.0	5.8	.9
710.0	-11.2	96.1	2799	153	6.2	-2.8	5.5	.9
720.0	-10.6	95.9	2691	153	5.9	-2.7	5.3	.9
730.0	-10.3	96.6	2585	154	5.4	-2.4	4.9	.9
740.0	-11.0	96.6	2480	155	4.9	-2.1	4.4	.9
750.0	-10.3	96.7	2377	158	4.4	-1.6	4.1	.9
760.0	-9.5	96.9	2275	161	3.9	-1.3	3.7	.9
770.0	-8.8	97.0	2174	165	3.3	-.9	3.2	.9
780.0	-7.9	97.2	2073	173	2.8	-.3	2.8	.9
790.0	-7.0	96.8	1974	183	2.3	.1	2.3	.9
800.0	-5.9	94.1	1876	196	2.0	.6	1.9	.9
810.0	-5.1	95.6	1778	212	1.8	1.0	1.5	1.0
820.0	-4.8	97.5	1682	226	1.7	1.2	1.2	1.0
830.0	-4.3	94.9	1586	236	1.7	1.4	1.0	1.0
840.0	-3.8	92.8	1492	241	1.7	1.5	.8	1.0
850.0	-3.4	93.7	1398	242	1.6	1.4	.8	1.0
860.0	-2.8	90.9	1306	237	1.4	1.2	.8	1.0
870.0	-2.5	90.6	1214	224	1.3	.9	.9	1.0
880.0	-2.4	91.3	1123	201	1.2	.4	1.1	1.0
890.0	-1.7	89.8	1033	171	1.3	-.2	1.3	1.0
900.0	-1.0	91.4	944	150	1.9	-.9	1.6	1.0
910.0	-1.1	96.7	856	139	2.6	-1.7	2.0	1.0
920.0	-2.3	85.8	769	132	3.5	-2.6	2.3	1.0
930.0	-4.4	82.0	683	127	4.4	-3.5	2.6	1.0
940.0	-6.0	93.5	599	125	5.3	-4.3	3.0	1.0
950.0	-11.3	92.1	517	123	6.1	-5.1	3.3	1.0
960.0	-11.9	96.6	437	122	6.3	-5.3	3.3	1.0
970.0	-11.2	96.6	358	-99	-99.0	-99.0	-99.0	-99.0
980.0	-11.0	96.6	279	-99	-99.0	-99.0	-99.0	-99.0
990.0	-10.8	96.7	201	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-10.2	96.8	124	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-9.6	96.9	47	-99	-99.0	-99.0	-99.0	-99.0
1016.0	-9.2	97.0	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
0139 UTC 19 APR 1992
Sonde ID: 1547
69.4 N 148.5 W
Pressure (mb)
Temperature (C)
0139 UTC 1547
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10

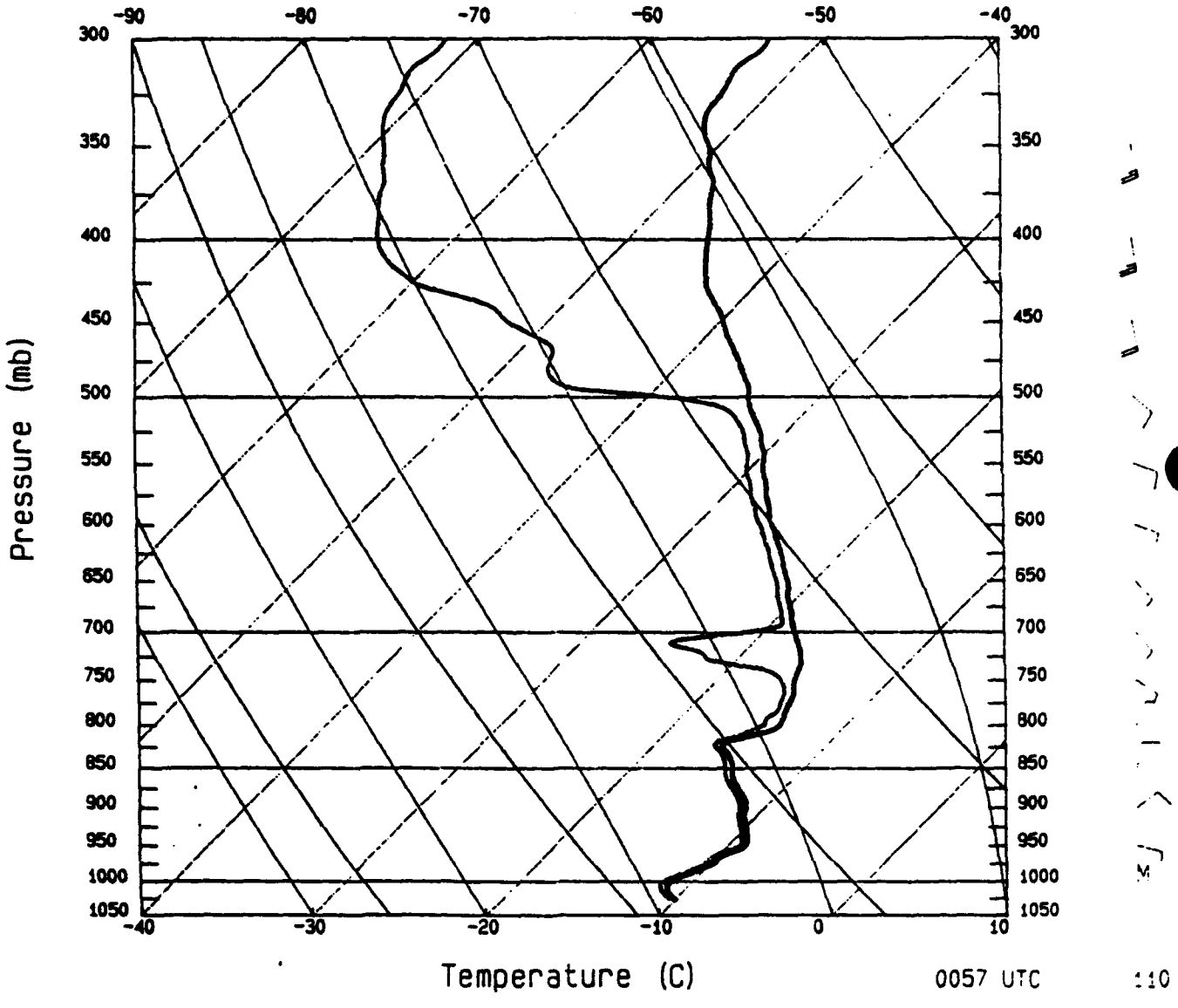
Sonde # 1547 Date 920419 Time 13959 GMT
Lat 69.4 Lon -148.5 Press 344.0 mb Height -99 m
Flight level wind: 183 deg at 12.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
350.0	-49.0	53.4	-99	183	11.8	.6	11.8	-99.0
360.0	-47.9	52.4	-99	183	11.7	.6	11.7	-99.0
370.0	-46.3	49.5	-99	182	11.3	.4	11.3	-99.0
380.0	-44.9	47.2	-99	182	11.0	.4	11.0	-99.0
390.0	-43.7	45.0	-99	182	10.6	.4	10.6	-99.0
400.0	-42.4	43.1	-99	182	10.3	.4	10.3	.9
410.0	-40.8	41.6	-99	182	10.0	.3	10.0	.9
420.0	-39.3	39.2	-99	181	9.7	.2	9.7	1.0
430.0	-38.0	37.9	-99	181	9.5	.2	9.5	1.0
440.0	-36.9	37.8	-99	181	9.3	.2	9.3	1.0
450.0	-35.5	36.8	-99	181	9.1	.2	9.1	1.0
460.0	-34.5	38.5	-99	181	8.9	.2	8.9	1.0
470.0	-33.2	42.2	-99	180	8.7	.0	8.7	1.0
480.0	-31.9	42.5	-99	180	8.5	.0	8.5	1.0
490.0	-30.4	39.6	-99	179	8.3	-.1	8.3	1.1
500.0	-29.4	36.8	-99	178	8.0	-.3	8.0	1.1
510.0	-28.2	36.3	-99	177	7.7	-.4	7.7	1.1
520.0	-26.9	36.0	-99	176	7.3	-.5	7.3	1.1
530.0	-25.5	35.0	-99	175	6.9	-.6	6.9	1.1
540.0	-24.4	33.0	-99	175	6.5	-.6	6.5	1.1
550.0	-23.4	30.8	-99	174	6.1	-.6	6.1	1.1
560.0	-22.3	29.5	-99	175	5.8	-.5	5.8	1.1
570.0	-21.4	29.4	-99	176	5.7	-.4	5.7	1.1
580.0	-20.4	30.1	-99	176	5.5	-.4	5.5	1.0
590.0	-19.7	31.8	-99	177	5.5	-.3	5.5	1.0
600.0	-18.8	33.0	-99	179	5.5	-.1	5.5	1.0
610.0	-17.7	30.0	-99	179	5.6	-.1	5.6	1.0
620.0	-16.6	23.4	-99	181	5.6	.1	5.6	1.0
630.0	-15.6	22.0	-99	184	5.5	.4	5.5	1.0
640.0	-14.9	20.6	-99	187	5.5	.7	5.5	1.0
650.0	-14.8	20.3	-99	190	5.3	.9	5.2	1.0
660.0	-14.6	22.0	-99	192	5.2	1.1	5.1	1.0
670.0	-14.1	20.4	-99	194	5.0	1.2	4.9	1.0
680.0	-13.4	19.7	-99	196	4.8	1.3	4.6	.9
690.0	-13.0	21.0	-99	196	4.7	1.3	4.5	.9
700.0	-12.6	23.4	-99	197	4.5	1.3	4.3	.9
710.0	-12.3	35.3	-99	196	4.4	1.3	4.2	.9
720.0	-11.8	44.2	-99	194	4.3	1.0	4.2	.9
730.0	-11.1	43.6	-99	192	4.2	.9	4.1	.9
740.0	-10.3	41.4	-99	190	4.1	.7	4.0	.9
750.0	-9.7	41.8	-99	188	4.1	.6	4.1	.9
760.0	-8.9	45.5	-99	186	4.0	.4	4.0	.9
770.0	-11.7	96.8	-99	186	4.0	.4	4.0	.9
780.0	-11.0	96.4	-99	185	4.0	.3	4.0	.9
790.0	-10.0	96.6	-99	185	3.9	.3	3.9	.9
800.0	-9.4	96.7	-99	186	3.8	.4	3.8	.9
810.0	-8.7	96.9	-99	188	3.6	.5	3.6	.8
820.0	-8.0	96.9	-99	189	3.5	.5	3.5	.8
830.0	-7.1	95.9	-99	192	3.2	.7	3.1	.8
840.0	-6.3	88.8	-99	196	2.9	.8	2.8	.8
850.0	-5.4	82.7	-99	201	2.6	.9	2.4	.8
860.0	-4.3	75.6	-99	208	2.3	1.1	2.0	.8
870.0	-3.8	84.4	-99	218	2.0	1.2	1.6	.8
880.0	-3.3	85.4	-99	230	1.7	1.3	1.1	.8
890.0	-2.9	91.4	-99	246	1.6	1.5	.7	.8
900.0	-2.7	96.1	-99	260	1.5	1.5	.3	.8
910.0	-2.8	97.1	-99	272	1.5	1.5	-.1	.9
920.0	-2.5	97.0	-99	281	1.6	1.6	-.3	.9
930.0	-2.3	95.7	-99	287	1.6	1.5	-.5	.9
940.0	-2.0	97.5	-99	289	1.6	1.5	-.5	.9
950.0	-2.0	97.5	-99	-99	-99.0	-99.0	-99.0	-99.0
960.0	-2.5	95.8	-99	-99	-99.0	-99.0	-99.0	-99.0
970.0	-2.7	92.6	-99	-99	-99.0	-99.0	-99.0	-99.0
980.0	-5.5	74.6	-99	-99	-99.0	-99.0	-99.0	-99.0
990.0	-7.8	81.7	-99	-99	-99.0	-99.0	-99.0	-99.0
991.8	-8.0	83.9	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2026 UTC 21 APR 1992
Sonde ID: 109
71.5 N 157.7 W
Pressure (mb)
Temperature (C)
2026 UTC 109

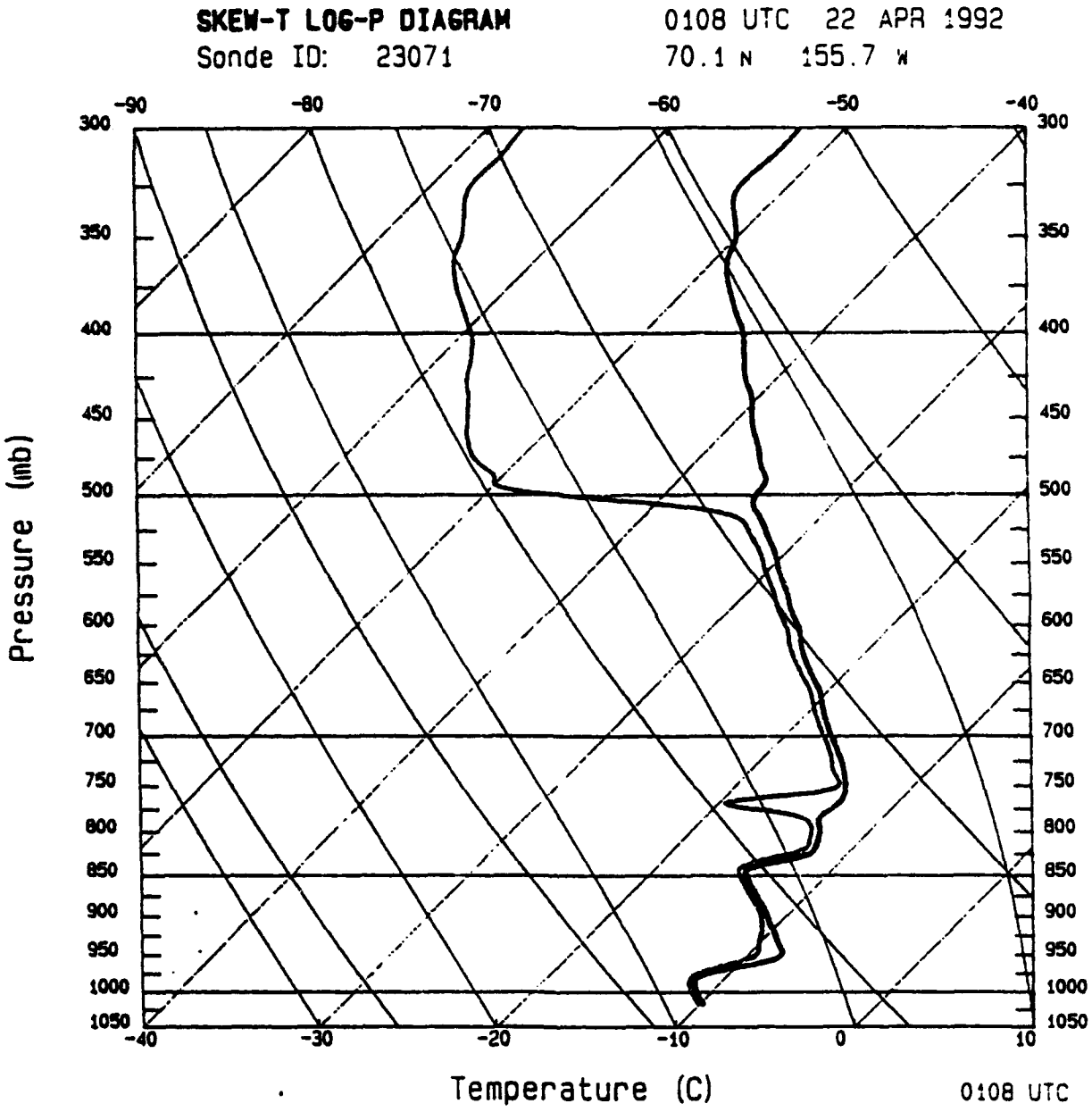
Sonde # 109 Date 920421 Time 202630 GMT
Lat 71.5 Lon -157.7 Press 501.1 mb Height 5282 m
Flight level wind: 152 deg at 6.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
510.0	-32.9	90.2	5158	150	6.0	-3.0	5.2	-99.0
520.0	-32.3	90.2	5022	149	6.0	-3.1	5.1	-99.0
530.0	-31.5	90.0	4887	147	6.0	-3.3	5.0	-99.0
540.0	-30.5	89.9	4755	144	6.0	-3.5	4.9	-99.0
550.0	-29.5	89.8	4624	142	6.1	-3.8	4.8	-99.0
560.0	-28.4	90.2	4495	139	6.1	-4.0	4.6	-99.0
570.0	-27.6	81.2	4368	139	6.0	-3.9	4.5	1.9
580.0	-26.6	56.7	4243	140	5.8	-3.7	4.4	2.0
590.0	-26.0	43.3	4119	142	5.6	-3.4	4.4	2.0
600.0	-25.2	63.8	3997	144	5.4	-3.2	4.4	2.2
610.0	-24.7	82.0	3877	146	5.2	-2.9	4.3	2.2
620.0	-23.9	86.7	3759	148	4.9	-2.6	4.2	2.2
630.0	-23.0	84.5	3641	150	4.7	-2.3	4.1	2.2
640.0	-22.3	90.6	3526	150	4.4	-2.2	3.8	2.2
650.0	-21.5	91.8	3412	151	4.1	-2.0	3.6	2.2
660.0	-20.5	91.7	3299	150	3.8	-1.9	3.3	2.2
670.0	-19.8	91.7	3188	149	3.4	-1.8	2.9	2.2
680.0	-19.2	92.6	3078	145	3.1	-1.8	2.5	2.3
690.0	-18.8	92.6	2969	141	2.7	-1.7	2.1	2.2
700.0	-18.3	92.8	2861	136	2.3	-1.6	1.7	2.2
710.0	-17.8	93.3	2755	129	2.0	-1.6	1.3	2.3
720.0	-17.5	94.4	2651	120	1.8	-1.6	.9	2.5
730.0	-16.9	94.7	2547	111	1.6	-1.5	.6	2.6
740.0	-16.5	94.8	2445	103	1.4	-1.4	.3	2.7
750.0	-16.2	94.8	2344	95	1.2	-1.2	.1	2.9
760.0	-15.6	94.7	2244	88	1.0	-1.0	-.0	3.1
770.0	-14.8	94.6	2146	81	.7	-.7	-.1	3.3
780.0	-14.1	93.8	2048	73	.4	-.4	-.1	3.3
790.0	-13.5	93.3	1951	87	.3	-.3	-.0	-99.0
800.0	-12.8	91.9	1855	115	.3	-.3	.1	-99.0
810.0	-12.4	79.8	1760	135	.4	-.3	.3	-99.0
820.0	-13.4	86.4	1666	146	.5	-.3	.4	-99.0
830.0	-15.1	95.1	1575	153	.7	-.3	.6	-99.0
840.0	-14.2	95.4	1484	158	.8	-.3	.7	-99.0
850.0	-13.6	95.6	1394	161	1.0	-.3	.9	-99.0
860.0	-13.0	95.7	1305	163	1.1	-.3	1.1	-99.0
870.0	-12.5	95.8	1217	165	1.3	-.3	1.3	-99.0
880.0	-11.8	95.9	1129	166	1.4	-.3	1.4	-99.0
890.0	-11.1	96.1	1043	168	1.6	-.3	1.6	-99.0
900.0	-10.4	96.2	957	168	1.8	-.4	1.8	-99.0
910.0	-10.4	96.3	872	169	1.9	-.4	1.9	-99.0
920.0	-10.1	96.4	787	170	2.0	-.3	2.0	-99.0
930.0	-9.6	96.3	704	170	2.2	-.4	2.2	5.3
940.0	-9.2	96.6	621	156	2.4	-1.0	2.2	5.4
950.0	-8.7	96.7	539	141	2.9	-1.8	2.3	5.3
960.0	-8.4	96.7	458	136	3.2	-2.2	2.3	5.4
970.0	-8.9	96.5	378	-99	-99.0	-99.0	-99.0	-99.0
980.0	-10.1	95.1	298	-99	-99.0	-99.0	-99.0	-99.0
990.0	-10.9	96.3	220	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-10.3	96.4	143	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-9.8	96.6	66	-99	-99.0	-99.0	-99.0	-99.0
1018.7	-9.3	96.7	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
0057 UTC 22 APR 1992
Sonde ID: 110
70.9 N 156.4 W
Pressure (mb)
Temperature (C)
0057 UTC 110

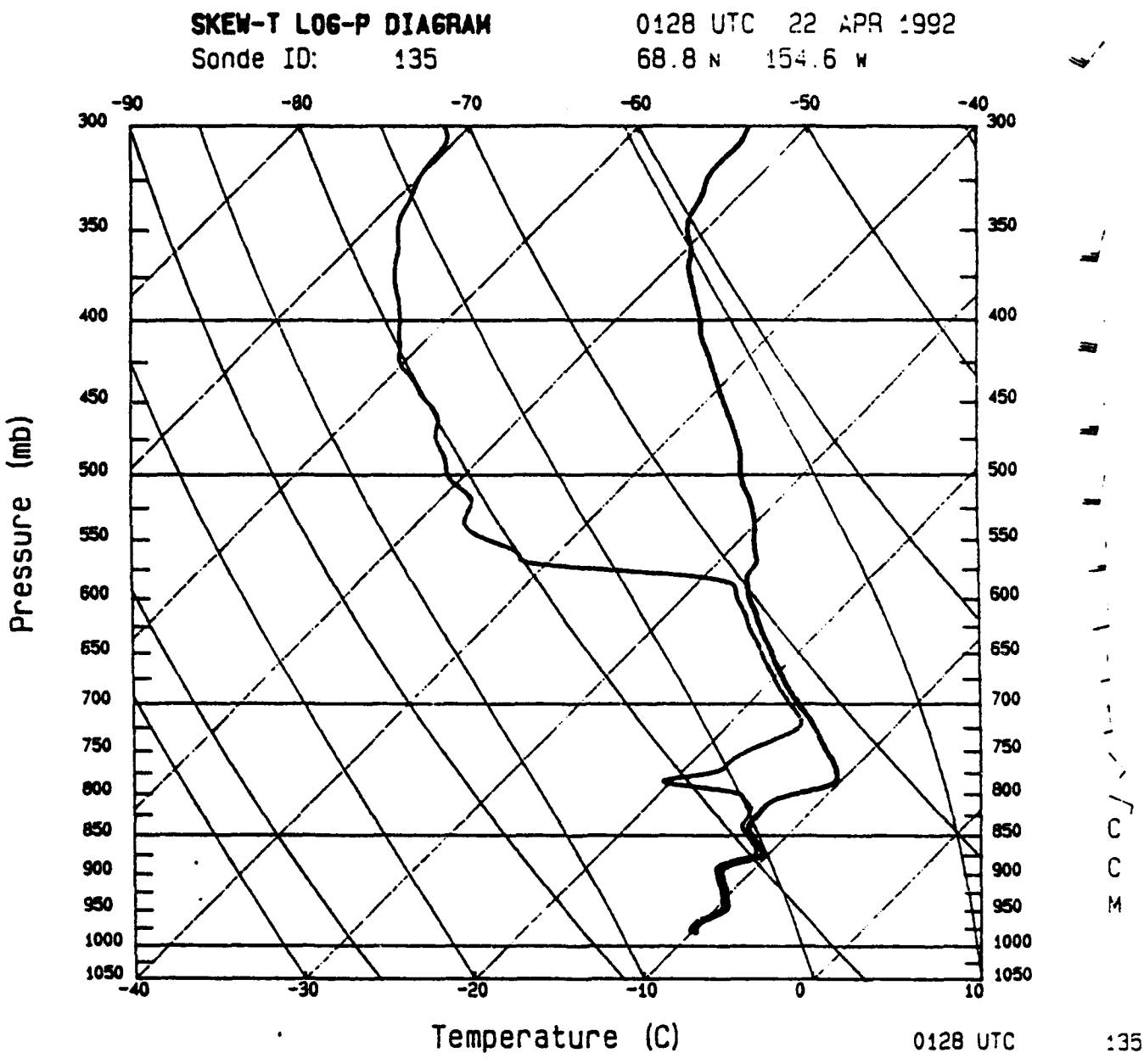
Sonde # 110 Date 920422 Time 5724 GMT
Lat 70.9 Lon -156.4 Press 286.4 mb Height -99 m
Flight level wind: 216 deg at 14.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	UDIR deg	USPD m/s	U m/s	V m/s	UERR m/s
290.0	-53.8	10.2	-99	212	13.6	7.2	11.5	-99.0
300.0	-53.2	10.1	-99	210	13.4	6.7	11.6	-99.0
310.0	-53.3	10.0	-99	203	12.8	5.0	11.8	-99.0
320.0	-53.1	10.1	-99	192	12.4	2.6	12.1	-99.0
330.0	-52.8	10.3	-99	181	12.5	.2	12.5	-99.0
340.0	-52.1	10.5	-99	171	13.0	-2.0	12.8	-99.0
350.0	-50.6	10.5	-99	167	13.4	-3.0	13.1	.8
360.0	-49.5	10.7	-99	166	13.6	-3.3	13.2	.8
370.0	-48.1	10.7	-99	166	13.6	-3.3	13.2	.8
380.0	-47.3	10.8	-99	167	13.4	-3.0	13.1	.8
390.0	-46.2	10.9	-99	169	13.1	-2.5	12.9	.8
400.0	-45.4	11.3	-99	170	12.9	-2.2	12.7	.9
410.0	-44.5	12.3	-99	171	12.7	-2.0	12.5	.9
420.0	-43.5	14.2	-99	171	12.4	-1.9	12.2	.9
430.0	-42.5	18.0	-99	170	12.1	-2.1	11.9	.9
440.0	-41.1	24.6	-99	169	11.5	-2.2	11.3	1.0
450.0	-39.8	26.9	-99	168	10.9	-2.2	10.6	1.0
460.0	-38.6	31.8	-99	166	9.9	-2.4	9.6	1.0
470.0	-37.4	33.8	-99	163	8.8	-2.6	8.4	1.0
480.0	-36.2	32.0	-99	158	7.9	-3.0	7.3	1.1
490.0	-35.0	32.9	-99	149	7.0	-3.6	6.0	1.1
500.0	-34.1	62.2	-99	133	6.5	-4.8	4.4	1.1
510.0	-33.2	87.7	-99	124	6.5	-5.4	3.6	1.1
520.0	-32.1	90.5	-99	117	6.6	-5.9	3.0	1.2
530.0	-31.1	90.9	-99	113	6.7	-6.2	2.6	1.2
540.0	-30.2	91.1	-99	111	6.7	-6.3	2.4	1.1
550.0	-29.5	91.4	-99	111	6.4	-6.0	2.3	1.1
560.0	-28.8	91.2	-99	108	6.2	-5.9	1.9	1.1
570.0	-28.0	91.7	-99	107	5.3	-5.1	1.5	1.1
580.0	-27.2	91.9	-99	107	4.8	-4.6	1.4	1.1
590.0	-26.5	92.8	-99	108	4.2	-4.0	1.3	1.1
600.0	-25.6	93.5	-99	110	3.7	-3.5	1.3	1.1
610.0	-24.7	93.5	-99	113	3.3	-3.0	1.3	1.1
620.0	-23.9	93.5	-99	121	3.0	-2.6	1.5	1.1
630.0	-23.1	93.4	-99	127	2.8	-2.2	1.7	1.0
640.0	-22.3	93.7	-99	131	2.6	-2.0	1.7	.9
650.0	-21.5	94.0	-99	136	2.5	-1.8	1.9	.9
660.0	-20.9	94.4	-99	144	2.6	-1.5	2.1	.9
670.0	-20.3	94.7	-99	144	2.6	-1.5	2.1	.9
680.0	-19.5	94.8	-99	145	2.6	-1.5	2.1	.9
690.0	-18.9	94.9	-99	142	2.5	-1.5	2.0	.9
700.0	-18.2	79.7	-99	139	2.5	-1.6	1.9	.9
710.0	-17.5	53.4	-99	136	2.6	-1.8	1.9	.9
720.0	-16.8	60.9	-99	133	2.7	-2.0	1.8	.8
730.0	-16.2	65.7	-99	132	2.8	-2.1	1.9	.8
740.0	-15.8	85.3	-99	129	2.9	-2.3	1.8	.8
750.0	-15.5	93.5	-99	125	2.8	-2.3	1.6	.8
760.0	-15.0	95.0	-99	119	2.6	-2.3	1.3	.8
770.0	-14.6	95.5	-99	107	2.1	-2.0	.6	.8
780.0	-14.4	96.0	-99	85	1.7	-1.7	-.1	.8
790.0	-14.1	93.2	-99	51	1.7	-1.3	-1.1	.8
800.0	-13.8	92.4	-99	27	2.3	-1.0	-2.0	.8
810.0	-14.7	93.0	-99	15	3.1	-.8	-3.0	.8
820.0	-16.1	95.8	-99	10	3.9	-.7	-3.8	.8
830.0	-15.5	96.1	-99	9	4.5	-.7	-4.4	.8
840.0	-14.7	96.2	-99	10	5.0	-.9	-4.9	.8
850.0	-14.1	96.2	-99	13	5.3	-1.2	-5.2	.8
860.0	-13.7	96.3	-99	16	5.4	-1.5	-5.2	.8
870.0	-13.0	96.4	-99	21	5.3	-1.9	-4.9	.8
880.0	-12.3	96.5	-99	29	5.1	-2.5	-4.5	.8
890.0	-11.6	96.6	-99	38	4.7	-2.9	-3.7	.7
900.0	-11.1	96.7	-99	48	4.3	-3.2	-2.9	.8
910.0	-10.8	96.8	-99	60	3.9	-3.4	-1.9	.8
920.0	-10.3	96.9	-99	73	3.7	-3.5	-1.1	.8
930.0	-9.8	97.0	-99	84	3.6	-3.6	-.4	.8
940.0	-9.3	97.2	-99	96	3.5	-3.5	.4	.8
950.0	-9.0	97.2	-99	105	3.5	-3.4	.9	.8
960.0	-9.5	96.6	-99	113	3.7	-3.4	1.4	.8
970.0	-9.9	96.4	-99	114	3.7	-3.4	1.5	.8
980.0	-10.2	96.4	-99	-99	-99.0	-99.0	-99.0	-99.0
990.0	-10.8	96.3	-99	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-11.3	96.3	-99	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-11.2	96.6	-99	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-10.5	96.8	-99	-99	-99.0	-99.0	-99.0	-99.0
1026.4	-10.0	97.0	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
0108 UTC 22 APR 1992
Sonde ID: 23071
70.1 N 155.7 W
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
Pressure (mb)
-40
-30
-20
-10
0
10
Temperature (C)
0108 UTC
23071
C
M

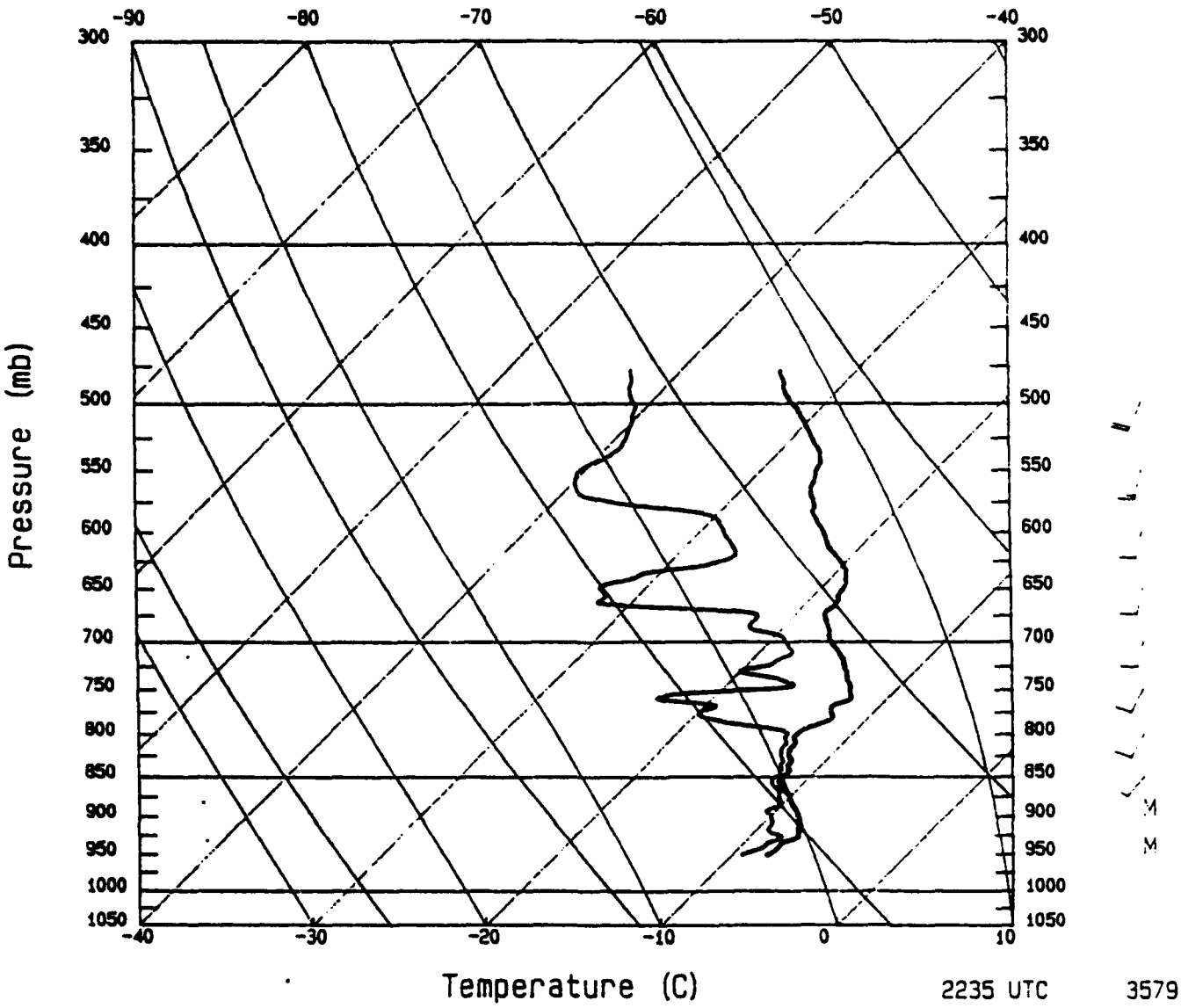
Sonde # 23071 Date 920422 Time 10849 GMT
Lat 70.1 Lon -155.7 Press 286.4 mb Height -99 m
Flight level wind: 215 deg at 14.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	UDIR deg	USPD m/s	U m/s	V m/s	UERR m/s
290.0	-53.1	15.5	-99	211	13.0	6.7	11.1	-99.0
300.0	-52.7	15.6	-99	206	11.9	5.2	10.7	-99.0
310.0	-52.6	16.0	-99	195	10.3	2.7	9.9	-99.0
320.0	-52.8	16.3	-99	181	9.2	.2	9.2	-99.0
330.0	-52.5	16.6	-99	163	8.9	-2.6	8.5	-99.0
340.0	-51.3	16.6	-99	157	9.4	-3.7	8.7	.9
350.0	-50.1	16.5	-99	162	9.9	-3.1	9.4	1.0
360.0	-49.4	16.7	-99	161	10.6	-3.5	10.0	1.1
370.0	-48.4	17.2	-99	163	10.8	-3.2	10.3	1.3
380.0	-47.1	17.5	-99	165	11.4	-3.0	11.0	1.3
390.0	-45.7	18.0	-99	167	11.8	-2.7	11.5	1.3
400.0	-44.4	18.4	-99	168	12.2	-2.5	11.9	1.2
410.0	-43.4	18.6	-99	168	12.6	-2.6	12.3	1.2
420.0	-42.4	18.5	-99	168	12.9	-2.7	12.6	1.2
430.0	-41.3	18.2	-99	167	13.0	-2.9	12.7	1.3
440.0	-40.1	18.1	-99	166	13.0	-3.1	12.6	1.3
450.0	-39.2	18.3	-99	165	12.8	-3.3	12.4	1.3
460.0	-38.2	18.2	-99	164	12.4	-3.4	11.9	1.3
470.0	-37.1	18.4	-99	163	11.7	-3.4	11.2	1.3
480.0	-36.2	19.8	-99	162	10.9	-3.4	10.4	1.3
490.0	-35.1	21.1	-99	160	10.0	-3.4	9.4	1.1
500.0	-34.8	31.6	-99	159	9.1	-3.3	8.5	1.1
510.0	-34.1	74.1	-99	158	8.2	-3.1	7.6	1.1
520.0	-32.9	90.5	-99	160	7.3	-2.5	6.9	.9
530.0	-31.9	91.5	-99	160	6.6	-2.3	6.2	.9
540.0	-30.8	92.2	-99	163	6.0	-1.8	5.7	.9
550.0	-29.9	92.7	-99	166	5.7	-1.4	5.5	.9
560.0	-29.0	92.9	-99	170	5.4	-.9	5.3	.9
570.0	-28.1	93.1	-99	174	5.3	-.6	5.3	.8
580.0	-27.2	93.3	-99	179	5.3	-.1	5.3	.8
590.0	-26.3	93.5	-99	184	5.5	.4	5.5	.8
600.0	-25.3	93.6	-99	188	5.8	.8	5.7	.8
610.0	-24.5	93.9	-99	191	6.1	1.2	6.0	.8
620.0	-23.8	94.2	-99	194	6.5	1.6	6.3	.8
630.0	-23.0	94.5	-99	195	6.9	1.8	6.7	.8
640.0	-22.1	94.8	-99	197	7.3	2.1	7.0	.8
650.0	-21.2	94.9	-99	198	7.6	2.3	7.2	.9
660.0	-20.3	95.0	-99	200	7.8	2.7	7.3	.9
670.0	-19.6	95.2	-99	201	7.9	2.8	7.4	.9
680.0	-18.9	95.5	-99	202	8.0	3.0	7.4	.9
690.0	-18.1	95.7	-99	202	7.9	3.0	7.3	.9
700.0	-17.4	95.8	-99	203	7.6	3.0	7.0	.9
710.0	-16.6	95.8	-99	203	7.3	2.9	6.7	.9
720.0	-15.8	95.5	-99	203	6.8	2.7	6.3	.9
730.0	-15.1	94.6	-99	203	6.2	2.4	5.7	.9
740.0	-14.4	95.6	-99	204	5.6	2.3	5.1	.9
750.0	-13.9	96.4	-99	204	4.8	2.0	4.4	.9
760.0	-13.4	76.3	-99	204	4.0	1.6	3.7	.9
770.0	-13.3	60.1	-99	205	3.2	1.4	2.9	.9
780.0	-13.6	84.1	-99	205	2.5	1.1	2.3	.9
790.0	-13.4	95.7	-99	208	1.7	.8	1.5	.9
800.0	-12.8	96.0	-99	215	.9	.5	.7	.9
810.0	-12.4	96.0	-99	246	.3	.3	.1	.9
820.0	-12.1	94.7	-99	1	.5	-.0	-.5	.9
830.0	-12.9	90.6	-99	17	1.0	-.3	-1.0	.9
840.0	-14.7	94.8	-99	23	1.5	-.6	-1.4	.9
850.0	-14.5	96.5	-99	29	2.0	-1.0	-1.7	.9
860.0	-13.8	96.6	-99	32	2.4	-1.3	-2.0	.8
870.0	-13.1	96.7	-99	36	2.7	-1.6	-2.2	.8
880.0	-12.4	96.8	-99	41	2.9	-1.9	-2.2	.8
890.0	-11.7	96.8	-99	45	3.2	-2.3	-2.3	.8
900.0	-11.0	96.6	-99	49	3.4	-2.6	-2.2	.8
910.0	-10.4	95.8	-99	54	3.6	-2.9	-2.1	.8
920.0	-9.8	94.2	-99	60	3.7	-3.2	-1.8	.9
930.0	-9.2	92.3	-99	66	3.8	-3.5	-1.5	.9
940.0	-8.6	90.6	-99	70	4.0	-3.8	-1.4	.9
950.0	-8.1	89.1	-99	76	4.1	-4.0	-1.0	.9
960.0	-9.0	90.1	-99	79	4.1	-4.0	-.8	.8
970.0	-10.8	94.7	-99	-99	-99.0	-99.0	-99.0	-99.0
980.0	-11.6	96.8	-99	-99	-99.0	-99.0	-99.0	-99.0
990.0	-11.4	97.0	-99	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-10.9	97.1	-99	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-10.3	97.2	-99	-99	-99.0	-99.0	-99.0	-99.0
1017.2	-9.9	97.2	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
0128 UTC 22 APR 1992
Sonde ID: 135
68.8 N 154.6 W
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
Pressure (mb)
-40
-30
-20
-10
0
10
Temperature (C)
0128 UTC
135

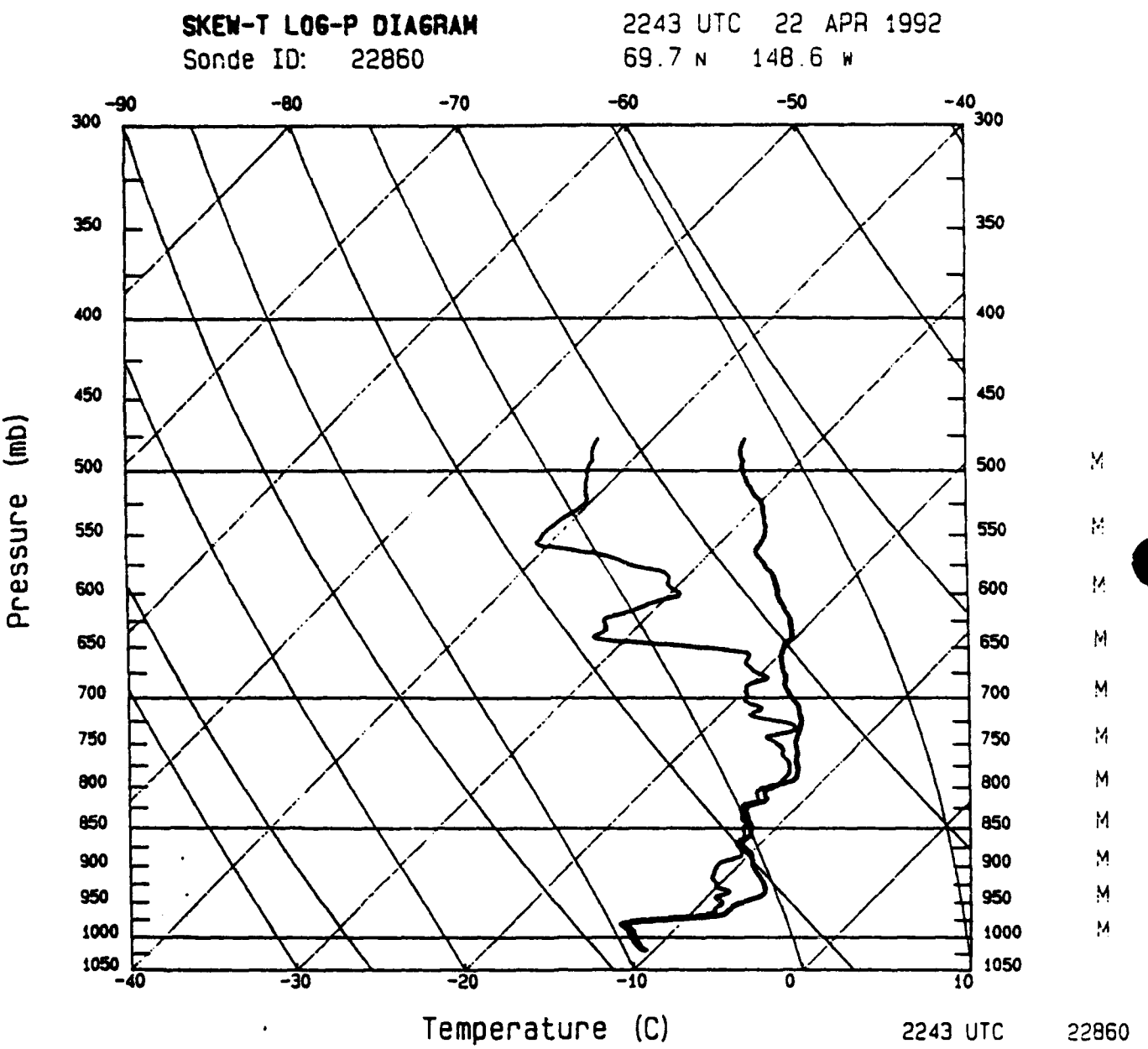
Sonde # 135 Date 920422 Time 12806 GMT
Lat 68.8 Lon -154.6 Press 286.4 mb Height -99 m
Flight level wind: 225 deg at 15.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
290.0	-54.1	8.2	-99	222	14.7	9.8	10.9	-99.0
300.0	-53.6	10.9	-99	220	14.4	9.3	11.0	-99.0
310.0	-53.1	12.2	-99	215	14.0	8.0	11.5	-99.0
320.0	-53.2	12.6	-99	208	13.6	6.4	12.0	-99.0
330.0	-52.5	12.7	-99	201	13.4	4.8	12.5	-99.0
340.0	-51.9	12.9	-99	195	13.4	3.5	12.9	.8
350.0	-51.1	13.1	-99	195	13.9	3.6	13.4	.8
360.0	-49.8	13.1	-99	195	14.4	3.7	13.9	.8
370.0	-48.8	13.2	-99	196	14.7	4.1	14.1	.8
380.0	-47.6	13.2	-99	196	14.9	4.1	14.3	.8
390.0	-46.3	13.5	-99	197	14.9	4.4	14.2	.8
400.0	-45.0	13.5	-99	197	14.7	4.3	14.1	.9
410.0	-44.0	13.6	-99	197	14.4	4.2	13.8	.9
420.0	-42.6	13.3	-99	196	14.0	3.9	13.5	1.0
430.0	-41.3	13.7	-99	195	13.5	3.5	13.0	1.0
440.0	-40.1	14.6	-99	195	13.0	3.4	12.6	1.0
450.0	-38.9	15.4	-99	195	12.5	3.2	12.1	1.0
460.0	-37.7	16.2	-99	195	12.0	3.1	11.6	1.0
470.0	-36.5	15.7	-99	195	11.5	3.0	11.1	1.0
480.0	-35.4	15.9	-99	194	11.0	2.7	10.7	.9
490.0	-34.5	16.6	-99	193	10.6	2.4	10.3	.9
500.0	-33.7	17.0	-99	191	10.1	1.9	9.9	.9
510.0	-32.7	18.3	-99	190	9.6	1.7	9.5	.9
520.0	-31.5	19.2	-99	189	9.2	1.4	9.1	.8
530.0	-30.6	18.5	-99	187	8.7	1.1	8.6	.8
540.0	-29.8	18.6	-99	185	8.3	.7	8.3	.8
550.0	-29.2	21.6	-99	183	7.9	.4	7.9	.8
560.0	-28.4	25.7	-99	181	7.3	.1	7.3	.8
570.0	-27.7	29.2	-99	179	7.0	-.1	7.0	.8
580.0	-27.4	70.2	-99	178	6.6	-.2	6.6	.8
590.0	-26.8	93.1	-99	176	6.1	-.4	6.1	.8
600.0	-26.0	93.6	-99	176	5.6	-.4	5.6	.8
610.0	-25.0	93.9	-99	176	5.0	-.3	5.0	.8
620.0	-24.2	94.1	-99	176	4.6	-.3	4.6	.8
630.0	-23.3	94.3	-99	177	4.3	-.2	4.3	.8
640.0	-22.4	94.5	-99	178	4.1	-.1	4.1	.8
650.0	-21.5	94.7	-99	178	3.9	-.1	3.9	.8
660.0	-20.6	94.9	-99	179	3.8	-.1	3.8	.8
670.0	-19.7	95.1	-99	179	3.7	-.1	3.7	.8
680.0	-18.9	95.3	-99	179	3.7	-.1	3.7	.8
690.0	-18.0	95.3	-99	177	3.9	-.2	3.9	.8
700.0	-17.0	95.3	-99	173	4.1	-.5	4.1	.8
710.0	-16.0	95.1	-99	169	4.2	-.8	4.1	.8
720.0	-15.0	94.1	-99	162	4.3	-1.3	4.1	.8
730.0	-14.2	86.6	-99	155	4.2	-1.8	3.8	.8
740.0	-13.4	76.3	-99	148	4.2	-2.2	3.6	.8
750.0	-12.6	67.3	-99	140	4.1	-2.6	3.1	.8
760.0	-11.7	61.1	-99	133	4.0	-2.9	2.7	.8
770.0	-11.0	57.3	-99	126	3.9	-3.2	2.3	.8
780.0	-10.4	46.8	-99	121	3.8	-3.3	2.0	.8
790.0	-10.6	50.5	-99	116	3.7	-3.3	1.5	.8
800.0	-12.2	78.3	-99	112	3.4	-3.2	1.3	.8
810.0	-13.0	90.1	-99	110	3.1	-2.9	1.1	.8
820.0	-13.0	95.2	-99	109	2.6	-2.5	.8	.8
830.0	-13.0	96.3	-99	109	2.1	-2.0	.7	.8
840.0	-12.7	96.5	-99	115	1.6	-1.5	.7	.8
850.0	-12.0	96.8	-99	125	1.2	-1.0	.7	.8
860.0	-11.2	96.9	-99	137	1.0	-.7	.7	.8
870.0	-10.5	96.6	-99	142	1.0	-.6	.8	.8
880.0	-10.7	94.7	-99	140	1.1	-.7	.8	.8
890.0	-11.9	96.1	-99	134	1.2	-.9	.8	.8
900.0	-11.6	96.9	-99	121	1.4	-1.2	.7	.9
910.0	-11.1	97.0	-99	107	1.6	-1.5	.5	.9
920.0	-10.5	97.1	-99	96	1.9	-1.9	.2	.8
930.0	-10.0	97.1	-99	96	1.9	-1.9	.2	.8
940.0	-9.5	97.2	-99	-99	-99.0	-99.0	-99.0	-99.0
950.0	-9.3	97.3	-99	-99	-99.0	-99.0	-99.0	-99.0
960.0	-9.9	97.2	-99	-99	-99.0	-99.0	-99.0	-99.0
970.0	-10.1	97.1	-99	-99	-99.0	-99.0	-99.0	-99.0
980.0	-9.8	97.2	-99	-99	-99.0	-99.0	-99.0	-99.0
980.8	-9.7	97.2	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2235 UTC 22 APR 1992
Sonde ID: 3579
69.0 N 148.6 W
Pressure (mb)
Temperature (C)
2235 UTC 3579

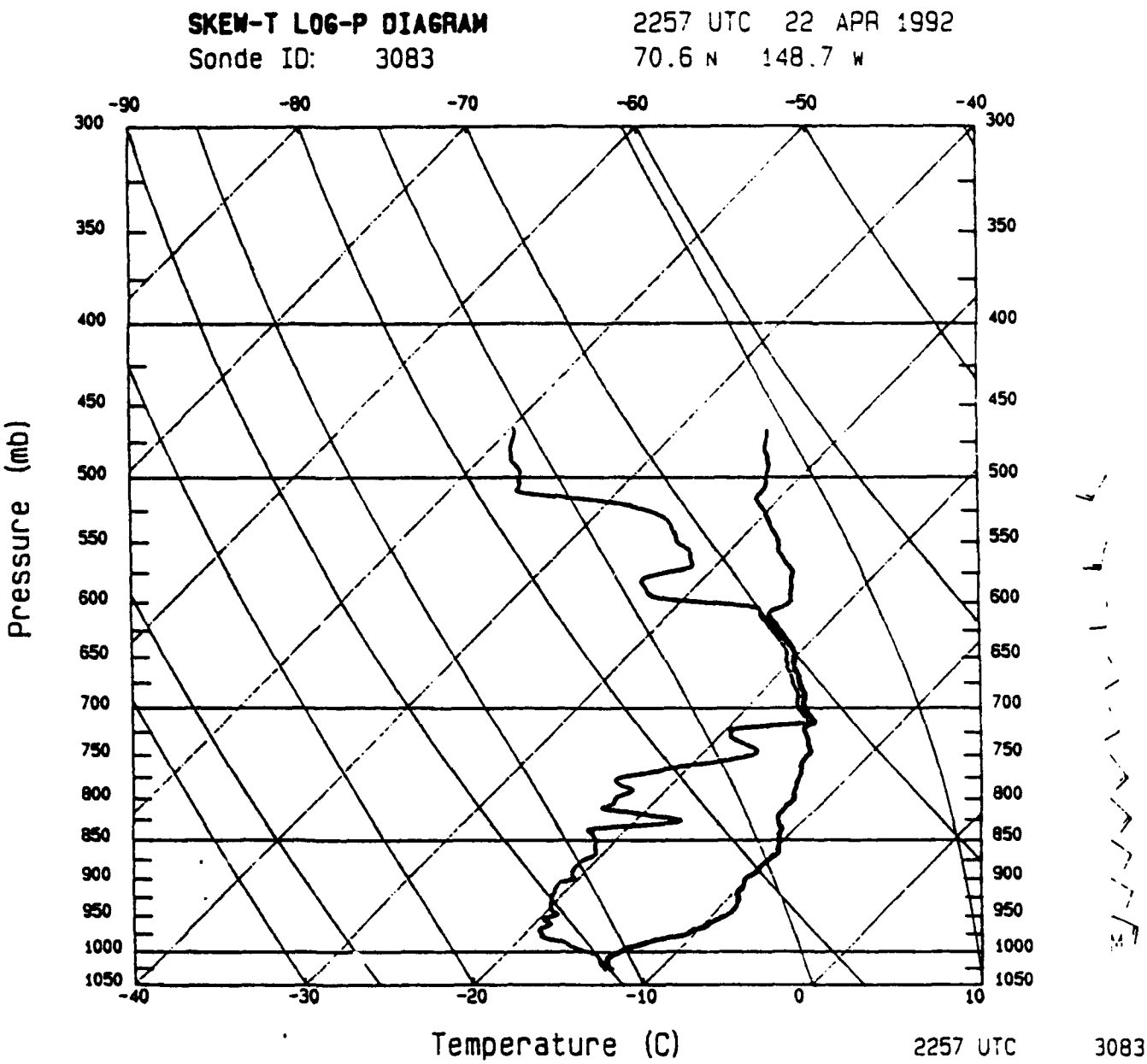
Sonde # 3579 Date 920422 Time 223512 GMT
Lat 69.0 Lon -148.6 Press 465.3 mb Height -99 m
Flight level wind: 213 deg at 10.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
470.0	-34.8	43.0	-99	211	9.9	5.1	8.5	-99.0
480.0	-34.2	42.7	-99	210	9.9	5.0	8.6	-99.0
490.0	-33.2	41.8	-99	208	9.8	4.6	8.7	-99.0
500.0	-31.9	41.4	-99	204	9.7	3.9	8.9	-99.0
510.0	-30.6	39.2	-99	201	9.6	3.4	9.0	-99.0
520.0	-29.4	37.2	-99	197	9.6	2.8	9.2	-99.0
530.0	-28.3	35.1	-99	193	9.6	2.2	9.4	1.0
540.0	-27.3	31.4	-99	194	9.1	2.2	8.8	.9
550.0	-26.8	27.6	-99	193	8.6	1.9	8.4	.9
560.0	-26.3	27.7	-99	192	8.2	1.7	8.0	.9
570.0	-25.7	29.3	-99	191	7.7	1.5	7.6	.9
580.0	-24.9	44.8	-99	191	7.2	1.4	7.1	.9
590.0	-24.0	60.2	-99	191	6.8	1.3	6.7	.9
600.0	-22.9	60.0	-99	192	6.4	1.3	6.3	.9
610.0	-22.1	61.4	-99	193	6.1	1.4	5.9	.9
620.0	-20.9	59.8	-99	194	5.7	1.4	5.5	.9
630.0	-19.8	47.4	-99	194	5.6	1.4	5.4	.9
640.0	-19.1	34.3	-99	193	5.5	1.2	5.4	.8
650.0	-18.7	29.0	-99	193	5.4	1.2	5.3	.8
660.0	-18.4	29.9	-99	192	5.3	1.1	5.2	.8
670.0	-18.4	57.7	-99	192	5.2	1.1	5.1	.8
680.0	-17.9	69.8	-99	191	5.0	1.0	4.9	.8
690.0	-17.1	71.6	-99	192	4.8	1.0	4.7	.8
700.0	-16.5	80.2	-99	193	4.7	1.1	4.6	.8
710.0	-15.5	79.9	-99	196	4.8	1.3	4.6	.8
720.0	-14.6	71.7	-99	200	4.9	1.7	4.6	.8
730.0	-13.9	59.9	-99	204	5.1	2.1	4.7	.8
740.0	-13.3	73.2	-99	206	5.2	2.3	4.7	.8
750.0	-12.6	62.6	-99	209	5.3	2.6	4.6	.9
760.0	-12.1	39.7	-99	210	5.2	2.6	4.5	.8
770.0	-12.8	57.2	-99	211	5.1	2.6	4.4	.8
780.0	-12.1	54.3	-99	211	4.9	2.5	4.2	.8
790.0	-12.8	73.2	-99	210	4.6	2.3	4.0	.8
800.0	-13.2	95.8	-99	209	4.3	2.1	3.8	.8
810.0	-12.8	95.7	-99	208	3.9	1.8	3.4	.8
820.0	-12.7	95.8	-99	208	3.5	1.6	3.1	.8
830.0	-12.0	95.9	-99	209	3.0	1.5	2.6	.9
840.0	-11.7	96.0	-99	211	2.6	1.3	2.2	.8
850.0	-11.6	96.1	-99	217	2.1	1.3	1.7	.8
860.0	-11.3	96.1	-99	227	1.7	1.2	1.2	.8
870.0	-10.4	96.0	-99	245	1.4	1.3	.6	.8
880.0	-9.8	95.0	-99	266	1.3	1.3	.1	.8
890.0	-9.1	89.6	-99	285	1.2	1.2	-.3	.8
900.0	-8.4	87.6	-99	294	1.2	1.1	-.5	.8
910.0	-7.9	87.9	-99	-99	-99.0	-99.0	-99.0	-99.0
920.0	-7.5	87.0	-99	-99	-99.0	-99.0	-99.0	-99.0
930.0	-7.5	94.0	-99	-99	-99.0	-99.0	-99.0	-99.0
940.0	-7.8	92.9	-99	-99	-99.0	-99.0	-99.0	-99.0
950.0	-8.0	89.2	-99	-99	-99.0	-99.0	-99.0	-99.0
951.2	-8.1	89.4	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2243 UTC 22 APR 1992
Sonde ID: 22860
69.7 N 148.6 W
-90 -80 -70 -60 -50 -40
300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050
-40 -30 -20 -10 0 10
Pressure (mb)
Temperature (C)
2243 UTC 22860

Sonde # 22860 Date 920422 Time 224336 GMT
Lat 69.7 Lon -148.6 Press 465.3 mb Height -99 m
Flight level wind: 211 deg at 11.0 m/s

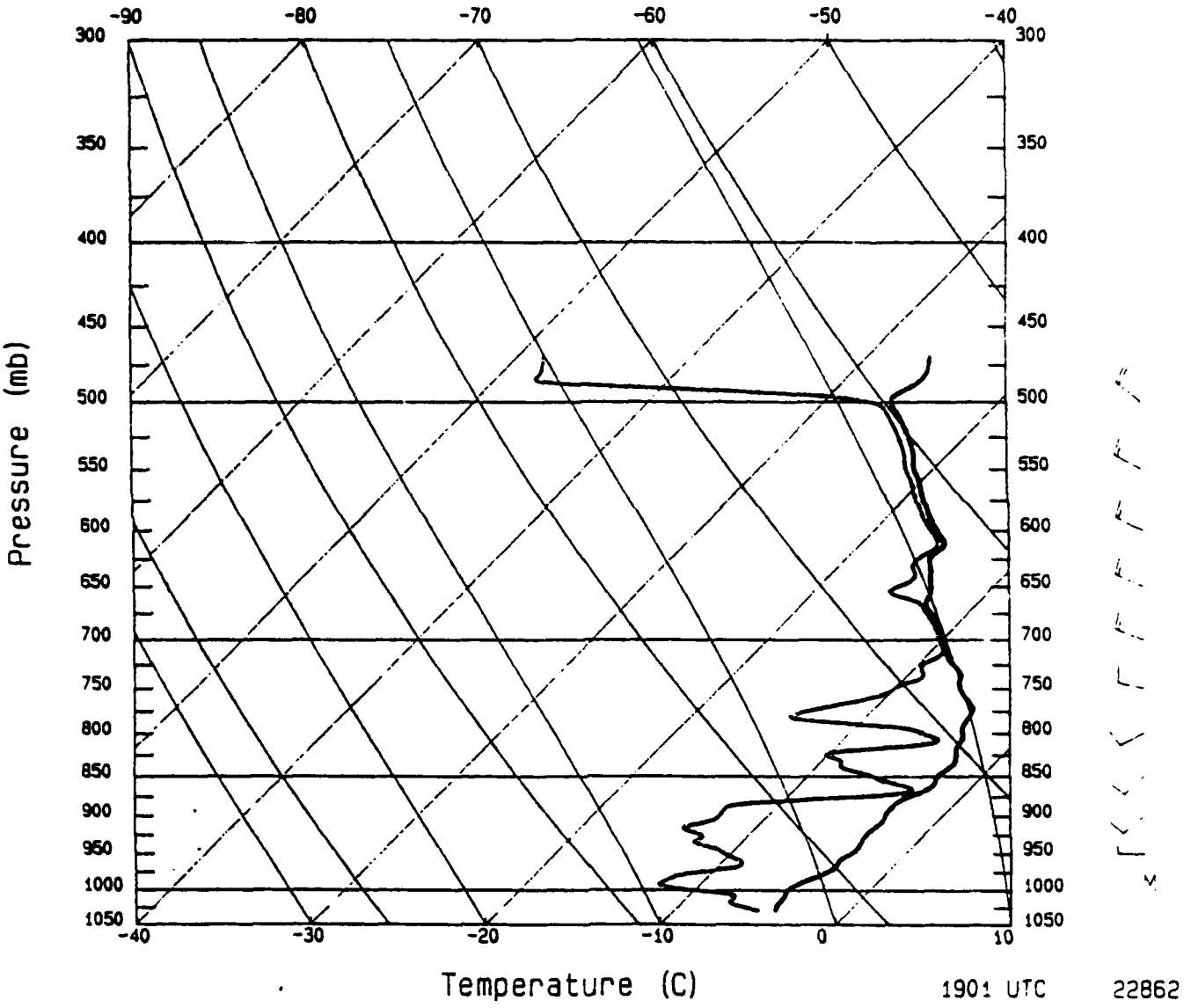
PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
470.0	-34.8	42.2	-99	-99	-99.0	-99.0	-99.0	-99.0
480.0	-34.6	42.0	-99	-99	-99.0	-99.0	-99.0	-99.0
490.0	-33.9	41.8	-99	-99	-99.0	-99.0	-99.0	-99.0
500.0	-33.0	40.6	-99	-99	-99.0	-99.0	-99.0	-99.0
510.0	-31.9	39.2	-99	-99	-99.0	-99.0	-99.0	-99.0
520.0	-30.5	37.5	-99	-99	-99.0	-99.0	-99.0	-99.0
530.0	-29.4	34.8	-99	-99	-99.0	-99.0	-99.0	-99.0
540.0	-28.6	30.9	-99	-99	-99.0	-99.0	-99.0	-99.0
550.0	-27.8	28.3	-99	-99	-99.0	-99.0	-99.0	-99.0
560.0	-27.5	30.6	-99	-99	-99.0	-99.0	-99.0	-99.0
570.0	-26.7	45.2	-99	-99	-99.0	-99.0	-99.0	-99.0
580.0	-25.5	54.8	-99	-99	-99.0	-99.0	-99.0	-99.0
590.0	-24.5	56.4	-99	-99	-99.0	-99.0	-99.0	-99.0
600.0	-23.7	59.3	-99	-99	-99.0	-99.0	-99.0	-99.0
610.0	-22.8	48.8	-99	-99	-99.0	-99.0	-99.0	-99.0
620.0	-21.8	39.6	-99	-99	-99.0	-99.0	-99.0	-99.0
630.0	-21.0	37.2	-99	-99	-99.0	-99.0	-99.0	-99.0
640.0	-20.3	35.1	-99	-99	-99.0	-99.0	-99.0	-99.0
650.0	-20.2	62.5	-99	-99	-99.0	-99.0	-99.0	-99.0
660.0	-19.7	84.5	-99	-99	-99.0	-99.0	-99.0	-99.0
670.0	-19.1	84.5	-99	-99	-99.0	-99.0	-99.0	-99.0
680.0	-18.3	90.7	-99	-99	-99.0	-99.0	-99.0	-99.0
690.0	-17.7	81.4	-99	-99	-99.0	-99.0	-99.0	-99.0
700.0	-16.8	79.2	-99	-99	-99.0	-99.0	-99.0	-99.0
710.0	-15.8	81.7	-99	-99	-99.0	-99.0	-99.0	-99.0
720.0	-15.1	78.1	-99	-99	-99.0	-99.0	-99.0	-99.0
730.0	-14.6	96.2	-99	-99	-99.0	-99.0	-99.0	-99.0
740.0	-14.2	89.3	-99	-99	-99.0	-99.0	-99.0	-99.0
750.0	-13.8	90.9	-99	-99	-99.0	-99.0	-99.0	-99.0
760.0	-13.2	92.8	-99	-99	-99.0	-99.0	-99.0	-99.0
770.0	-12.8	95.9	-99	-99	-99.0	-99.0	-99.0	-99.0
780.0	-12.1	95.4	-99	-99	-99.0	-99.0	-99.0	-99.0
790.0	-11.8	94.3	-99	-99	-99.0	-99.0	-99.0	-99.0
800.0	-12.7	96.4	-99	-99	-99.0	-99.0	-99.0	-99.0
810.0	-12.6	95.6	-99	-99	-99.0	-99.0	-99.0	-99.0
820.0	-12.6	96.2	-99	-99	-99.0	-99.0	-99.0	-99.0
830.0	-12.7	96.8	-99	-99	-99.0	-99.0	-99.0	-99.0
840.0	-12.1	96.8	-99	-99	-99.0	-99.0	-99.0	-99.0
850.0	-11.5	96.2	-99	-99	-99.0	-99.0	-99.0	-99.0
860.0	-11.1	96.6	-99	-99	-99.0	-99.0	-99.0	-99.0
870.0	-11.2	97.1	-99	-99	-99.0	-99.0	-99.0	-99.0
880.0	-10.3	96.2	-99	-99	-99.0	-99.0	-99.0	-99.0
890.0	-9.6	91.9	-99	-99	-99.0	-99.0	-99.0	-99.0
900.0	-9.1	84.2	-99	-99	-99.0	-99.0	-99.0	-99.0
910.0	-8.5	81.5	-99	-99	-99.0	-99.0	-99.0	-99.0
920.0	-7.7	79.3	-99	-99	-99.0	-99.0	-99.0	-99.0
930.0	-7.1	79.8	-99	-99	-99.0	-99.0	-99.0	-99.0
940.0	-6.8	82.8	-99	-99	-99.0	-99.0	-99.0	-99.0
950.0	-7.7	90.9	-99	-99	-99.0	-99.0	-99.0	-99.0
960.0	-8.0	92.9	-99	-99	-99.0	-99.0	-99.0	-99.0
970.0	-8.6	89.6	-99	-99	-99.0	-99.0	-99.0	-99.0
980.0	-13.0	95.4	-99	-99	-99.0	-99.0	-99.0	-99.0
990.0	-12.5	97.0	-99	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-11.9	97.1	-99	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-11.3	97.2	-99	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-10.6	97.4	-99	-99	-99.0	-99.0	-99.0	-99.0
1021.4	-10.5	97.5	-99	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
2257 UTC 22 APR 1992
Sonde ID: 3083
70.6 N 148.7 W
-90 -80 -70 -60 -50 -40
300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050
-40 -30 -20 -10 0 10
Pressure (mb)
Temperature (C)
2257 UTC 3083

Sonde # 3083 Date 920422 Time 225720 GMT
Lat 70.6 Lon -148.7 Press 465.3 mb Height 5896 m

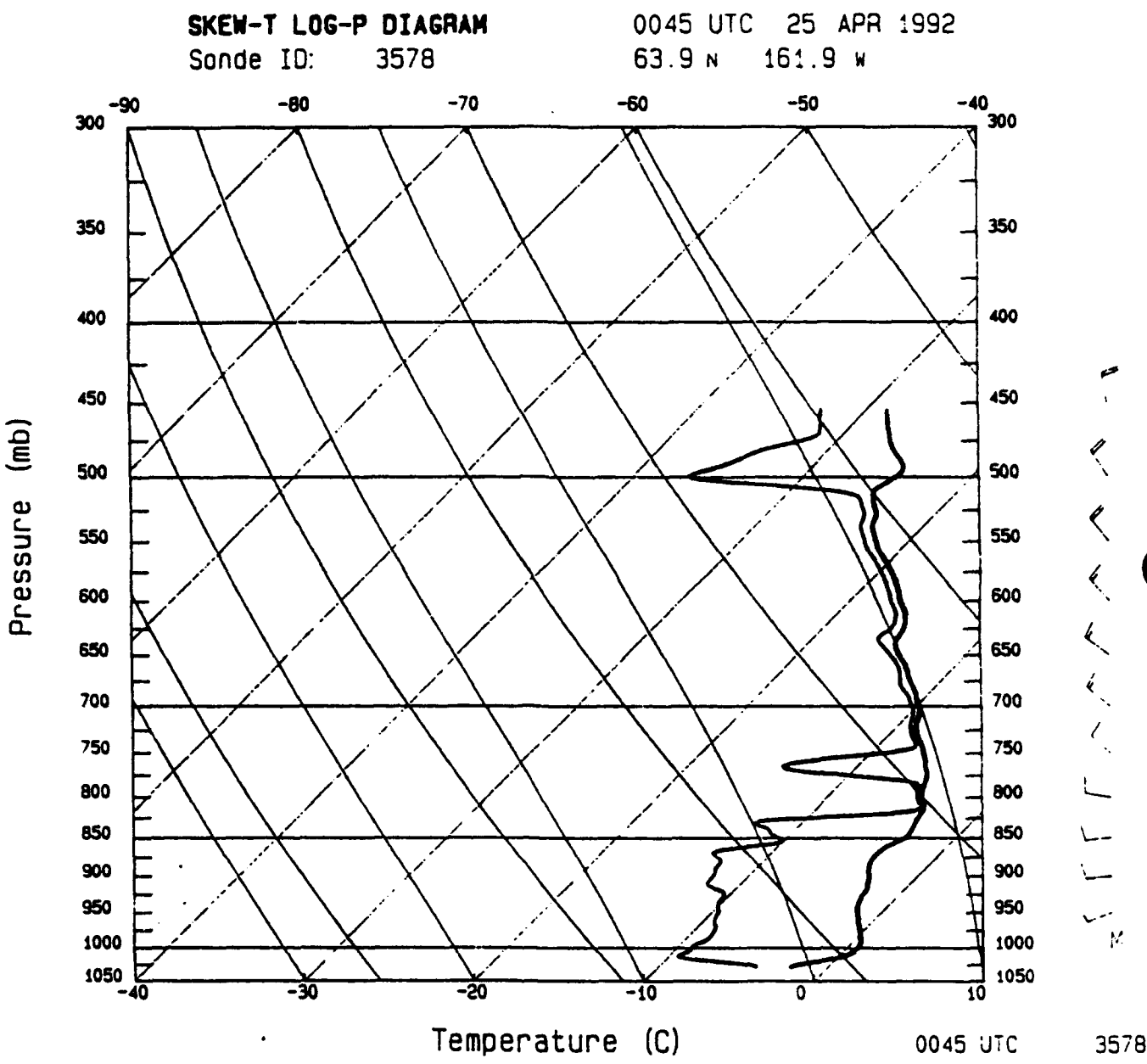
Flight level wind: 225 deg at 11.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
470.0	-34.5	21.6	5826	223	10.6	7.2	7.8	-99.0
480.0	-33.8	21.6	5679	221	10.3	6.8	7.8	-99.0
490.0	-32.7	21.7	5534	217	9.7	5.8	7.7	-99.0
500.0	-32.1	23.1	5391	212	9.2	4.9	7.8	-99.0
510.0	-31.5	23.4	5251	207	8.7	3.9	7.8	-99.0
520.0	-31.0	44.7	5114	201	8.3	3.0	7.7	-99.0
530.0	-29.7	55.3	4978	198	7.8	2.4	7.4	.8
540.0	-28.7	57.1	4845	196	7.5	2.1	7.2	.8
550.0	-27.6	56.7	4713	195	7.3	1.9	7.1	.8
560.0	-26.7	60.6	4583	195	7.1	1.8	6.9	.8
570.0	-25.5	58.3	4455	195	7.0	1.8	6.8	.8
580.0	-24.7	44.3	4329	193	6.9	1.6	6.7	.8
590.0	-24.0	45.6	4205	190	6.8	1.2	6.7	.8
600.0	-23.5	61.8	4082	185	6.6	.6	6.6	.8
610.0	-24.1	94.9	3961	177	6.3	-.3	6.3	.8
620.0	-23.0	94.9	3842	168	6.3	-1.3	6.2	.8
630.0	-21.9	95.2	3725	161	6.3	-2.1	6.0	.7
640.0	-20.8	95.4	3609	158	6.2	-2.3	5.7	.7
650.0	-20.1	95.6	3494	158	6.1	-2.3	5.7	.7
660.0	-19.4	95.7	3380	159	5.7	-2.0	5.3	.7
670.0	-18.6	95.8	3268	161	5.5	-1.8	5.2	.7
680.0	-17.9	96.1	3159	162	5.4	-1.7	5.1	.7
690.0	-17.1	96.2	3048	162	5.1	-1.6	4.9	.8
700.0	-16.5	96.2	2940	159	5.2	-1.9	4.9	.7
710.0	-15.5	96.1	2833	155	5.4	-2.3	4.9	.8
720.0	-15.4	76.9	2728	151	5.8	-2.8	5.1	.8
730.0	-14.8	68.0	2624	148	6.3	-3.3	5.3	.8
740.0	-14.1	74.0	2520	145	6.8	-3.9	5.6	.8
750.0	-13.6	75.6	2418	144	7.3	-4.3	5.9	.8
760.0	-13.5	61.1	2318	143	7.7	-4.6	6.1	.8
770.0	-13.0	47.0	2218	142	8.0	-4.9	6.3	.8
780.0	-12.7	40.6	2120	141	8.3	-5.2	6.5	.7
790.0	-12.4	44.9	2023	138	8.1	-5.4	6.0	.7
800.0	-11.9	41.3	1926	135	7.8	-5.5	5.5	.7
810.0	-11.9	40.5	1831	133	7.4	-5.4	5.0	.7
820.0	-11.8	52.8	1737	130	6.8	-5.2	4.4	.7
830.0	-11.3	57.6	1645	128	6.3	-5.0	3.9	.6
840.0	-10.7	39.0	1553	126	5.8	-4.7	3.4	.6
850.0	-10.3	40.7	1462	126	5.4	-4.4	3.2	.6
860.0	-9.9	40.8	1371	129	5.2	-4.0	3.3	.5
870.0	-9.6	41.2	1282	129	5.4	-4.2	3.4	.5
880.0	-9.8	40.4	1194	126	5.4	-4.4	3.2	.4
890.0	-9.8	40.5	1107	123	5.6	-4.7	3.0	.4
900.0	-10.1	43.3	1021	121	6.2	-5.3	3.2	.4
910.0	-9.8	40.4	936	118	6.7	-5.9	3.1	.4
920.0	-9.7	40.9	851	116	7.3	-6.6	3.2	.4
930.0	-9.3	40.5	768	114	7.7	-7.0	3.1	.4
940.0	-9.0	41.1	685	113	7.9	-7.3	3.1	.4
950.0	-9.2	44.1	603	113	7.8	-7.2	3.0	.3
960.0	-9.7	46.1	522	113	7.9	-7.3	3.1	.3
970.0	-10.2	47.2	442	114	7.1	-6.5	2.9	.3
980.0	-11.2	53.6	364	114	7.0	-6.4	2.8	.3
990.0	-12.5	70.0	286	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-13.3	83.5	209	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-13.7	95.3	134	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-13.3	96.4	59	-99	-99.0	-99.0	-99.0	-99.0
1027.9	-12.8	96.5	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
1901 UTC 24 APR 1992
Sonde ID: 22862
64.4 N 164.2 W
Pressure (mb)
Temperature (C)
1901 UTC 22862
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
-40
-30
-20
-10
0
10

Sonde # 22862 Date 920424 Time 190107 GMT
Lat 64.4 Lon -164.2 Press 465.2 mb Height 6090 m
Flight level wind: 315 deg at 14.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
470.0	-26.4	11.5	6016	314	13.4	9.6	-9.3	-99.0
480.0	-25.8	11.7	5864	313	13.0	9.5	-8.9	-99.0
490.0	-25.9	21.0	5714	311	12.1	9.1	-7.9	-99.0
500.0	-26.2	88.5	5568	308	11.1	8.7	-6.8	-99.0
510.0	-25.0	94.5	5425	304	10.1	8.4	-5.6	-99.0
520.0	-23.8	94.7	5283	300	9.2	8.0	-4.6	-99.0
530.0	-22.8	94.8	5144	298	8.6	7.6	-4.0	1.0
540.0	-21.8	95.1	5006	298	8.2	7.2	-3.8	1.0
550.0	-21.1	95.4	4871	298	7.9	7.0	-3.7	1.0
560.0	-20.1	95.7	4738	298	7.5	6.6	-3.5	1.2
570.0	-19.2	95.9	4606	298	7.3	6.4	-3.4	1.2
580.0	-18.4	96.0	4477	298	7.2	6.4	-3.4	1.3
590.0	-17.5	96.2	4349	297	7.2	6.4	-3.3	1.2
600.0	-16.4	96.4	4223	296	7.2	6.5	-3.2	1.2
610.0	-15.4	96.5	4098	296	7.3	6.6	-3.2	1.2
620.0	-15.2	95.9	3975	295	7.4	6.7	-3.1	1.2
630.0	-14.9	92.0	3854	295	7.6	6.9	-3.2	1.2
640.0	-14.2	92.4	3735	294	7.7	7.0	-3.1	1.2
650.0	-13.6	85.8	3617	294	7.8	7.1	-3.2	1.2
660.0	-13.1	88.1	3501	293	7.9	7.3	-3.1	1.2
670.0	-12.6	97.4	3386	293	7.9	7.3	-3.1	1.2
680.0	-11.6	97.4	3272	292	7.8	7.2	-2.9	1.2
690.0	-10.7	97.6	3160	292	7.5	7.0	-2.8	1.2
700.0	-10.0	97.7	3049	291	7.2	6.7	-2.6	1.2
710.0	-9.2	97.9	2940	291	6.8	6.3	-2.4	1.2
720.0	-8.5	92.6	2831	290	6.4	6.0	-2.2	1.2
730.0	-7.5	84.4	2724	288	6.0	5.7	-1.9	1.2
740.0	-6.8	83.1	2618	286	5.5	5.3	-1.5	1.2
750.0	-6.3	74.5	2513	282	5.0	4.9	-1.0	1.2
760.0	-5.4	66.0	2409	277	4.6	4.6	-.6	1.2
770.0	-4.5	52.9	2307	271	4.3	4.3	-.1	1.0
780.0	-4.1	44.8	2205	262	4.1	4.1	.6	1.0
790.0	-4.0	62.6	2104	253	4.1	3.9	1.2	.9
800.0	-3.6	83.6	2005	245	4.2	3.8	1.8	.9
810.0	-3.2	90.1	1907	239	4.4	3.8	2.3	1.0
820.0	-2.9	63.0	1810	234	4.7	3.8	2.8	1.0
830.0	-2.5	59.1	1714	231	4.9	3.8	3.1	1.0
840.0	-2.4	62.5	1618	228	5.2	3.9	3.5	1.0
850.0	-2.6	75.0	1525	226	5.4	3.9	3.8	1.1
860.0	-2.3	84.9	1432	226	5.6	4.0	3.9	1.1
870.0	-2.7	94.5	1340	226	5.6	4.0	3.9	1.1
880.0	-3.3	64.0	1249	226	5.5	4.0	3.8	1.1
890.0	-3.4	47.9	1160	227	5.3	3.9	3.6	1.1
900.0	-3.3	47.8	1072	230	5.0	3.8	3.2	1.1
910.0	-3.1	45.0	984	233	4.6	3.7	2.8	1.1
920.0	-3.3	44.3	898	238	4.1	3.5	2.2	1.1
930.0	-3.3	48.6	812	245	3.6	3.3	1.5	1.1
940.0	-3.1	50.5	728	254	3.2	3.1	.9	1.1
950.0	-3.1	56.7	644	267	2.8	2.8	.1	1.2
960.0	-3.4	64.3	561	281	2.7	2.7	-.5	1.2
970.0	-3.3	63.8	479	294	2.7	2.5	-1.1	1.2
980.0	-3.7	53.8	398	294	2.7	2.5	-1.1	1.2
990.0	-4.3	53.5	318	-99	-99.0	-99.0	-99.0	-99.0
1000.0	-4.8	63.6	239	-99	-99.0	-99.0	-99.0	-99.0
1010.0	-4.5	80.5	161	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-4.5	81.0	83	-99	-99.0	-99.0	-99.0	-99.0
1030.0	-4.3	91.4	6	-99	-99.0	-99.0	-99.0	-99.0
1030.8	-4.2	92.4	0	-99	-99.0	-99.0	-99.0	-99.0


SKEW-T LOG-P DIAGRAM
0045 UTC 25 APR 1992
Sonde ID: 3578
63.9 N 161.9 W
-90
-80
-70
-60
-50
-40
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
Pressure (mb)
-40
-30
-20
-10
0
10
Temperature (C)
0045 UTC
3578

Sonde # 3578 Date 920425 Time 4533 GMT
Lat 63.9 Lon -161.9 Press 445.1 mb Height 6395 m
Flight level wind: 352 deg at 11.0 m/s

PRESS mb	TEMP C	HUM %	GEOP m	WDIR deg	WSPD m/s	U m/s	V m/s	WERR m/s
450.0	-29.1	69.3	6317	349	10.9	2.1	-10.7	-99.0
460.0	-28.3	68.8	6159	348	10.8	2.2	-10.6	-99.0
470.0	-27.4	68.0	6005	343	10.7	3.1	-10.2	-99.0
480.0	-26.3	51.0	5853	337	10.7	4.2	-9.8	-99.0
490.0	-25.0	39.3	5704	332	10.7	5.0	-9.4	-99.0
500.0	-24.5	32.1	5557	326	10.9	6.1	-9.0	-99.0
510.0	-25.0	77.4	5413	322	11.2	6.9	-8.8	.9
520.0	-24.3	93.4	5271	321	11.5	7.2	-8.9	.9
530.0	-23.4	93.6	5132	321	11.6	7.3	-9.0	.9
540.0	-22.9	93.7	4995	321	11.3	7.1	-8.8	.9
550.0	-21.9	93.9	4861	322	10.9	6.7	-8.6	.9
560.0	-20.9	94.2	4728	323	10.4	6.3	-8.3	.9
570.0	-19.8	94.4	4597	323	9.9	6.0	-7.9	.9
580.0	-18.8	94.7	4467	322	9.5	5.8	-7.5	.9
590.0	-17.9	94.8	4340	320	9.2	5.9	-7.0	.9
600.0	-17.0	95.0	4214	318	9.1	6.1	-6.8	.9
610.0	-16.1	95.1	4089	315	9.0	6.4	-6.4	.9
620.0	-15.5	94.7	3967	312	9.0	6.7	-6.0	.9
630.0	-15.1	91.1	3846	309	9.1	7.1	-5.7	.9
640.0	-14.8	92.9	3727	308	9.2	7.2	-5.7	.9
650.0	-13.9	95.4	3609	306	9.3	7.5	-5.5	.9
660.0	-13.0	95.7	3493	306	9.3	7.5	-5.5	.9
670.0	-12.2	95.6	3378	306	9.2	7.4	-5.4	.9
680.0	-11.4	94.1	3265	307	9.0	7.2	-5.4	.8
690.0	-10.6	95.6	3152	308	8.6	6.8	-5.3	.9
700.0	-9.9	96.3	3041	309	8.3	6.5	-5.2	.9
710.0	-9.3	96.5	2932	311	7.9	6.0	-5.2	.9
720.0	-9.0	96.7	2824	313	7.3	5.3	-5.0	.8
730.0	-8.3	96.8	2717	314	6.8	4.9	-4.7	.8
740.0	-7.6	97.0	2611	314	6.2	4.5	-4.3	.9
750.0	-6.9	83.0	2506	312	5.6	4.2	-3.7	.9
760.0	-6.2	55.9	2403	308	5.2	4.1	-3.2	.9
770.0	-5.7	55.2	2300	301	4.8	4.1	-2.5	.8
780.0	-5.2	86.0	2199	294	4.7	4.3	-1.9	.8
790.0	-4.9	97.6	2099	287	4.7	4.5	-1.4	.9
800.0	-4.4	97.5	2000	280	4.8	4.7	-.8	.9
810.0	-3.8	97.9	1902	275	4.8	4.8	-.4	.9
820.0	-3.5	84.2	1805	271	4.8	4.8	-.1	.9
830.0	-3.3	47.6	1709	268	4.7	4.7	.2	.9
840.0	-3.1	52.1	1614	265	4.6	4.6	.4	.9
850.0	-3.0	56.2	1520	263	4.4	4.4	.5	.9
860.0	-3.6	55.4	1428	262	4.3	4.3	.6	.9
870.0	-3.7	46.8	1337	262	4.2	4.2	.6	.9
880.0	-3.7	50.1	1246	263	4.1	4.1	.5	.9
890.0	-3.4	49.7	1157	264	4.2	4.2	.4	.8
900.0	-2.9	49.2	1069	263	4.2	4.2	.5	.9
910.0	-2.5	48.1	981	261	4.1	4.0	.6	.9
920.0	-2.2	51.5	894	259	4.1	4.0	.8	.9
930.0	-2.1	53.5	808	256	4.0	3.9	1.0	.9
940.0	-1.8	53.2	723	252	4.0	3.8	1.2	.9
950.0	-1.4	53.5	639	250	3.9	3.7	1.3	.9
960.0	-1.0	52.6	556	247	3.8	3.5	1.5	.9
970.0	-.5	52.6	473	246	3.6	3.3	1.5	.8
980.0	0.0	51.8	391	246	3.6	3.3	1.5	.8
990.0	.4	49.9	310	-99	-99.0	-99.0	-99.0	-99.0
1000.0	.6	47.7	229	-99	-99.0	-99.0	-99.0	-99.0
1010.0	.5	47.3	149	-99	-99.0	-99.0	-99.0	-99.0
1020.0	-.9	61.0	70	-99	-99.0	-99.0	-99.0	-99.0
1029.1	-2.2	85.7	0	-99	-99.0	-99.0	-99.0	-99.0

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AIRBORNE MEASUREMENTS DURING LEADEX BY THE UNIVERSITY OF WASHINGTON C-131A DURING APRIL 1992

Alan P. Waggoner
Principal investigator
Dept. of Atmospheric Sciences
University of Washington

Sponsors: This program was sponsored by National Science Foundation and by the Office of Naval Research.

Objectives: This airborne component of LEADEX was designed to provide data for several broad areas of Arctic research including the surface energy balance, ice thermodynamics, the chemical composition of and chemical processes in the atmosphere, and the radiative properties of atmospheric particulates. More specifically, the objectives were:

1. To measure the spatial distribution of surface temperature, using a 2° FOV LWIR radiometer in a variety of atmospheric and ice conditions. This data can be used to infer the ice thickness, to detect open water, to validate satellite surface temperature data and as input to models to determine surface energy balance. This data can also be used to relate in situ surface temperature measurements at a point, to high spatial resolution LWIR and large pixel size LWIR satellite surface temperatures.

2. To measure the properties of suspended particles including cloud droplet and ice crystal concentrations and size distributions, aerosol particle size distribution, scattering extinction coefficient and chemical composition, cloud nuclei concentration and activation supersaturation.

3. To observe plumes of water vapor, droplets and ice crystals from leads and then determine the effect of these plumes on downwind surface temperatures. To estimate and measure the fluxes of sensible heat, and water vapor. To measure the concentrations of the chemical species dimethyl-sulfide and $CHBr_3$ in plumes from the leads and in ambient air.

4. To measure the angle-resolved, direct, scattered and reflected radiance at 13 discrete wavelengths between 0.5 and 2.29 μm. This data can be used to determine the bidirectional reflectance function of the surface ice and of open water and the surface albedo.

5. To measure the low-level atmospheric stratification to compare to TOVS-derived estimates. Knowledge of boundary-layer stratification is needed to calculate surface fluxes of heat, water vapor and momentum.

Description of University of Washington C-131A Aircraft Data Output

Flight date, time and number list on each strip chart and flight trajectory page

Strip Chart Data: 2 hours per page

Time along lower edge is Alaska time.

Reading down from top panel, the data is:

Pressure altitude, km

Static temperature in ° C

Calculated windspeed in m/s

Calculated wind direction in degrees

Aircraft true heading in degrees

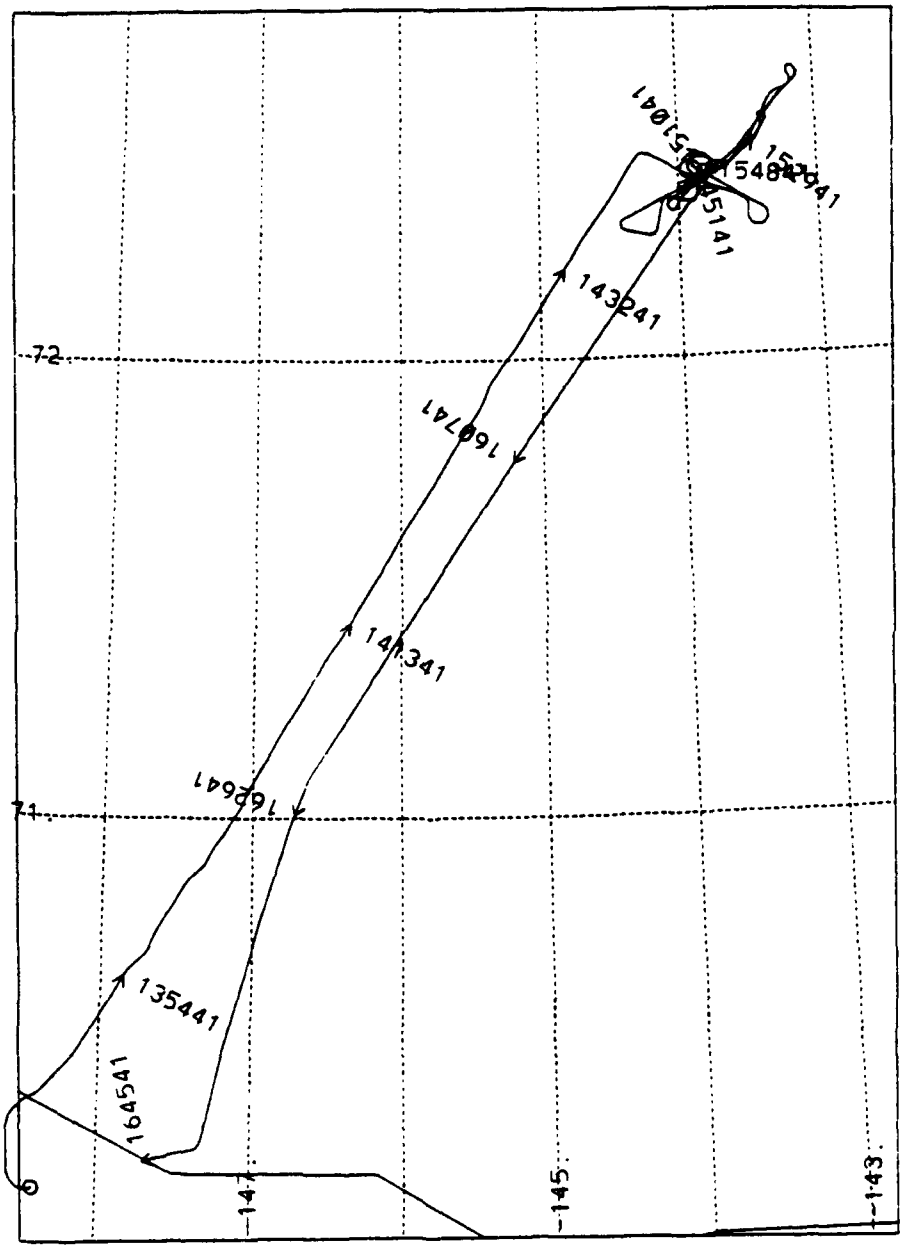
Surface temperature in ° C from 8-12 μm radiometer, 2° FOV

Liquid cloud water in g/m^3 from hot wire probe

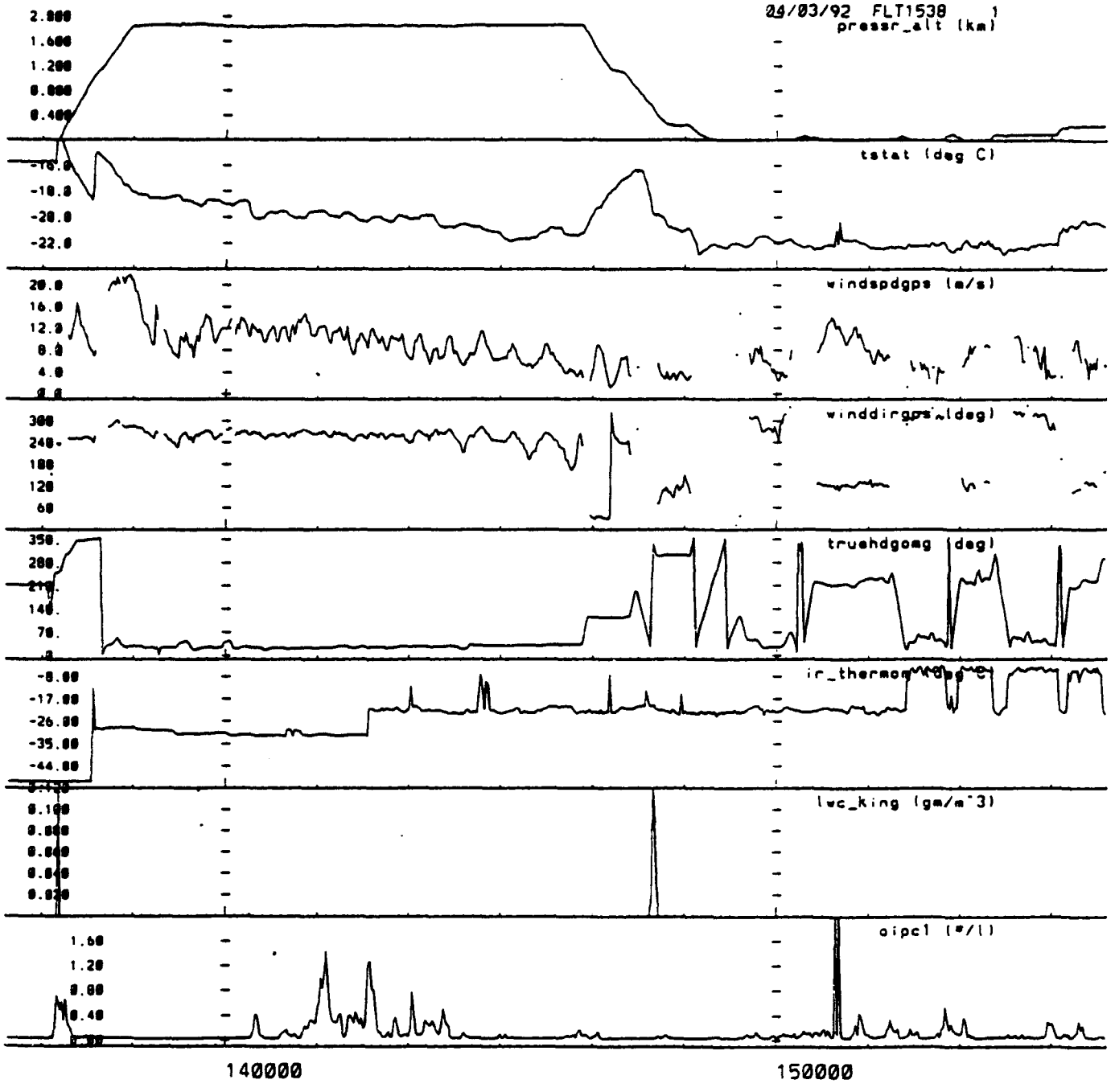
Ice crystal concentration from cross polarization scattering, #/l

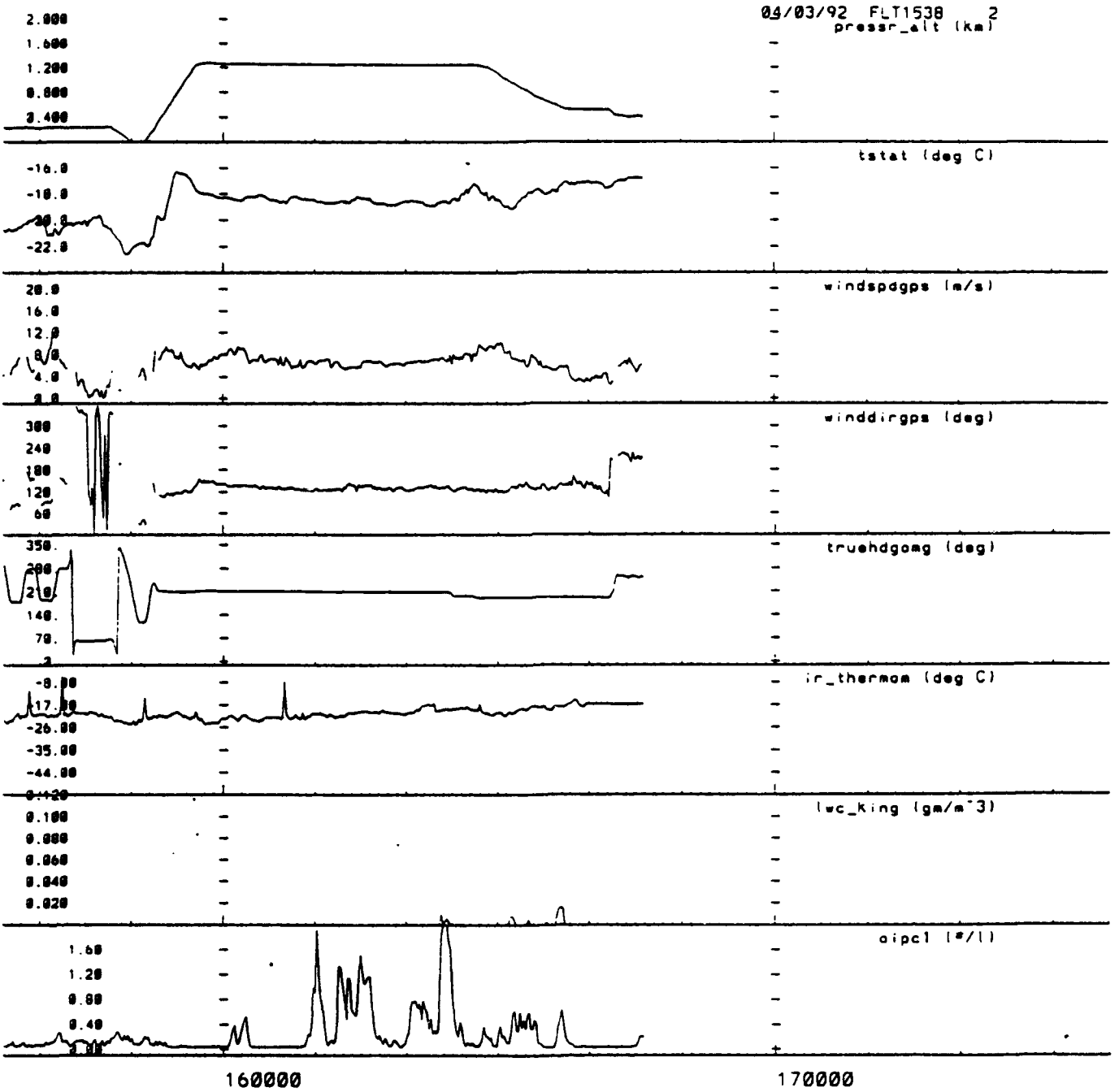
Flight track: based on GPS position data recorded during flight

T(z): static temperature, ° C, plotted as a function of pressure elevation as recorded during ascents and descents

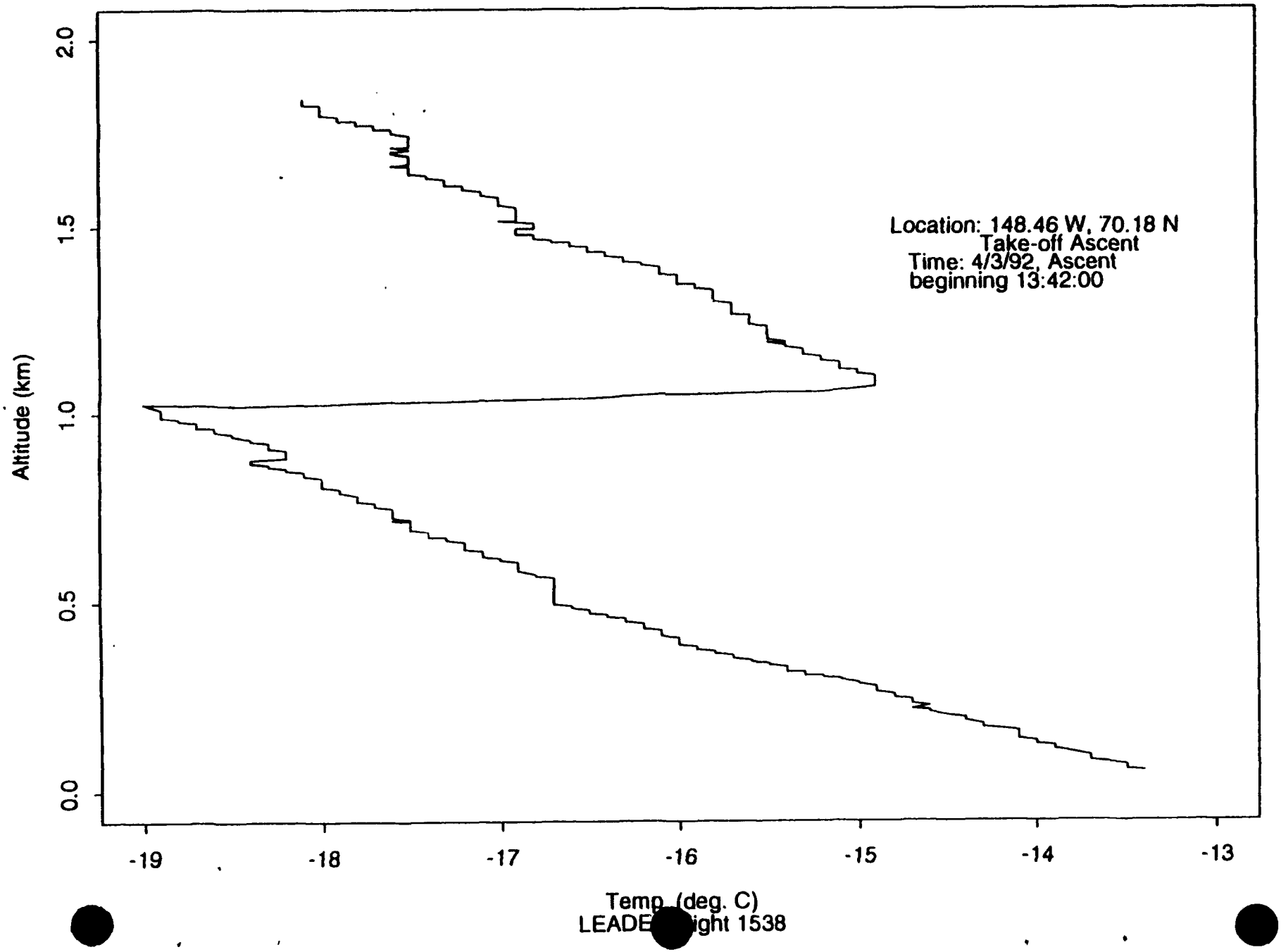


GPS track of flight 1538, 04/03/92 13:36:00 - 16:46:00

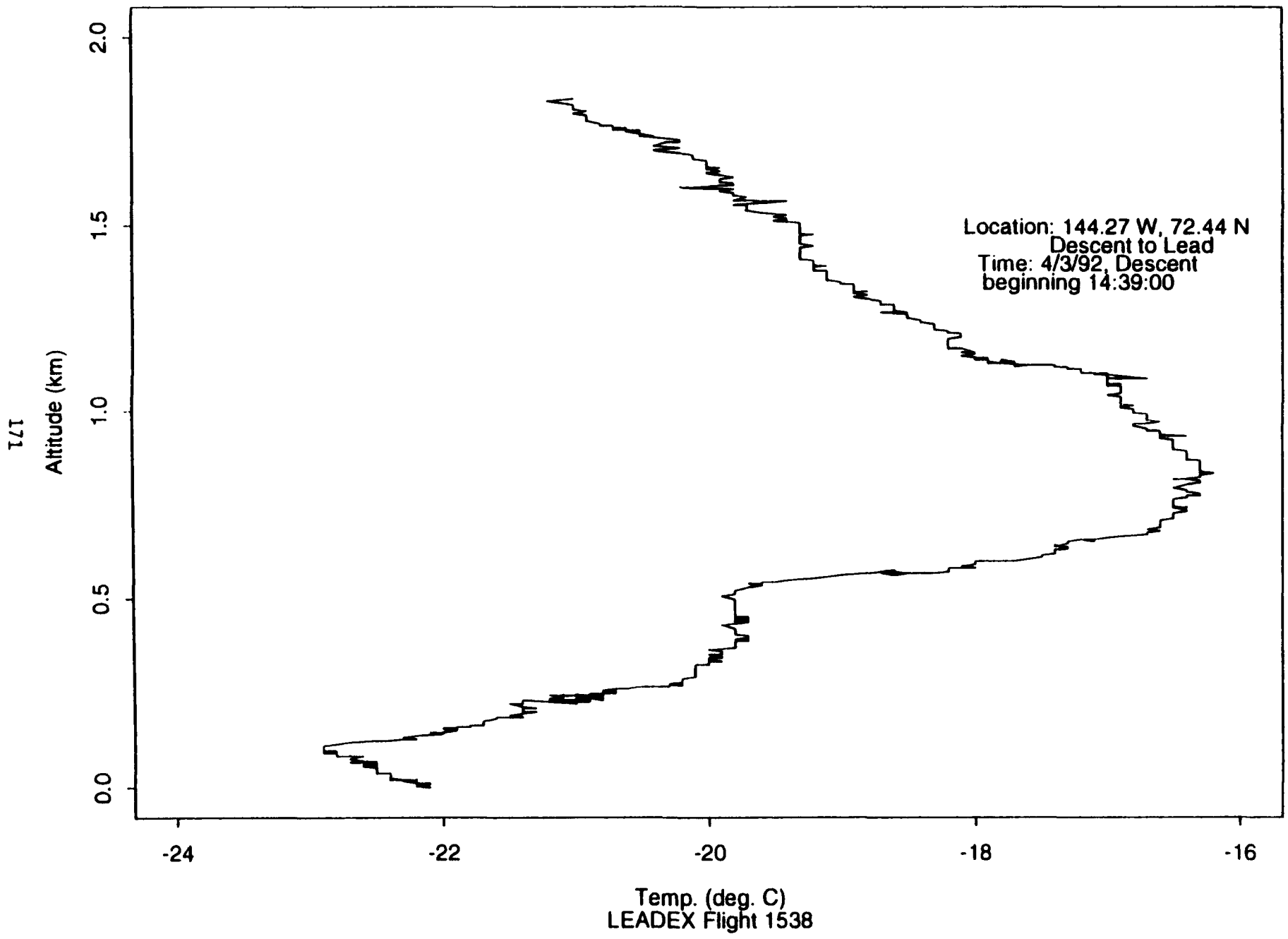

09/03/92 FLT1538
pressr_alt (km)
2.000
1.600
1.200
0.800
0.400
tstat (deg C)
-18.0
-20.0
-22.0
windspdgps (m/s)
20.0
16.0
12.0
8.0
4.0
winddirgps (deg)
300
240
180
120
60
truehdgomg (deg)
350.
280.
210.
140.
70.
ir_thermo (deg C)
-8.00
-17.00
-26.00
-35.00
-44.00
lwc_king (gm/m^3)
0.100
0.080
0.060
0.040
0.020
oipc1 (#/l)
1.60
1.20
0.80
0.40
140000
150000


04/03/92 FLT1538 2
pressr_alt (km)
2.000
1.600
1.200
0.800
0.400
tstat (deg C)
-16.0
-18.0
-22.0
windspdgps (m/s)
20.0
16.0
12.0
8.0
4.0
winddirgps (deg)
300
240
180
120
60
truehdgomg (deg)
350.
280.
210.
140.
70.
ir_thermom (deg C)
-8.00
-17.00
-26.00
-35.00
-44.00
lwc_king (gm/m^3)
0.100
0.080
0.060
0.040
0.020
oipc1 (#/l)
1.60
1.20
0.80
0.40
160000
170000

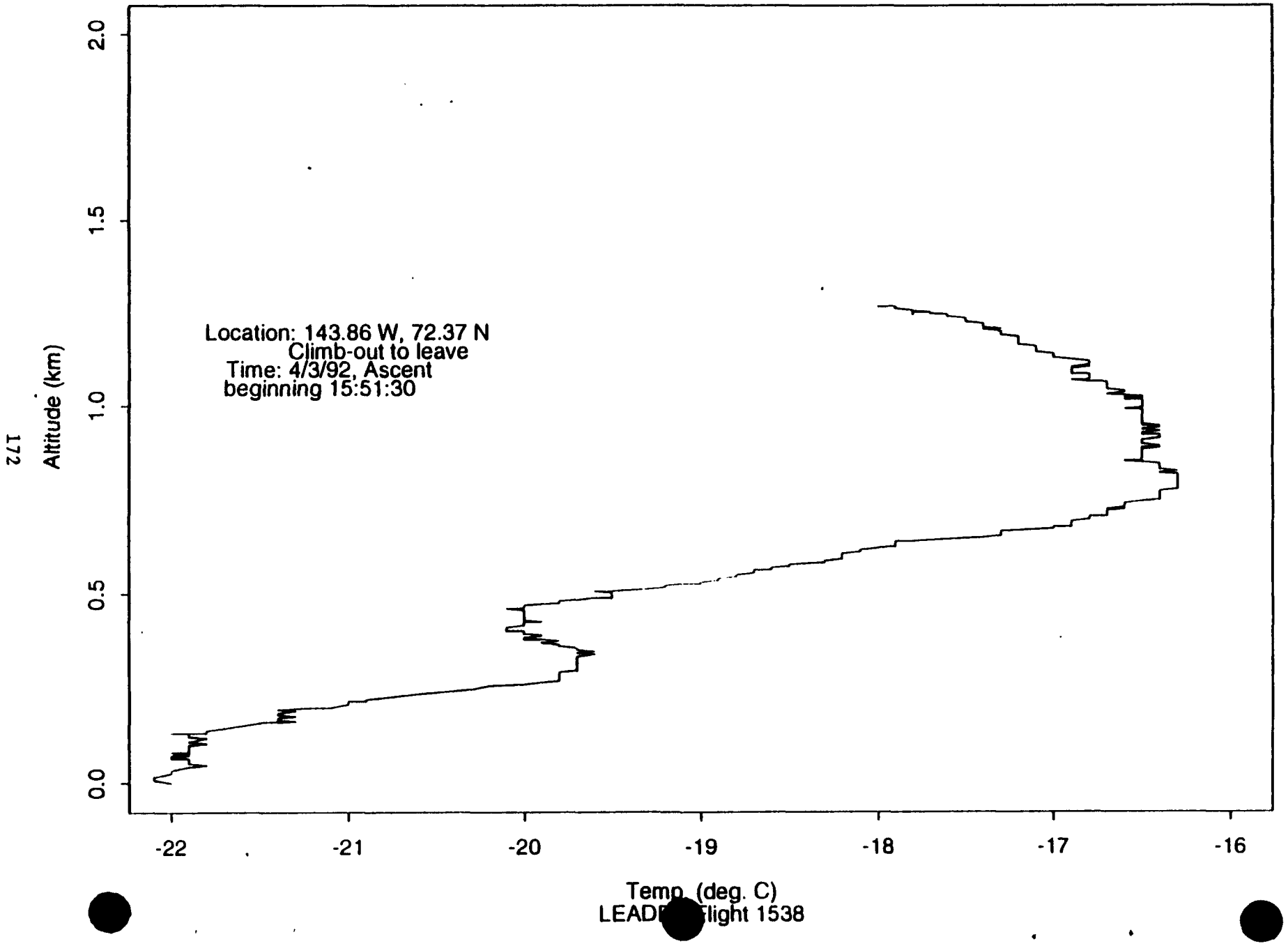
Temperature Sounding

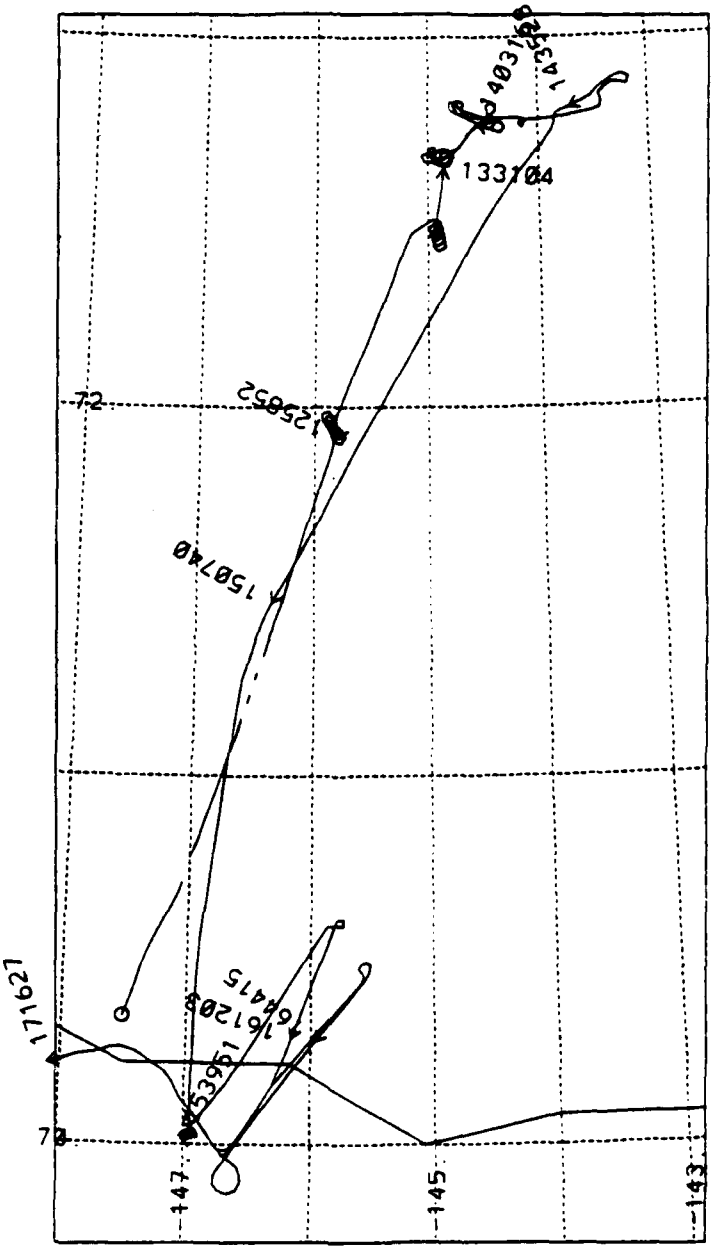


Temperature Sounding

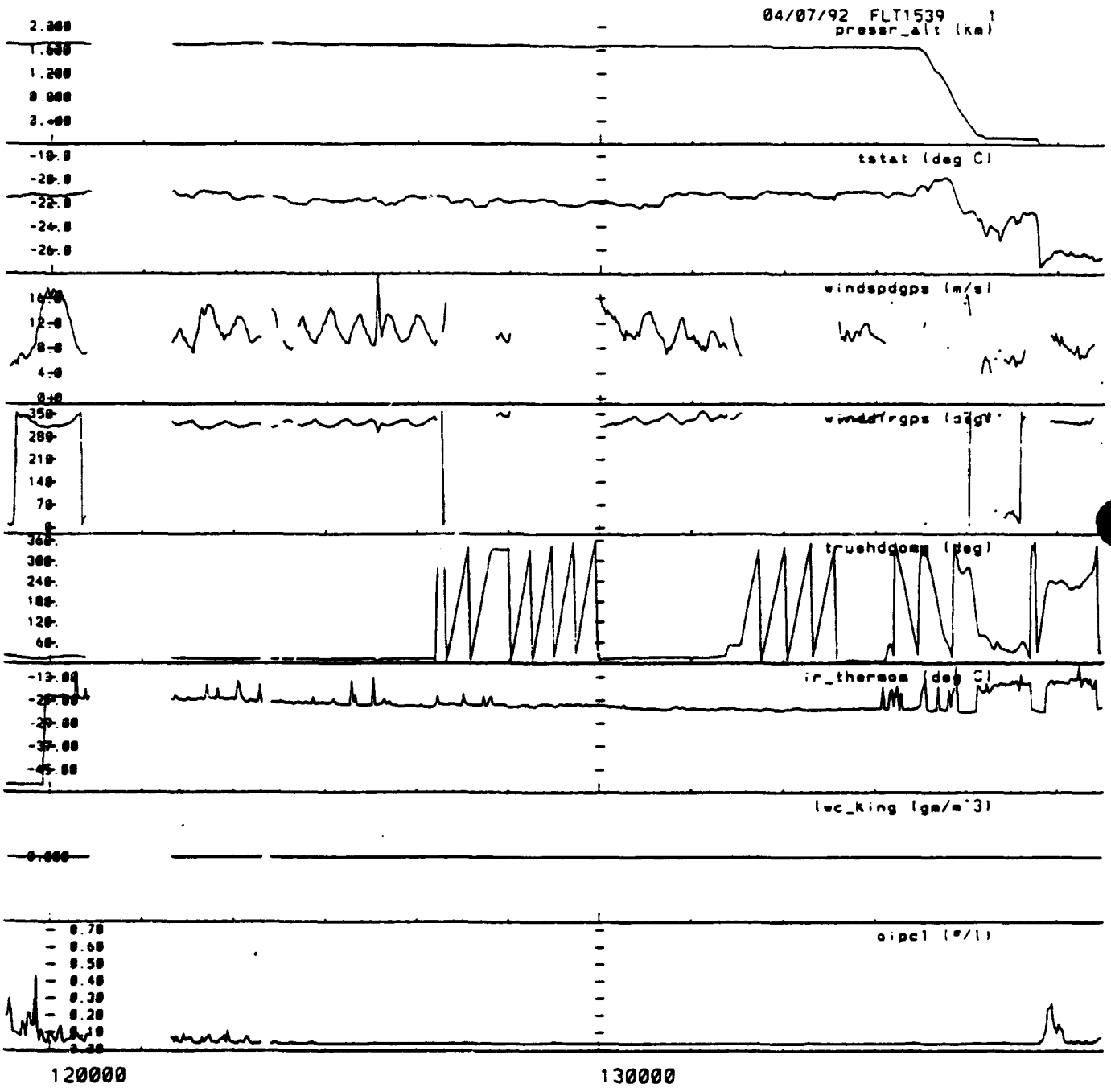


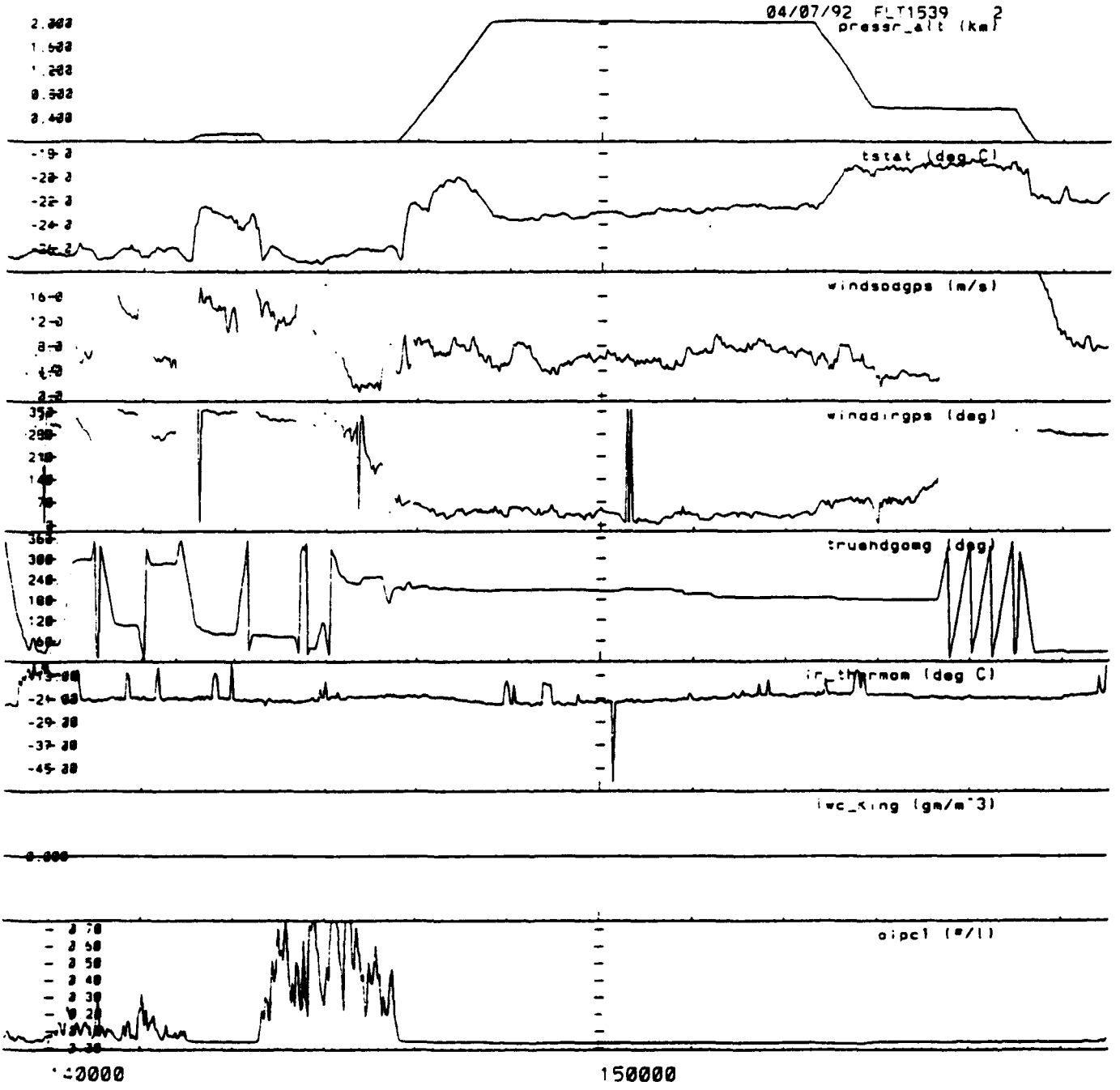
Temperature Sounding

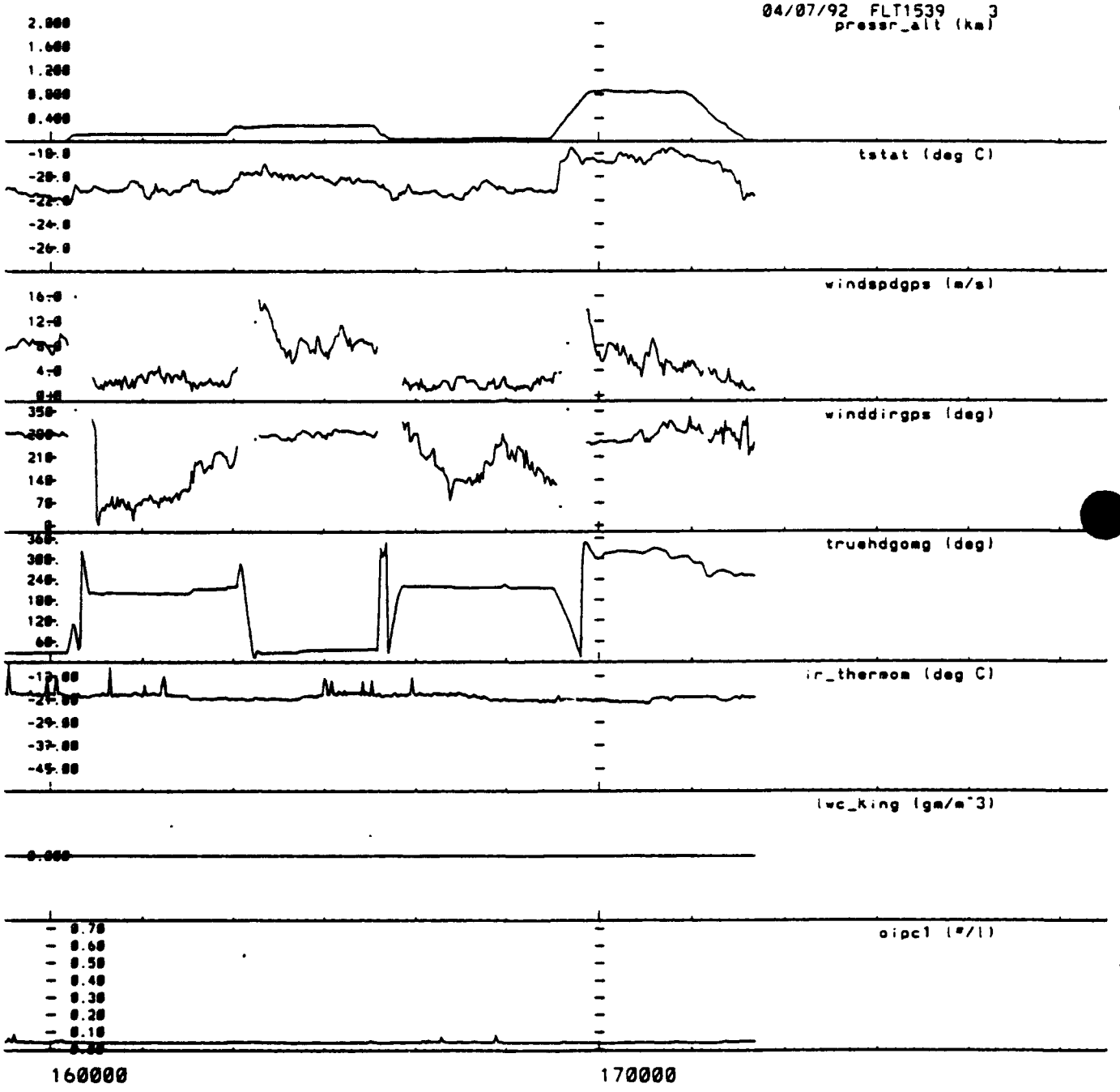




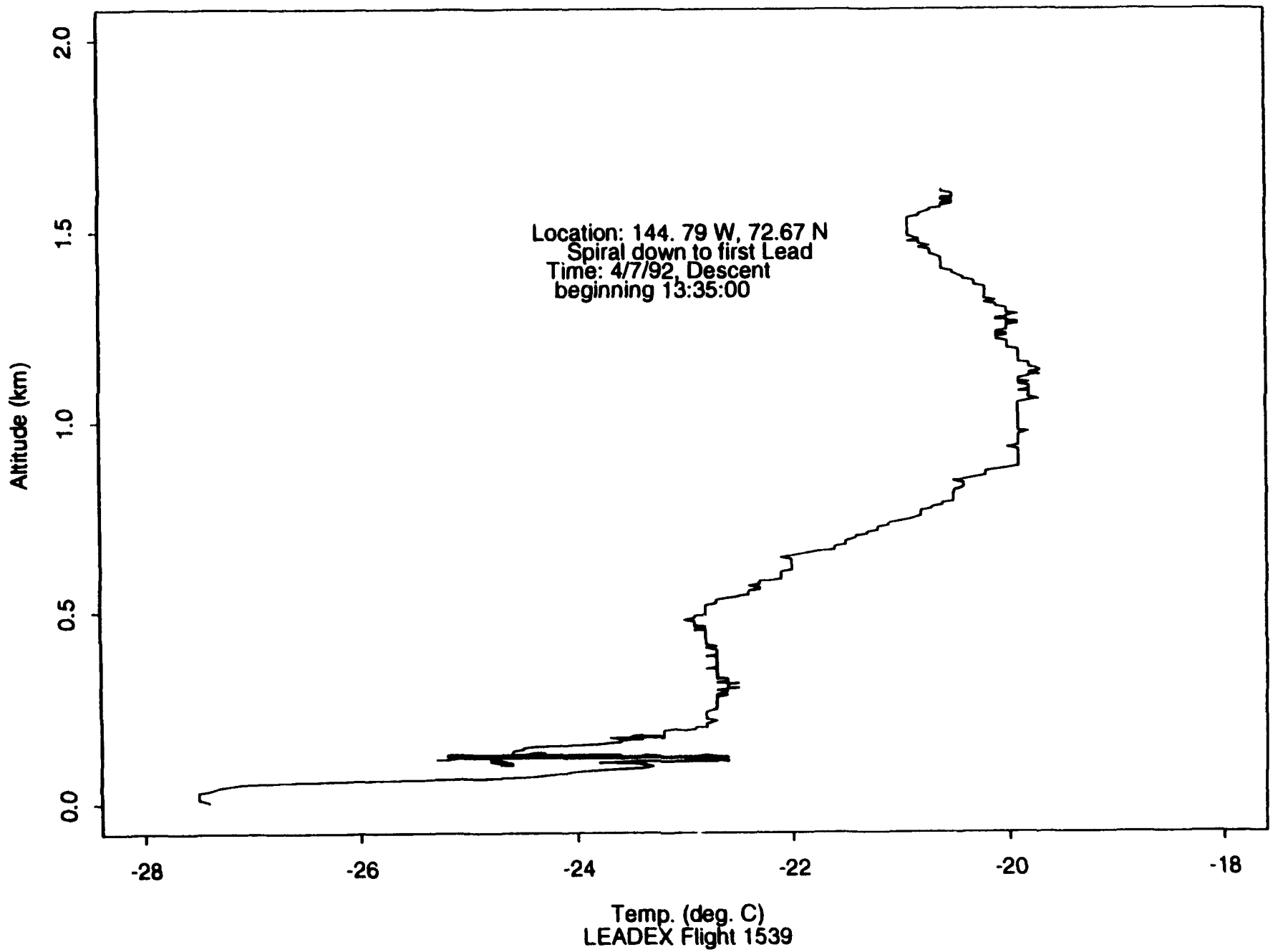
GPS track of flight 1539, 04/07/92 11:55:00 - 17:17:00


04/07/92 FLT1539
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgcorr (deg)
ir_thermom (deg C)
lwc_king (gm/m^3)
oipc1 (#/l)
120000
130000

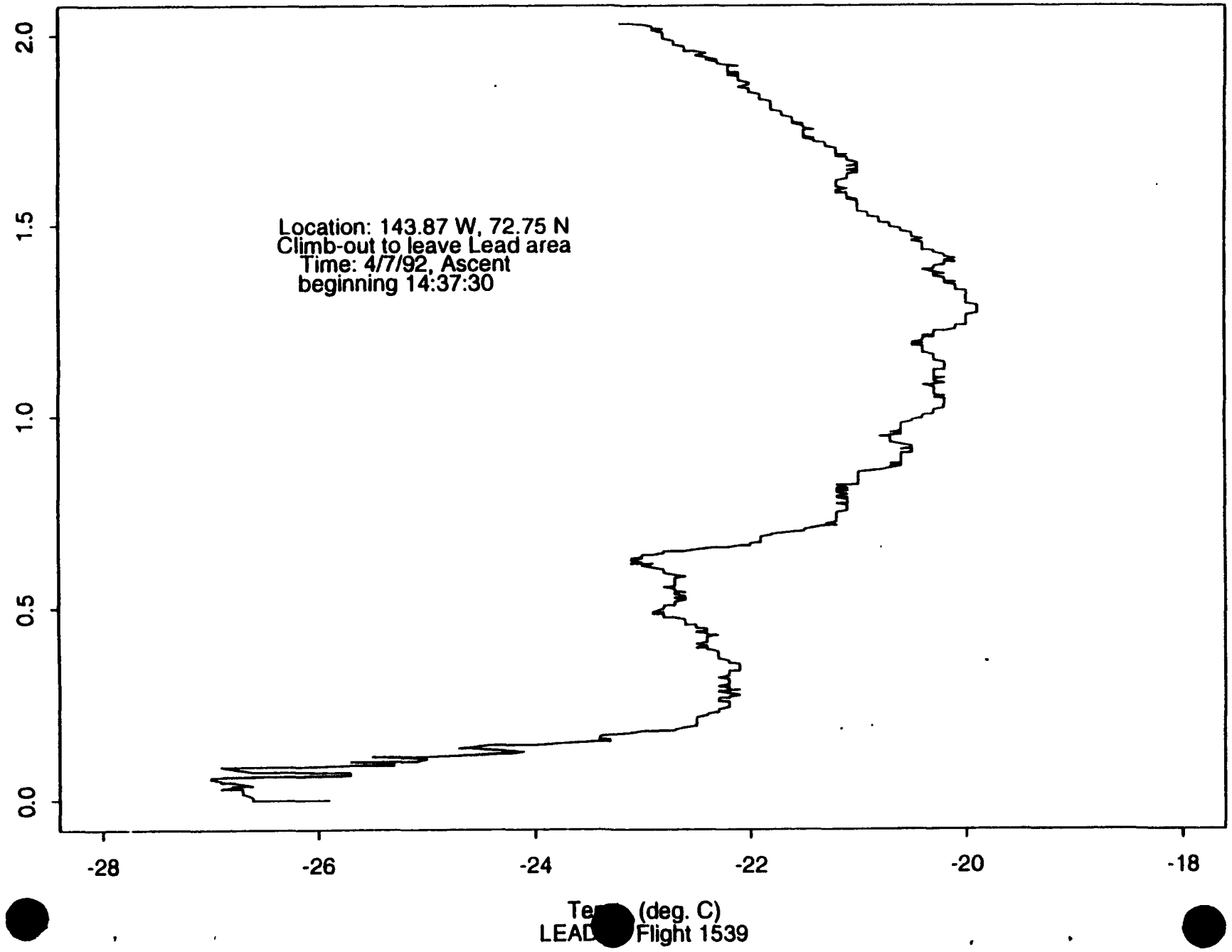

04/07/92 FLT1539 2
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgmag (deg)
ir_thermom (deg C)
lwc_king (gm/m^3)
oipc1 (#/l)
150000


04/07/92 FLT1539 3
pressr_alt (km)
2.000
1.600
1.200
0.800
0.400
tstat (deg C)
-20.0
-22.0
-24.0
-26.0
windspdgps (m/s)
16.0
12.0
4.0
winddirgps (deg)
350
280
210
140
70
truehdgomg (deg)
360.
300.
240.
180.
120.
60.
ir_thermom (deg C)
-29.00
-37.00
-45.00
lwc_king (gm/m^3)
0.000
oipc1 (#/l)
0.70
0.60
0.50
0.40
0.30
0.20
0.10
160000
170000

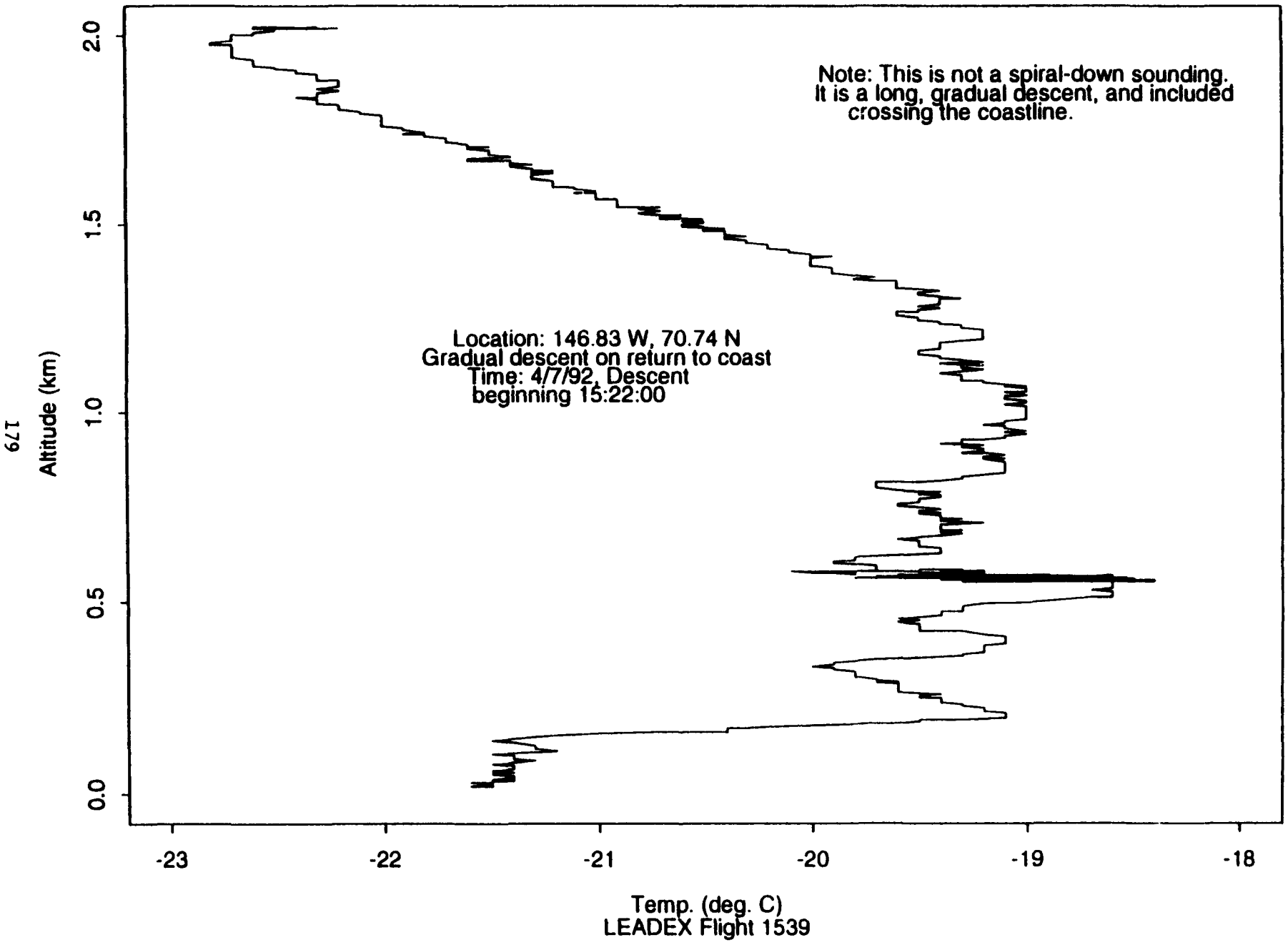
Temperature Sounding



Temperature Sounding



Temperature Sounding



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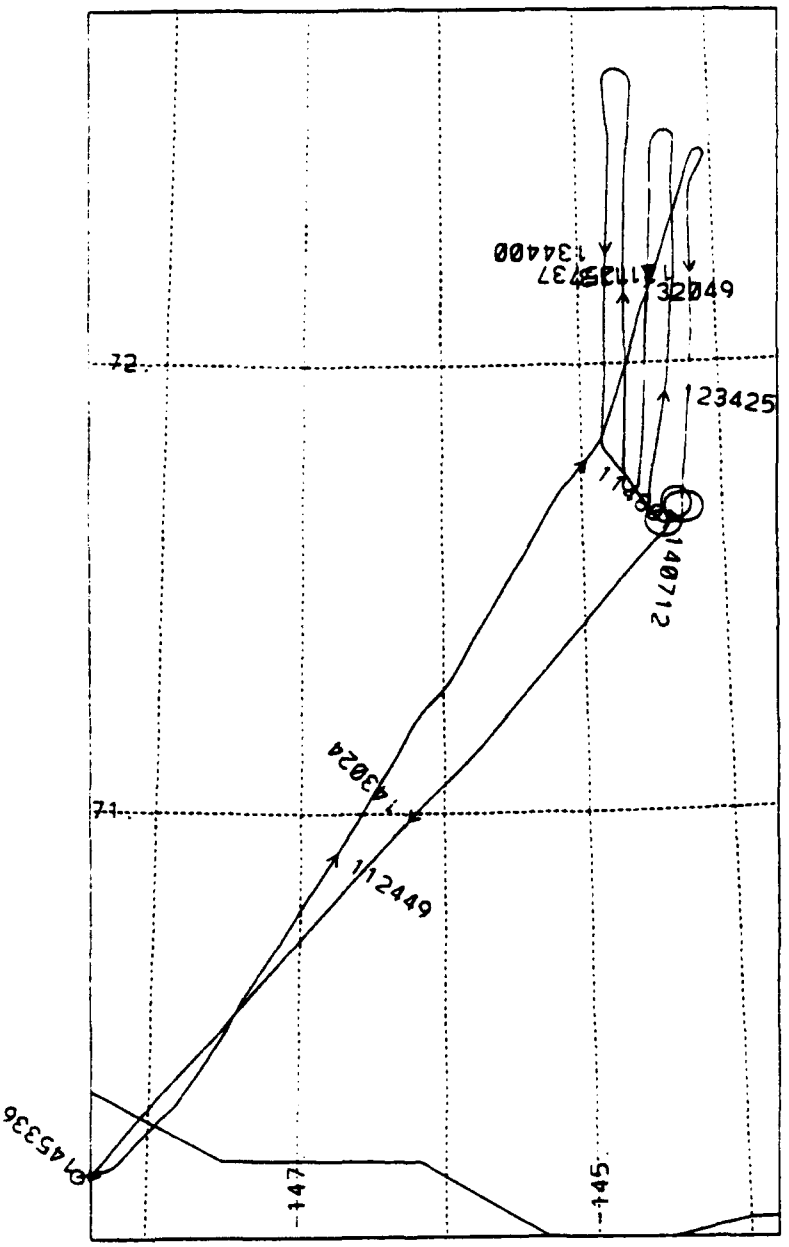
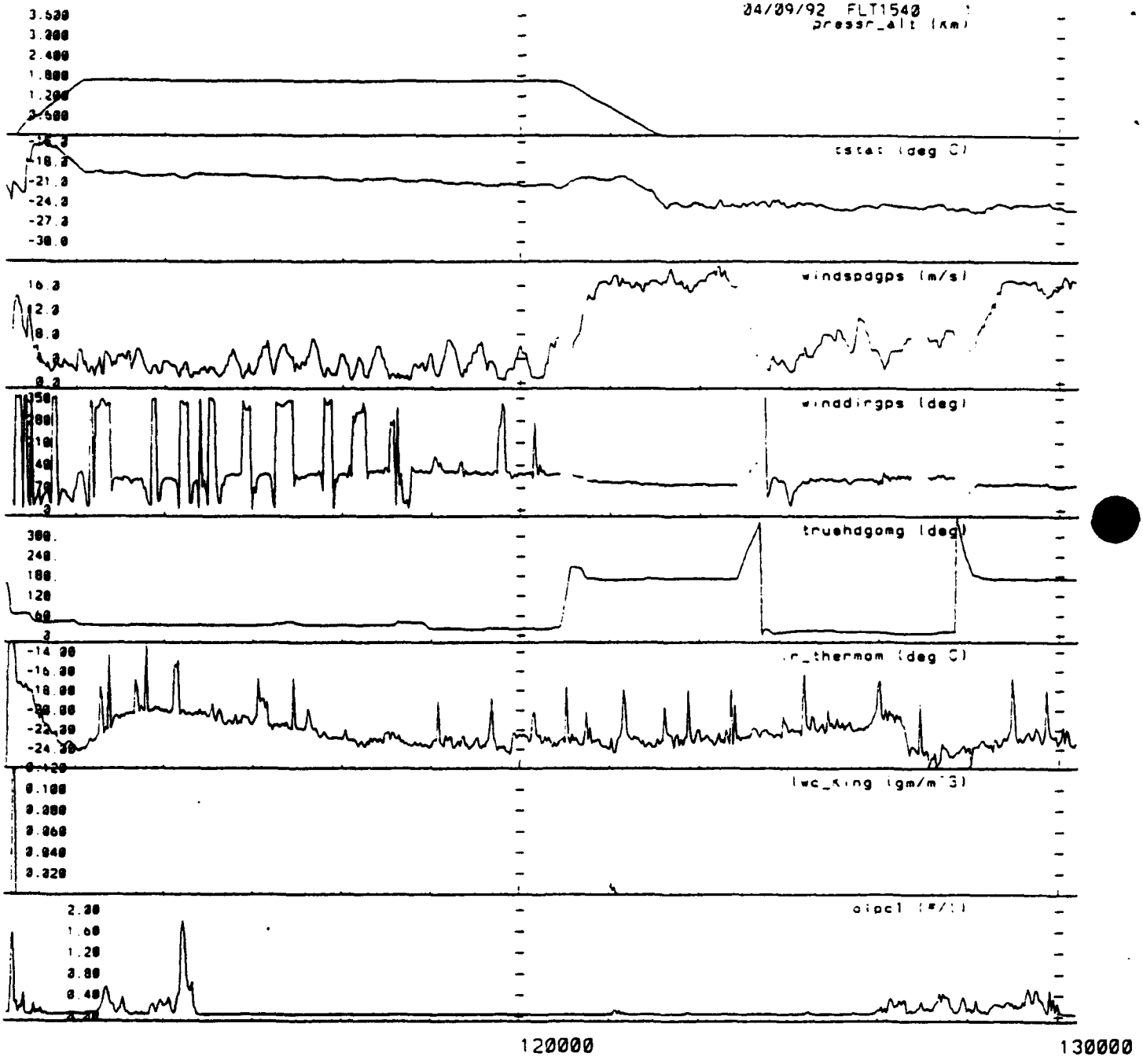
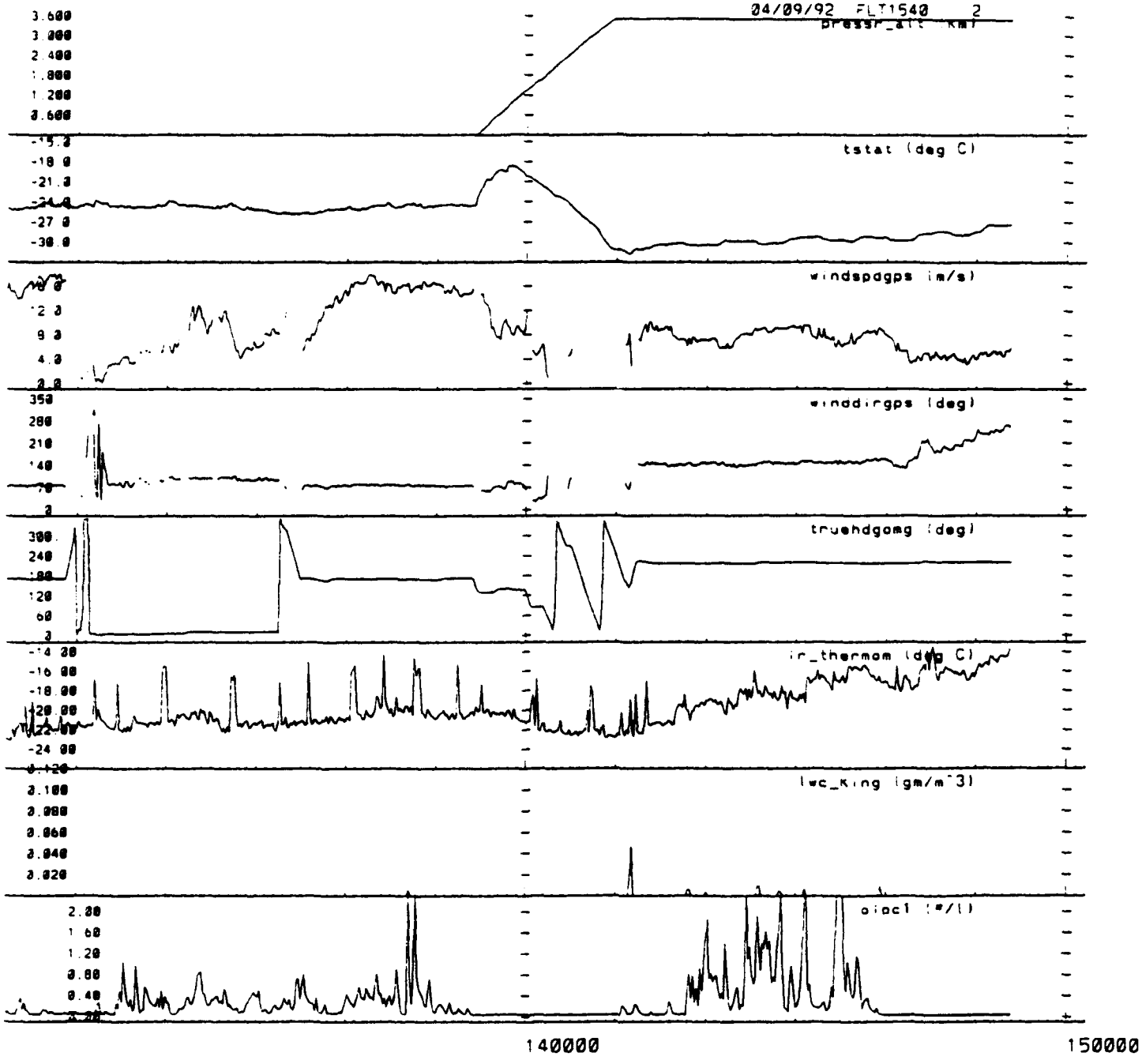
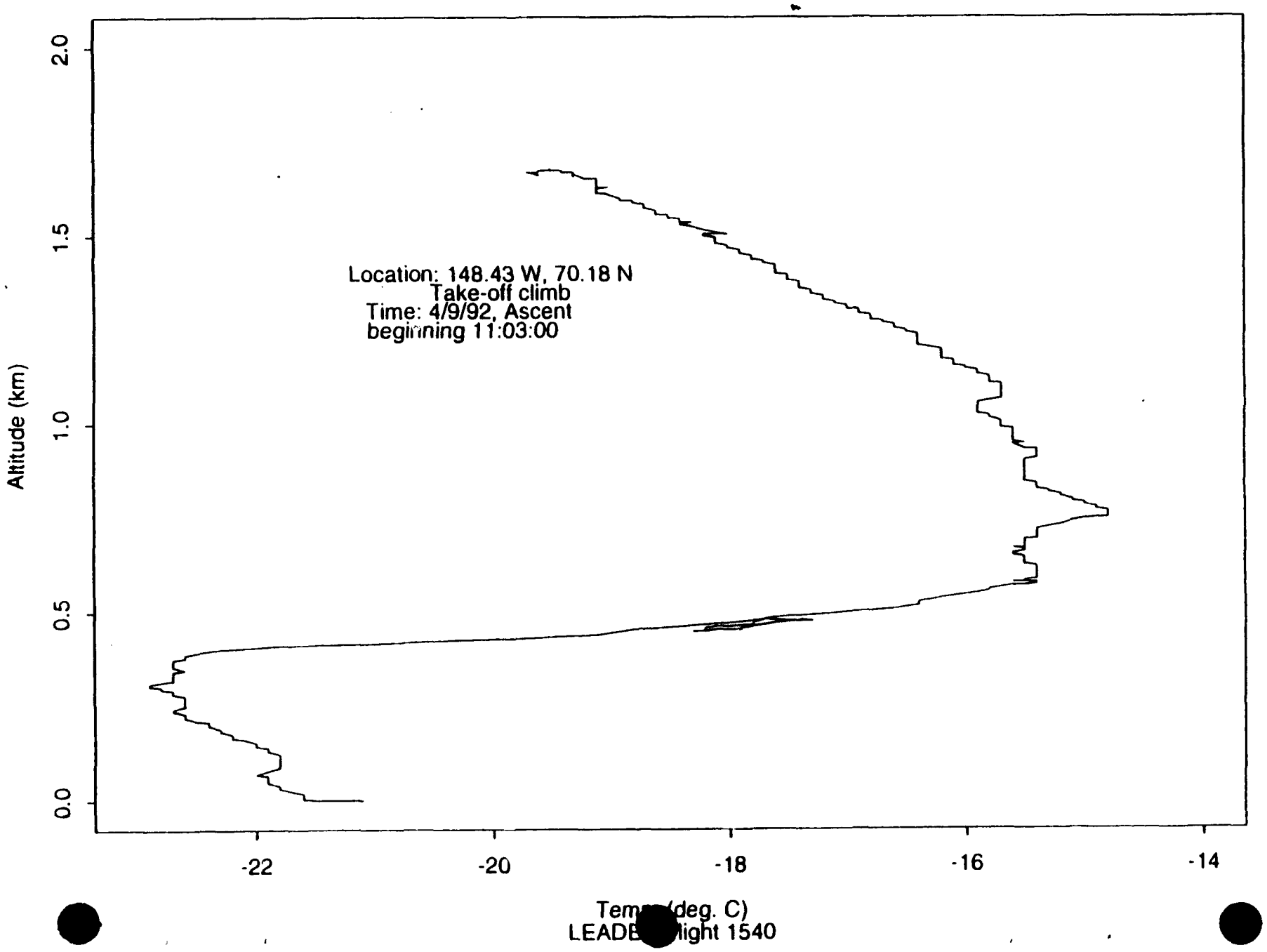


GPS track of flight 1540, 04/09/92 11:02:00 - 14:54:00

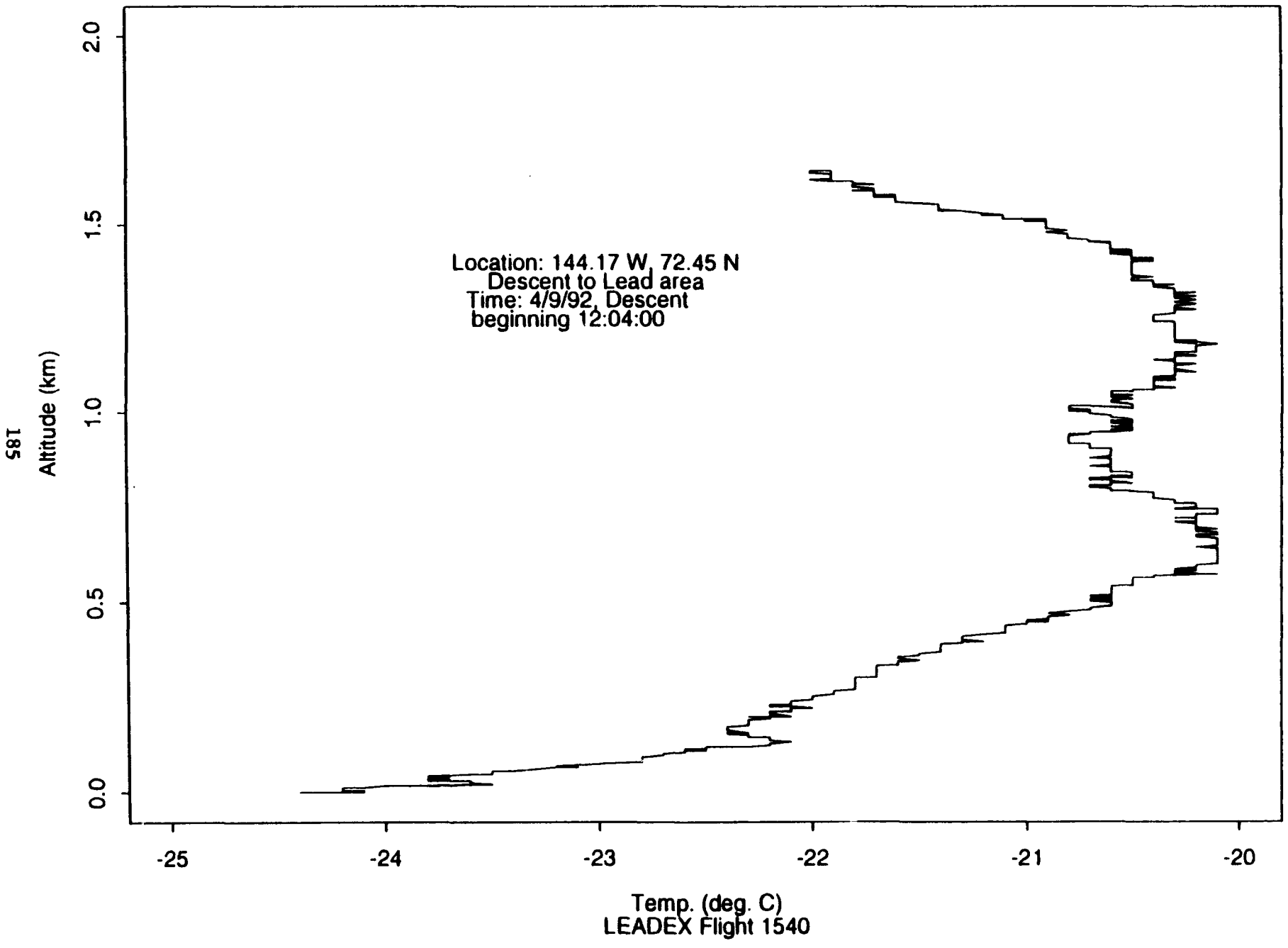

04/09/92 FLT1540
Pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgomg (deg)
_r_thermom (deg C)
lwc_king (gm/m^3)
olpc1 (g/l)
120000
130000


04/09/92 FLT1540 2
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgomg (deg)
ir_thermom (deg C)
lwc_King (gm/m^3)
140000
150000

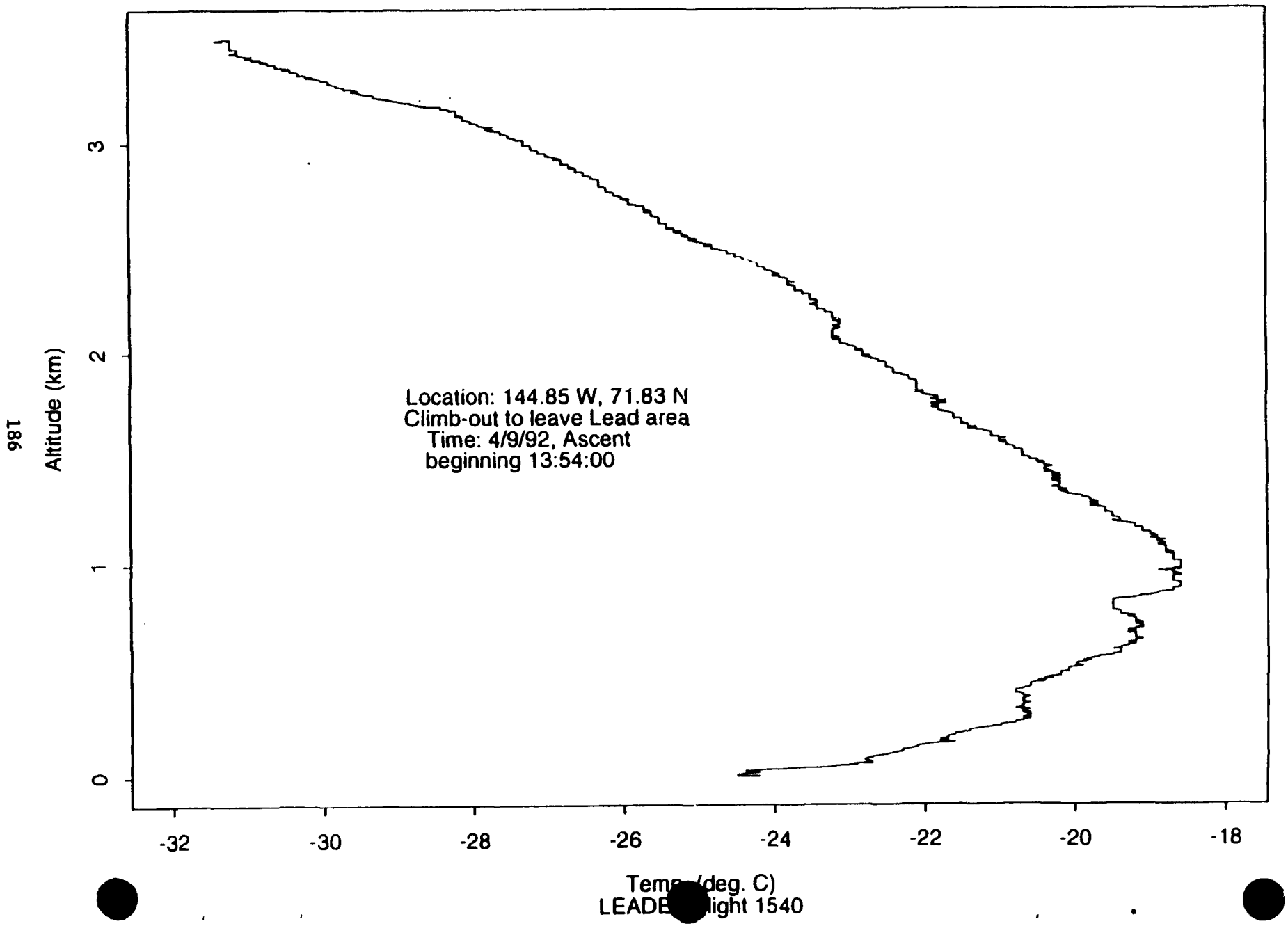
Temperature Sounding

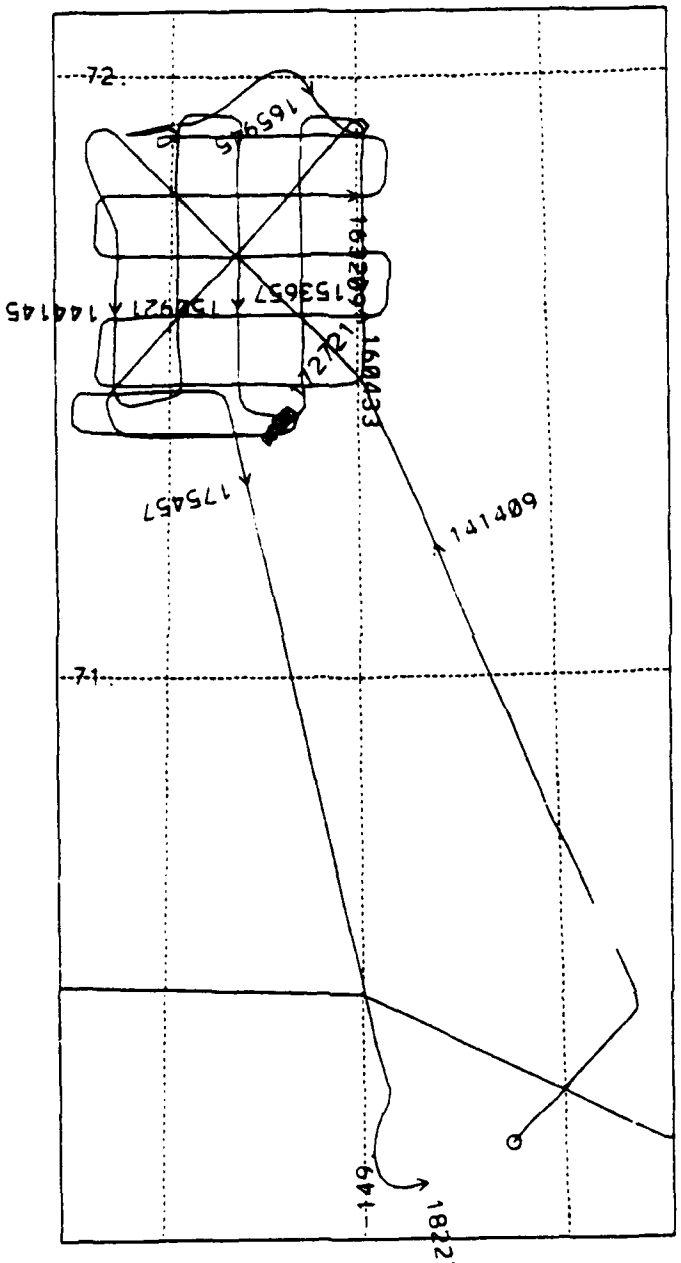


Temperature Sounding

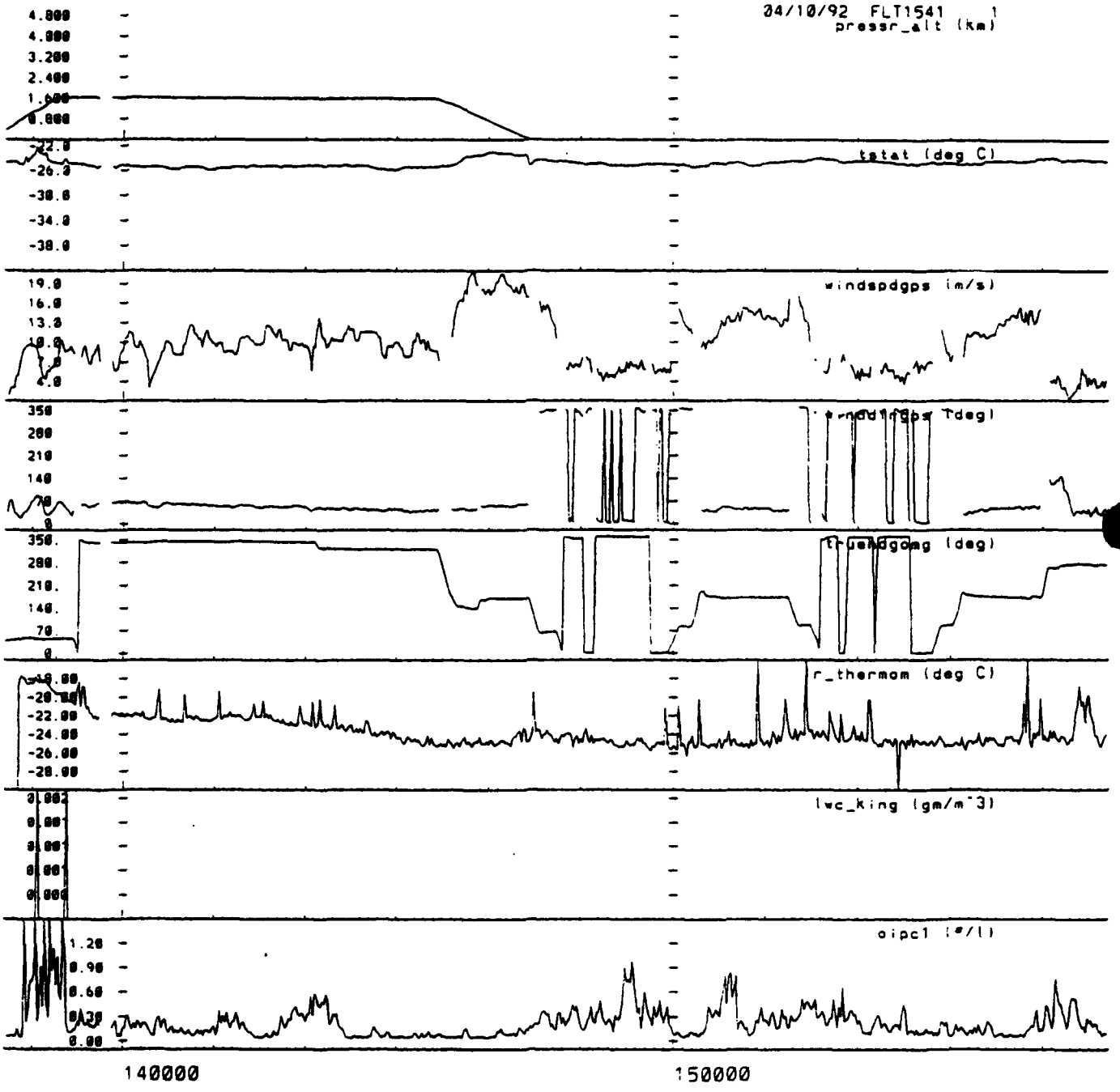


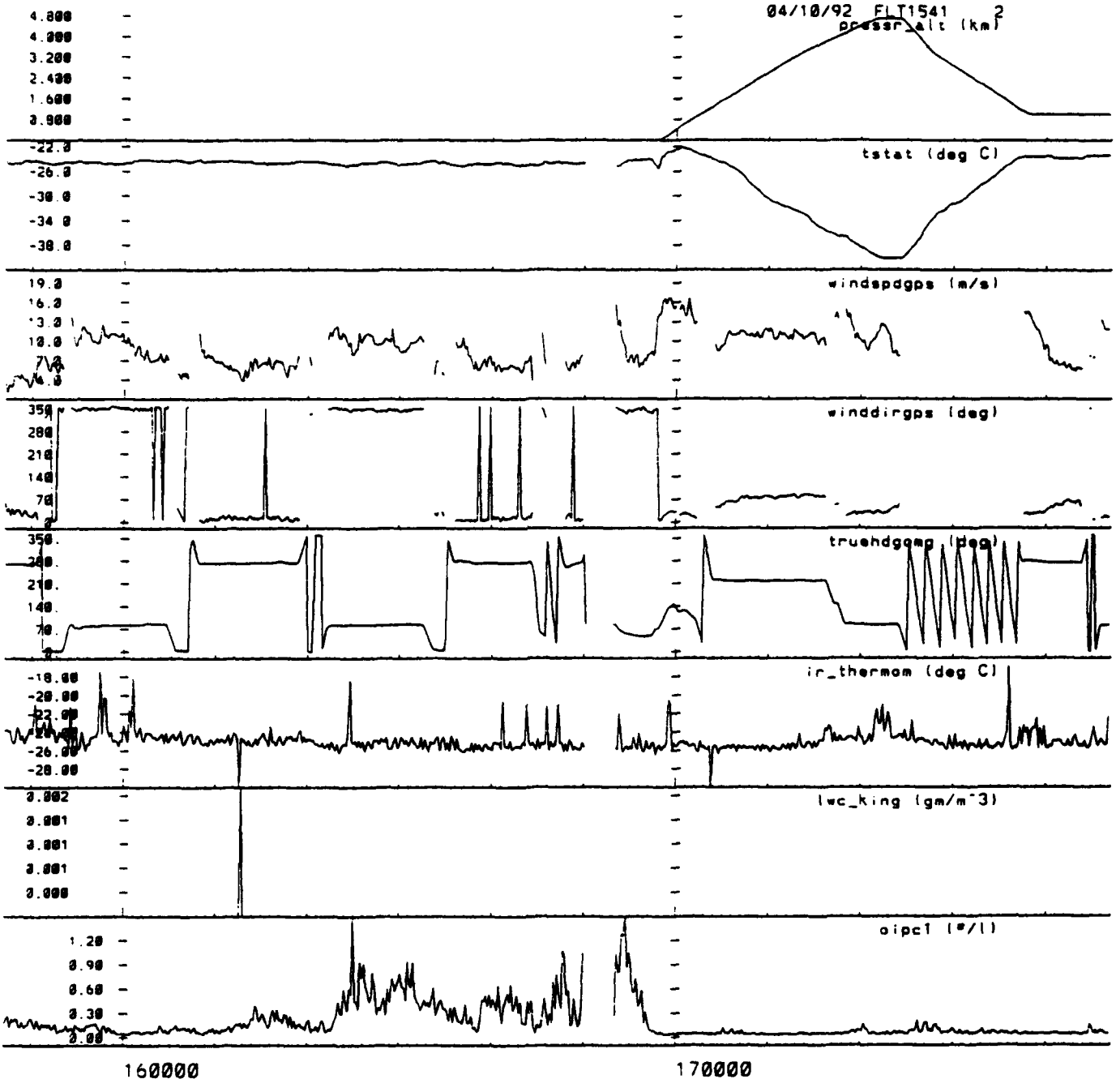
Temperature Sounding

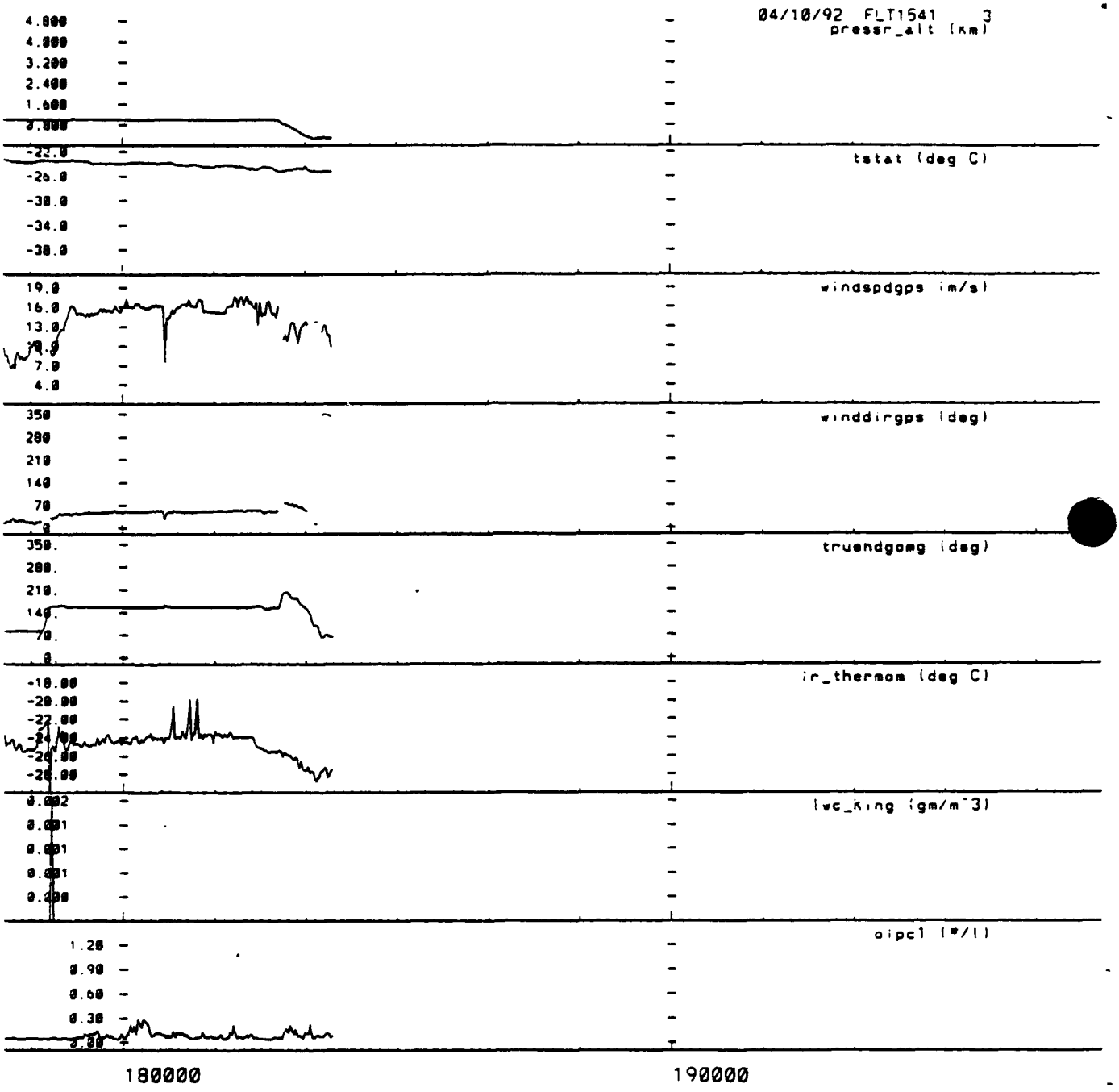




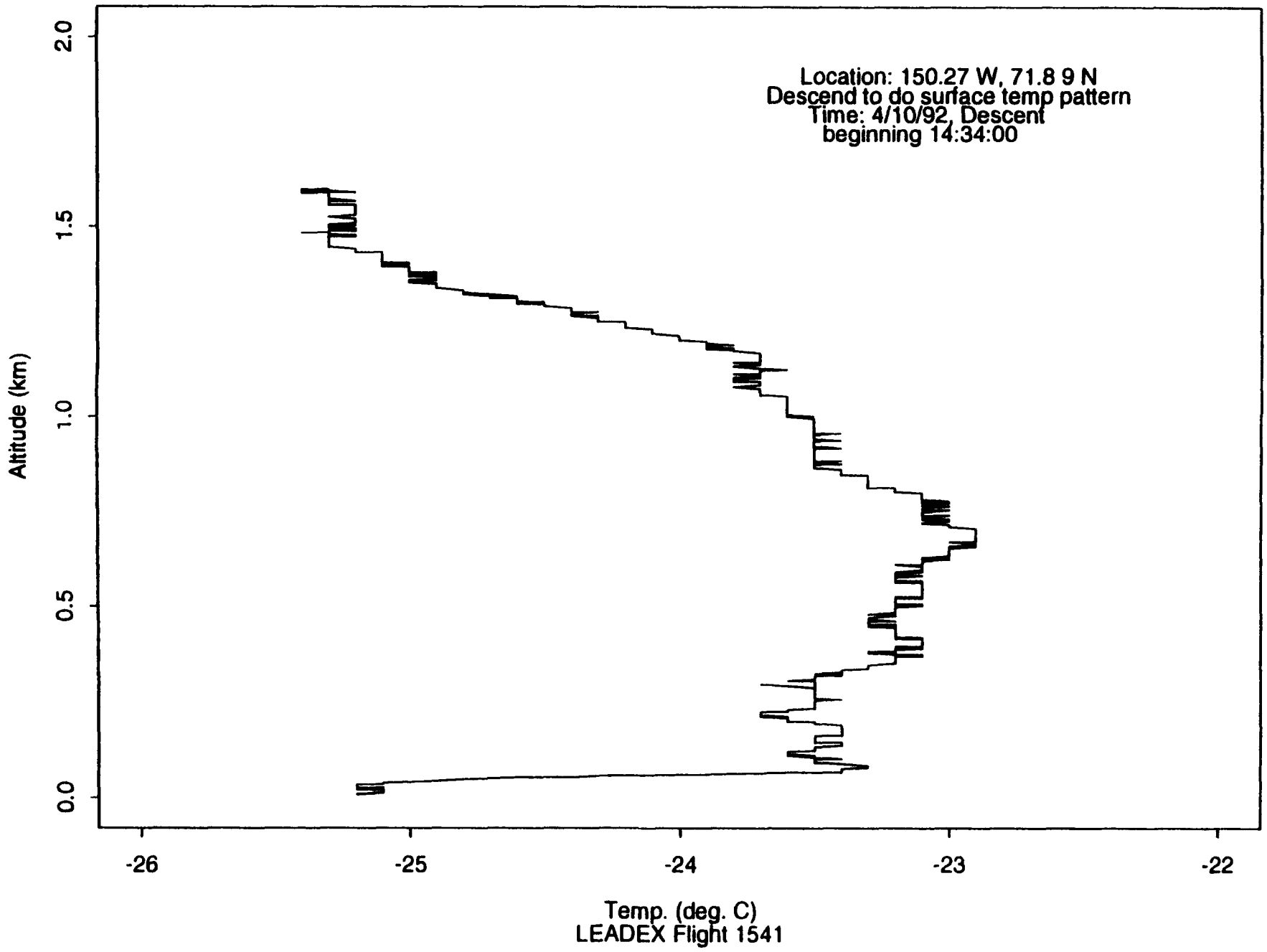
GPS track of flight 1541. 04/10/92 13:47:00 - 18:23:00


04/10/92 FLT1541
pressr_alt (km)
tatat (deg C)
windspdgps (m/s)
r_thermom (deg C)
lwc_king (gm/m^3)
oipc1
140000
150000

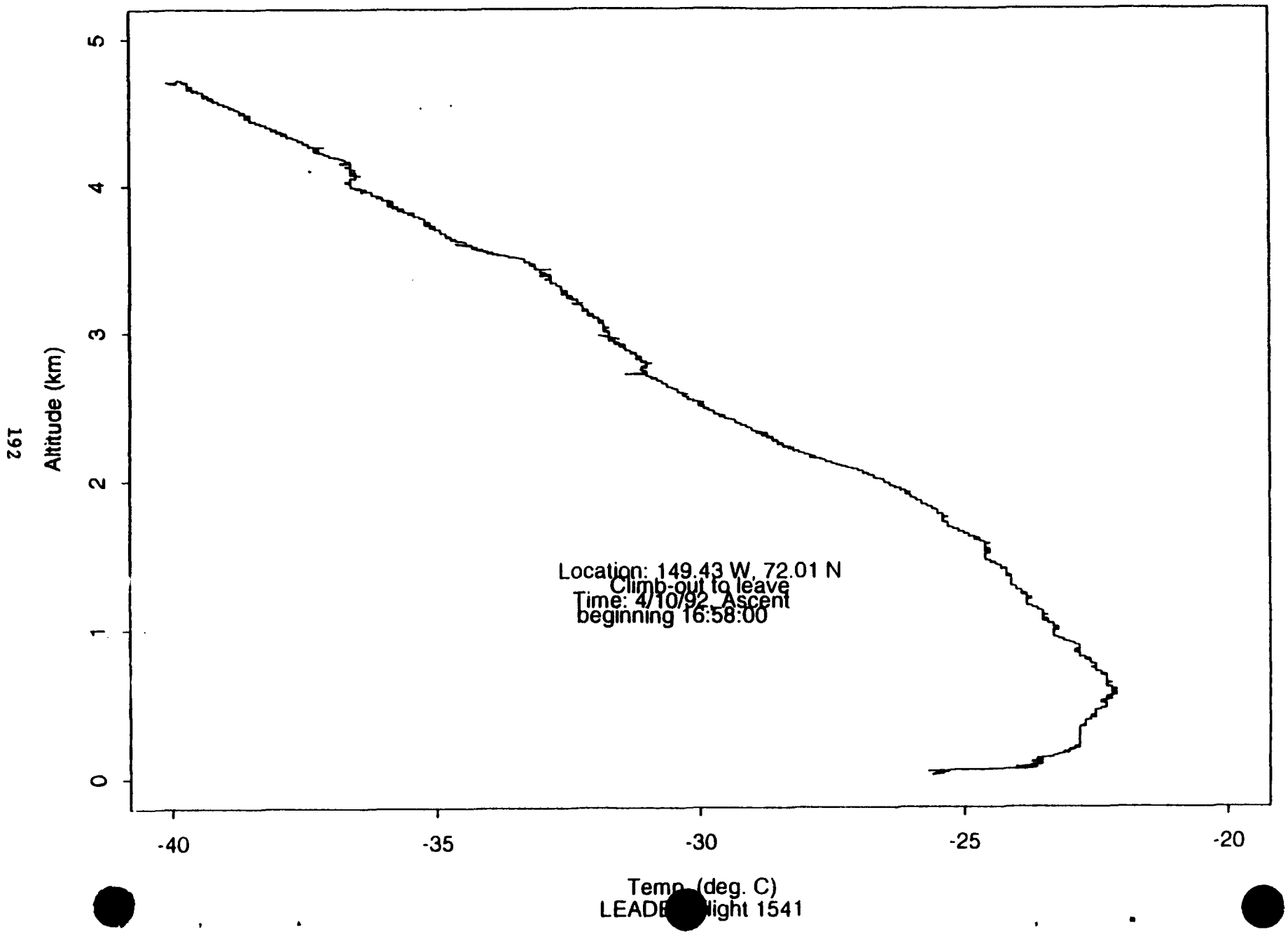

04/10/92 FLT1541 2
pressr_alt (km)
4.800
4.000
3.200
2.400
1.600
0.900
tstat (deg C)
-22.0
-26.0
-30.0
-34.0
-38.0
windspdgps (m/s)
19.0
16.0
13.0
10.0
winddirgps (deg)
350
280
210
140
70
truehdgcmp (deg)
350.
280.
210.
140.
70.
ir_thermom (deg C)
-18.00
-20.00
-22.00
-26.00
-28.00
lwc_king (gm/m^3)
0.002
0.001
0.001
0.001
0.000
oipc1 (#/l)
1.20
0.90
0.60
0.30
0.00
160000
170000


04/10/92 FLT1541 3
pressr_alt (km)
4.800
4.000
3.200
2.400
1.600
tstat (deg C)
-22.0
-26.0
-30.0
-34.0
-38.0
windspdgps (m/s)
19.0
16.0
13.0
7.0
4.0
winddirgps (deg)
350
280
210
140
70
truehdgomg (deg)
350.
280.
210.
140.
70.
ir_thermom (deg C)
-18.00
-20.00
-22.00
-26.00
-28.00
lwc_King (gm/m^3)
0.002
0.001
0.001
0.001
0.000
oipc1 (#/l)
1.20
0.90
0.60
0.30
0.00
180000
190000

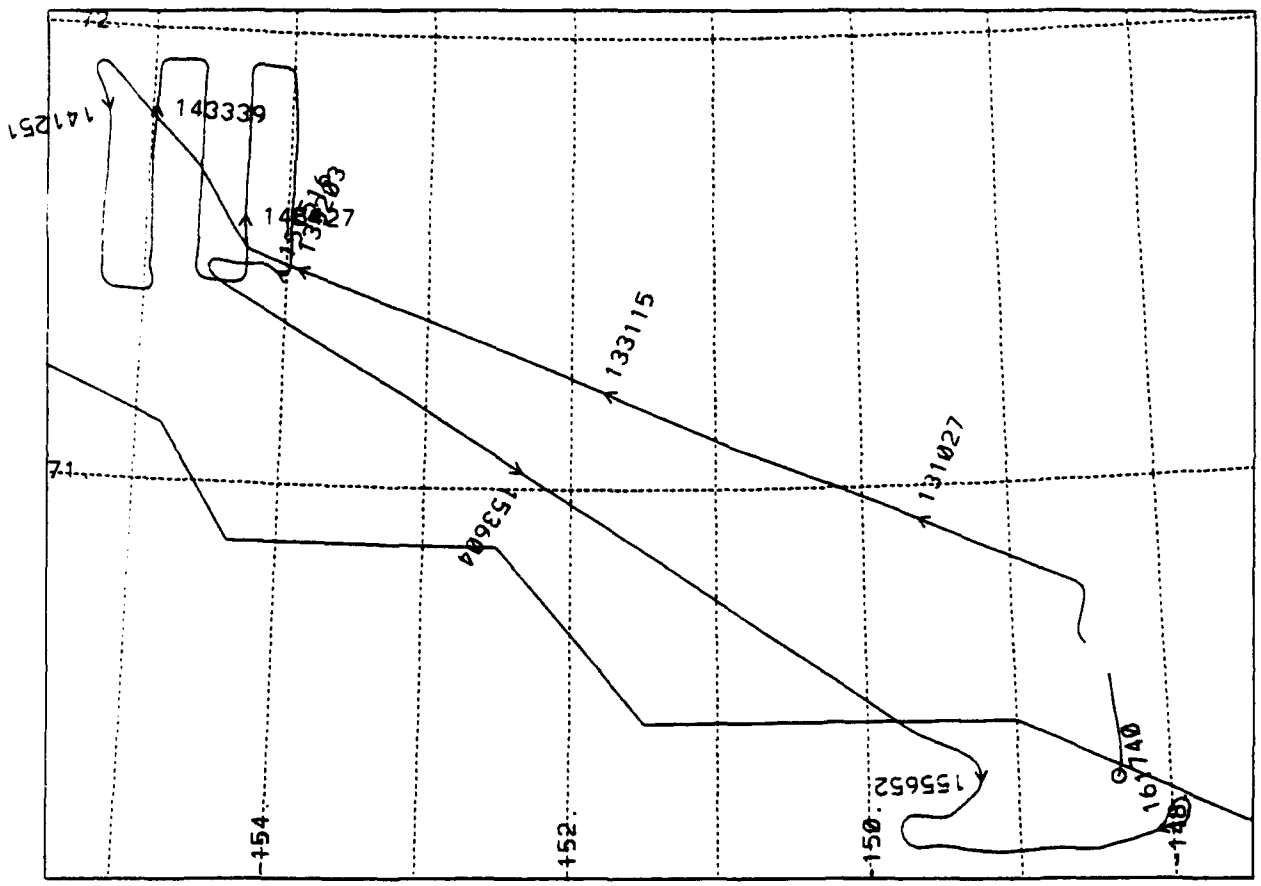
Temperature Sounding



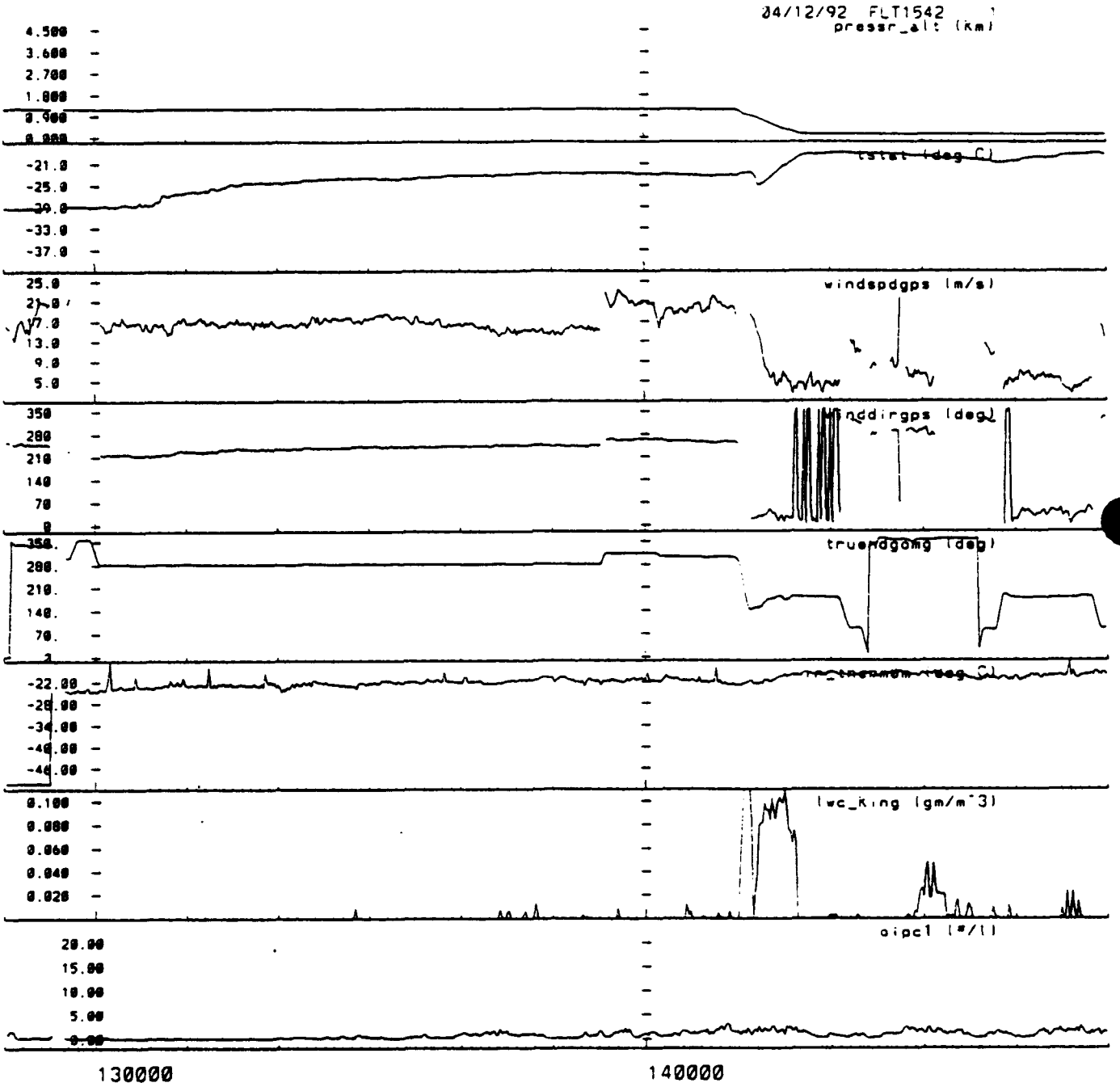
Temperature Sounding

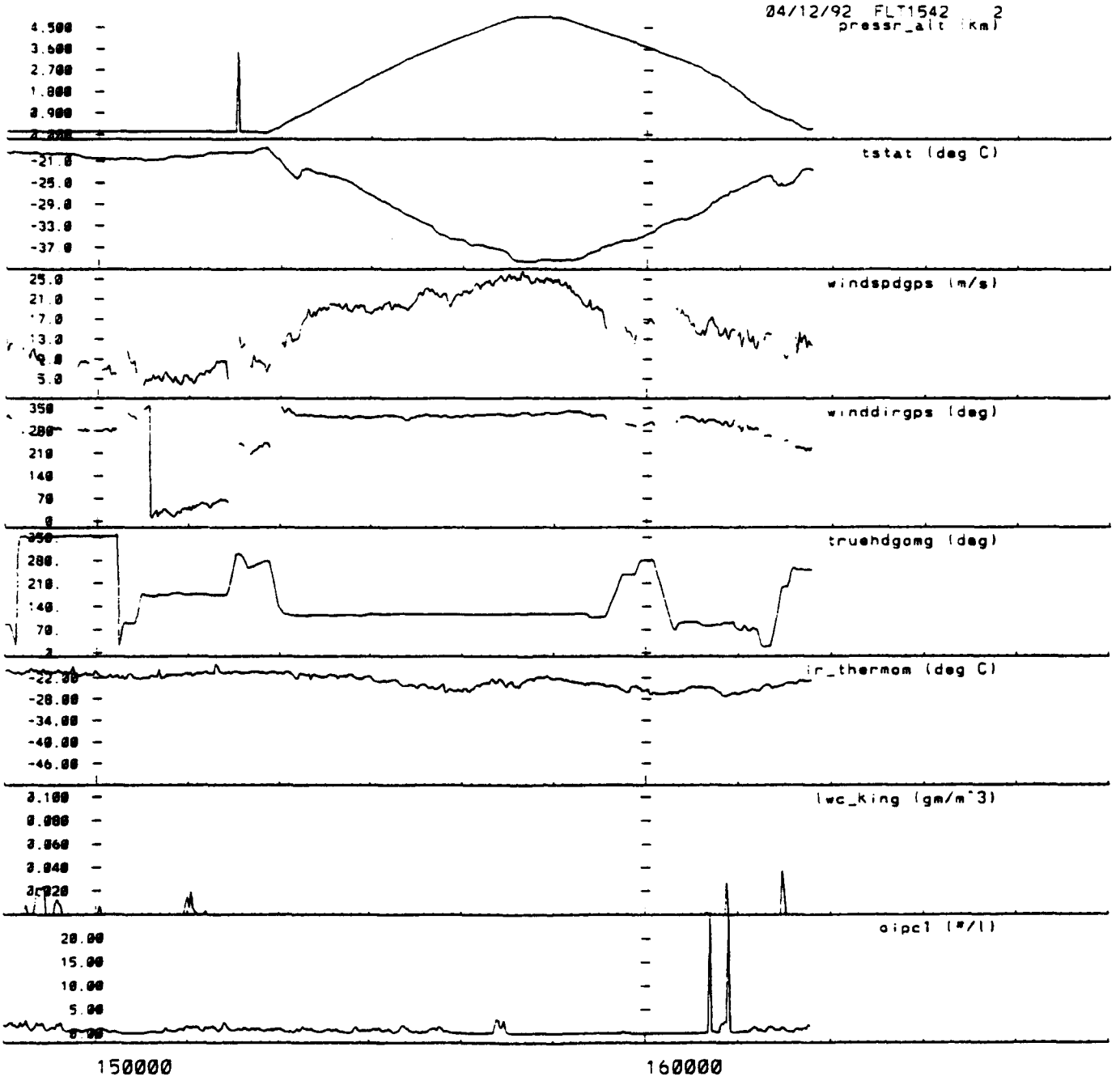


192

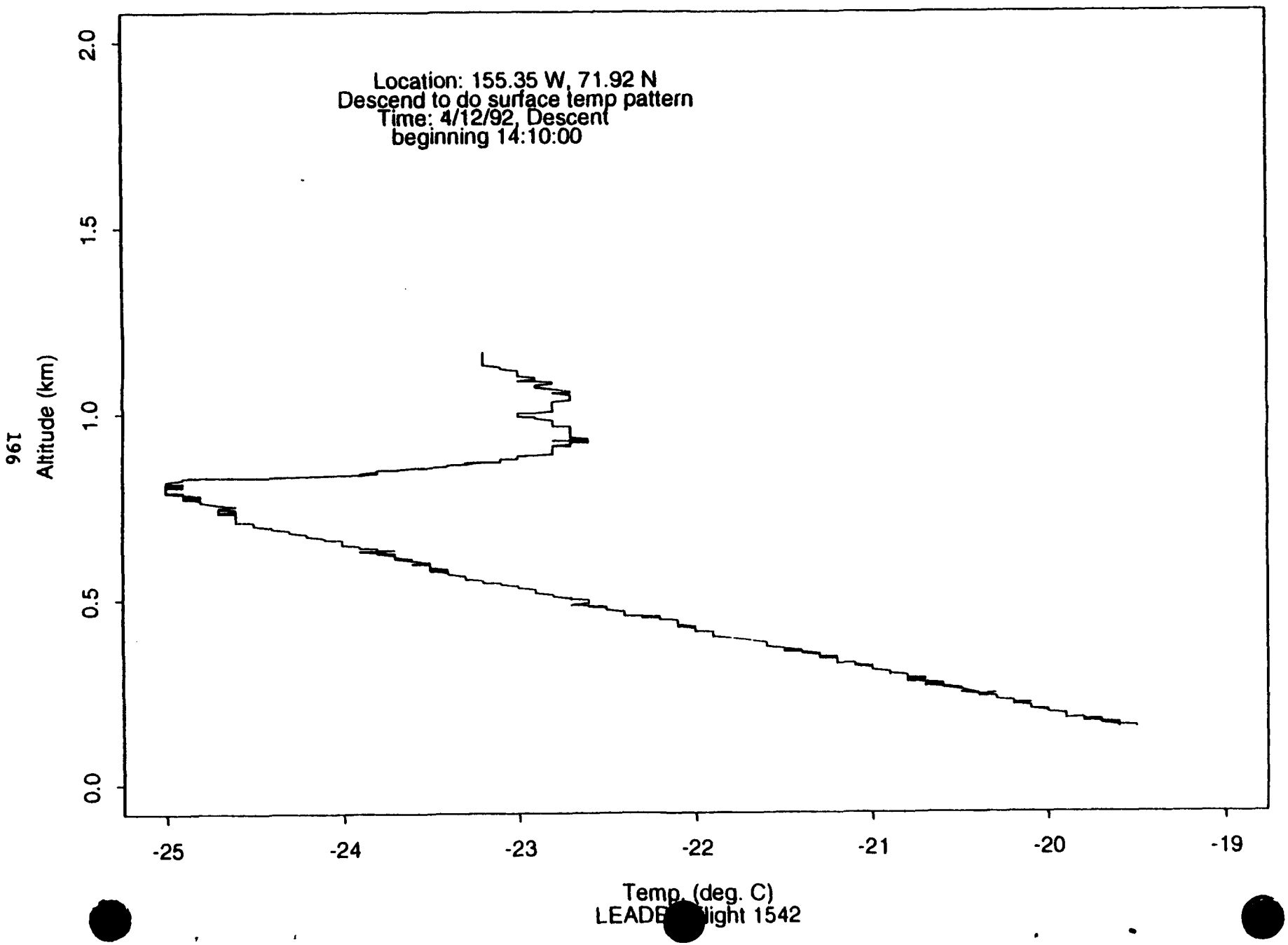


GPS track of flight 1542, 04/12/92 12:50:00 - 16:18:00

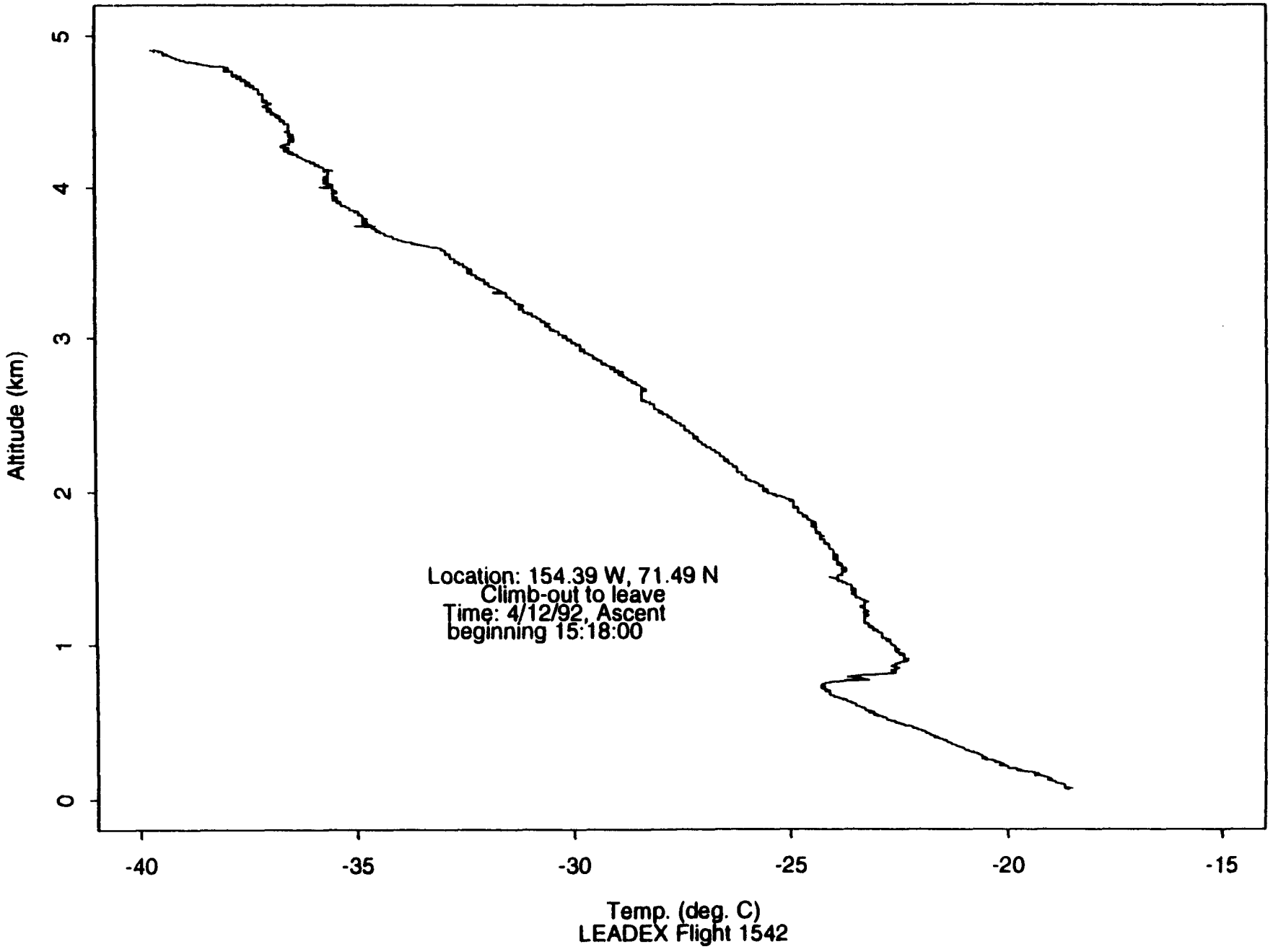

04/12/92 FLT1542
pressr_alt (km)
4.500
3.600
2.700
1.800
-21.0
-25.0
-29.0
-33.0
-37.0
tstat (deg C)
25.0
21.0
17.0
13.0
9.0
5.0
windspdgps (m/s)
350
280
210
140
70
0
hddirgps (deg)
358.
280.
210.
140.
70.
truehdgdmg (deg)
-22.00
-26.00
-30.00
-40.00
-46.00
0.100
0.080
0.060
0.040
0.020
lwc_King (gm/m^3)
20.00
15.00
10.00
5.00
0.00
oipc1 (#/l)
130000
140000


04/12/92 FLT1542 2
pressr_alt (km)
4.500
3.600
2.700
1.800
0.900
tstat (deg C)
-21.0
-25.0
-29.0
-33.0
-37.0
windspdgps (m/s)
25.0
21.0
17.0
13.0
9.0
5.0
winddirgps (deg)
350
280
210
140
70
0
truehdgomg (deg)
350.
280.
210.
140.
70.
ir_thermom (deg C)
-22.00
-28.00
-34.00
-40.00
-46.00
lwc_king (gm/m^3)
0.100
0.080
0.060
0.040
0.020
oipc1 (#/l)
20.00
15.00
10.00
5.00
0.00
150000
160000

Temperature Sounding



Temperature Sounding



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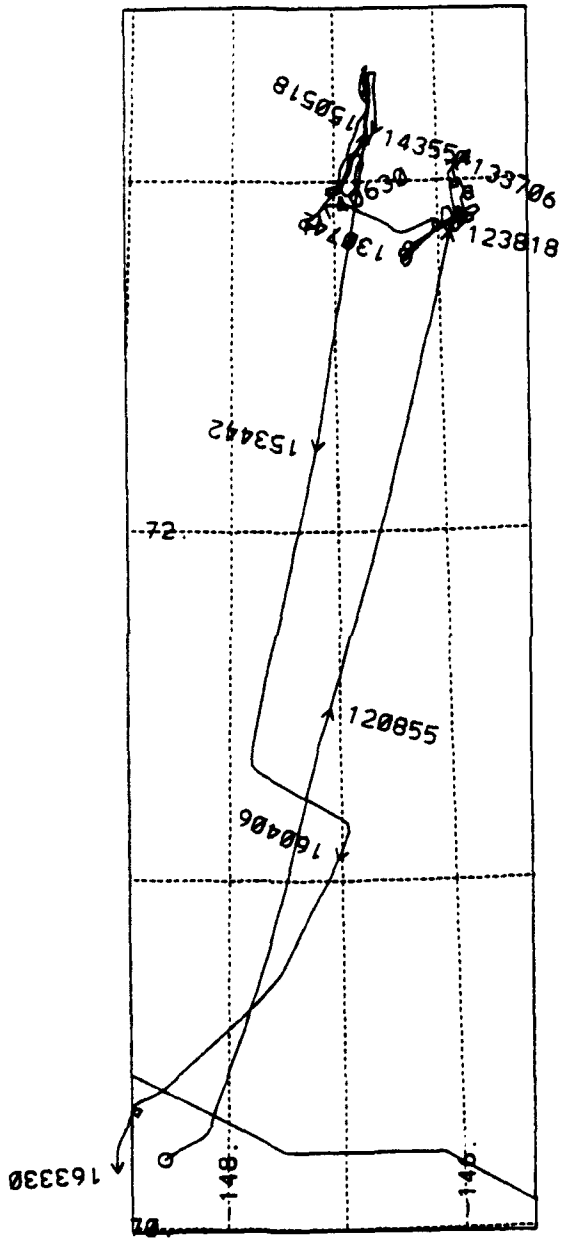
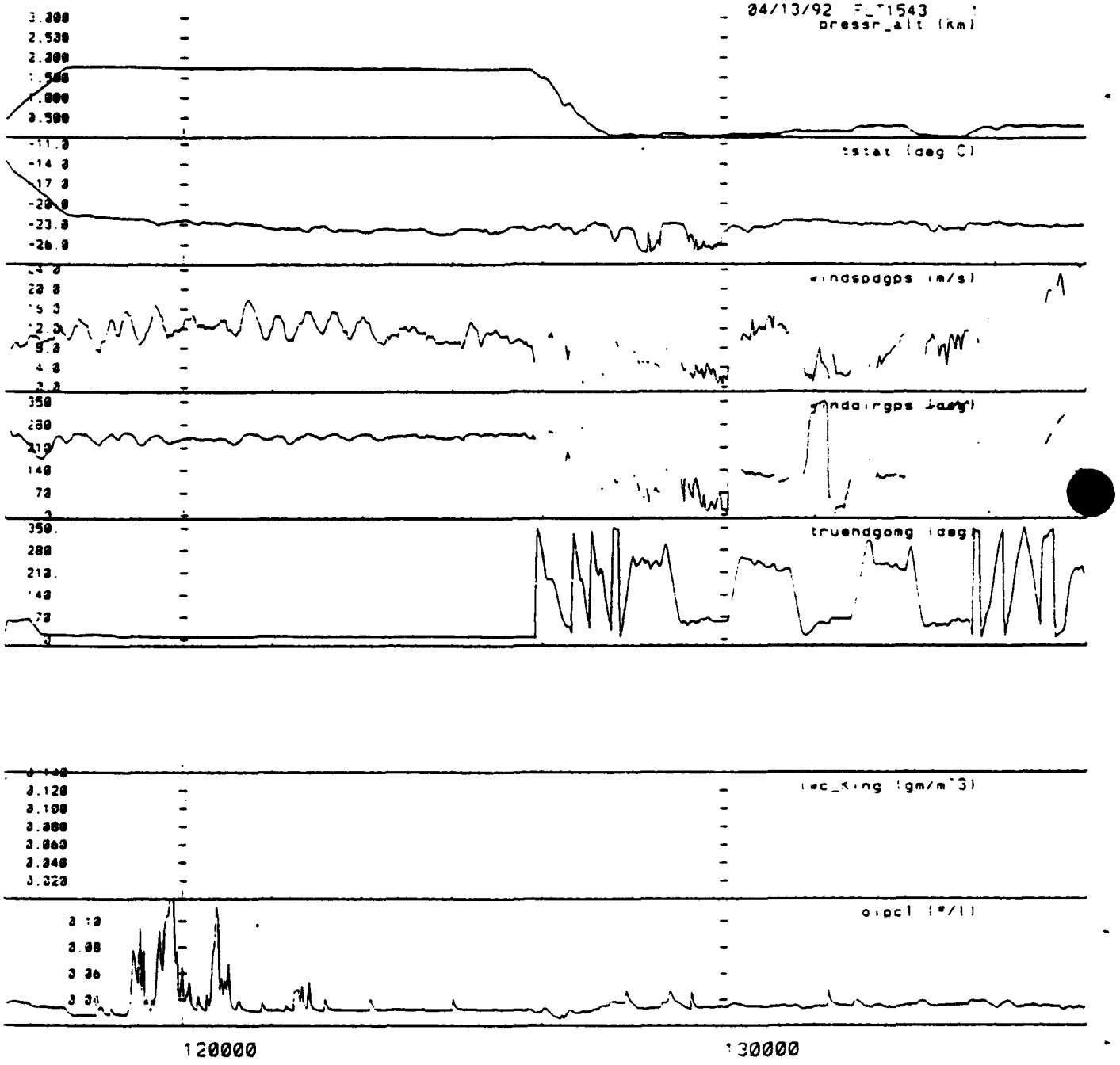
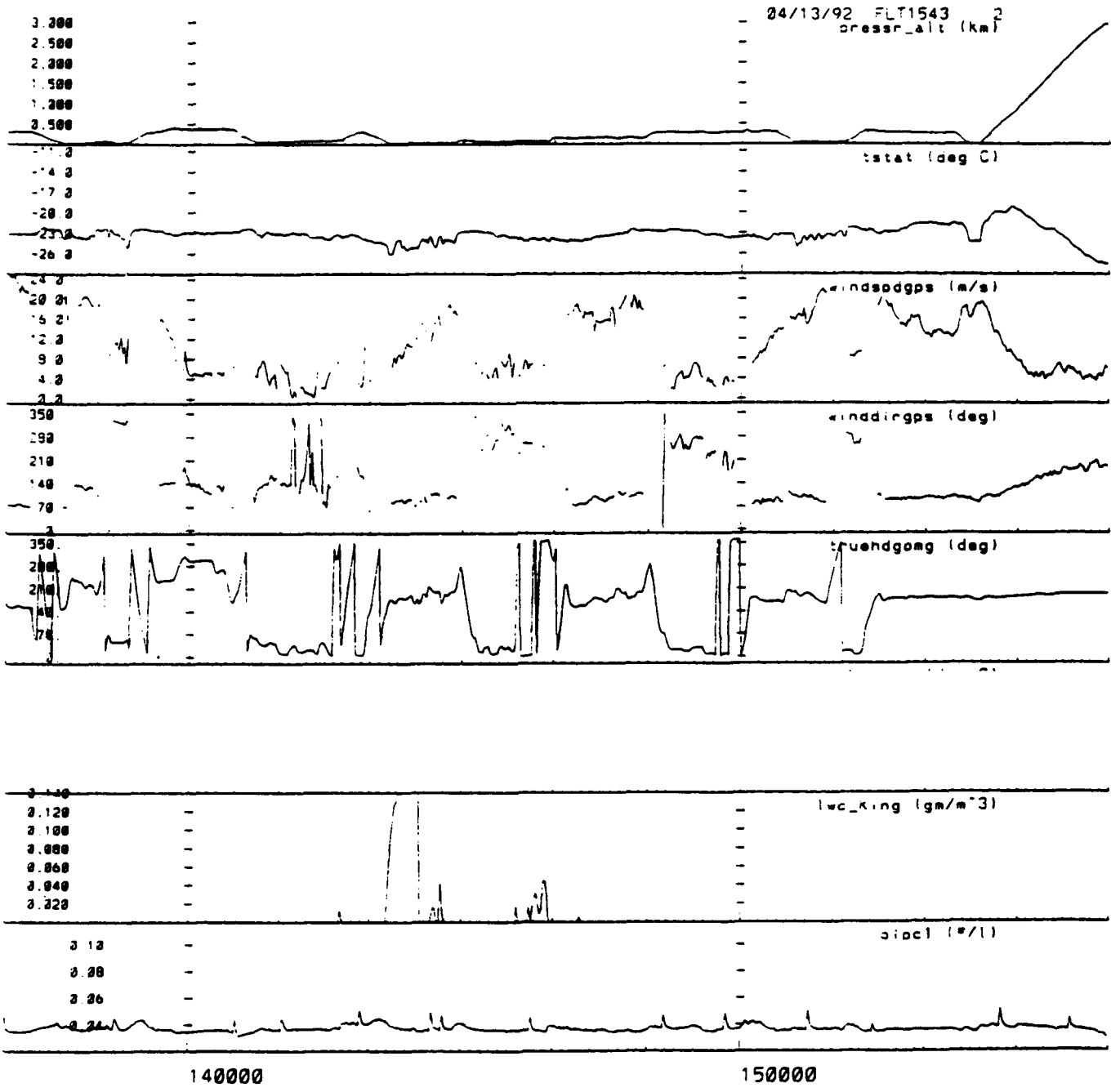
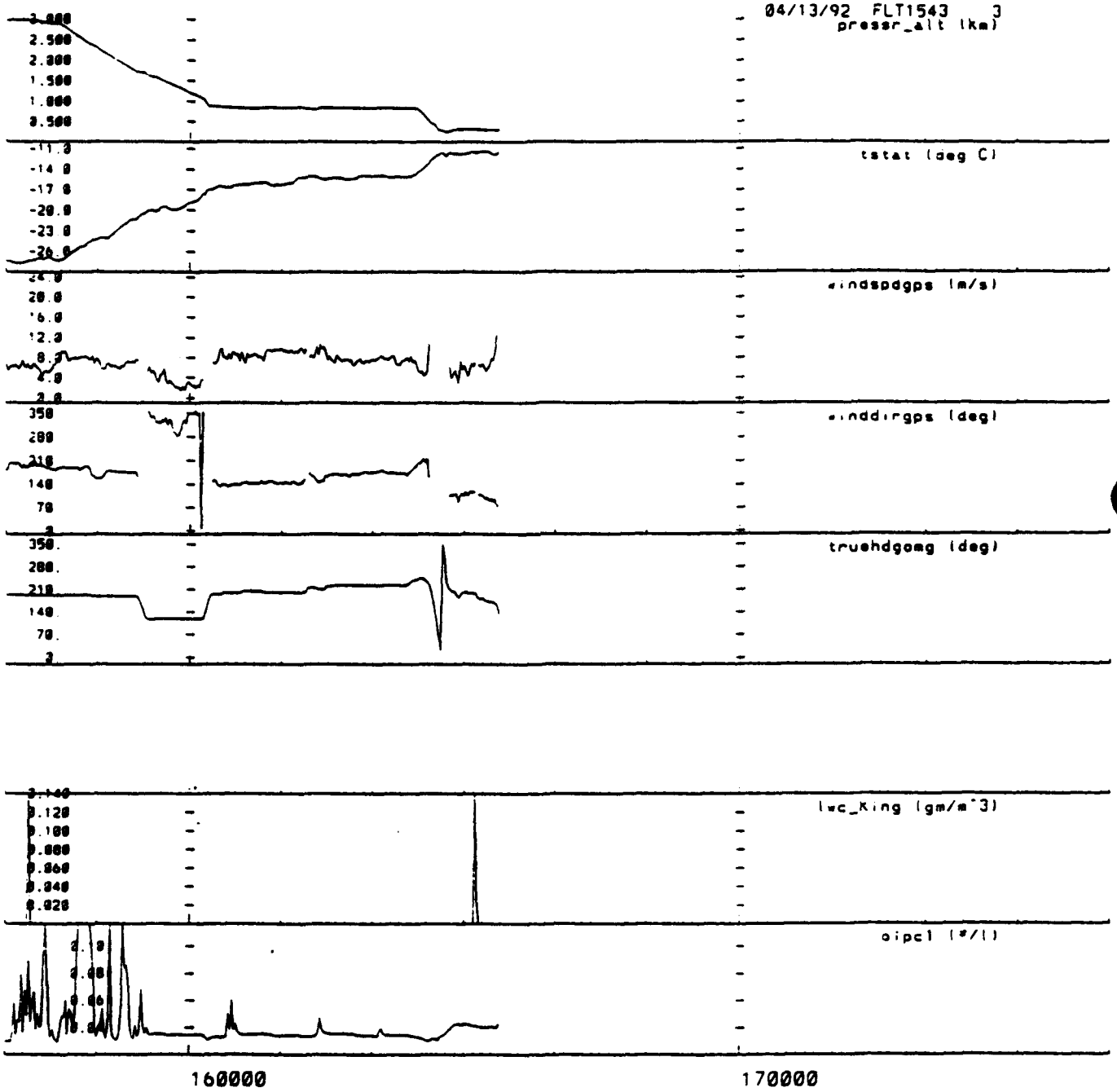


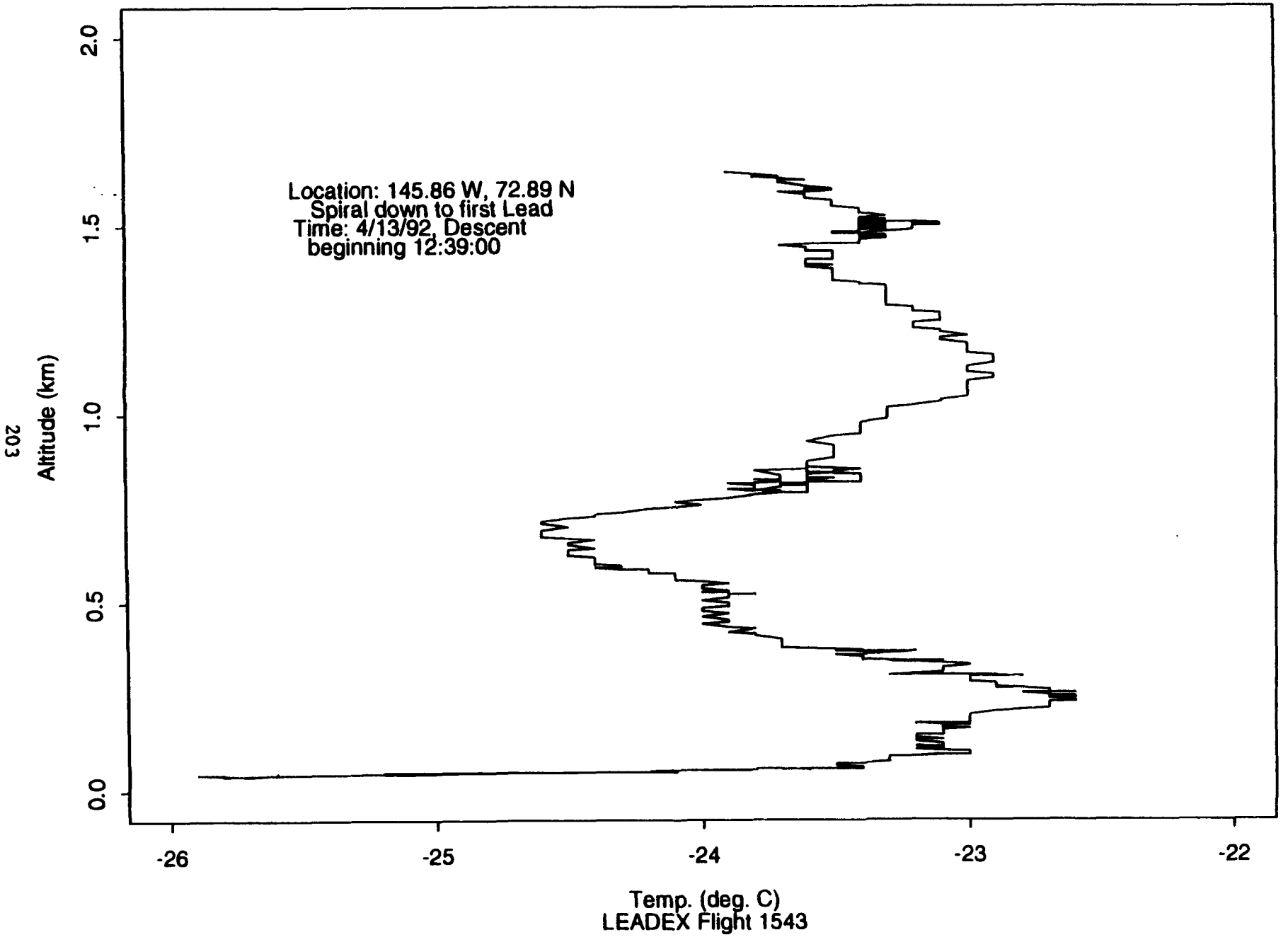
GPS track of flight 1543, 04/13/92 11:40:00 - 16:34:00


04/13/92
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps
truewndgomg (deg
dewpcl (°/l)
120000
130000

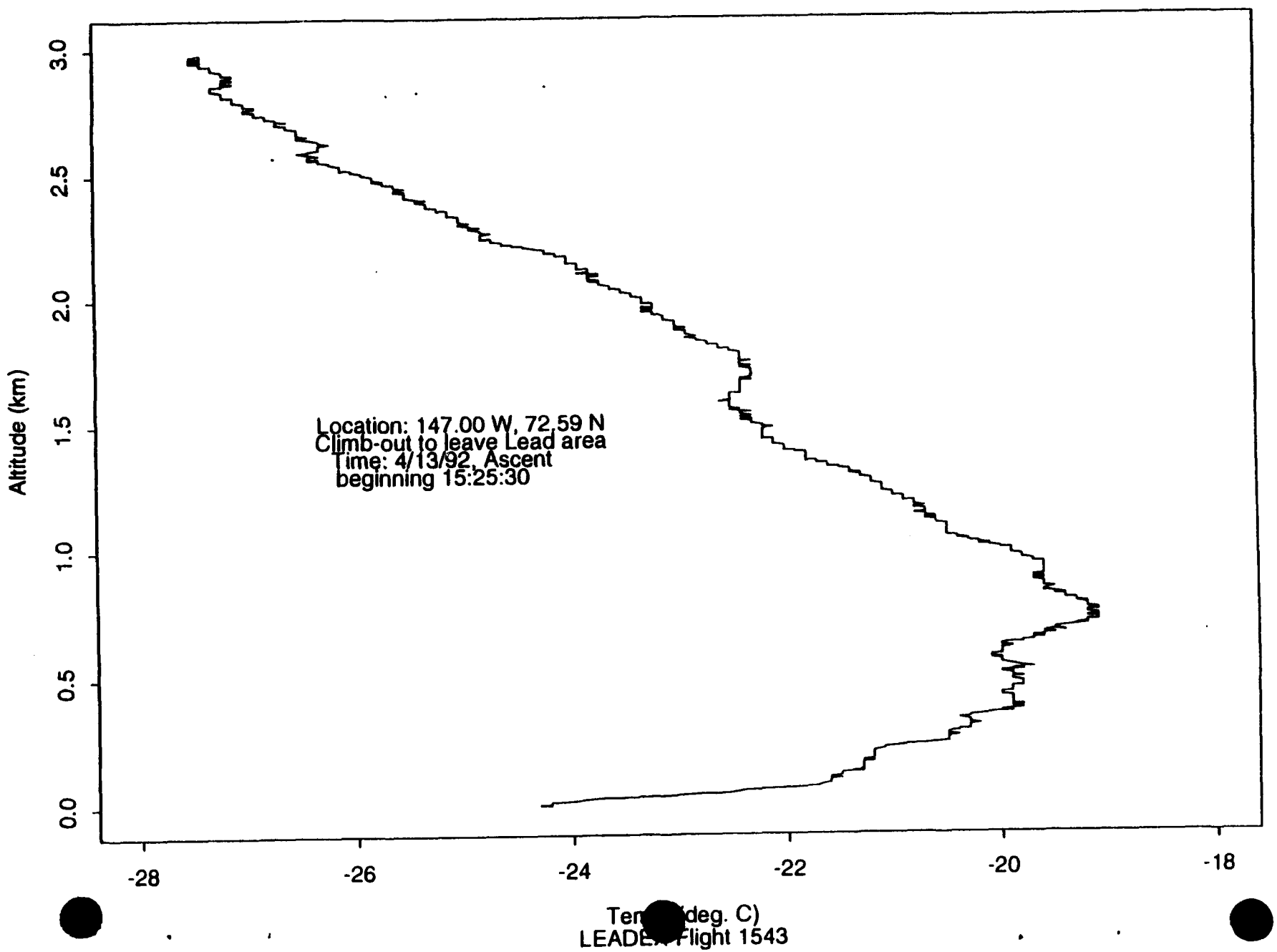

04/13/92 FLT1543
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgomg (deg)
lwc_King (gm/m^3)
dipol (#/l)
140000
150000

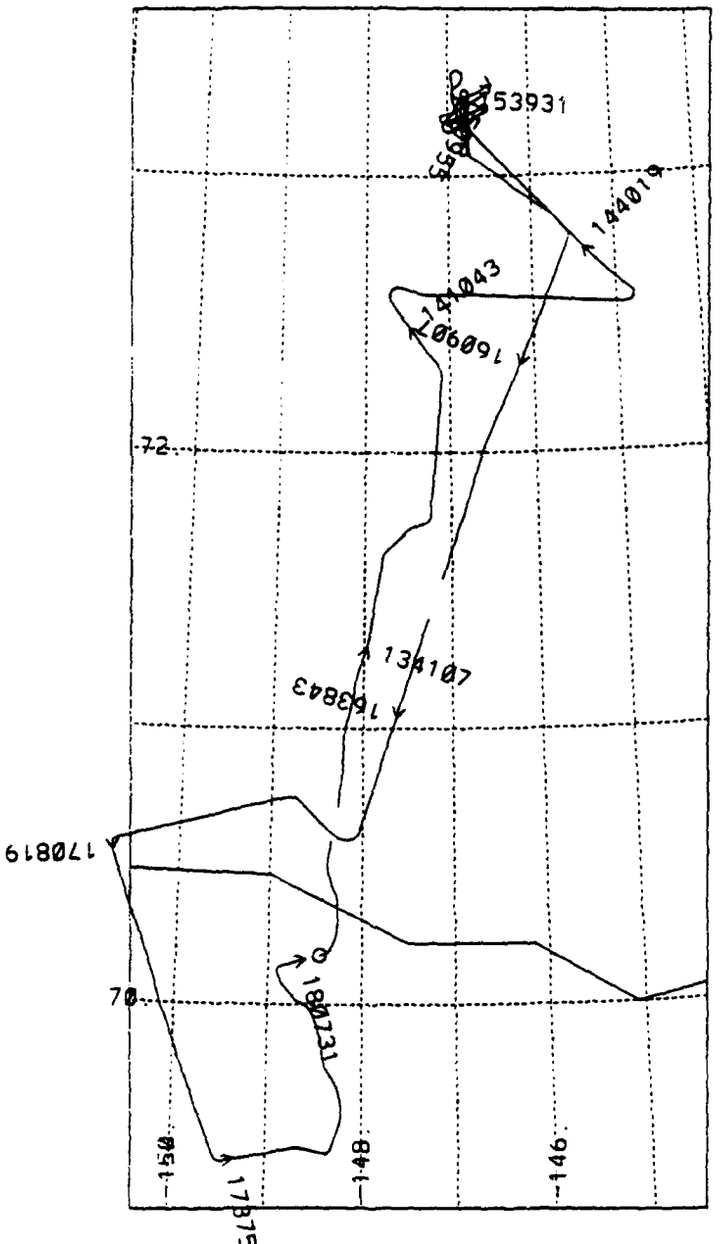

04/13/92 FLT1543 3
pressr_alt (km)
2.500
2.000
1.500
1.000
0.500
tstat (deg C)
-11.0
-14.0
-17.0
-20.0
-23.0
windspdgps (m/s)
20.0
16.0
12.0
8.0
4.0
winddirgps (deg)
350
280
210
140
70
truehdgomg (deg)
350.
280.
210.
140.
70.
lwc_King (gm/m^3)
0.120
0.100
0.080
0.060
0.040
0.020
oipc1 (#/l)
160000
170000

Temperature Sounding

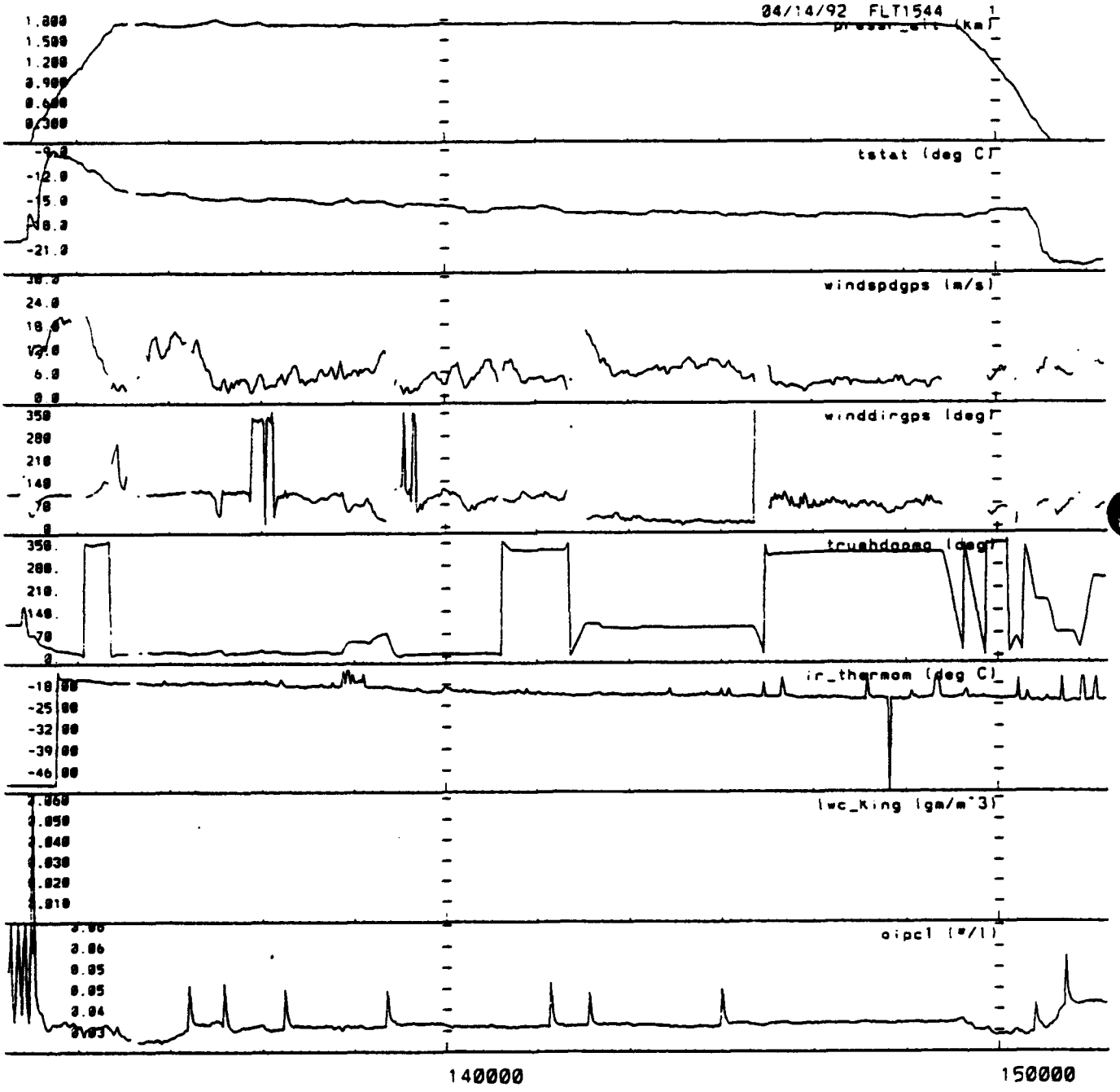


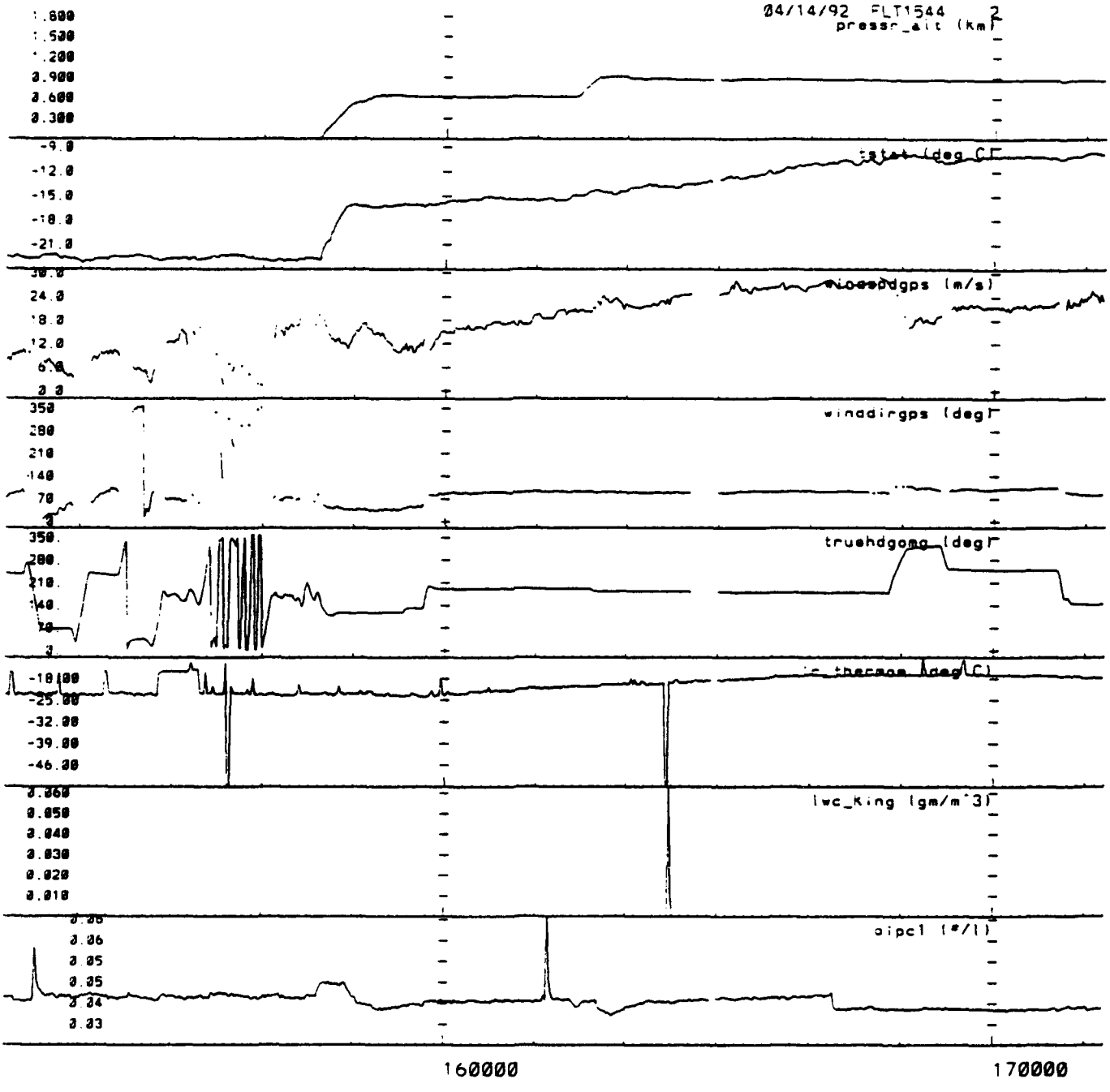
Temperature Sounding

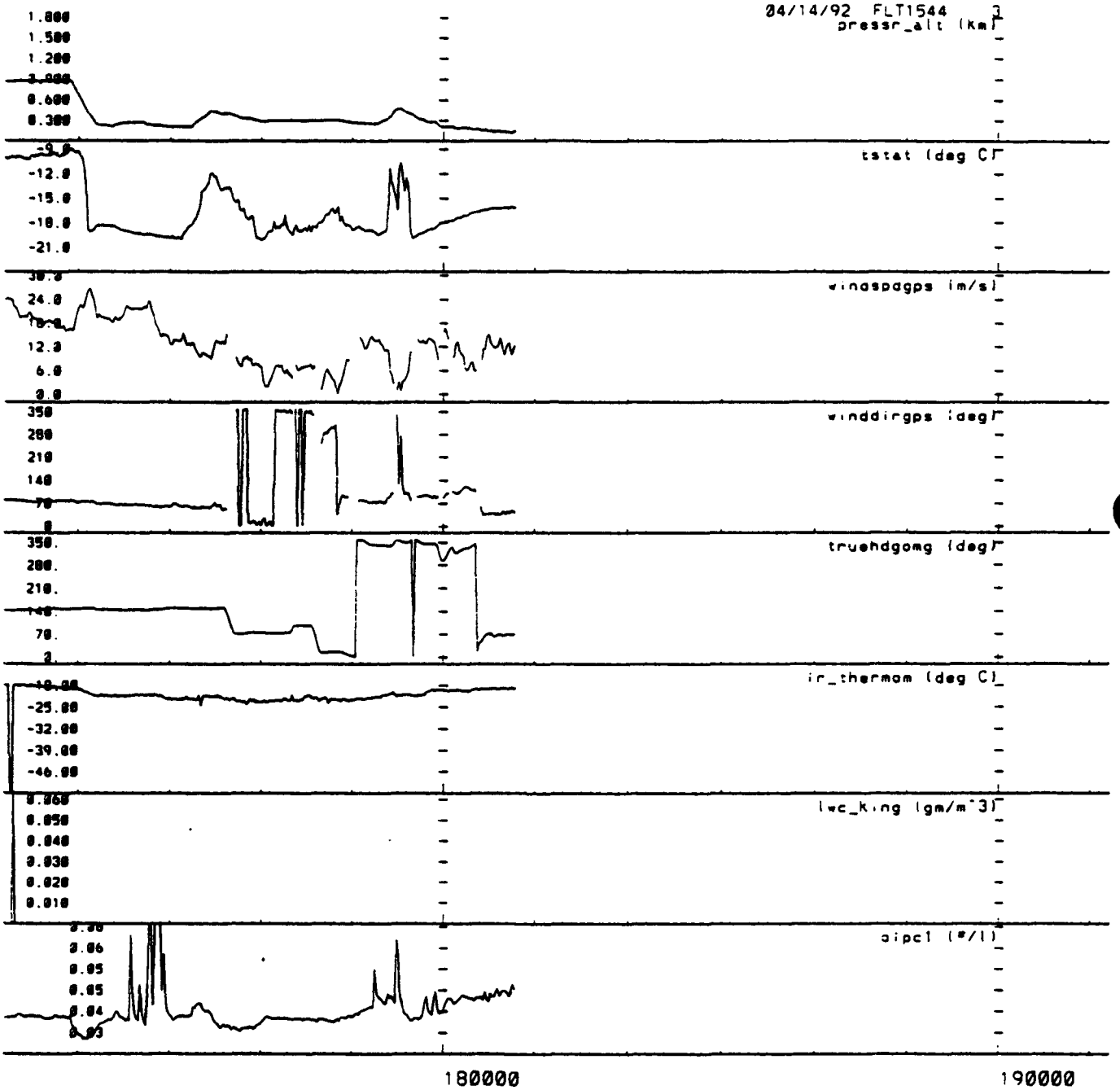




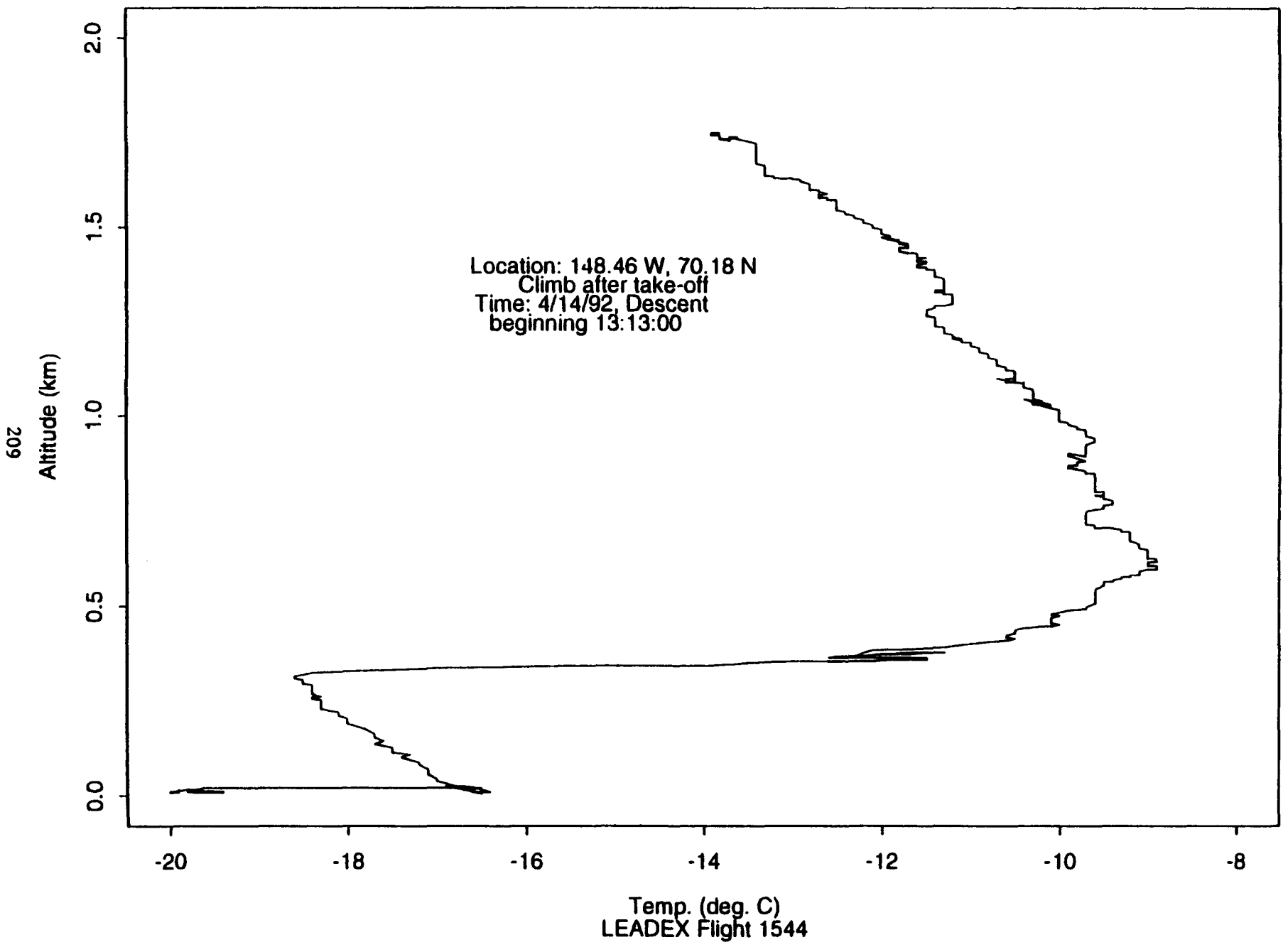
GPS track of flight 1544, 04/14/92 13:12:00 - 18:08:00


04/14/92 FLT1544
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
trueheading (deg)
ir_thermom (deg C)
lwc_King (gm/m^3)
oipc1 (#/l)
140000
150000

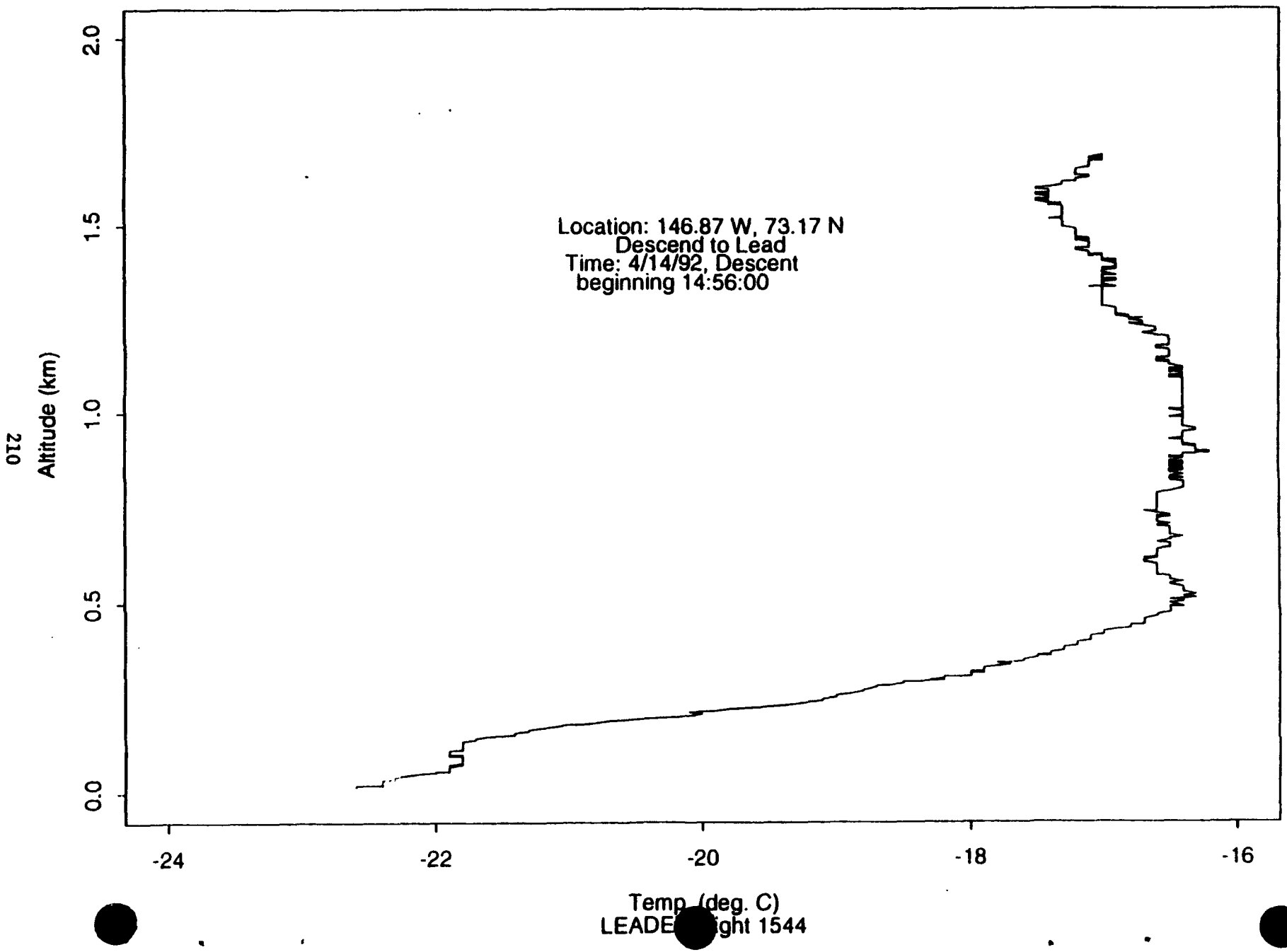

04/14/92 FLT1544
press_alt (km)
1.800
1.500
1.200
0.900
0.600
0.300
-9.0
-12.0
-15.0
-18.0
-21.0
24.0
18.0
12.0
6.0
0.0
350
280
210
140
70
0
350.
280.
210.
140.
70.
0.
-18.00
-25.00
-32.00
-39.00
-46.00
0.060
0.050
0.040
0.030
0.020
0.010
0.06
0.05
0.04
0.03
160000
170000


04/14/92 FLT1544
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgomg (deg)
ir_thermom (deg C)
lwc_king (gm/m^3)
dipc1 (#/l)
180000
190000

Temperature Sounding

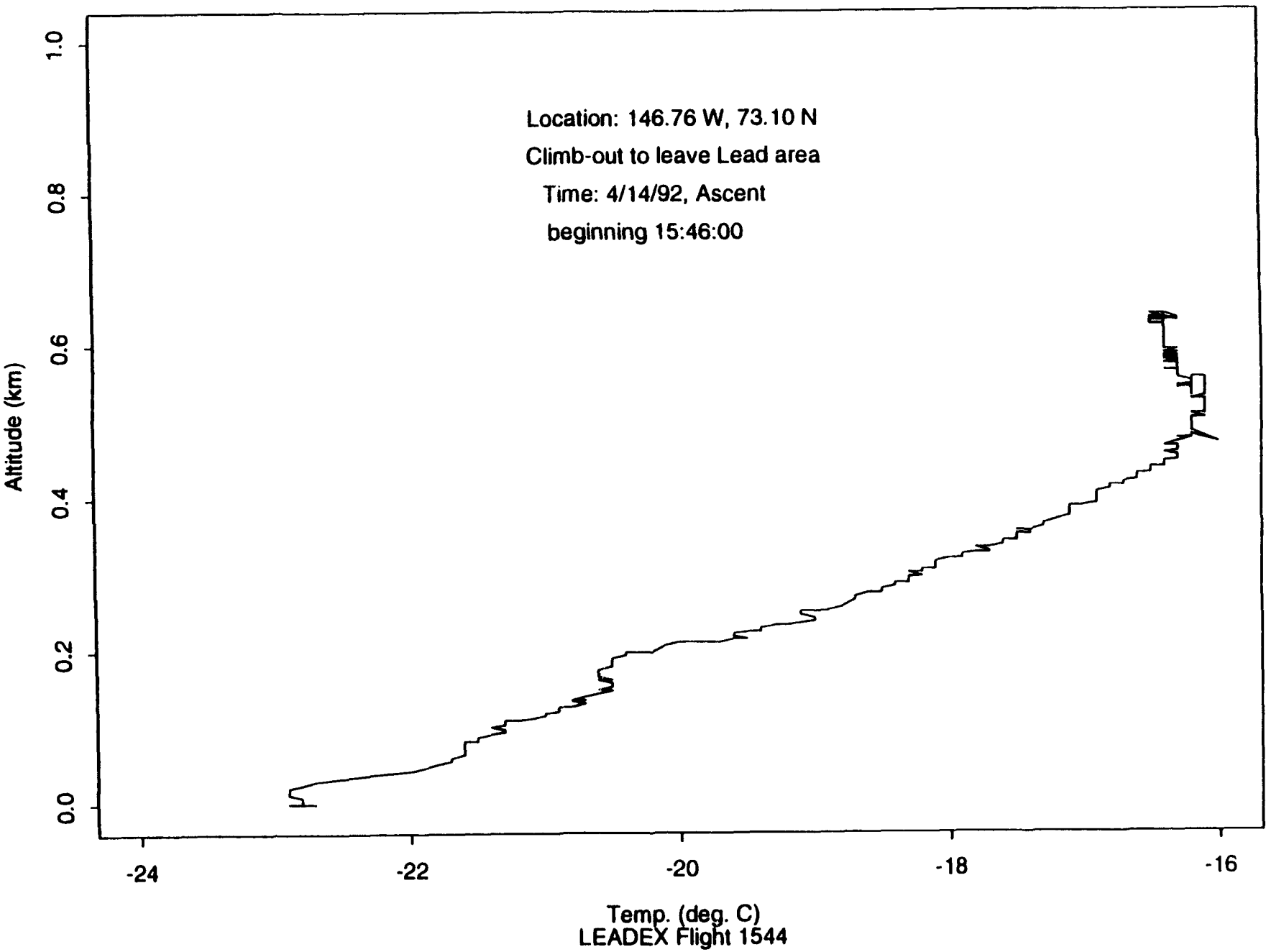


Temperature Sounding



210

Temperature Sounding



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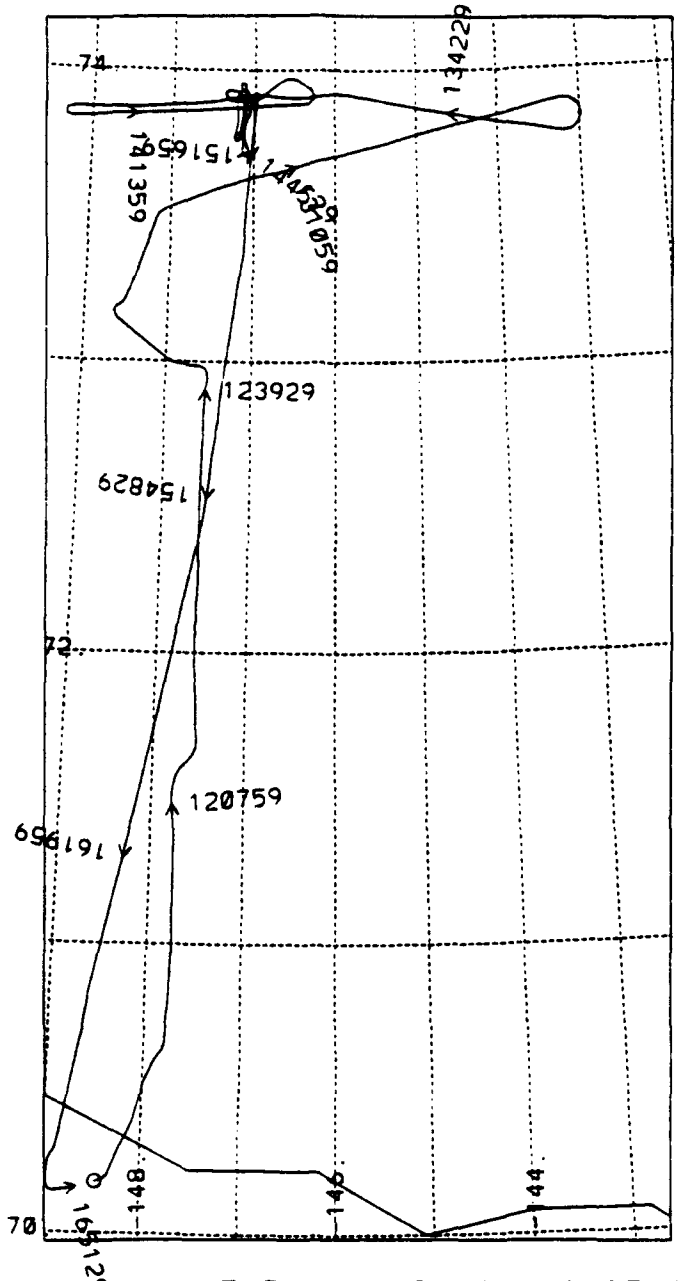
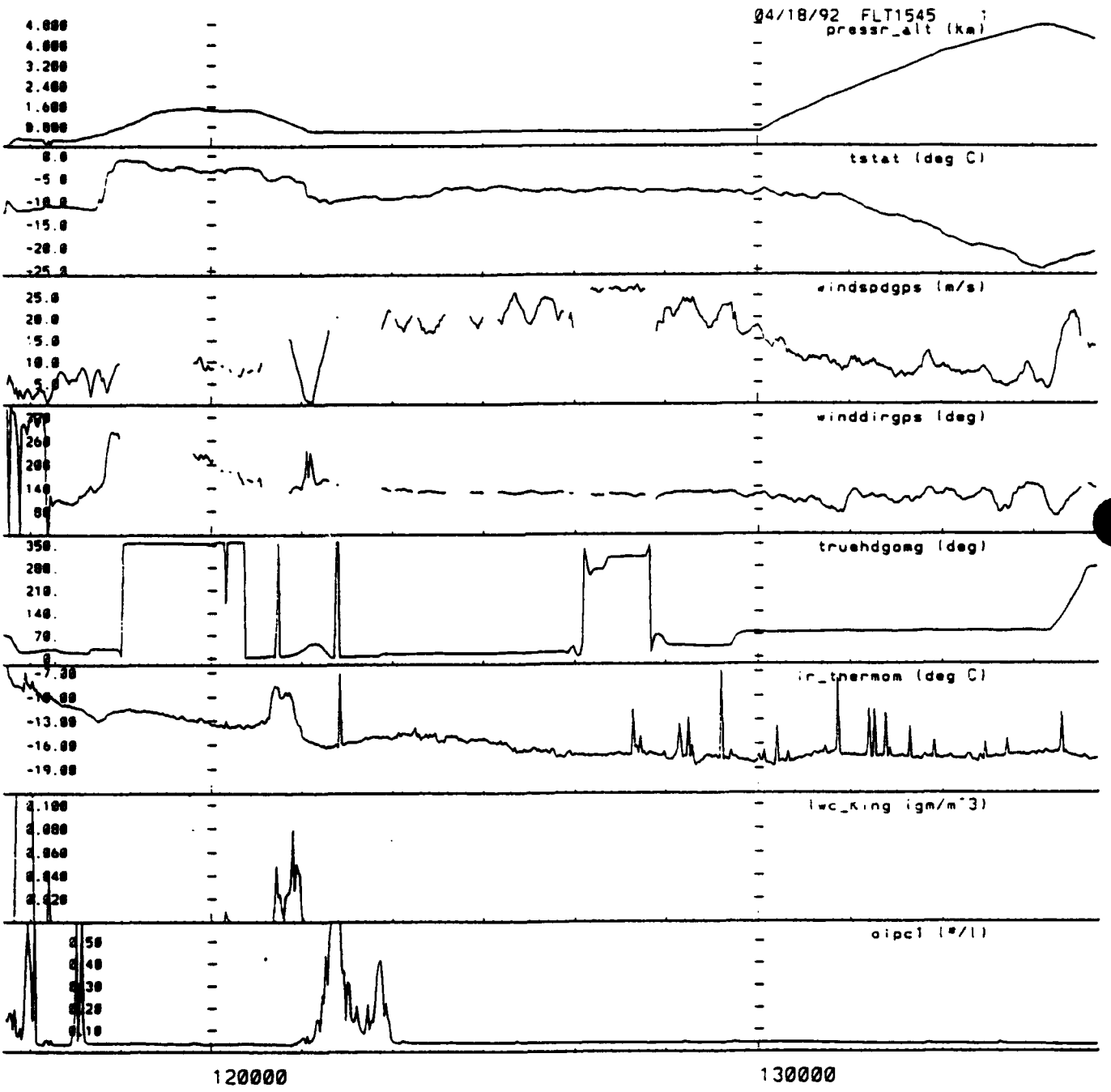
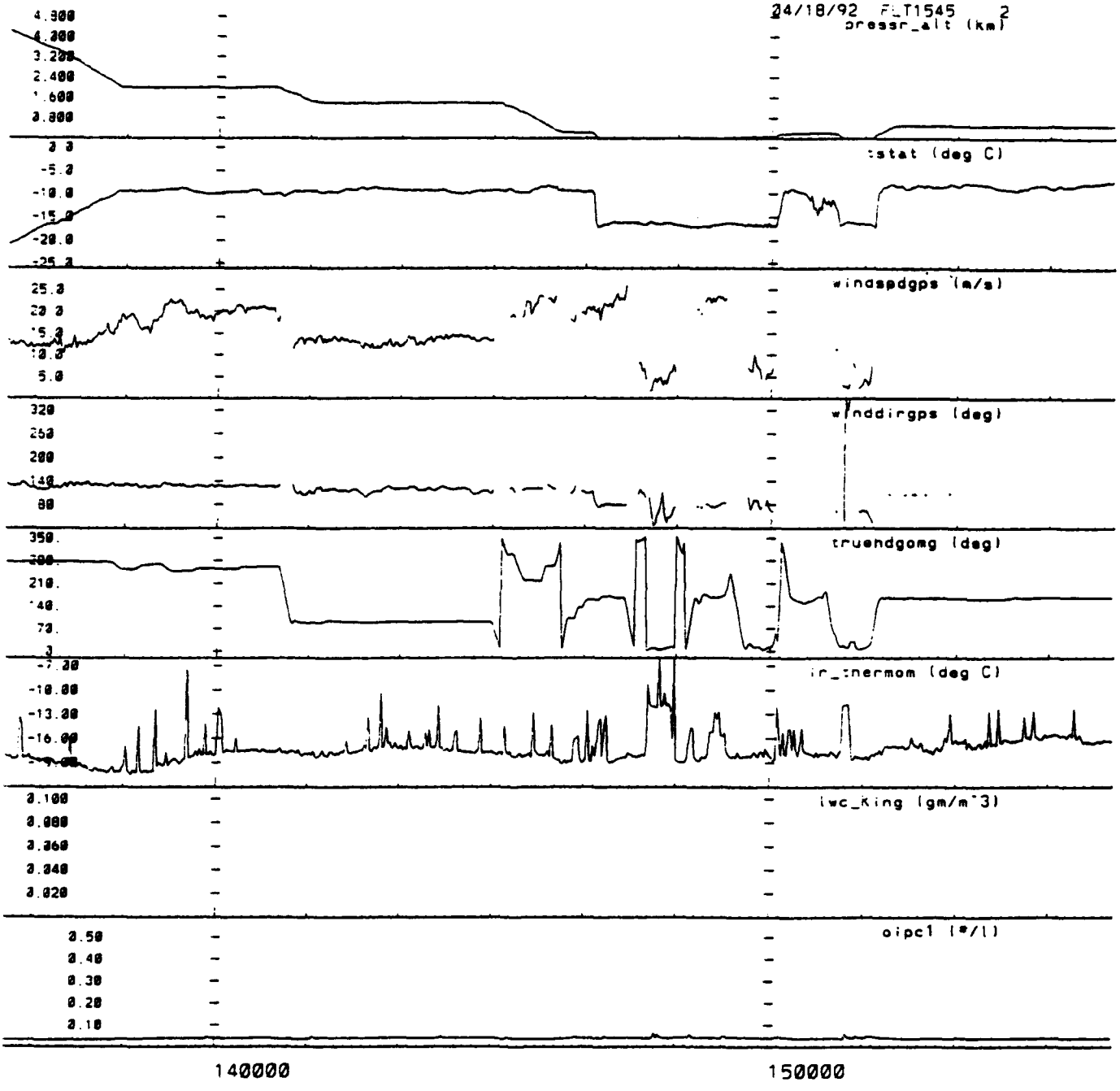
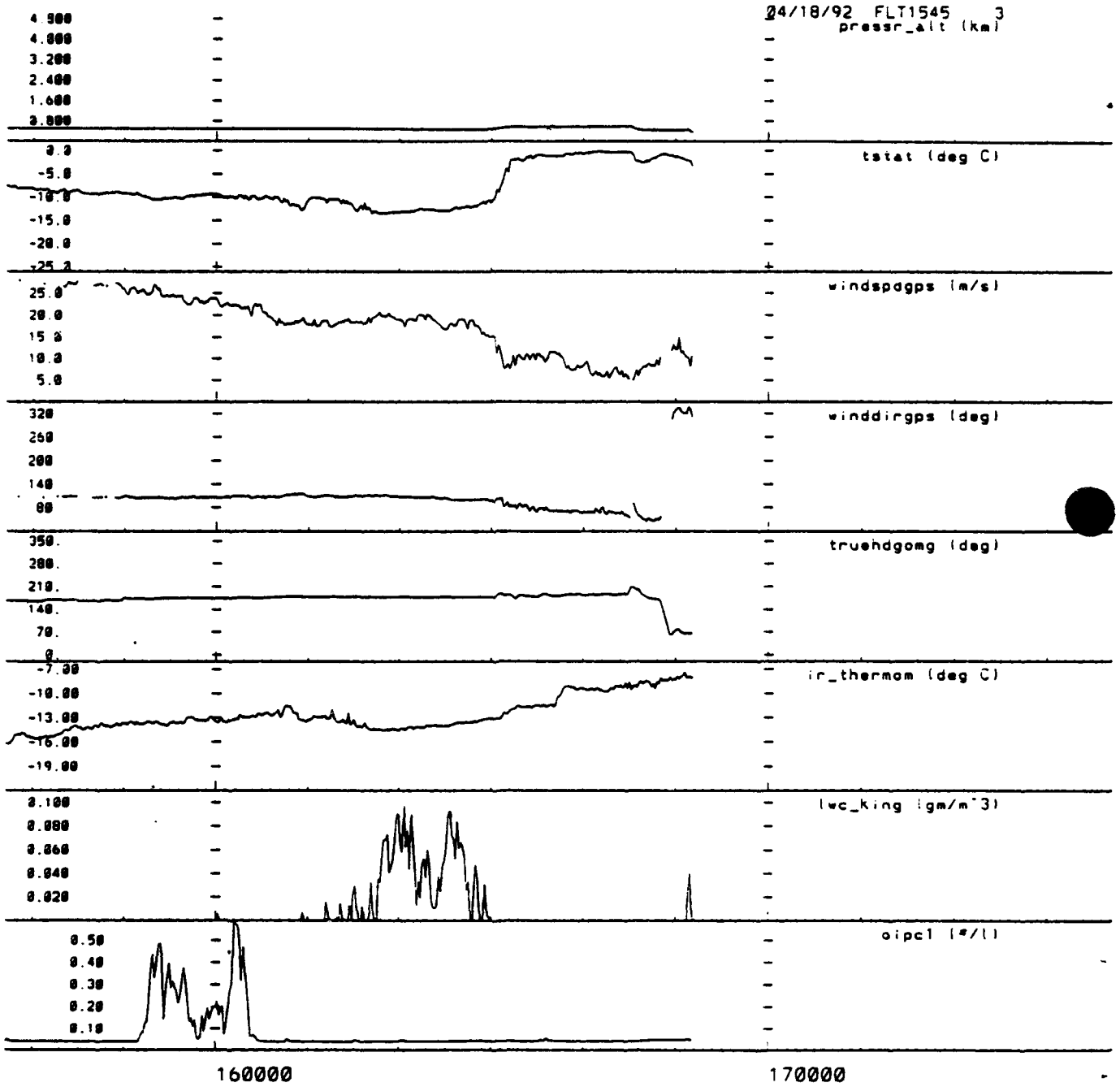


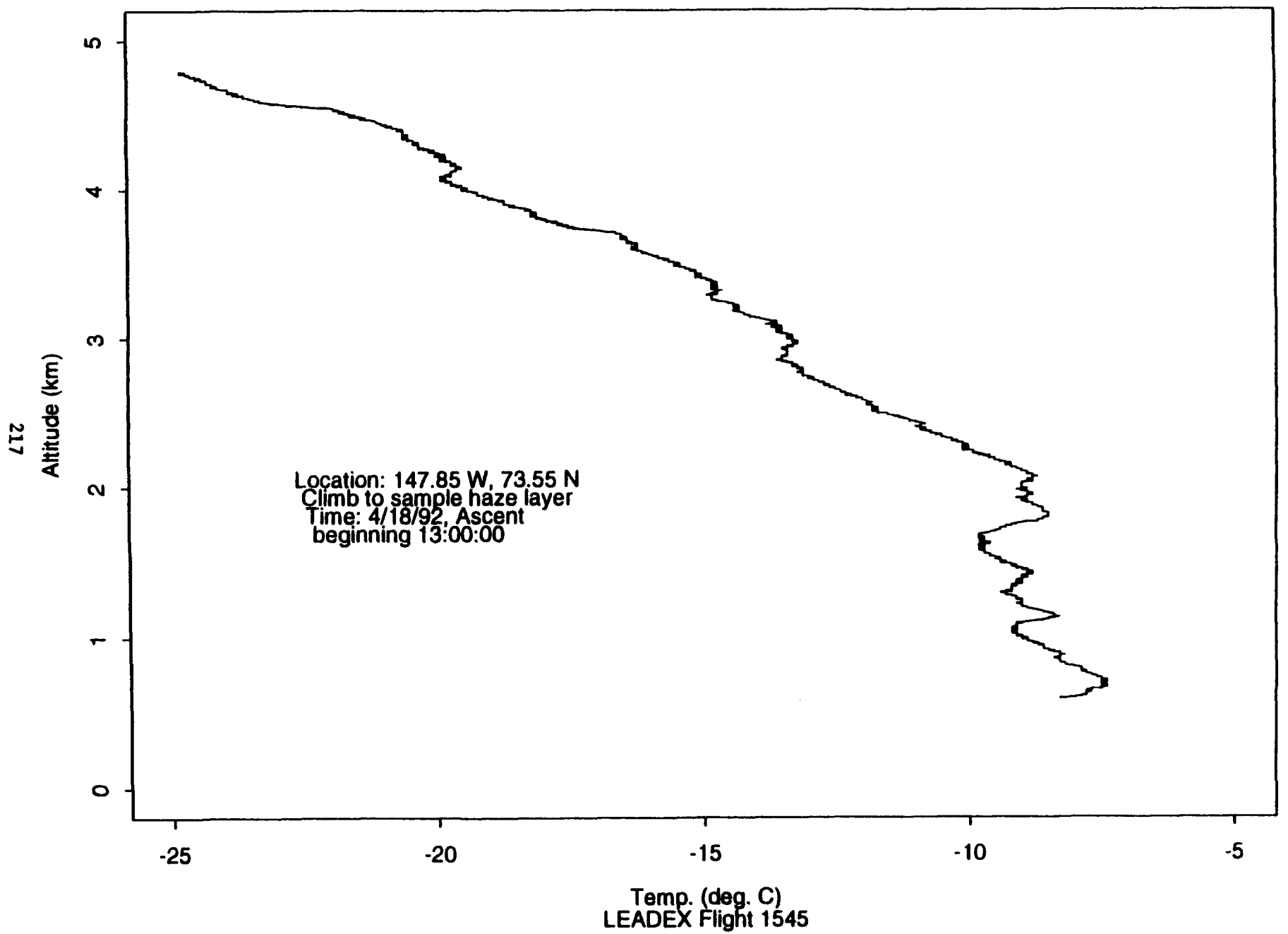
GPS track of flight 1545, 04/18/92 11:37:00 - 16:52:00


04/18/92 FLT1545
pressr_alt (km)
4.800
4.000
3.200
2.400
1.600
0.800
tstat (deg C)
0.0
-5.0
-15.0
-20.0
windspdgps (m/s)
25.0
20.0
15.0
10.0
winddirgps (deg)
260
200
140
truehdgomg (deg)
350.
280.
210.
140.
70.
ir_thermom (deg C)
-13.00
-16.00
-19.00
lwc_king (gm/m^3)
2.000
2.040
2.020
oipc1 (#/l)
50
40
30
20
10
120000
130000

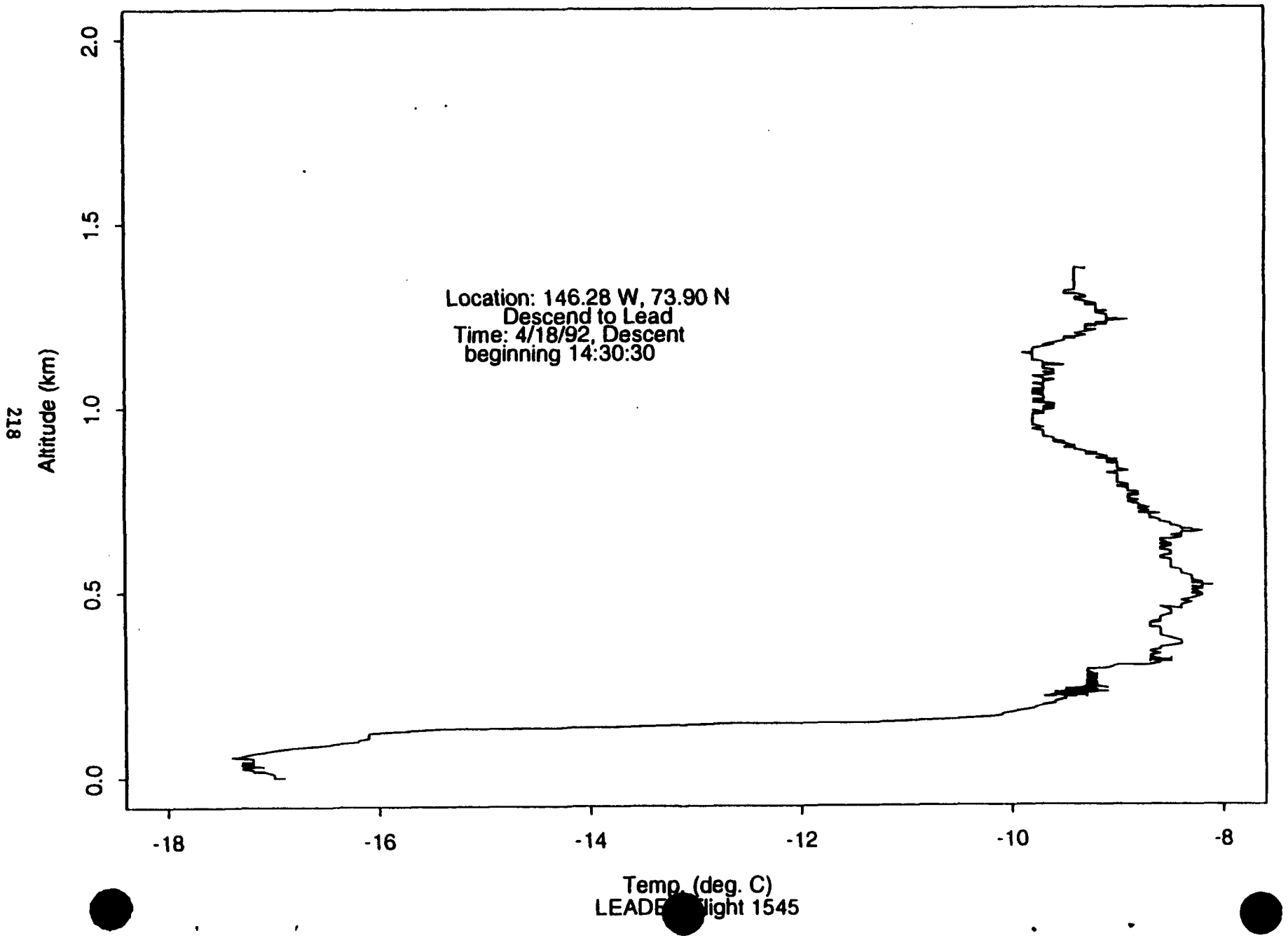

24/18/92 FLT1545 2
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truendgomg (deg)
ir_thermom (deg C)
lwc_King (gm/m^3)
oipc1 (#/l)
140000
150000

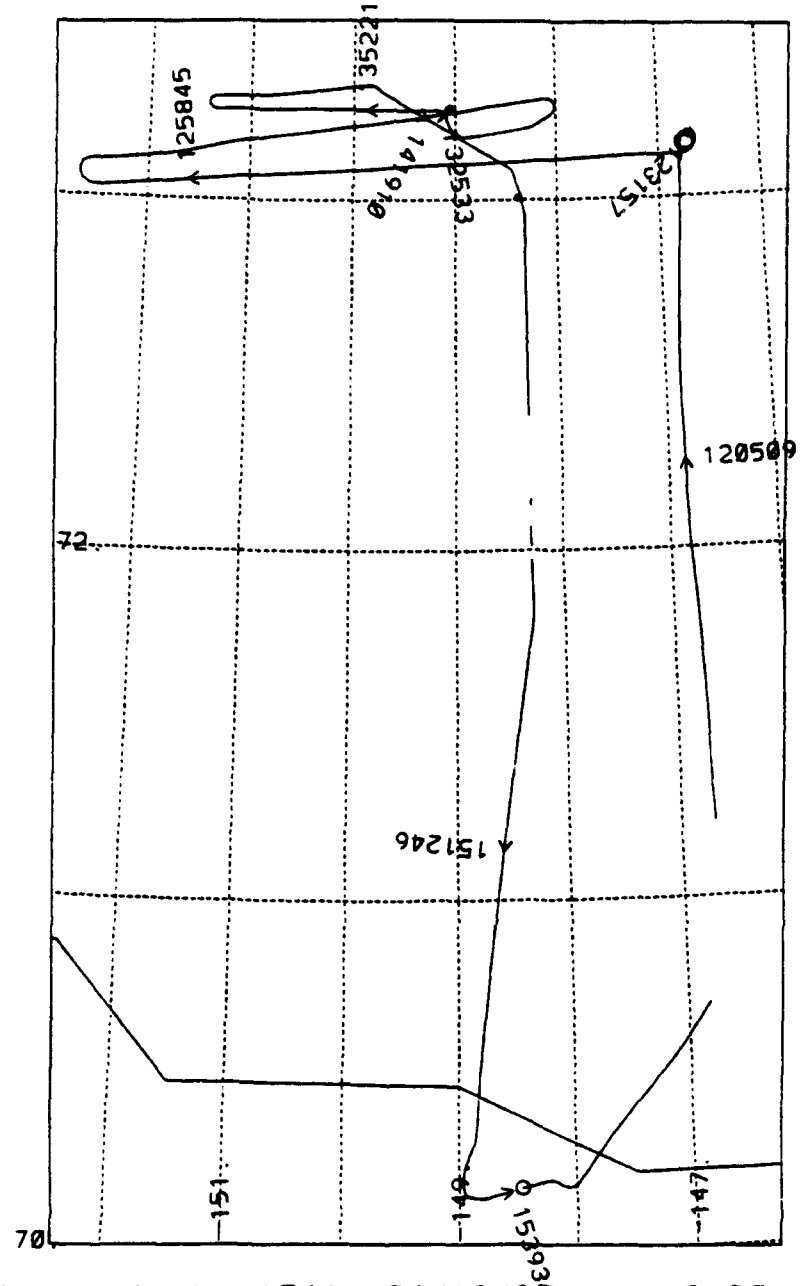

04/18/92 FLT1545 3
pressr_alt (km)
4.800
4.000
3.200
2.400
1.600
0.800
tstat (deg C)
0.0
-5.0
-10.0
-15.0
-20.0
-25.0
windspdgps (m/s)
25.0
20.0
15.0
10.0
5.0
winddirgps (deg)
320
260
200
140
80
truehdgomg (deg)
350.
280.
210.
140.
70.
0.
ir_thermom (deg C)
-7.00
-10.00
-13.00
-16.00
-19.00
lwc_king (gm/m^3)
0.100
0.080
0.060
0.040
0.020
oipc1 (#/l)
0.50
0.40
0.30
0.20
0.10
160000
170000

Temperature Sounding

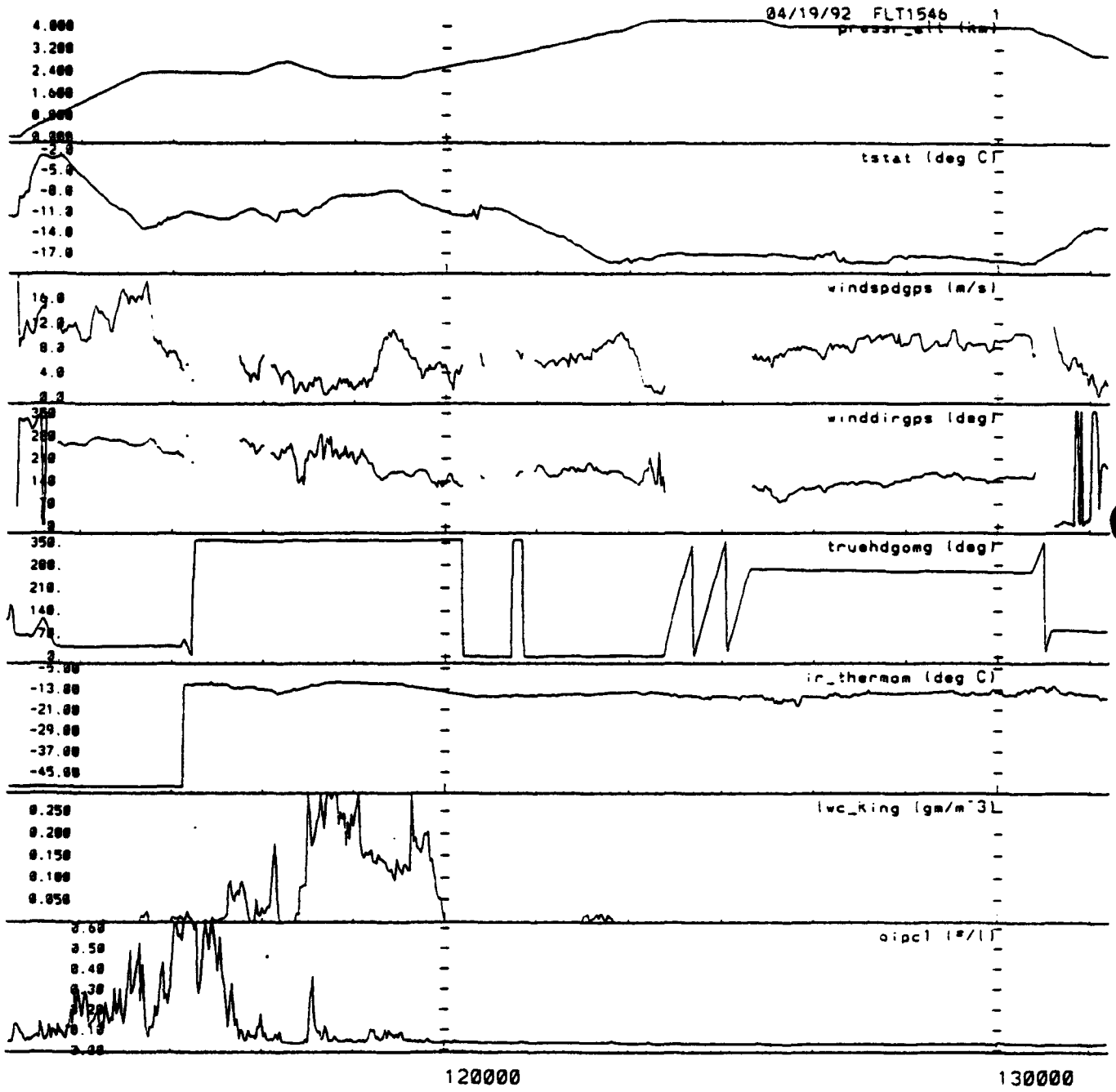


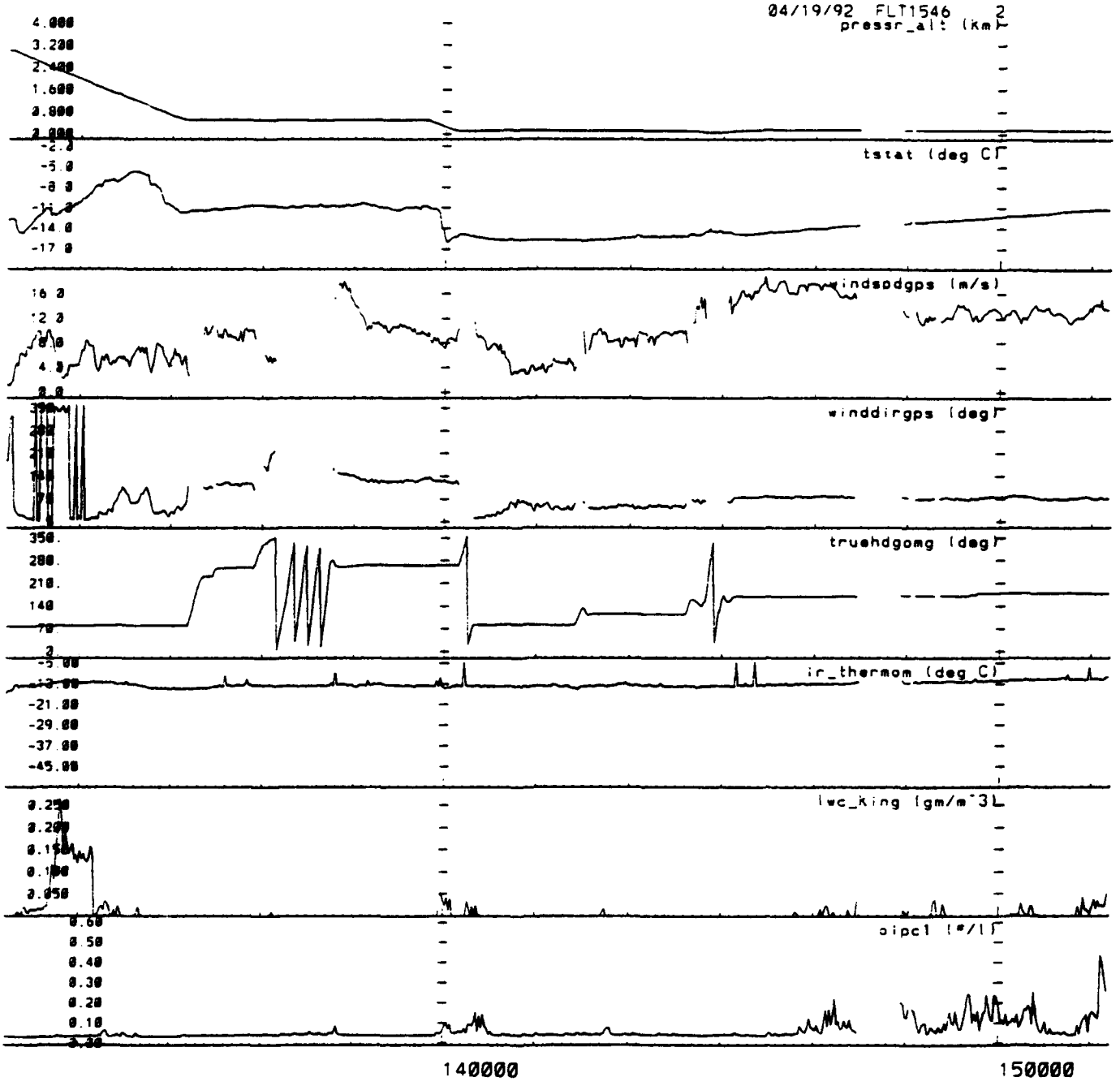
Temperature Sounding

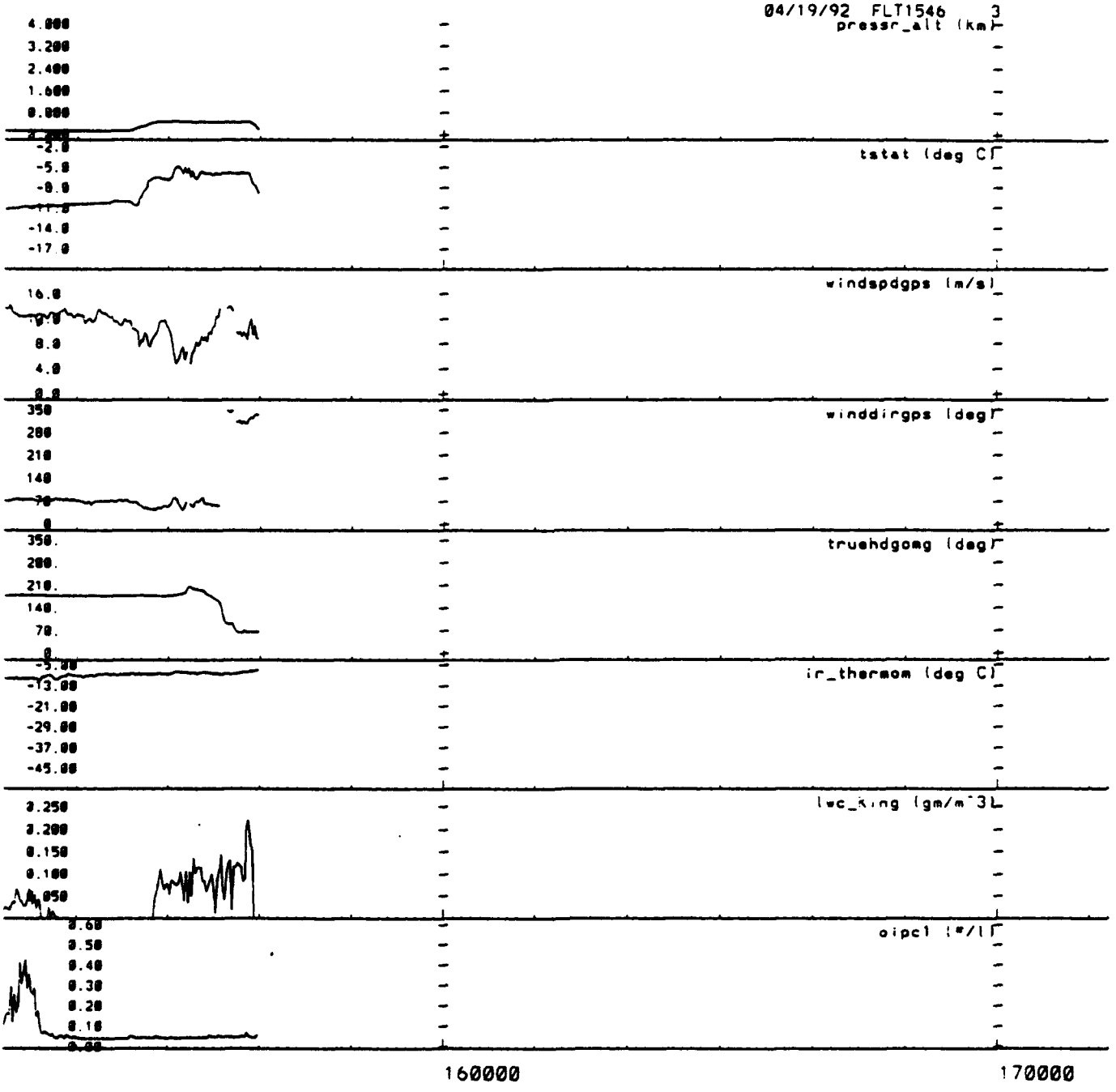




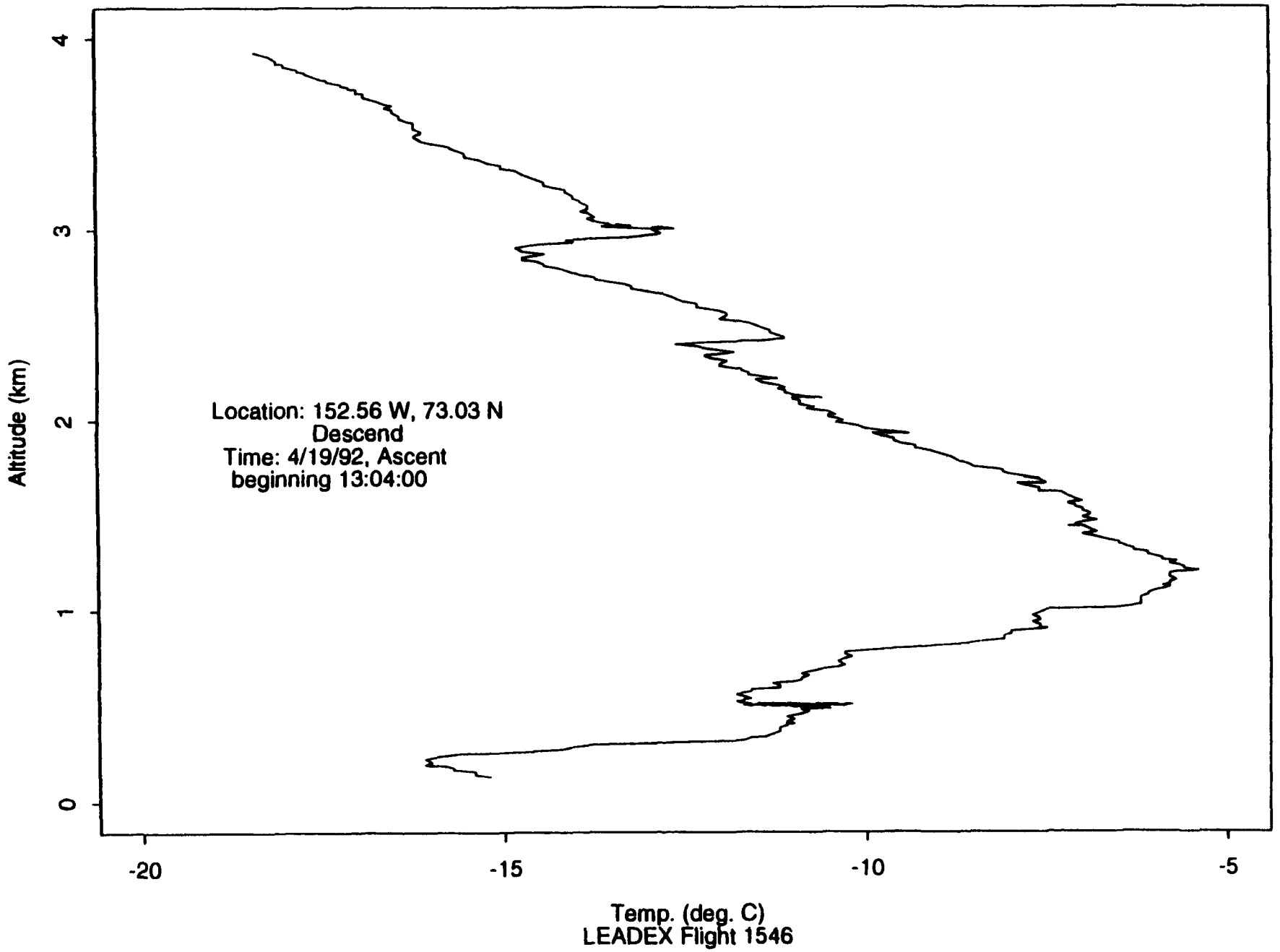
GPS track of flight 1546, 04/19/92 11:12:00 - 15:40:00


04/19/92 FLT1546
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgomg (deg)
ir_thermom (deg C)
lwc_King (gm/m^3)
120000
130000


04/19/92 FLT1546 2
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgomg (deg)
ir_thermom (deg C)
lwc_king (gm/m^3)
oipc1 (#/l)
140000
150000


04/19/92 FLT1546 3
pressr_alt (km)
4.800
3.200
2.400
1.600
0.800
tstat (deg C)
-5.0
-8.0
-14.0
-17.0
windspdgps (m/s)
16.0
8.0
4.0
winddirgps (deg)
350
280
210
140
truehdgomg (deg)
350.
280.
210.
140.
70.
ir_thermom (deg C)
-13.00
-21.00
-29.00
-37.00
-45.00
lwc_king (gm/m^3)
0.250
0.200
0.150
0.100
0.050
oipc1 (*/l)
0.60
0.50
0.40
0.30
0.20
0.10
160000
170000

Temperature Sounding



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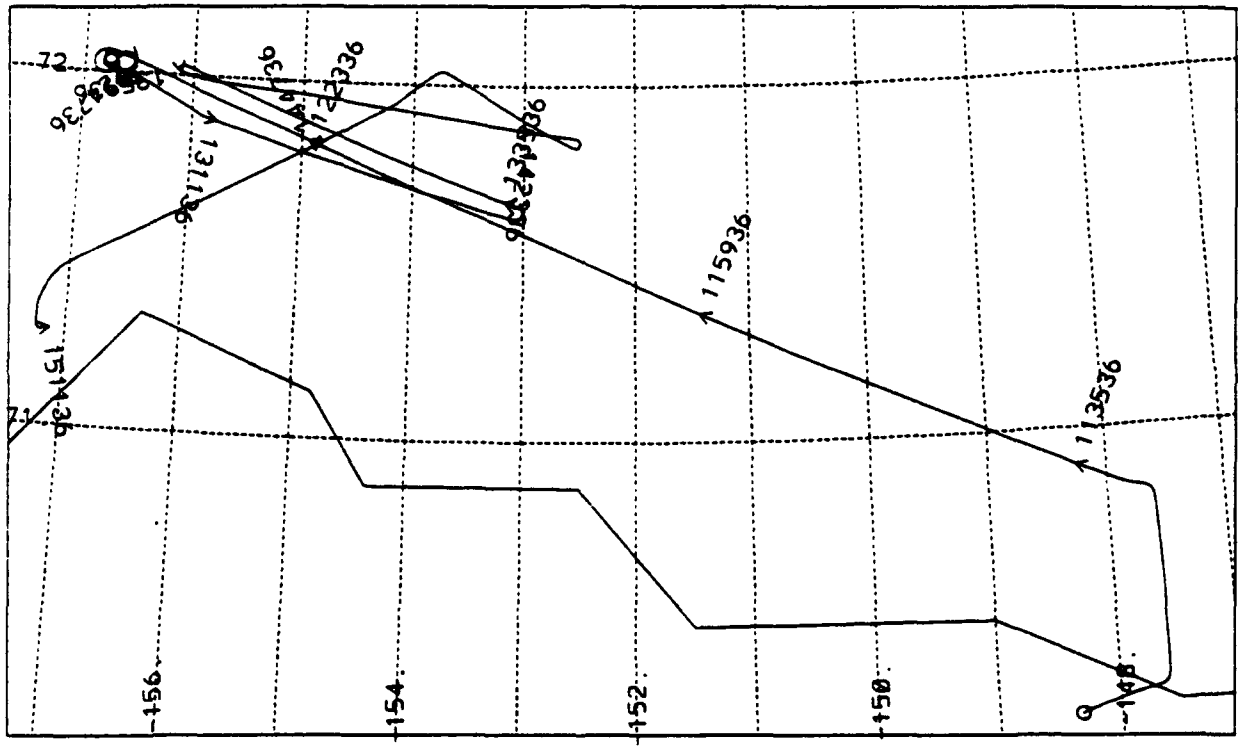
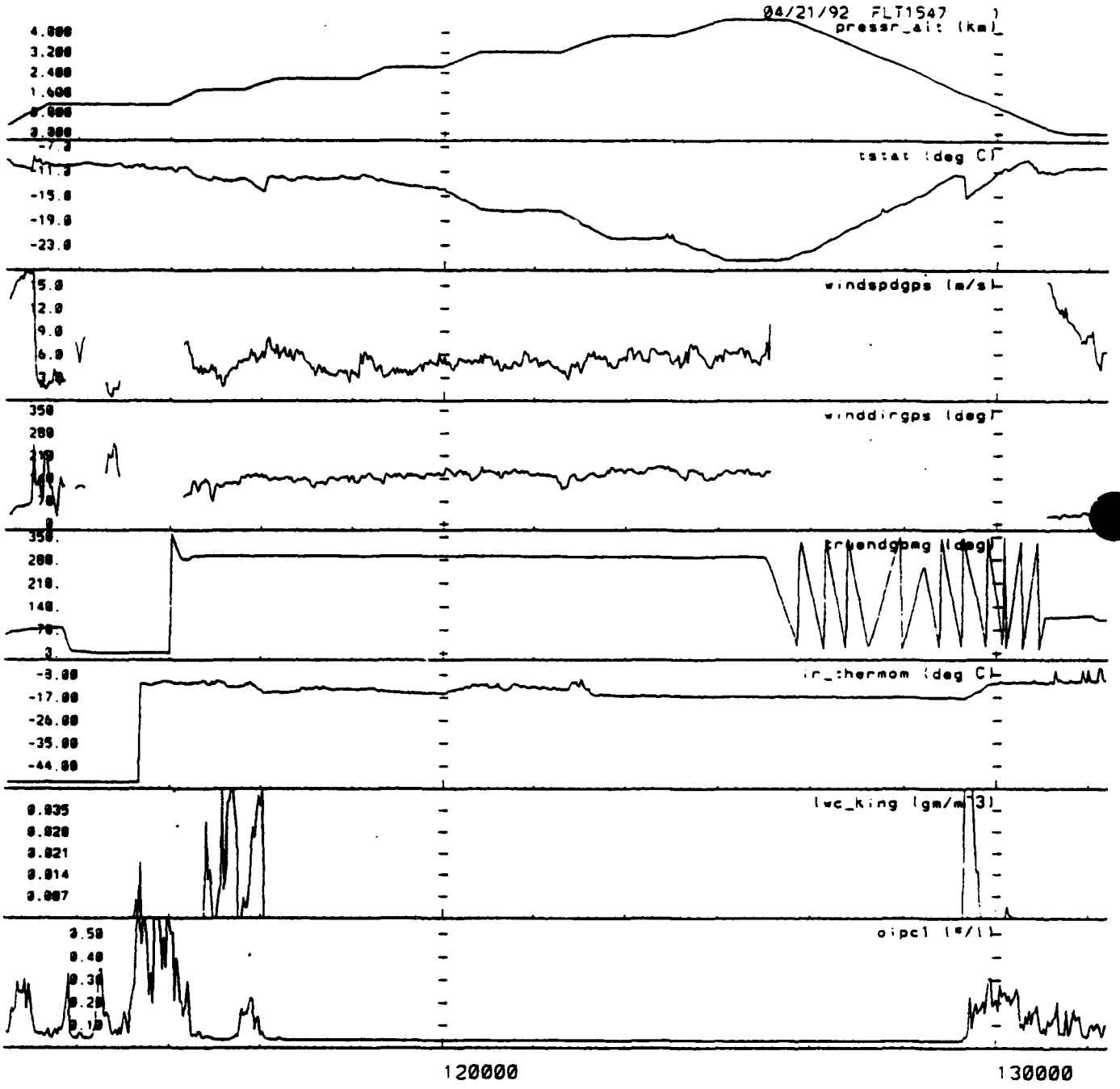
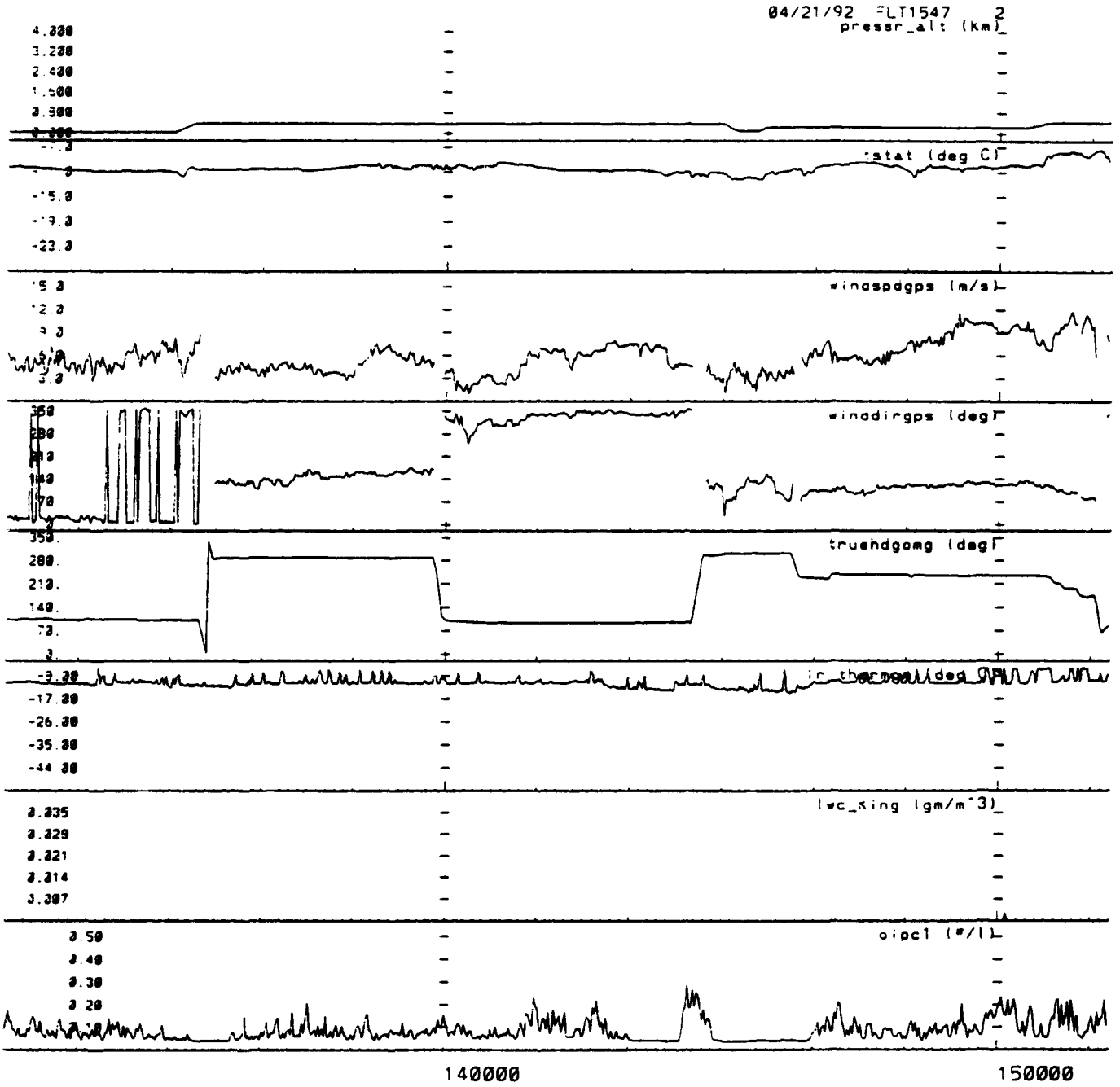
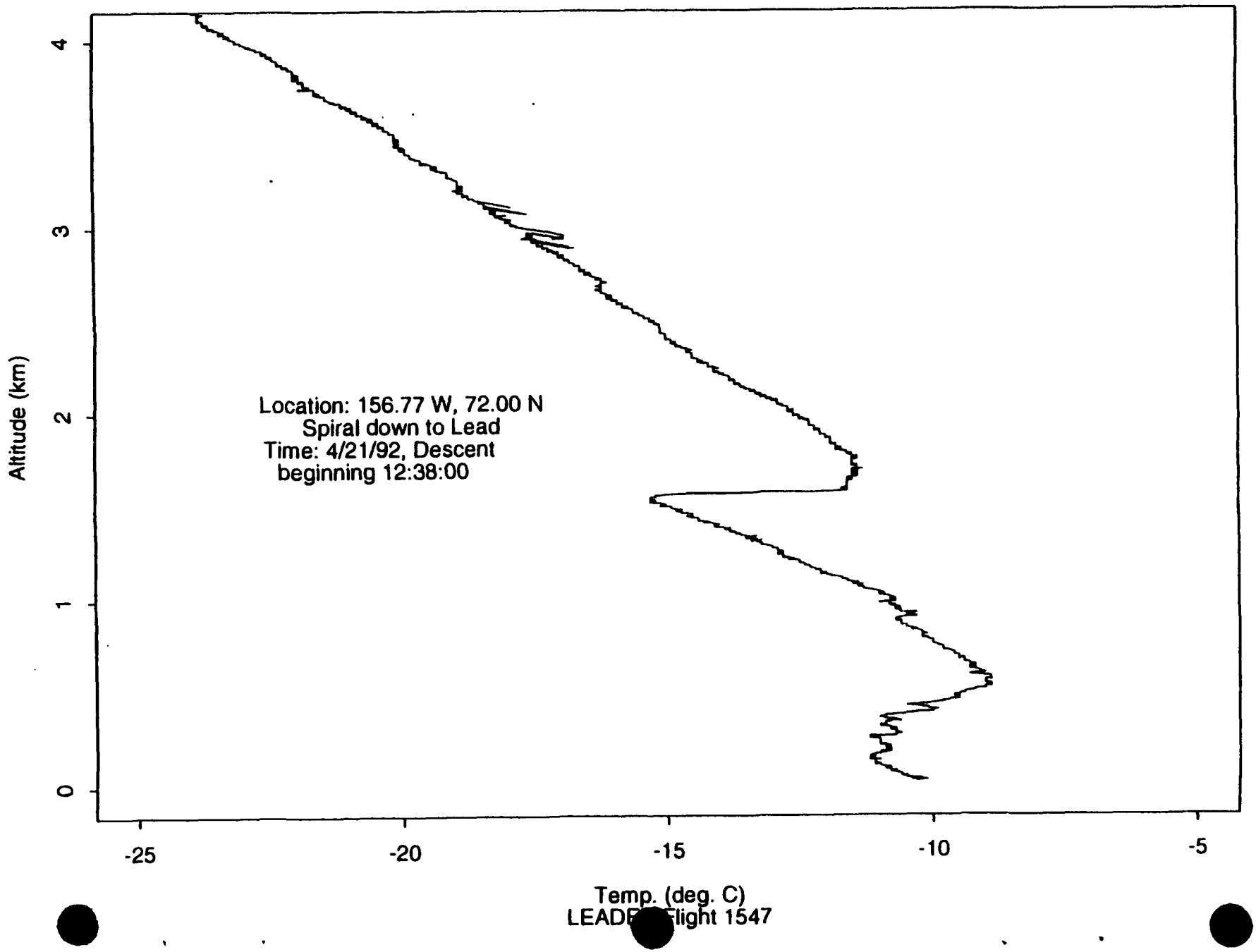


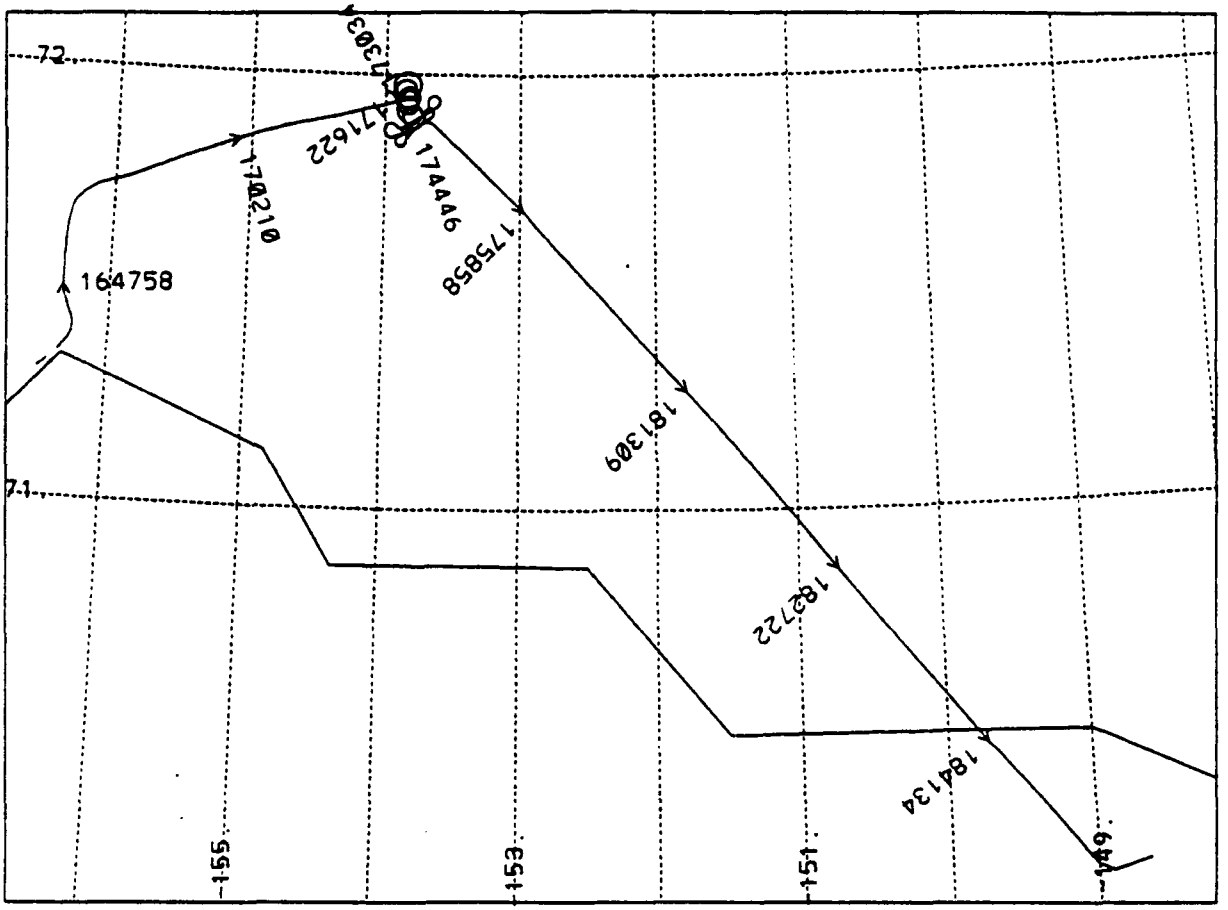
GPS track of flight 1547, 04/21/92 11:12:00 - 15:12:00


04/21/92 FLT1547
pressr_alt (km)
4.000
3.200
2.400
1.600
tstat (deg C)
-15.0
-19.0
-23.0
windspdgps (m/s)
5.0
2.0
9.0
6.0
winddirgps (deg)
350
280
210
140
350.
280.
210.
140.
-3.00
-17.00
-26.00
-35.00
-44.00
lwc_king (gm/m^3)
0.835
0.828
0.821
0.814
0.807
3.58
0.40
120000
130000

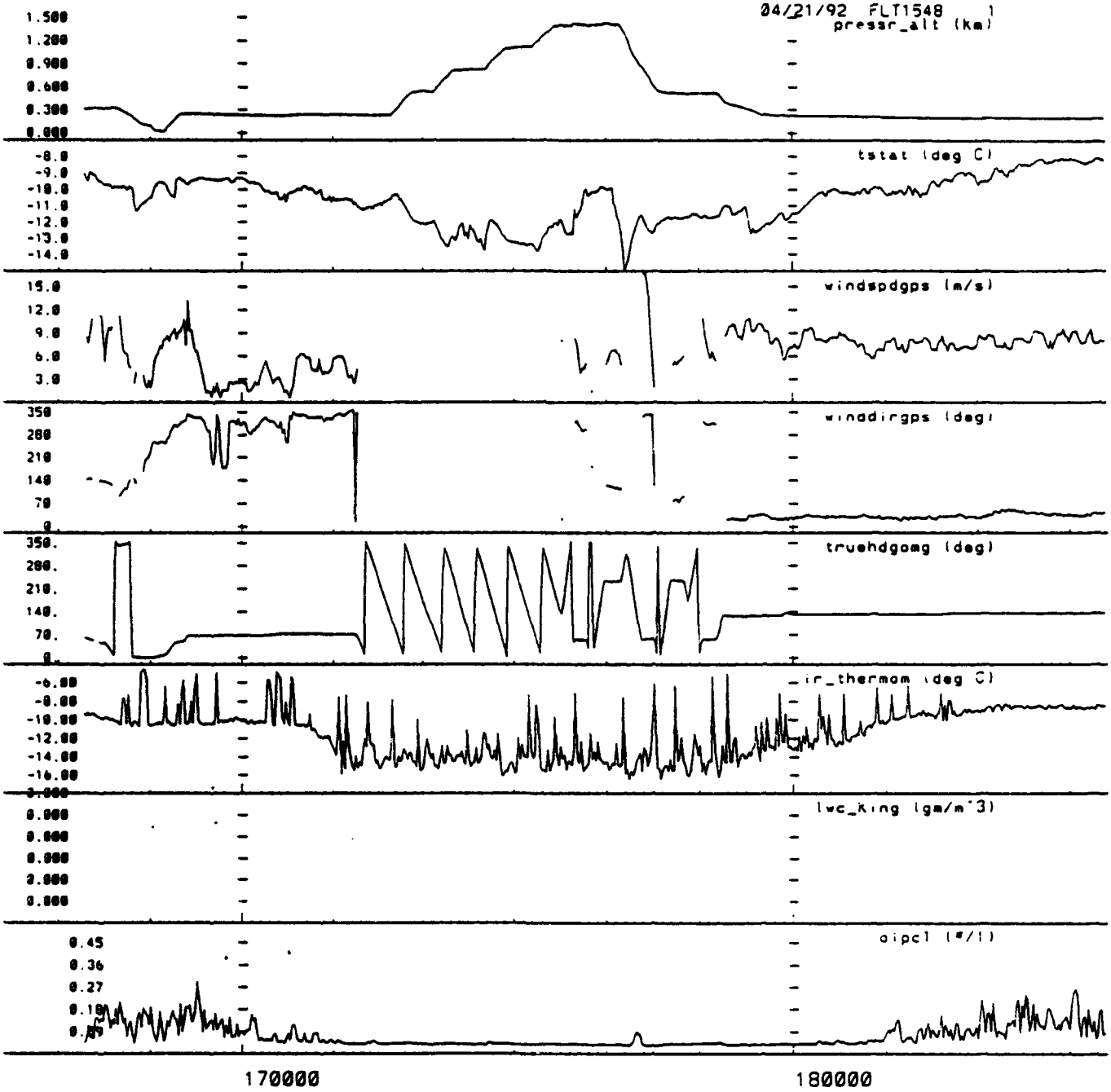

04/21/92 FLT1547 2
pressr_alt (km)
-stat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgomg (deg)
lwc_king (gm/m^3)
oipc1 (#/l)
140000
150000

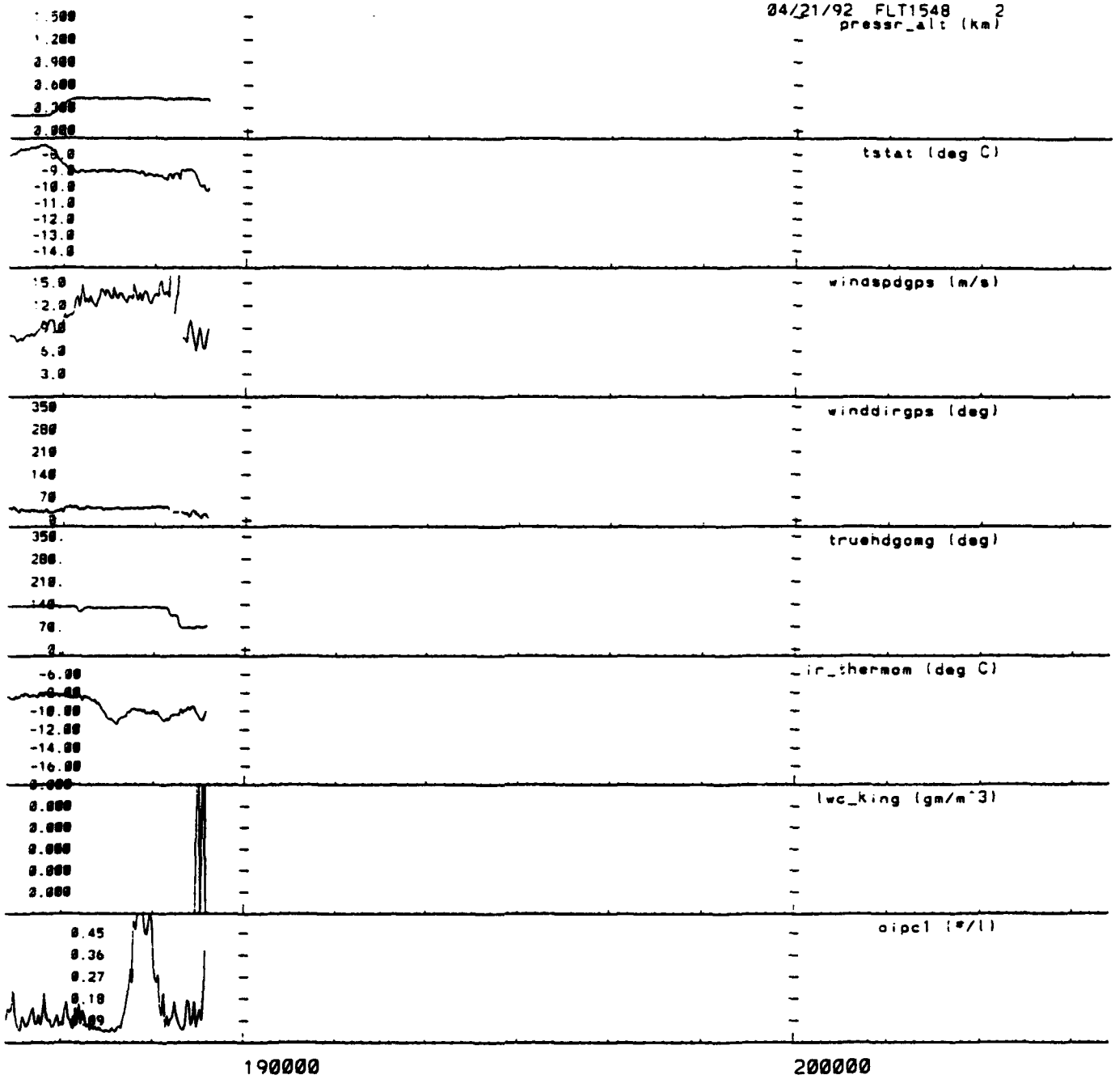
Temperature Sounding



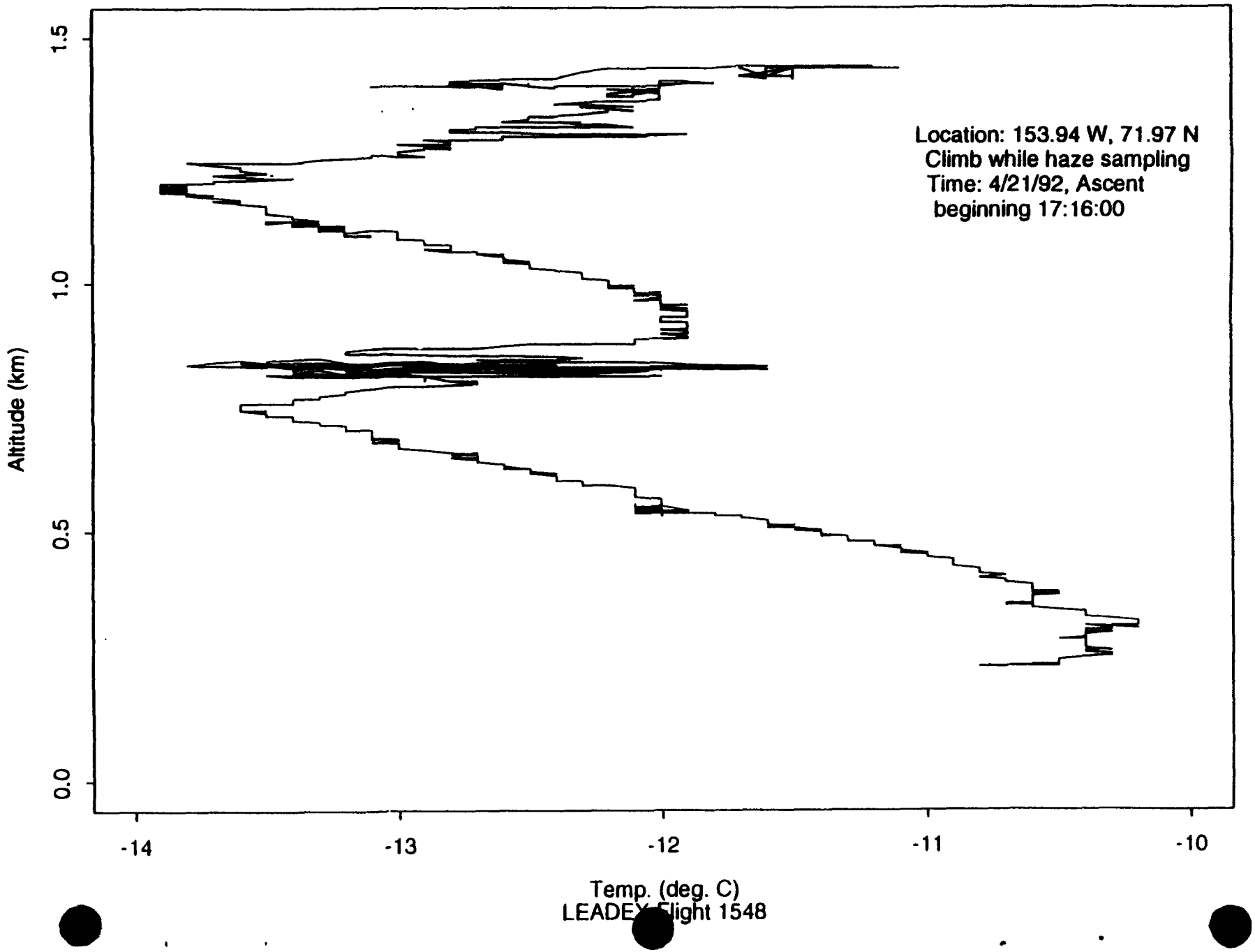


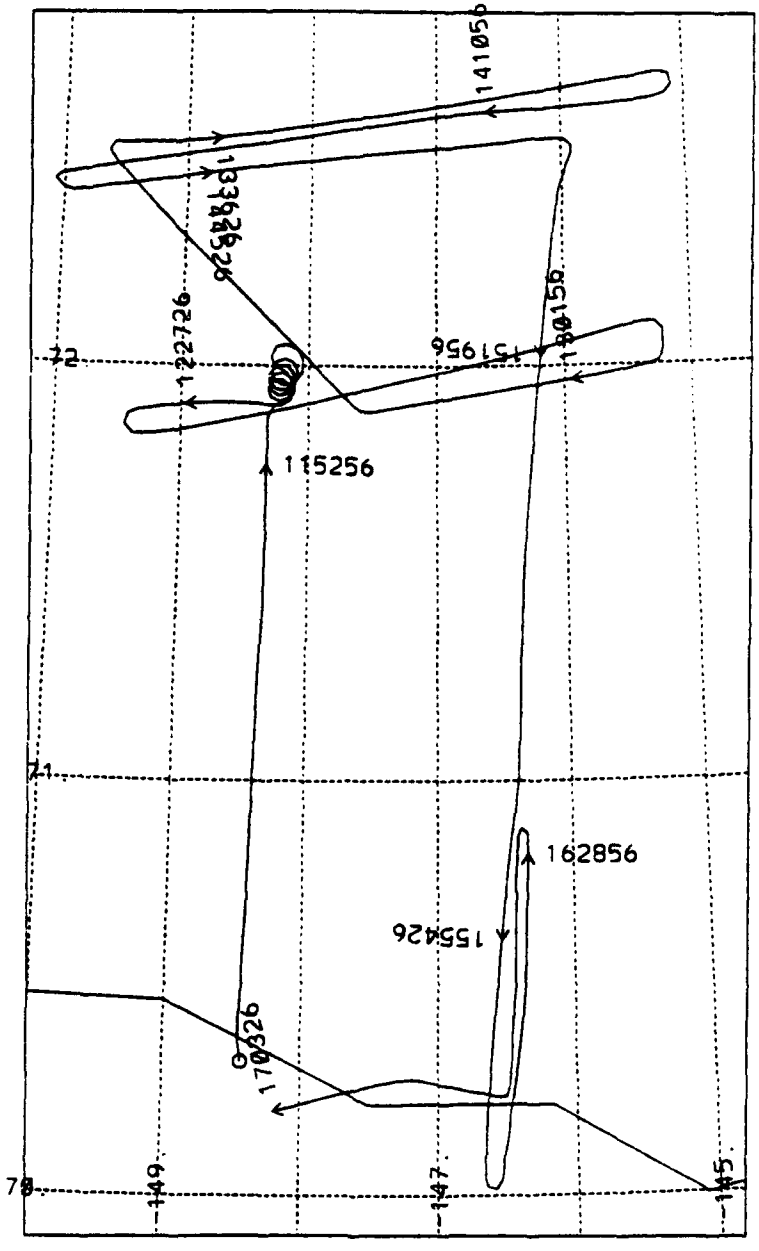
GPS track of flight 1548, 04/21/92 16:34:00 - 18:56:00


04/21/92 FLT1548
pressr_alt (km)
1.500
1.200
0.900
0.600
0.300
tstat (deg C)
-8.0
-9.0
-10.0
-11.0
-12.0
-13.0
-14.0
windspdgps (m/s)
15.0
12.0
9.0
6.0
3.0
winddirgps (deg)
350
280
210
140
70
truehdgomg (deg)
350.
280.
210.
140.
70.
ir_thermom (deg C)
-6.00
-8.00
-10.00
-12.00
-14.00
-16.00
lwc_King (gm/m^3)
0.000
0.000
0.000
0.000
0.000
oipc1 (#/l)
0.45
0.36
0.27
0.18
170000
180000

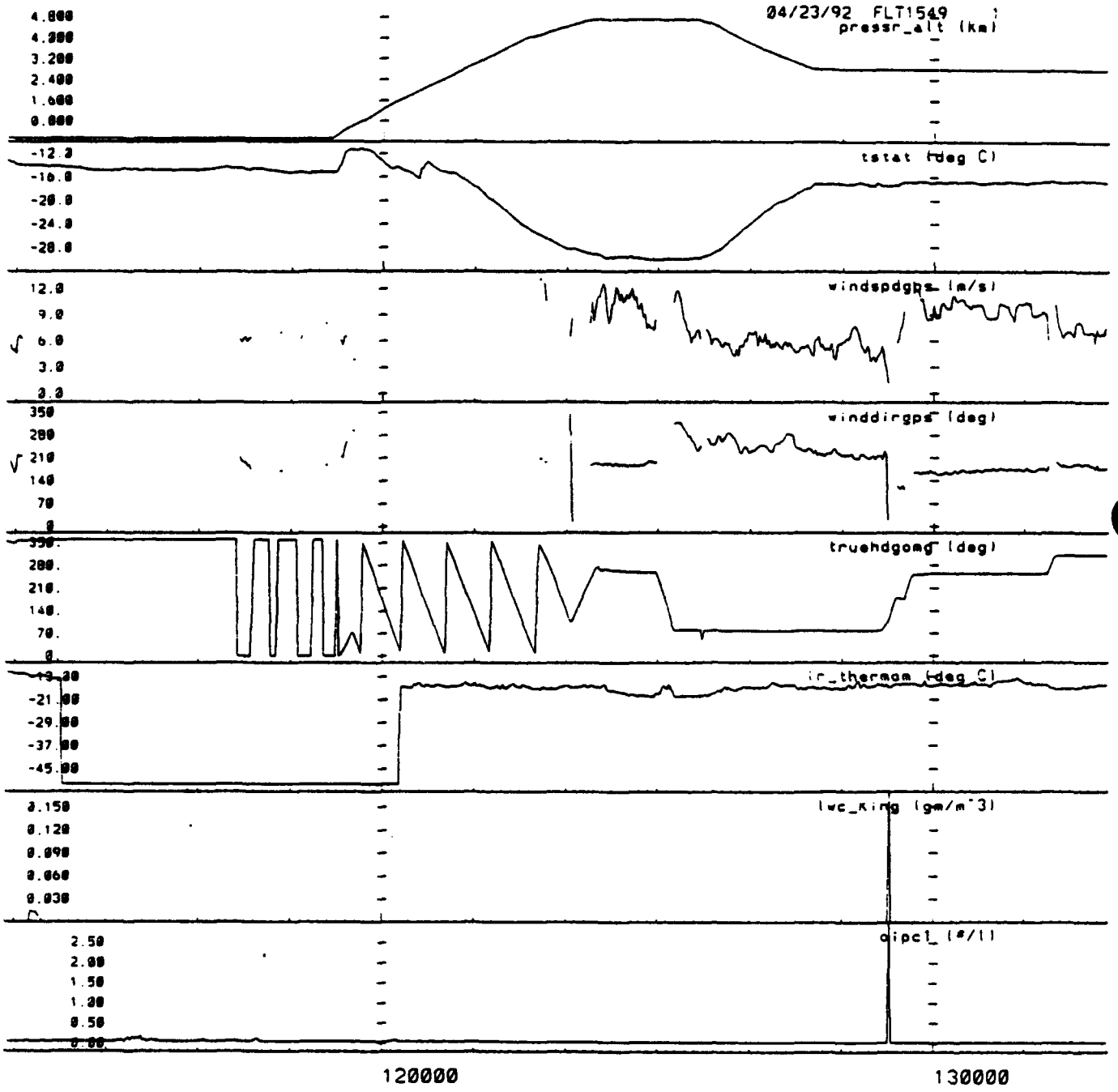

04/21/92 FLT1548 2
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgomg (deg C)
ir_thermom (deg C)
lwc_king (gm/m^3)
oipc1 (#/l)
190000
200000

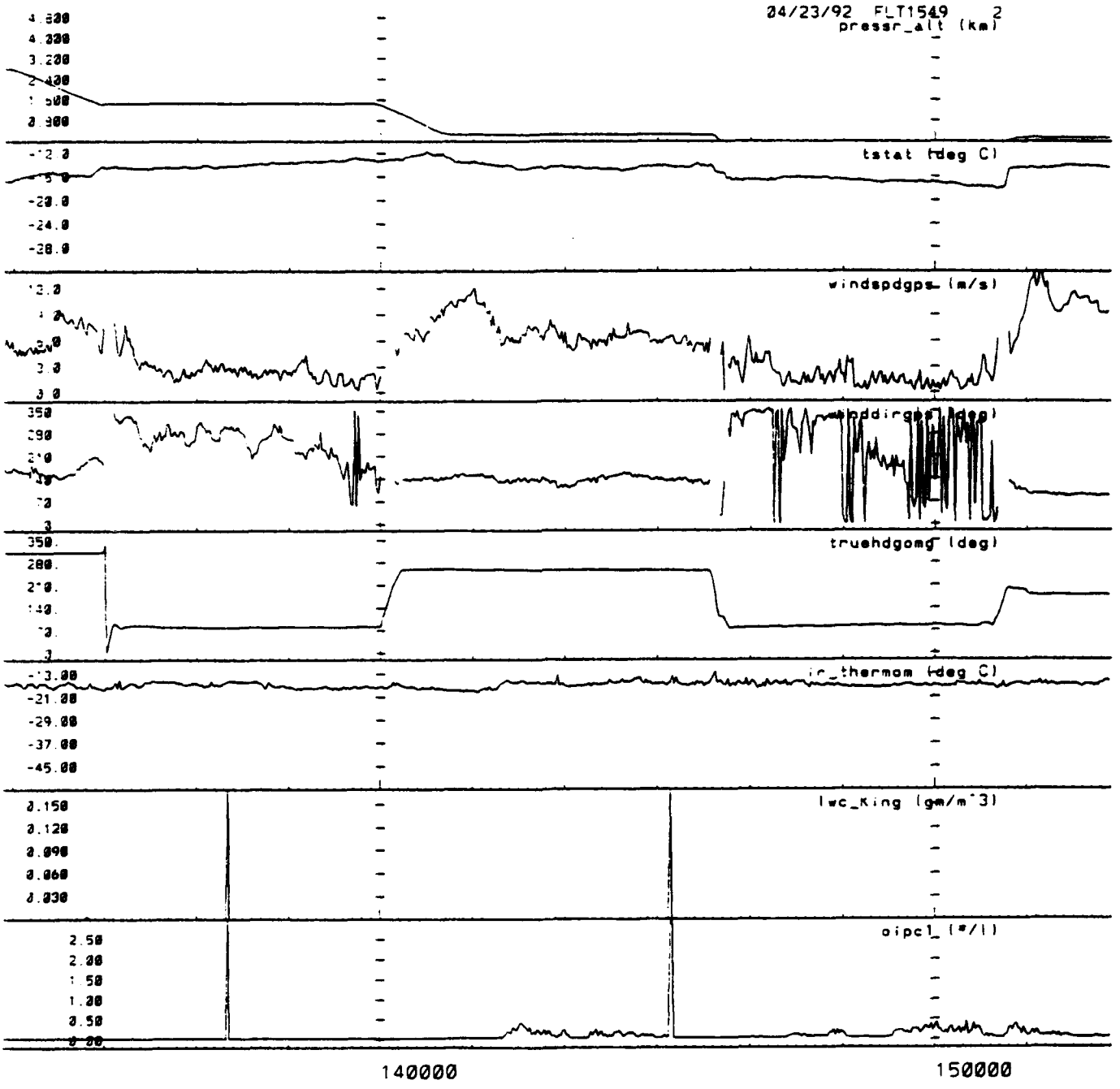
Temperature Sounding

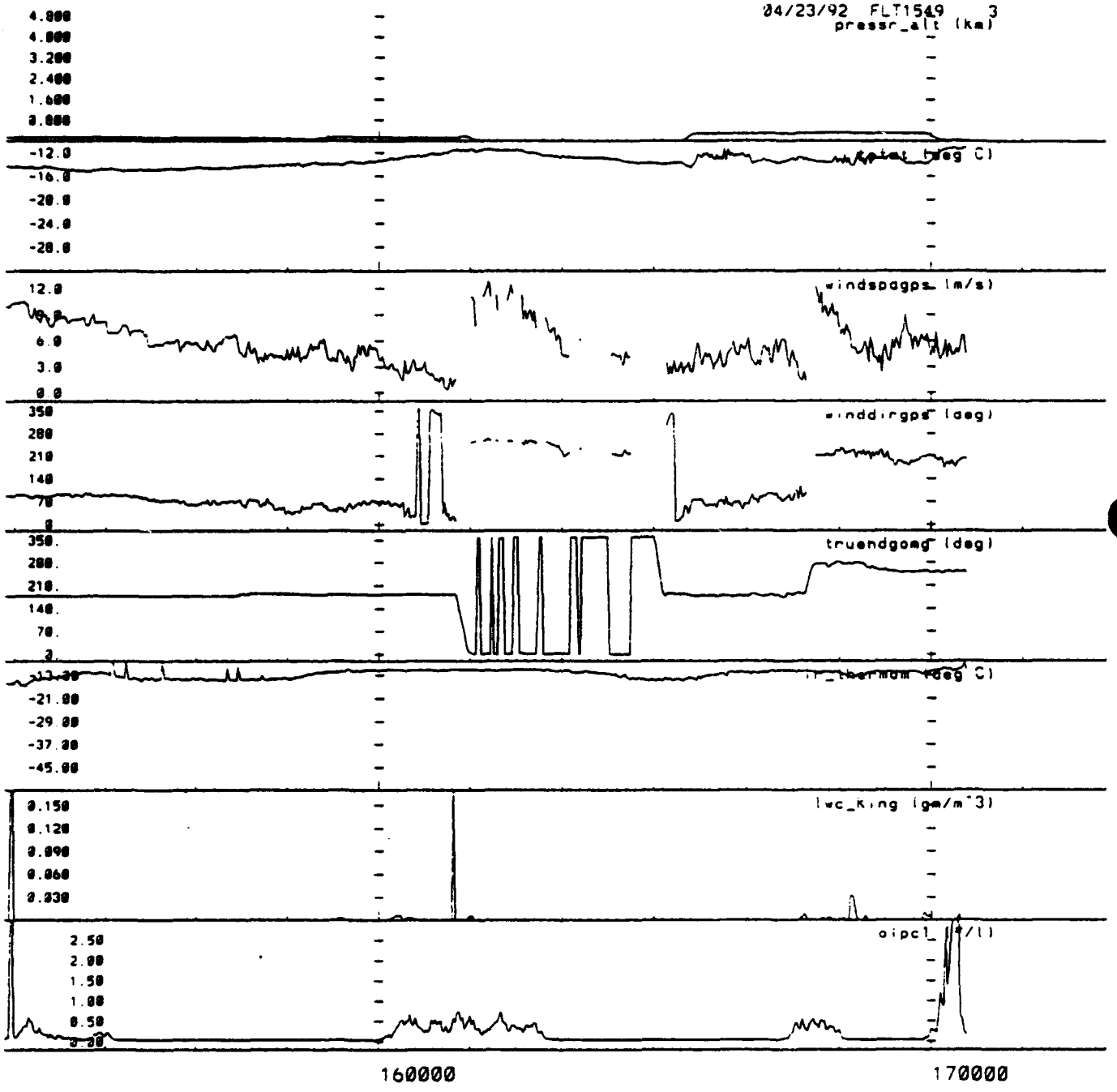




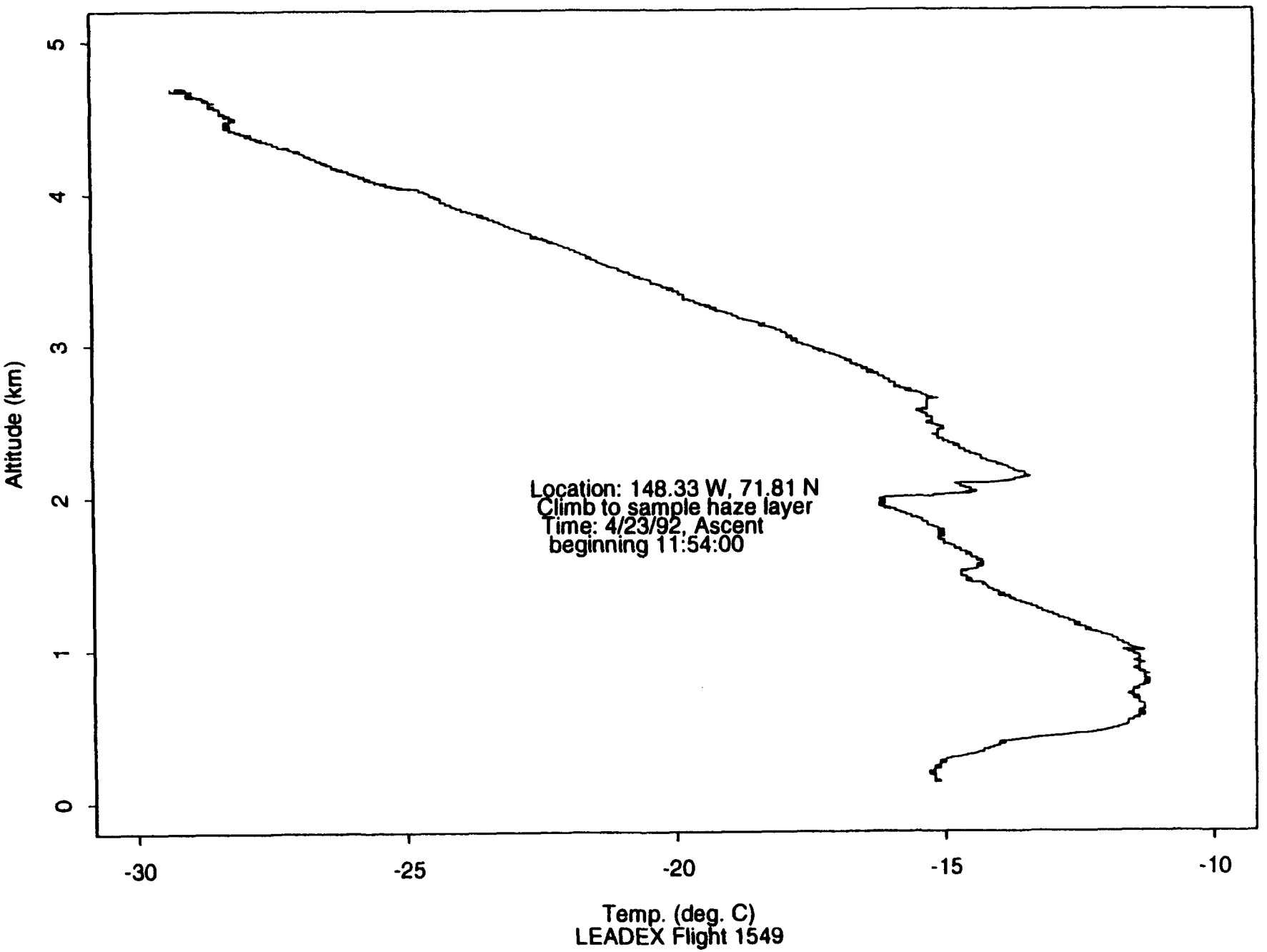
GPS track of flight 1549, 04/23/92 11:19:00 - 17:04:00


04/23/92 FLT1549
pressr_alt (km)
4.800
4.000
3.200
2.400
1.600
0.800
tstat (deg C)
-12.0
-16.0
-20.0
-24.0
-28.0
windspdgps (m/s)
12.0
9.0
6.0
3.0
0.0
winddirgps (deg)
350
280
210
140
70
0
truehdgomg (deg)
350.
280.
210.
140.
70.
0.
ir_thermom (deg C)
-13.00
-21.00
-29.00
-37.00
-45.00
lwc_King (gm/m^3)
0.150
0.120
0.090
0.060
0.030
0.
aipc1 (#/l)
2.50
2.00
1.50
1.00
0.50
0.00
120000
130000

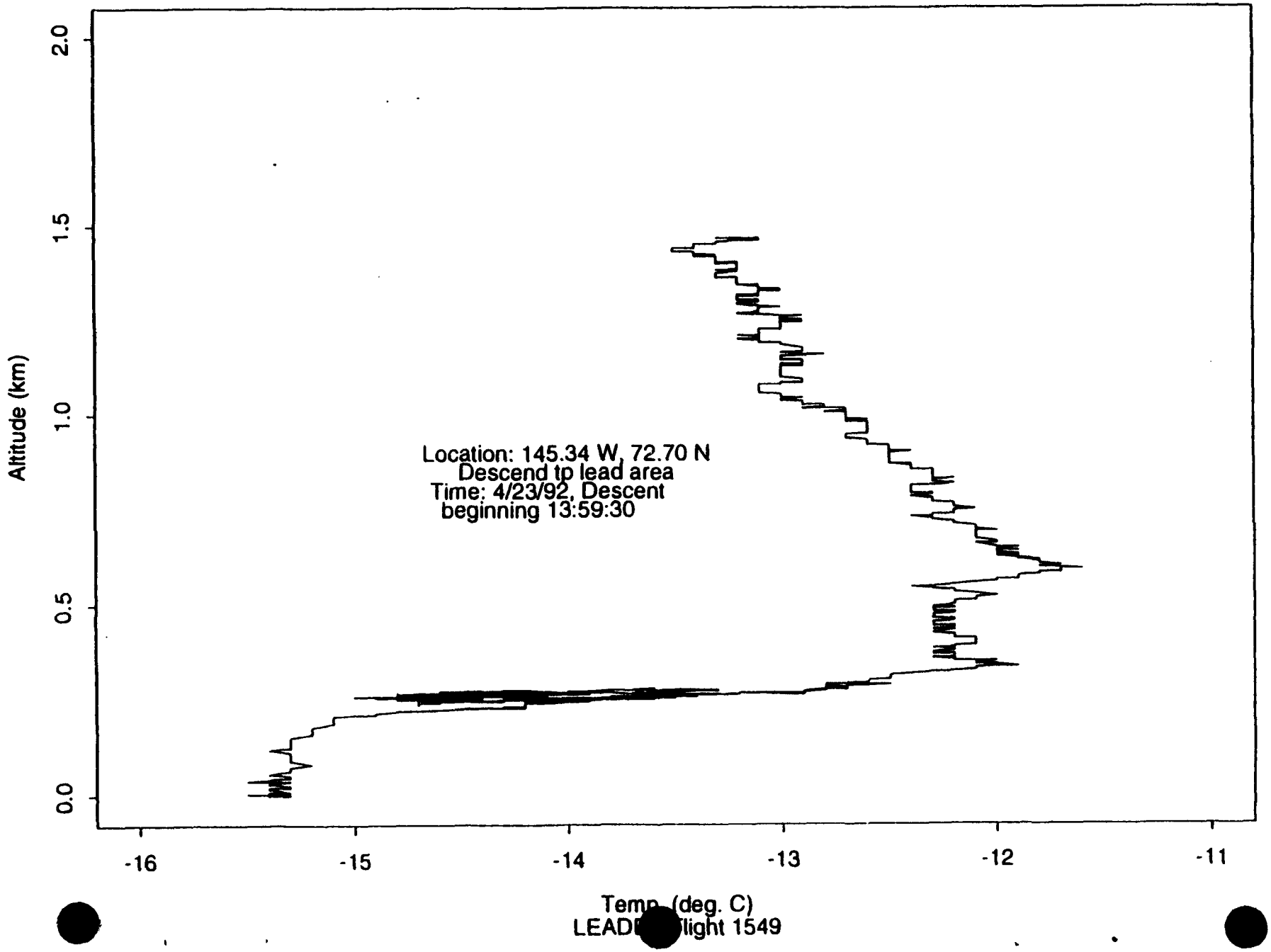

04/23/92 FLT1549 2
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
truehdgomg (deg)
ic_thermom (deg C)
lwc_King (gm/m^3)
oipc1_ (#/l)
140000
150000


04/23/92 FLT1549 3
pressr_alt (km)
windspdgps (m/s)
winddirgps (deg)
truendgomg (deg)
lwc_King (gm/m^3)
160000
170000

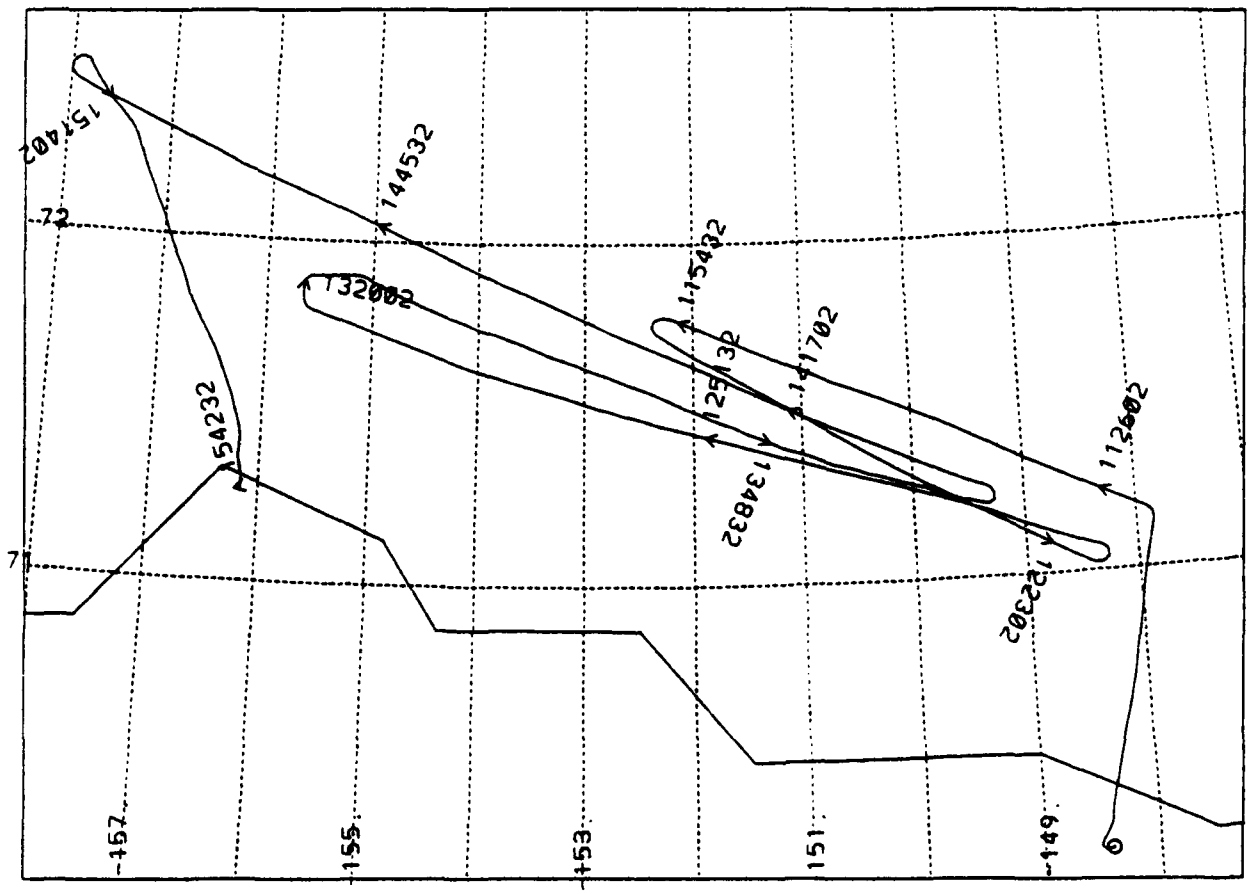
Temperature Sounding



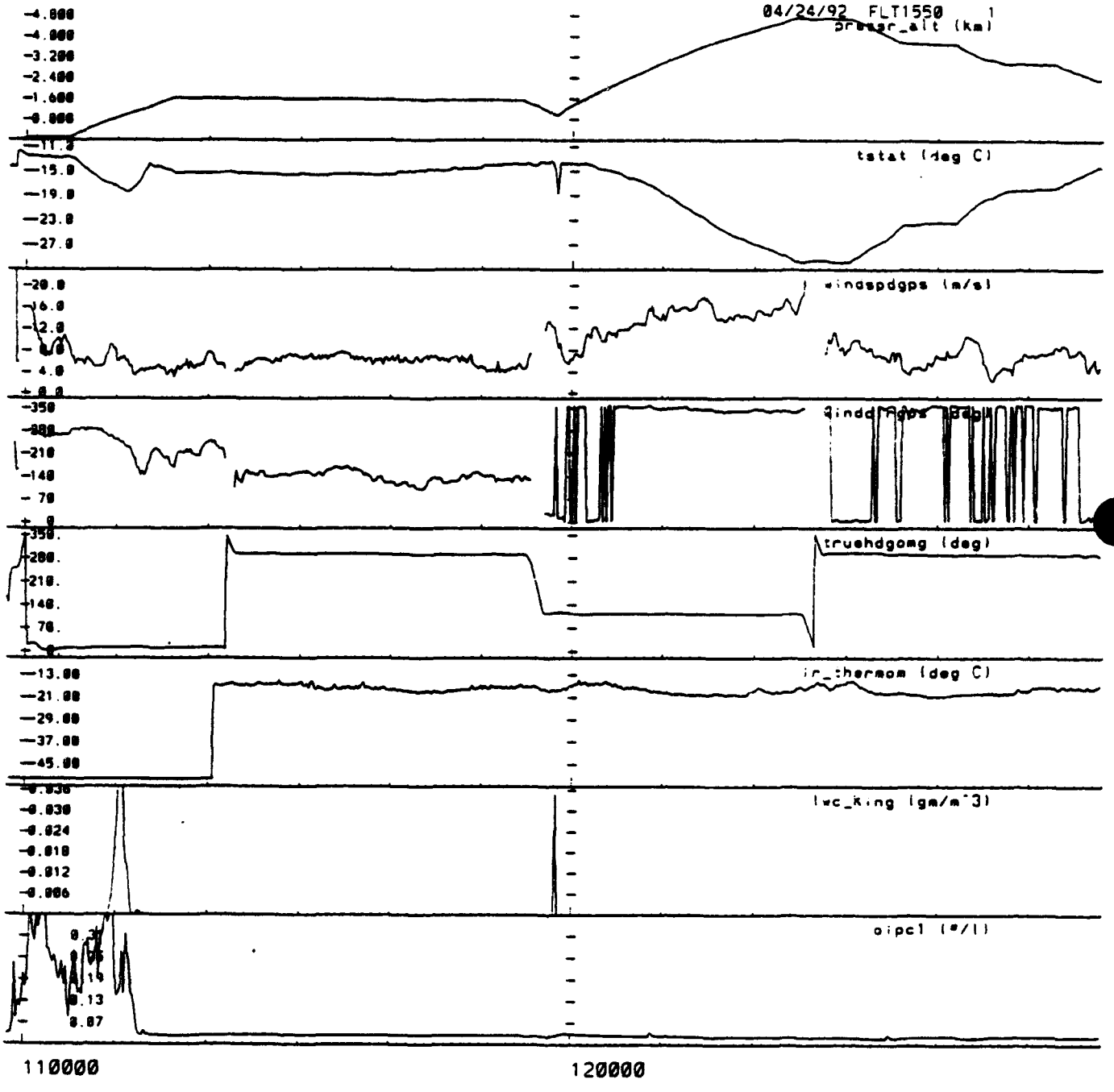
Temperature Sounding

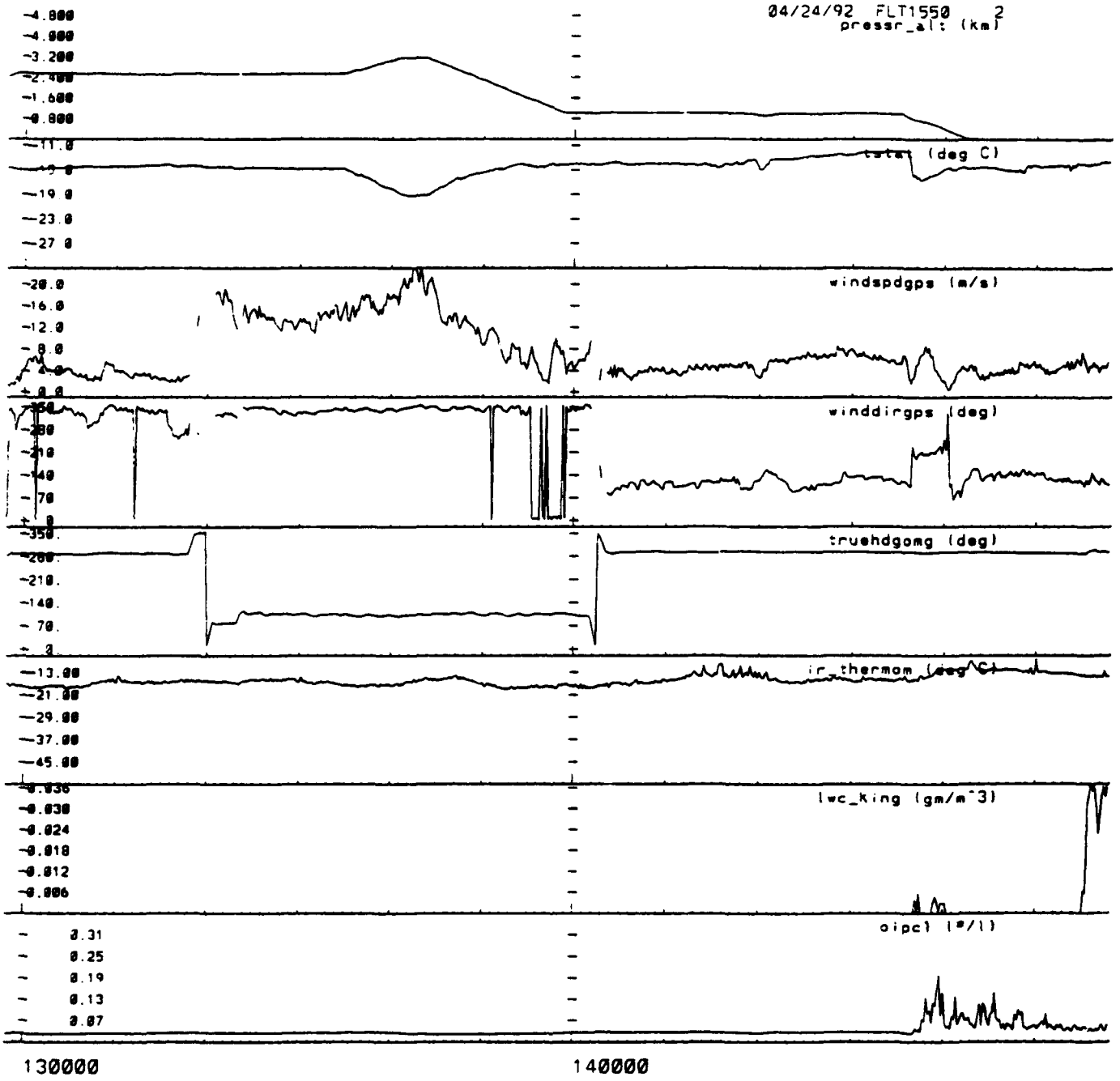


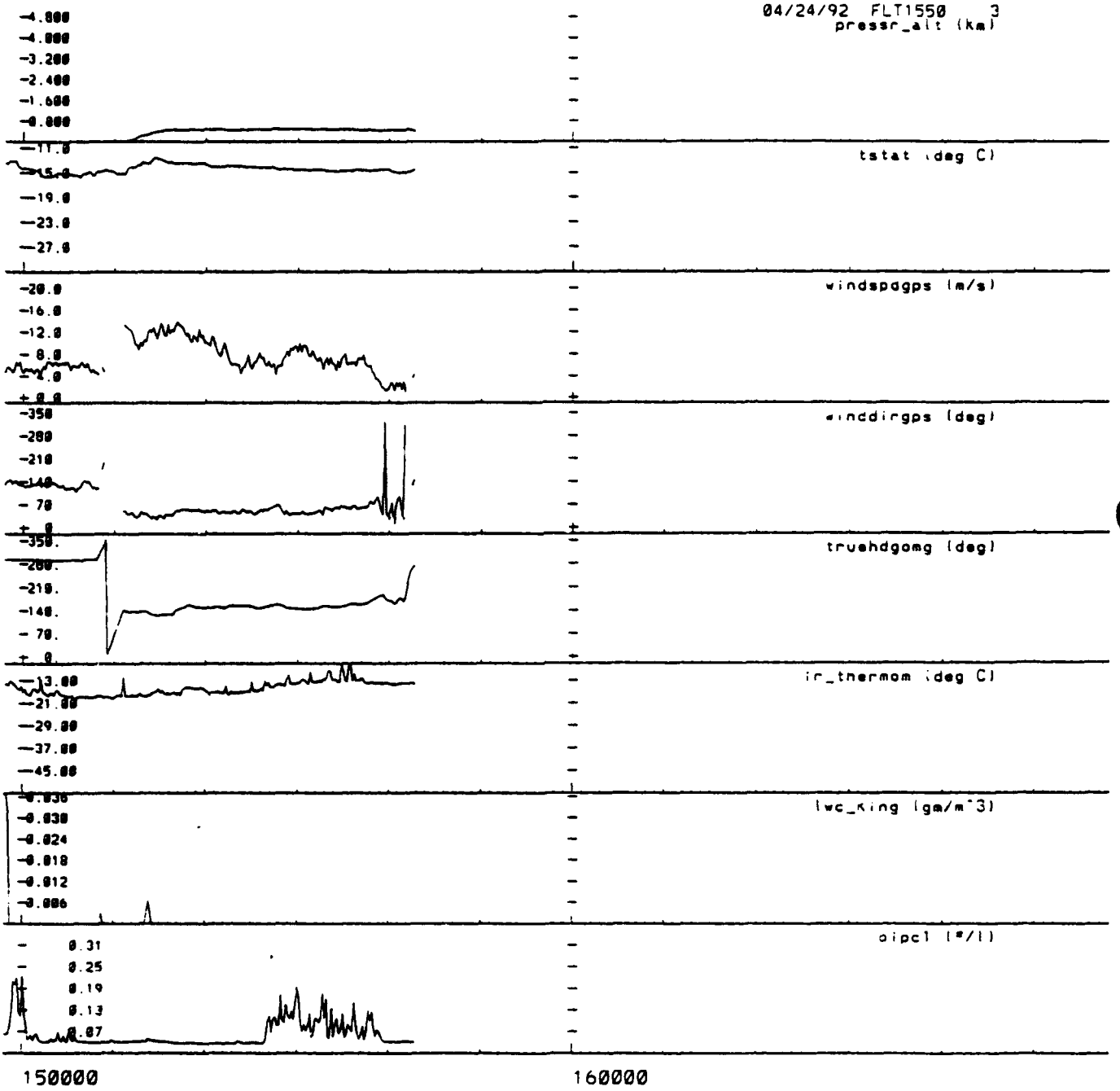
LEAD [illegible] flight 1549



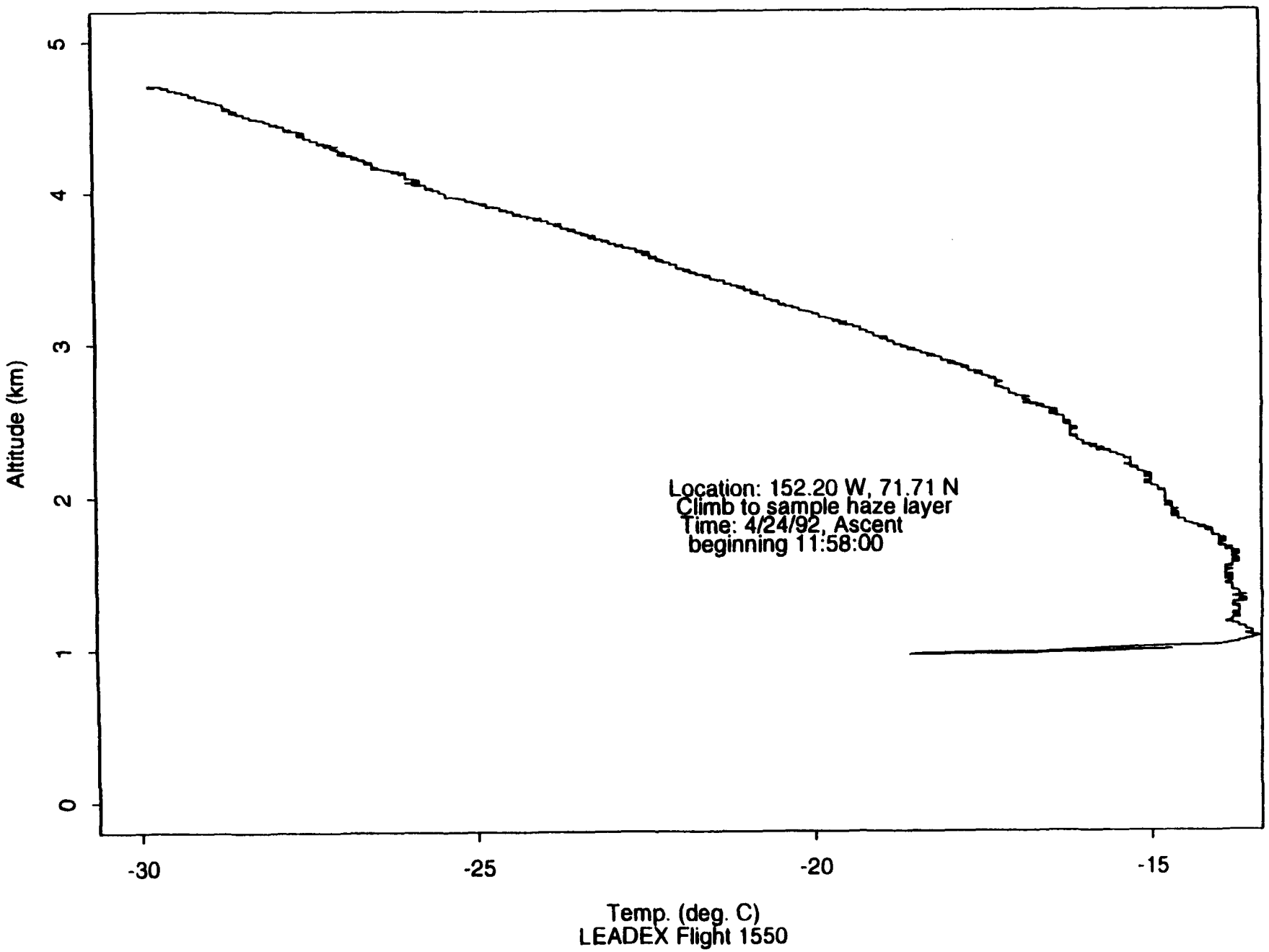
GPS track of flight 1550, 04/24/92 10:58:00 - 15:43:00


04/24/92 FLT1550 1
tstat (deg C)
windspdgps (m/s)
truehdgomg (deg)
ir_thermom (deg C)
lwc_King (gm/m^3)
oipc1 (#/l)
110000
120000

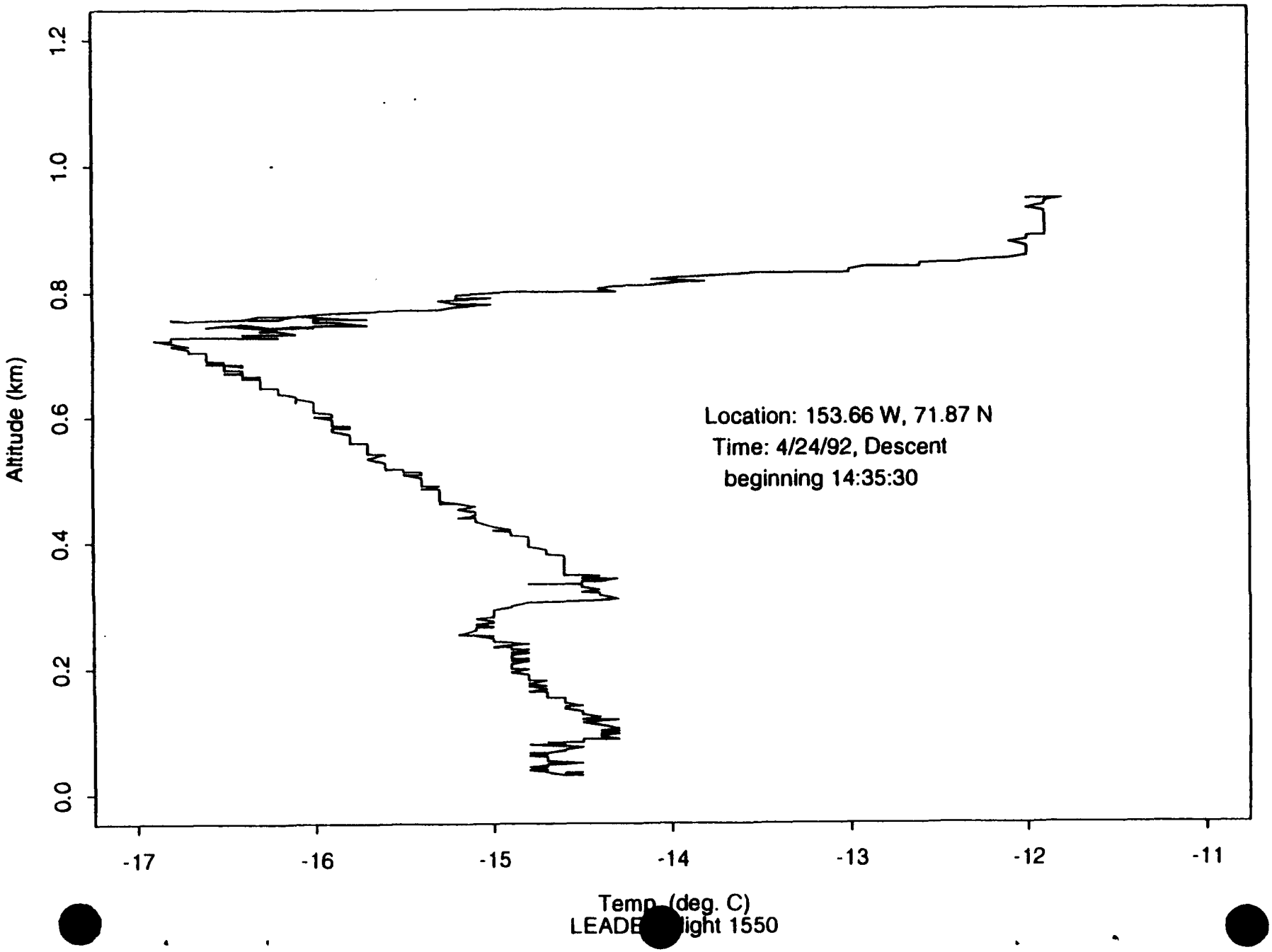

04/24/92 FLT1550 2
pressr_alt (km)
-4.000
-4.000
-3.200
-2.400
-1.600
-0.800
tatc (deg C)
-19.0
-23.0
-27.0
windspdgps (m/s)
-20.0
-16.0
-12.0
winddirgps (deg)
-280
-210
-140
-70
truehdgomg (deg)
-350.
-280.
-210.
-140.
-70.
ir_thermom (deg C)
-13.00
-21.00
-29.00
-37.00
-45.00
lwc_king (gm/m^3)
-0.030
-0.024
-0.018
-0.012
-0.006
oipc1 (#/l)
0.31
0.25
0.19
0.13
0.07
130000
140000


04/24/92 FLT1550 3
pressr_alt (km)
-4.000
-4.000
-3.200
-2.400
-1.600
-0.800
tstat (deg C)
-11.0
-15.0
-19.0
-23.0
-27.0
windspdgps (m/s)
-20.0
-16.0
-12.0
- 8.0
- 4.0
winddirgps (deg)
-350
-280
-210
-140
- 70
truehdgomg (deg)
-350.
-280.
-210.
-140.
- 70.
ir_thermom (deg C)
-13.00
-21.00
-29.00
-37.00
-45.00
lwc_king (gm/m^3)
-0.030
-0.024
-0.018
-0.012
-0.006
oipc1 (#/l)
0.31
0.25
0.19
0.13
0.07
150000
160000

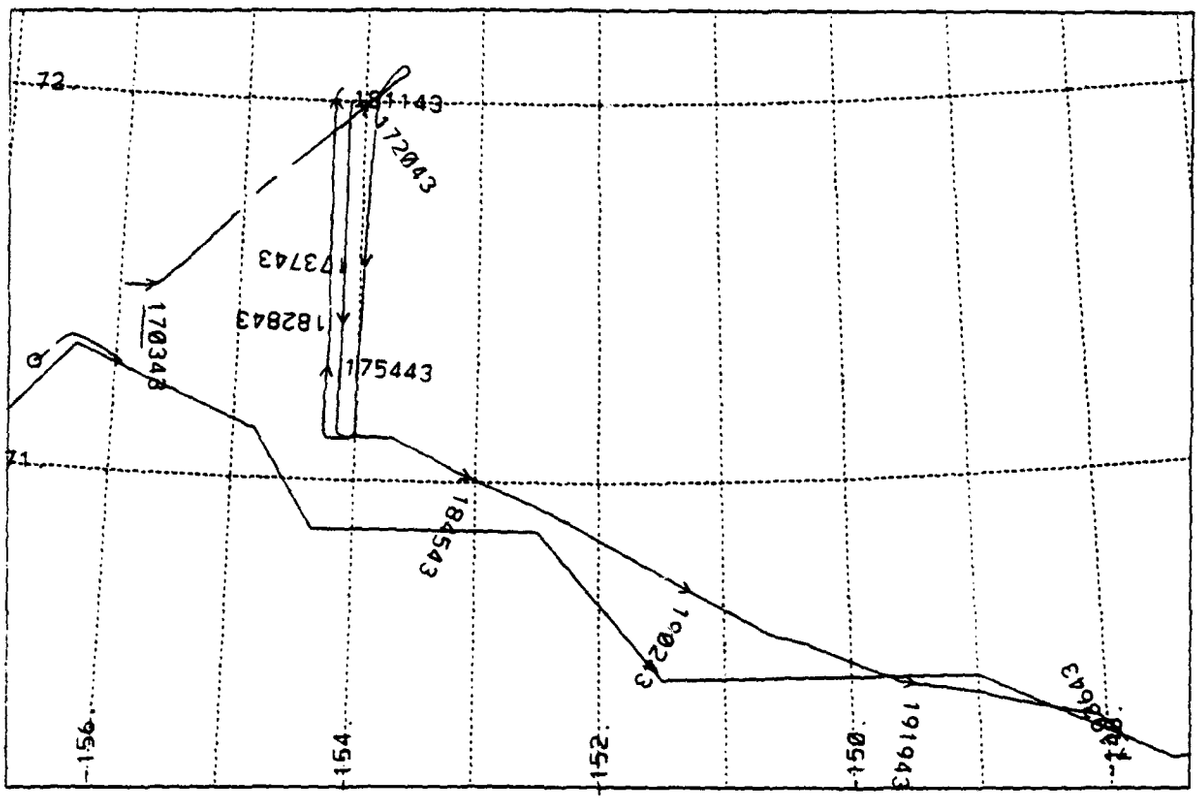
Temperature Sounding



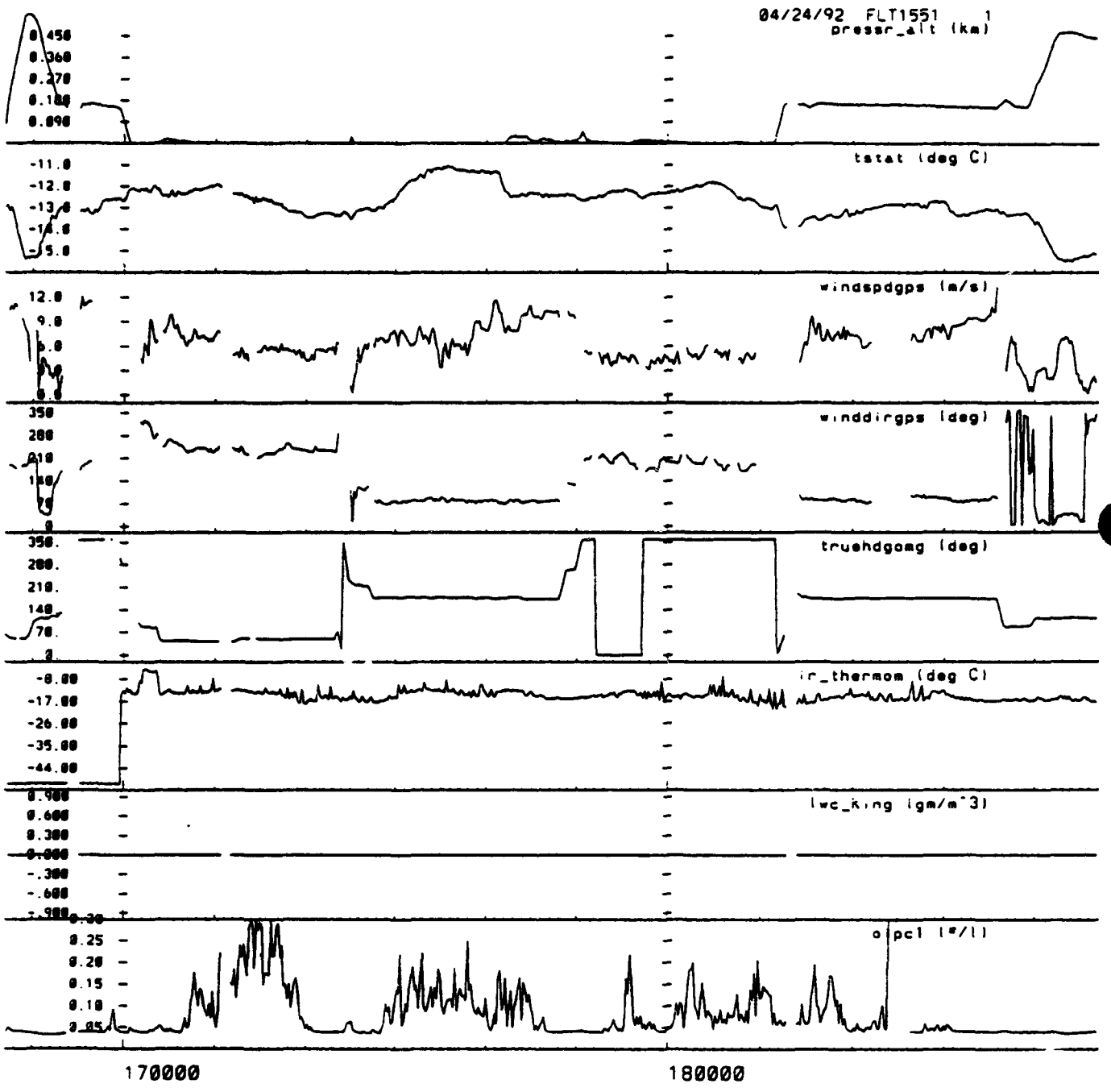
Temperature Sounding

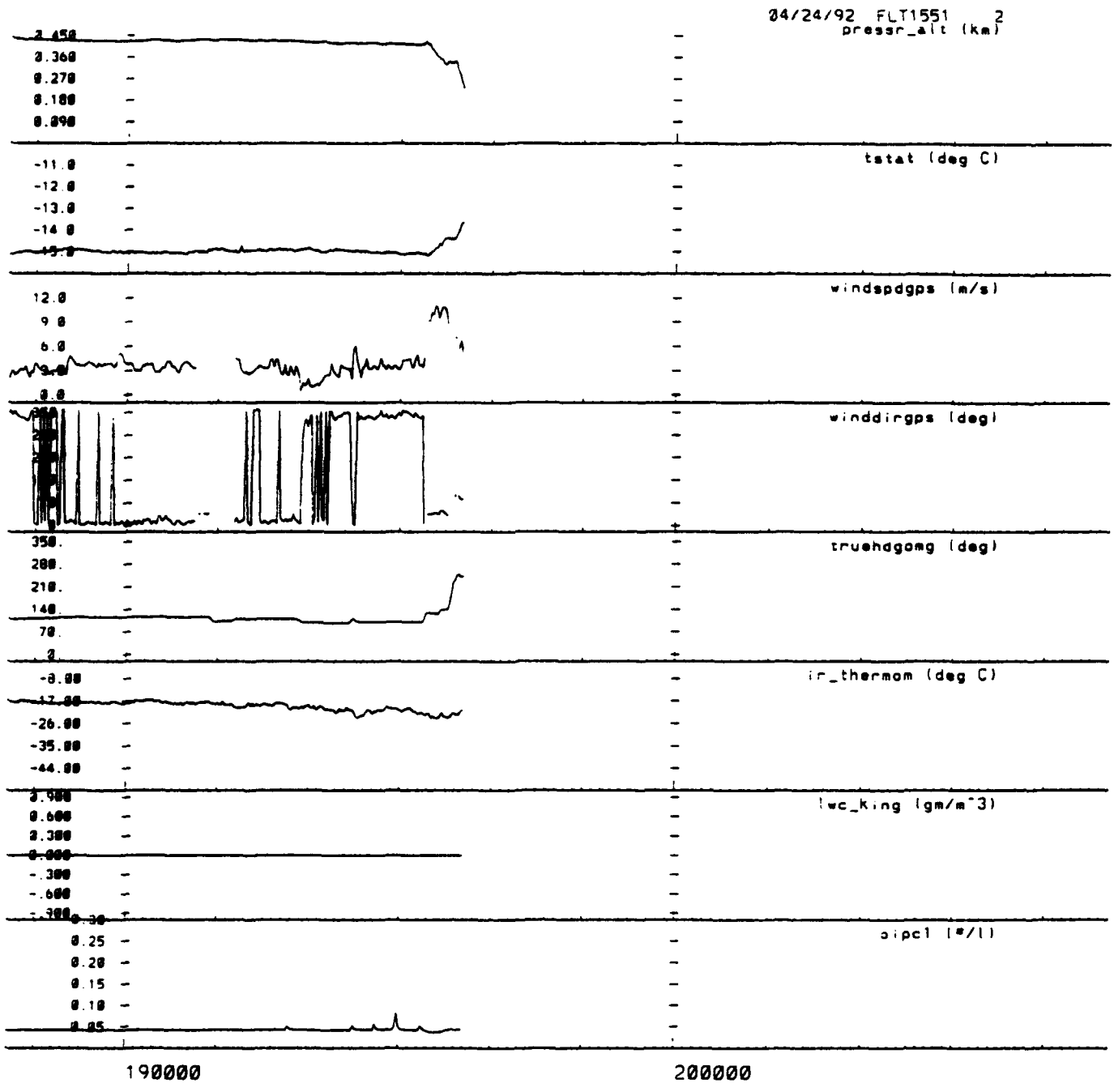


LEADE ight 1550

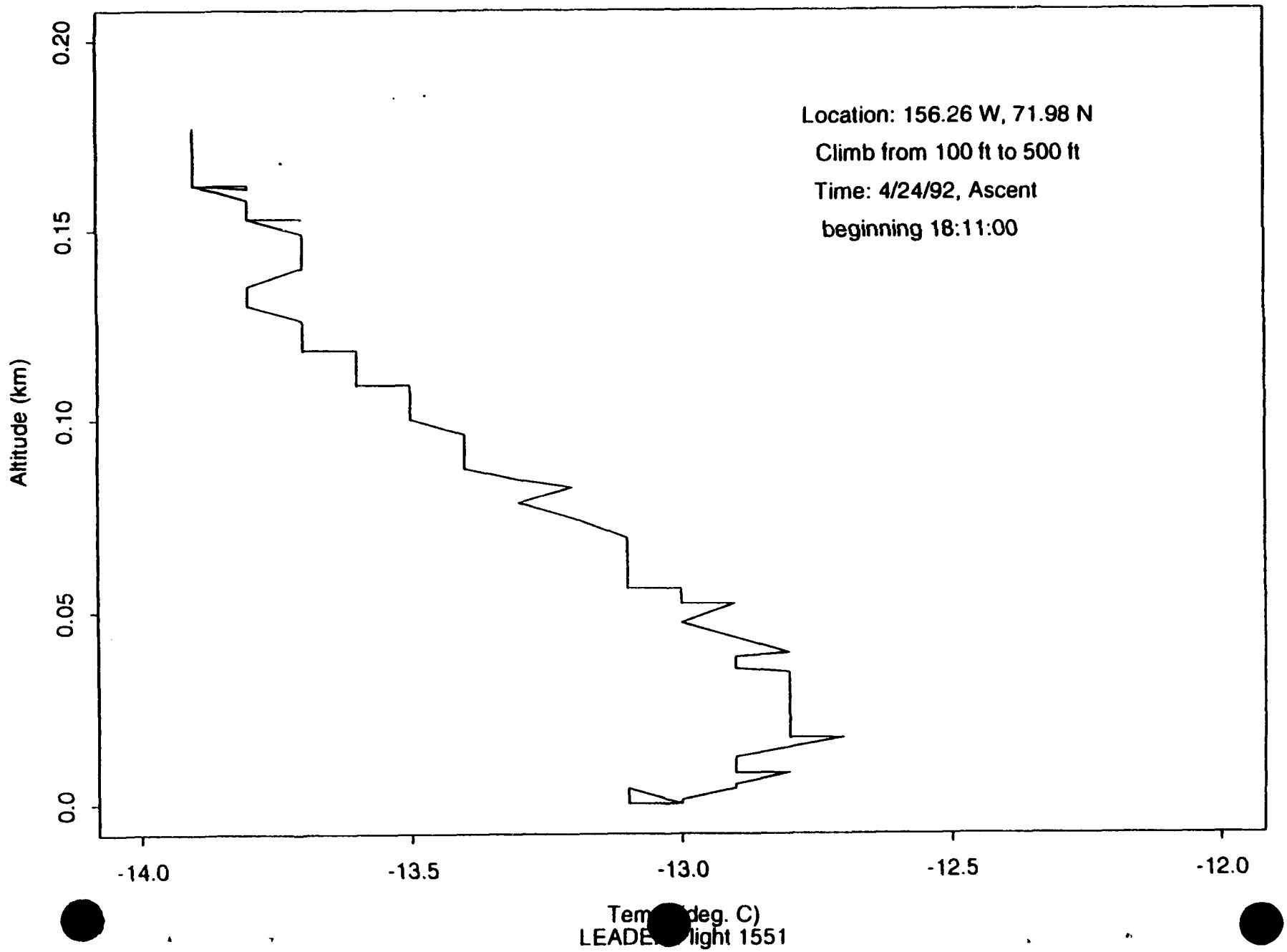


GPS track of flight 1551, 04/24/92 16:47:00 - 19:37:00

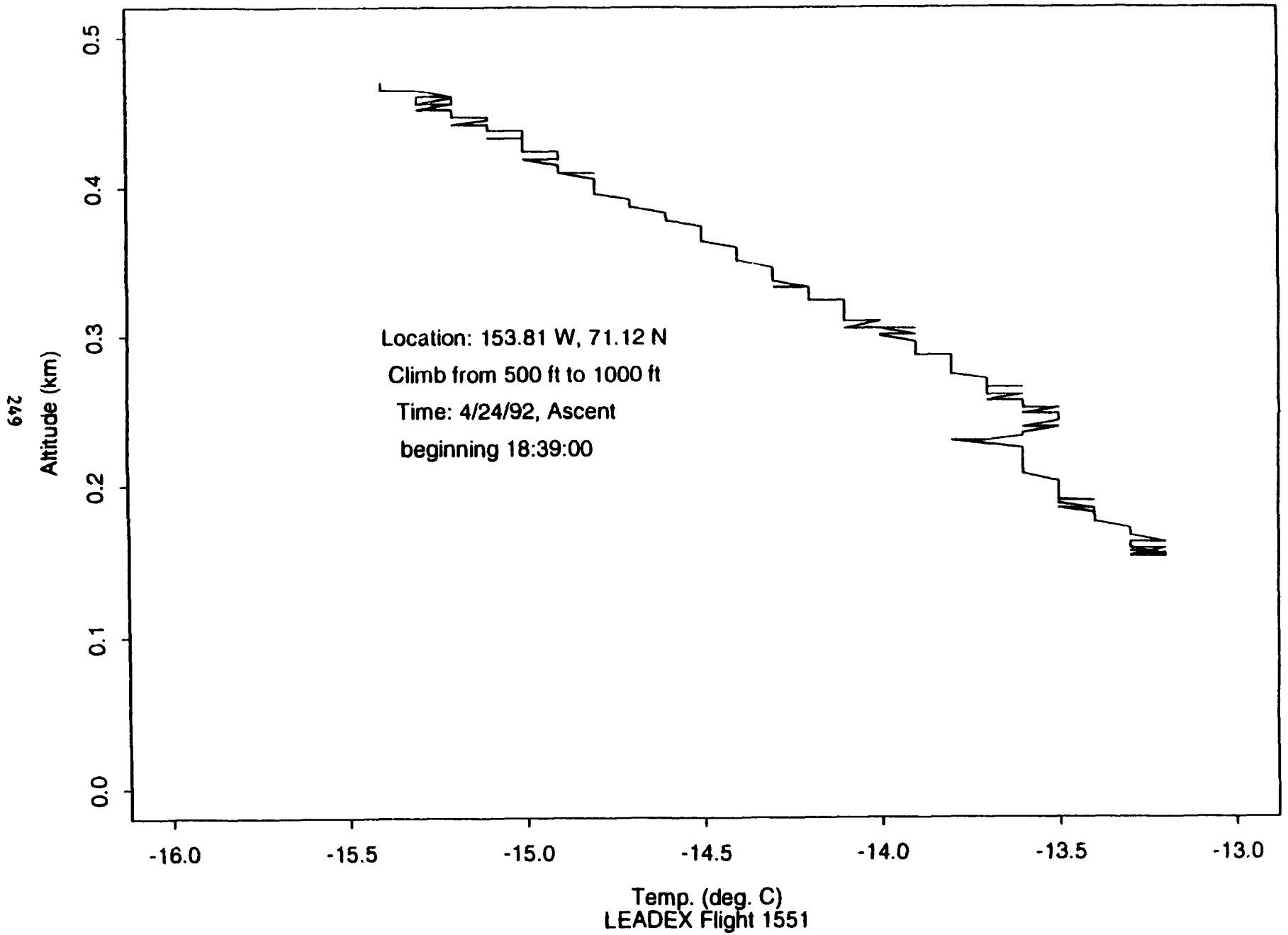

04/24/92 FLT1551 1
pressr_alt (km)
0.456
0.360
0.270
0.180
0.090
tstat (deg C)
-11.0
-12.0
-13.0
-14.0
-15.0
windspdgps (m/s)
12.0
9.0
6.0
3.0
0.0
winddirgps (deg)
360
280
210
140
70
0
truehdgomg (deg)
350.
280.
210.
140.
70.
0.
ir_thermom (deg C)
-8.00
-17.00
-26.00
-35.00
-44.00
lwc_king (gm/m^3)
0.900
0.600
0.300
0.000
-.300
-.600
-.900
opcl (#/l)
0.30
0.25
0.20
0.15
0.10
0.05
170000
180000


04/24/92 FLT1551 2
pressr_alt (km)
8.360
8.270
8.180
8.090
tstat (deg C)
-11.0
-12.0
-13.0
-14.0
windspdgps (m/s)
12.0
9.0
6.0
winddirgps (deg)
350.
280.
210.
140.
70.
truehdgomg (deg)
ir_thermom (deg C)
-8.00
-26.00
-35.00
-44.00
lwc_king (gm/m^3)
0.600
0.300
-.300
-.600
0.25
0.20
0.15
0.10
190000
200000

Temperature Sounding



Temperature Sounding



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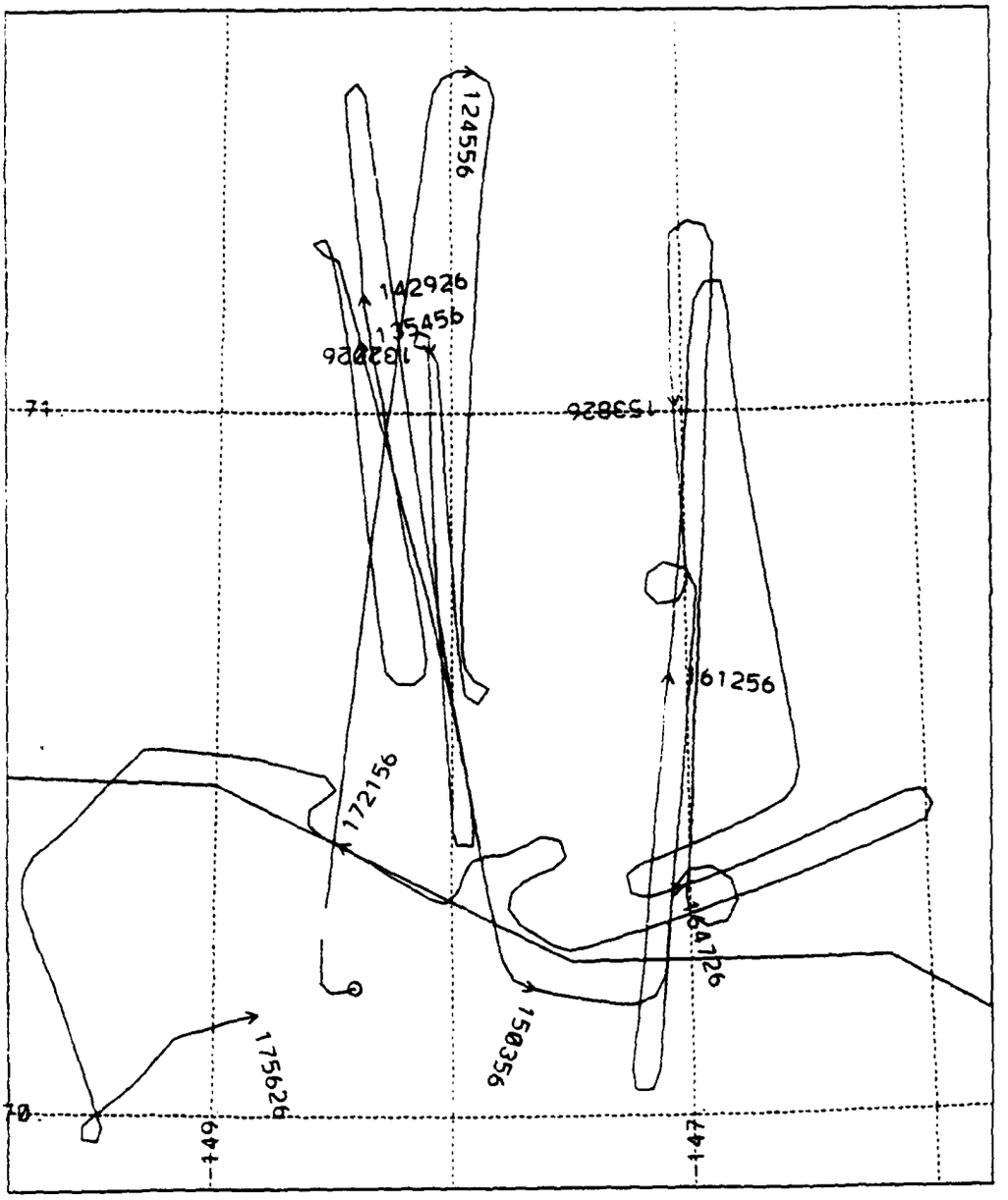
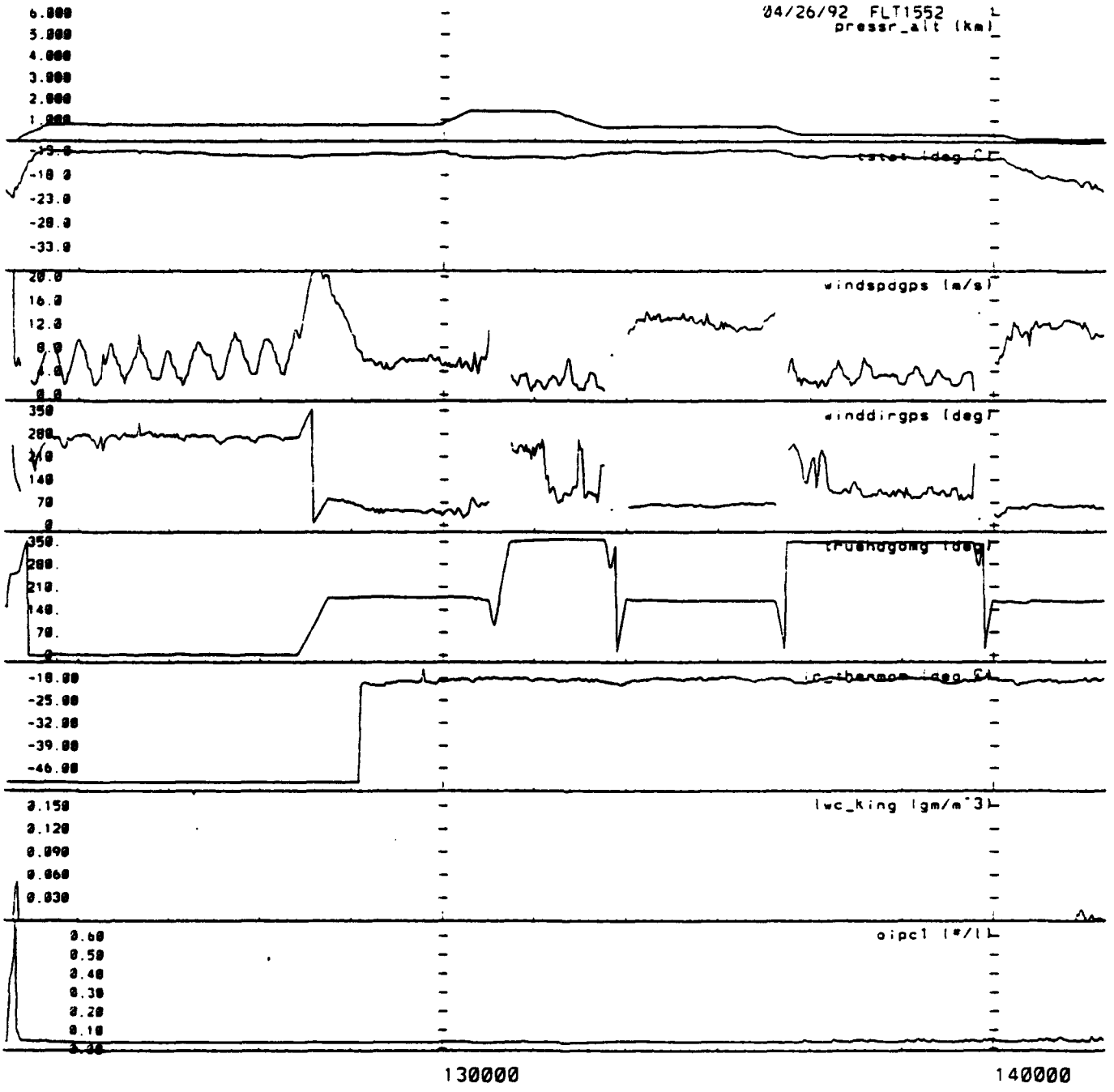
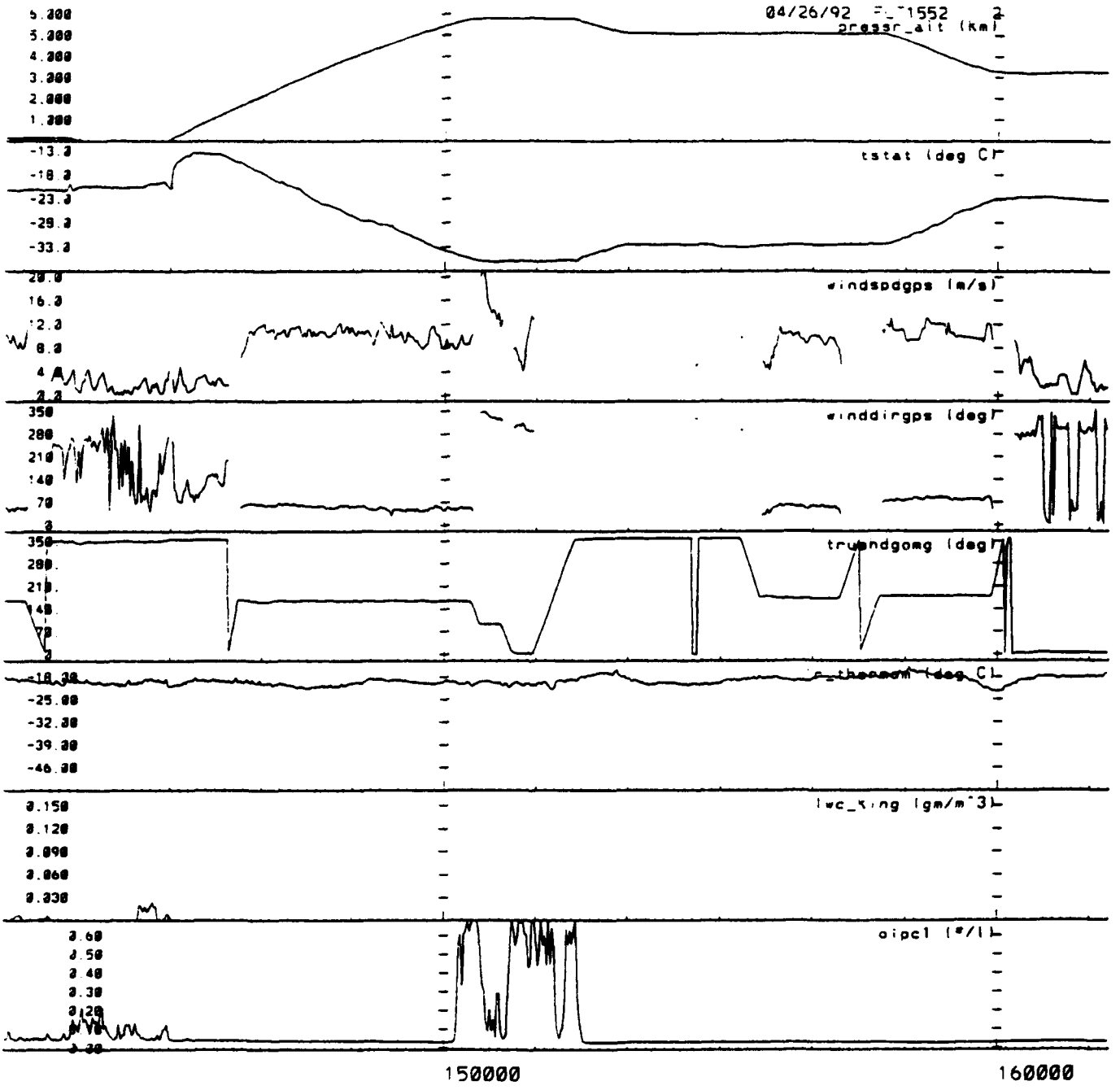
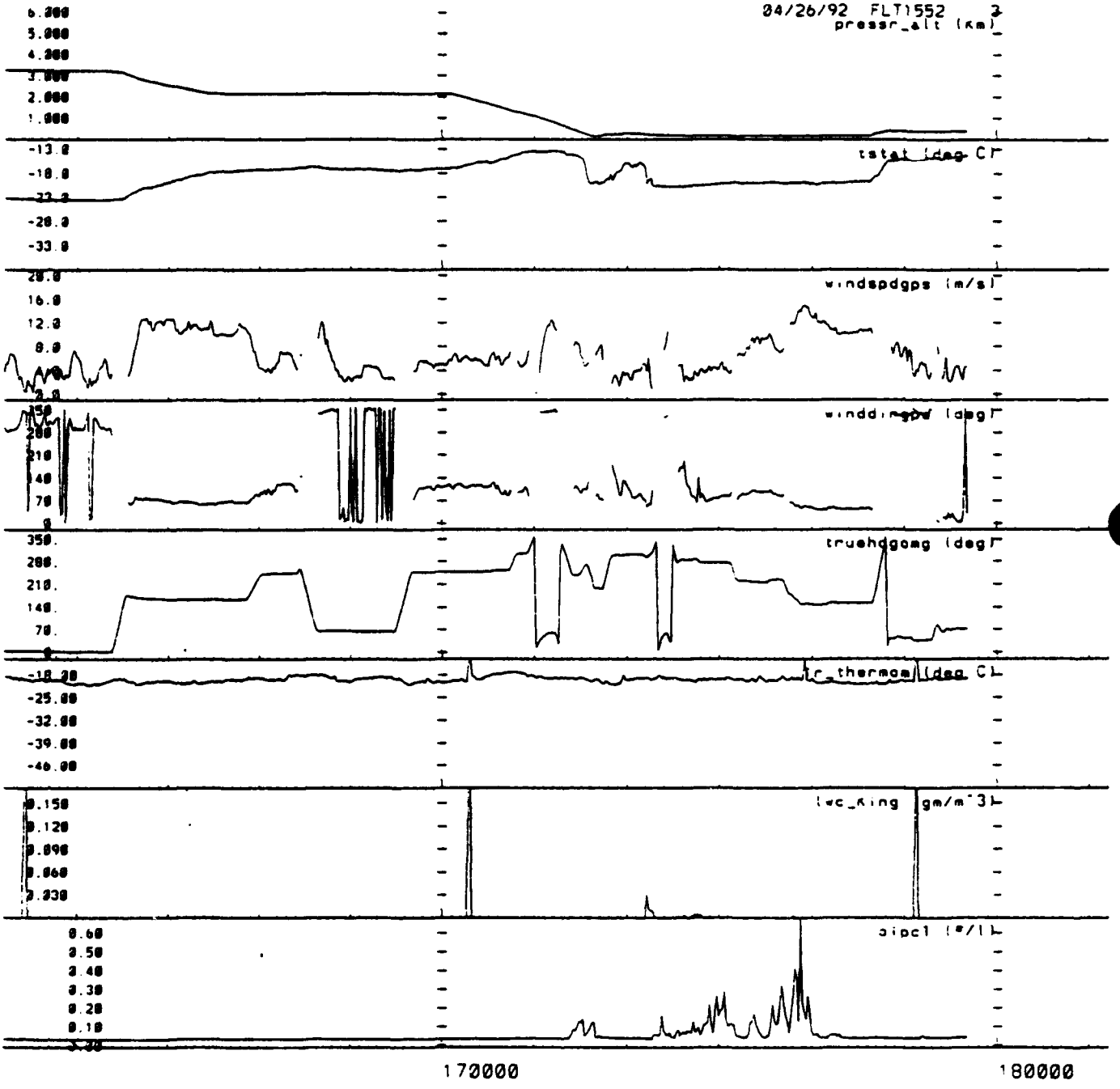


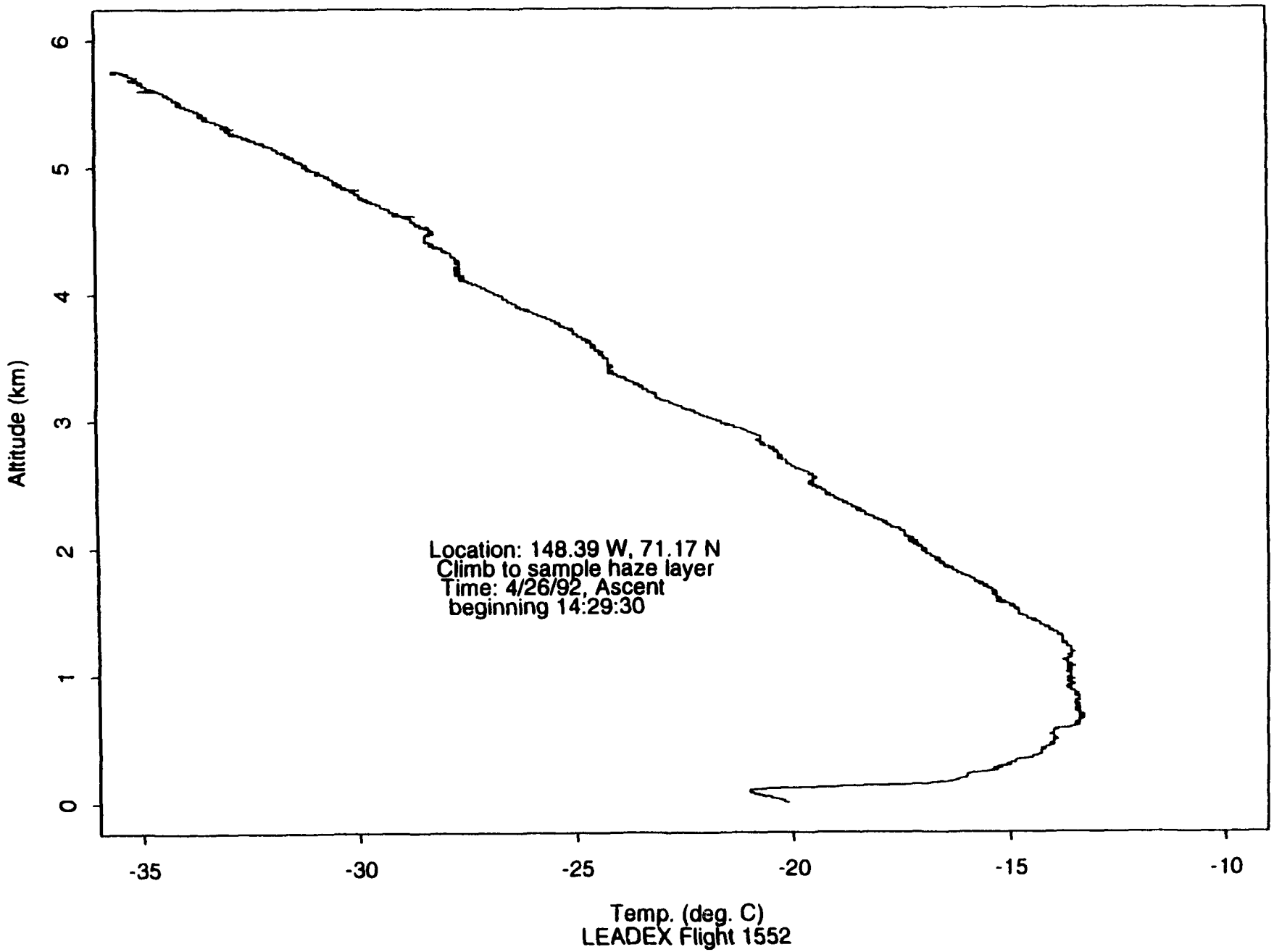
GPS track of flight 1552, 04/26/92 12:12:00 - 17:57:00


04/26/92 FLT1552
pressr_alt (km)
6.000
5.000
4.000
3.000
2.000
-18.0
-23.0
-28.0
-33.0
windspdgps (m/s)
20.0
16.0
12.0
winddirgps (deg)
350
280
210
140
70
-18.00
-25.00
-32.00
-39.00
-46.00
lwc_king (gm/m^3)
3.150
3.120
3.090
3.060
3.030
0.60
0.50
0.40
0.30
0.20
0.10
130000
140000


04/26/92
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
lwc_king (gm/m^3)
150000
160000


04/26/92 FLT1552
pressr_alt (km)
tstat (deg C)
windspdgps (m/s)
winddirgps (deg)
truehdgomg (deg)
tr_thermom (deg C)
lwc_King (gm/m^3)
aipc1 (#/l)
170000
180000

Temperature Sounding



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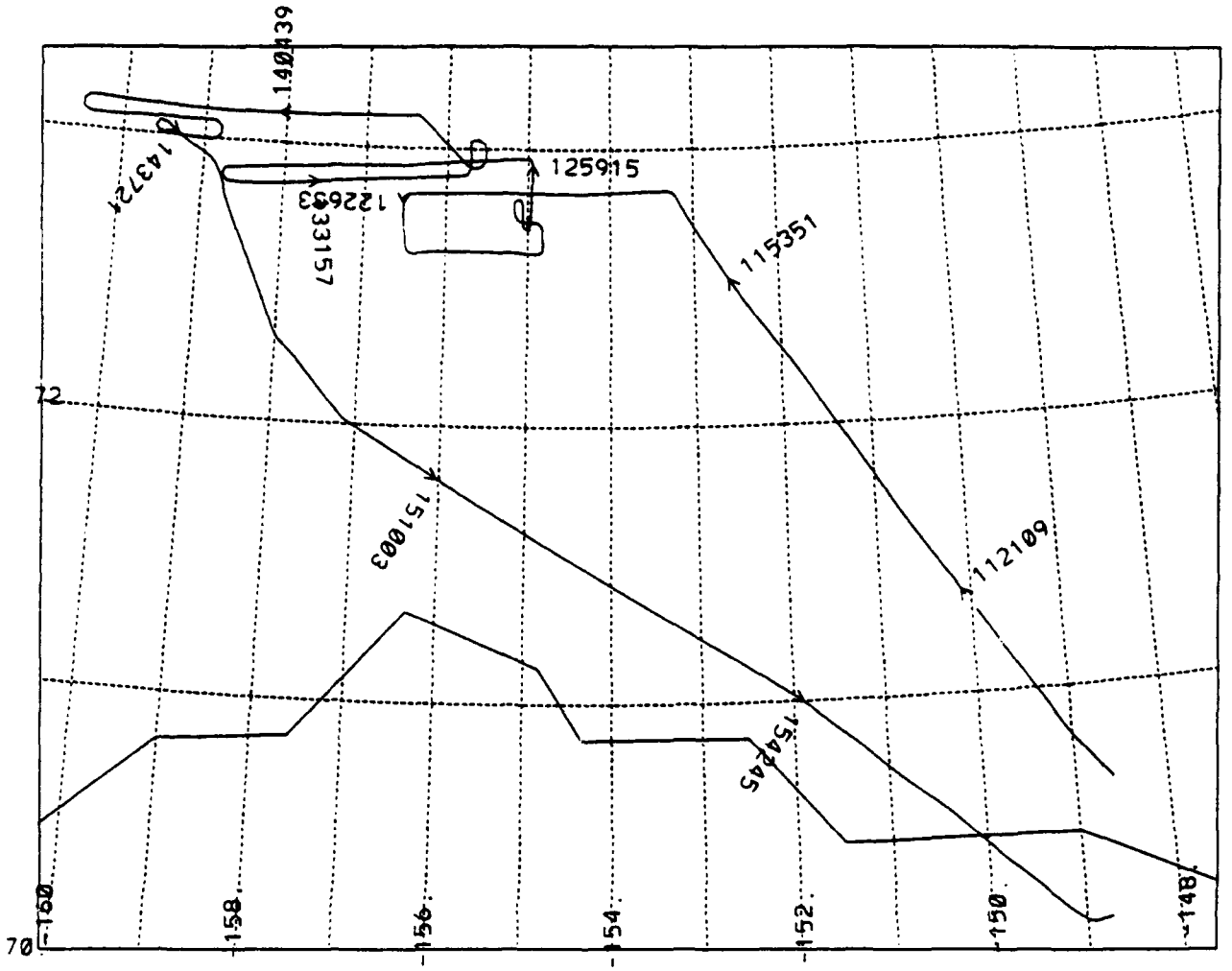
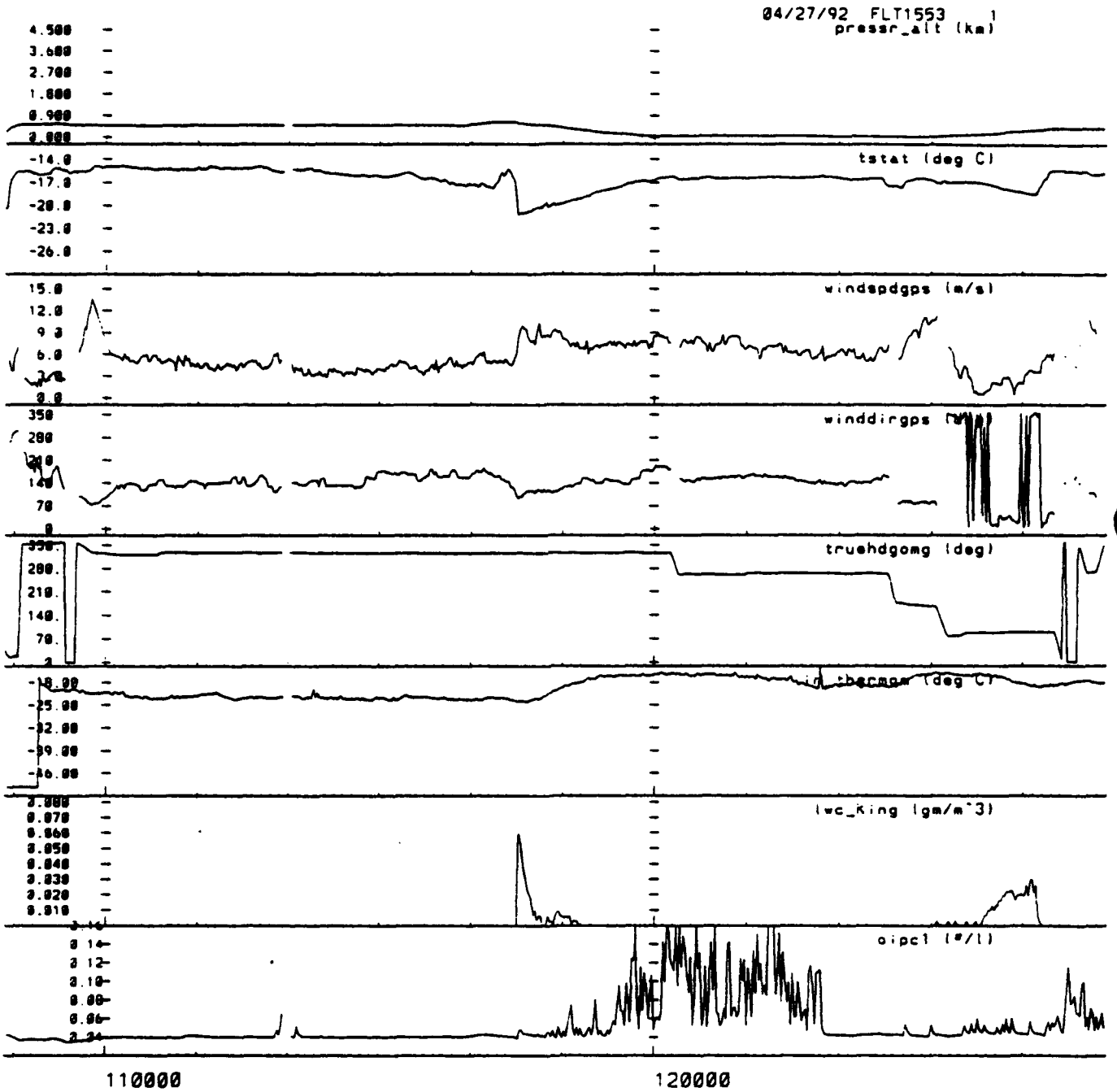
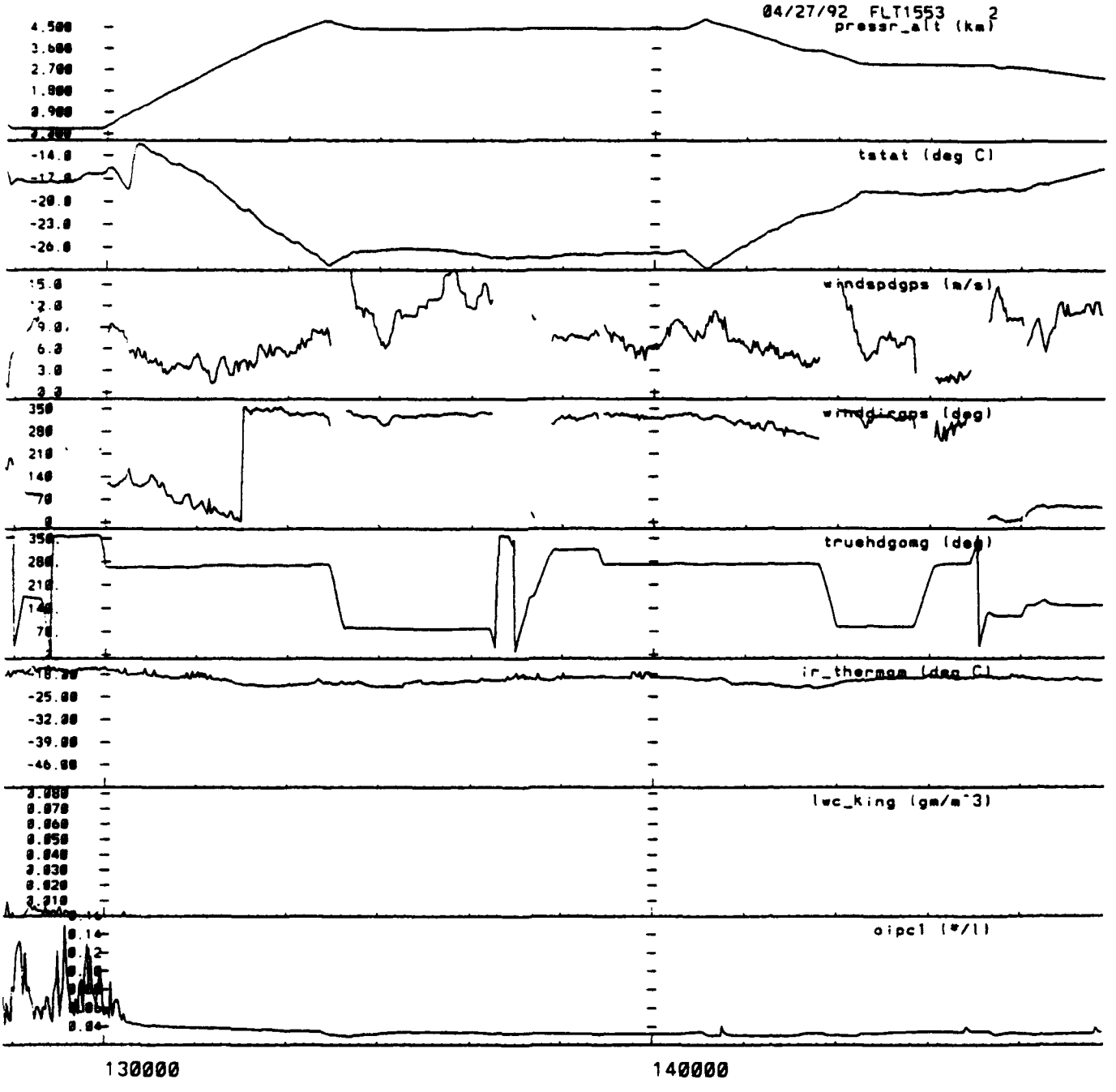
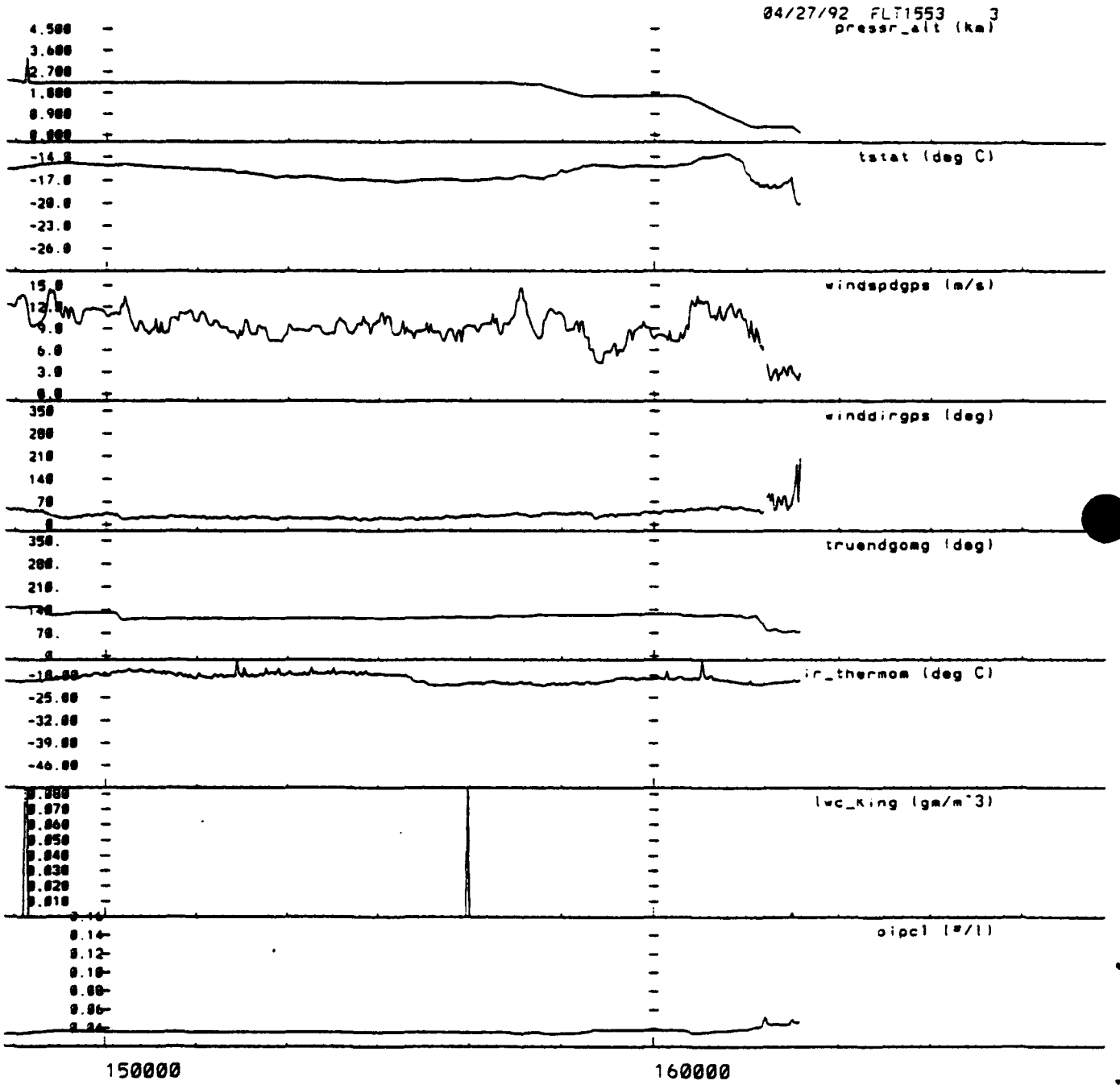


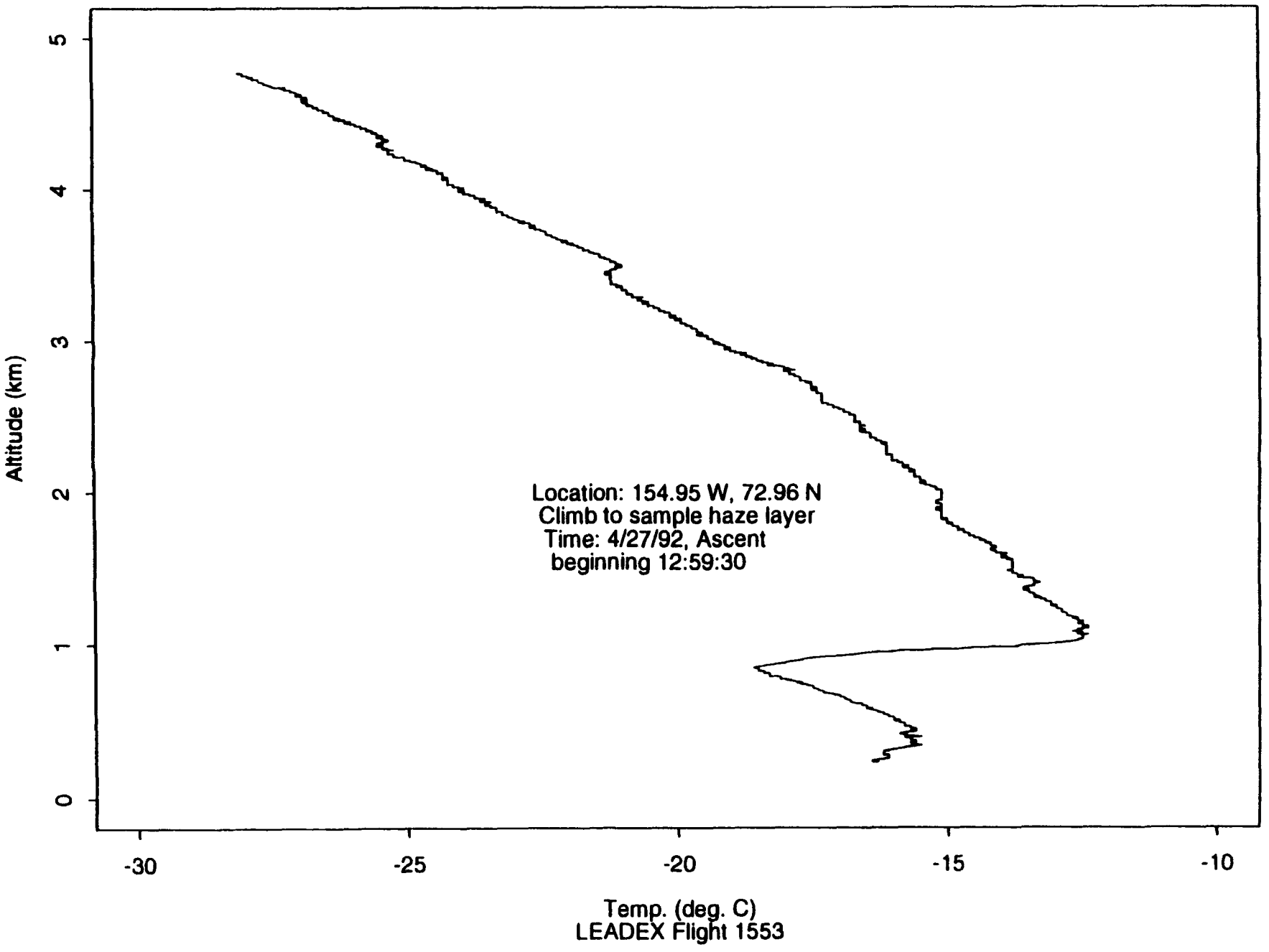
GPS track of flight 1553, 04/27/92 10:49:00 - 16:16:00


04/27/92 FLT1553 1
pressr_alt (km)
4.500
3.600
2.700
1.800
0.900
tstat (deg C)
-14.0
-17.0
-20.0
-23.0
-26.0
windspdgps (m/s)
15.0
12.0
6.0
winddirgps
350
280
210
140
70
truehdgomg (deg)
280.
210.
140.
70.
-18.00
-25.00
-32.00
-39.00
-46.00
lwc_King (gm/m^3)
0.070
0.060
0.050
0.040
0.030
0.020
0.010
oipc1 (#/l)
0.14
0.12
0.10
0.08
0.06
110000
120000


04/27/92 FLT1553 2
pressr_alt (km)
4.500
3.600
2.700
1.800
0.900
tstat (deg C)
-14.0
-20.0
-23.0
-26.0
windspdgps (m/s)
15.0
12.0
9.0
6.0
3.0
winddirgps (deg)
350
280
210
140
70
truehdgomg (deg)
ir_thermgm (deg C)
-25.00
-32.00
-39.00
-46.00
lwc_king (gm/m^3)
0.070
0.060
0.050
0.040
0.030
0.020
olpc1 (#/l)
0.14
0.12
130000
140000


04/27/92 FLT1553 3
pressr_alt (km)
4.500
3.600
2.700
1.800
0.900
tstat (deg C)
-14.0
-17.0
-20.0
-23.0
-26.0
windspdgps (m/s)
15.0
12.0
9.0
6.0
3.0
winddirgps (deg)
350
280
210
140
70
truendgomg (deg)
350.
280.
210.
70.
ir_thermom (deg C)
-18.00
-25.00
-32.00
-39.00
-46.00
lwc_King (gm/m^3)
0.080
0.070
0.060
0.050
0.040
0.030
0.020
0.010
oipc1 (#/l)
0.14
0.12
0.10
0.08
0.06
150000
160000

Temperature Sounding



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AIRBORNE MEASUREMENTS DURING LEADEX TWIN OTTER FLIGHTS

Andrew P. Jessup, Norbert Untersteiner and Jennifer A. Francis
Applied Physics Laboratory, University of Washington

Sponsor

This component of LeadEx was sponsored by the Office of Naval Research.

Objectives

The instrument package flown on the Twin Otter was designed to provide data for several broad areas of research, including the surface energy balance, ice thermodynamics, and atmospheric radiative transfer. The primary objectives were:

1. To measure the spatial distribution of ice surface temperature in a variety of atmospheric conditions. Data were obtained with a Heimann KT-19 infrared thermometer with a 2° field of view. This information can be used to infer the ice thickness distribution for thin ice and to validate estimates of ice surface temperature from satellite data.

2. To measure the broad–band radiative properties of suspended ice crystals or 'diamond dust' and determine the effects of these crystals on the surface infrared radiation balance and satellite-derived surface temperatures.

3. To observe the effects of heat and ice crystal plumes from leads on surface temperature downwind of the lead.

4. To obtain a complete suite of radiation flux measurements to validate satellite–derived estimates and evaluate the representativeness of point measurements, which are often used to validate area–average flux estimates.

5. To measure low-level atmospheric stratification to compare to TOVS-derived estimates. Knowledge of the boundary-layer stratification is needed to calculate surface fluxes of heat, water vapor, and momentum.

Instrumentation

The Twin Otter's primary function was to provide logistics support for the ice camp, but when space was available, a removable rack of instruments was flown. The Otter's normal cruising speed is 50 m s^{-1}, and data were recorded at 1 Hz, except for the surface skin temperature which was recorded at 80 Hz. The compliment of instruments included:

navigation	GPS
altitude	GPS and altimeter
pitch and roll	two-axis tilt sensor
ambient air temperature	R. M. Young thermistor
surface skin temperature	Heimann KT-19 infrared thermometer
up and downwelling solar flux	Kip and Zonin pyranometer
downward infrared flux	Eppley pyrgeometer
infrared images	Agema 880LW infrared scanner
video	Super VHS

Examples of time series

The following figures present flight tracks and data summaries obtained by sensors flown aboard the Twin Otter. The north coast of Alaska, as well as beginning and ending flight times, are shown in each track plot. At the top of each figure is the julian date and time of the flight coded as Lyydddhhmm. This code also appears at the top of each time series plot. The variables shown in the time series are as follows: LW_up is the flux measured by the upward-looking pyrgeometer; SW_up and SW_dn are solar fluxes from the upward- and downward-looking pyranometers, T_air and T_ir are the ambient air and surface skin temperatures, Pitch and Roll are aircraft orientation in degrees from horizontal, Heading is the magnetic heading of the aircraft, Gnd Speed and Altitude are the aircraft speed over the ground and altitude from the GPS. Note: calibration of the radiation flux measurements have not been completed; flux data are presented here to afford a qualitative interpretation of the environmental conditions. Also note that the SW-up is very sensitive to aircraft pitch and roll.

The final figure is an expanded time series during the flight on 5 April 1992 that zigzagged at a low altitude across a large lead. Particularly notable is the structure in the T_ir plot, which clearly shows the warmest surface temperatures at the upwind part of the lead, and that the thick ice on the downwind side is slightly warmer than that on the upwind side. Maximum skin temperatures are below the freezing point of seawater, even though there was obvious open water in the lead, for two reasons: 1) the emissivity of the water surface is less than unity, and 2) ice crystals and water vapor in the air over the lead are relatively cold, thereby decreasing the radiance reaching the sensor. The ambient air temperature T_air is plotted simultaneously, illustrating the effect of the lead on air temperature. Note also that the air near an altitude of 2000 feet is several degrees warmer than that near the surface due to the stable stratification of the lower troposphere.

Leadex 92: Twin Otter Flight Time

yr-day	mo-dy-yr	Time (GMT)
094	04-03-92	1837-1910
		1911-2011
		2050-2157
095	04-04-92	1931-2056
		2128-2348
096	04-05-92	1856-2016
		2059-2357
098	04-07-92	1924-2117
		2215-0059
099	04-08-92	1838-1959
	(LEAD 3)	2050-2209
101	04-10-92	1850-2121
102	04-11-92	1736-1904
	(LEAD 4)	2004-2154
		2206-2317
104	04-13-92	1925-2227
		2302-0142
105	04-14-92	1704-1817
		1838-2030

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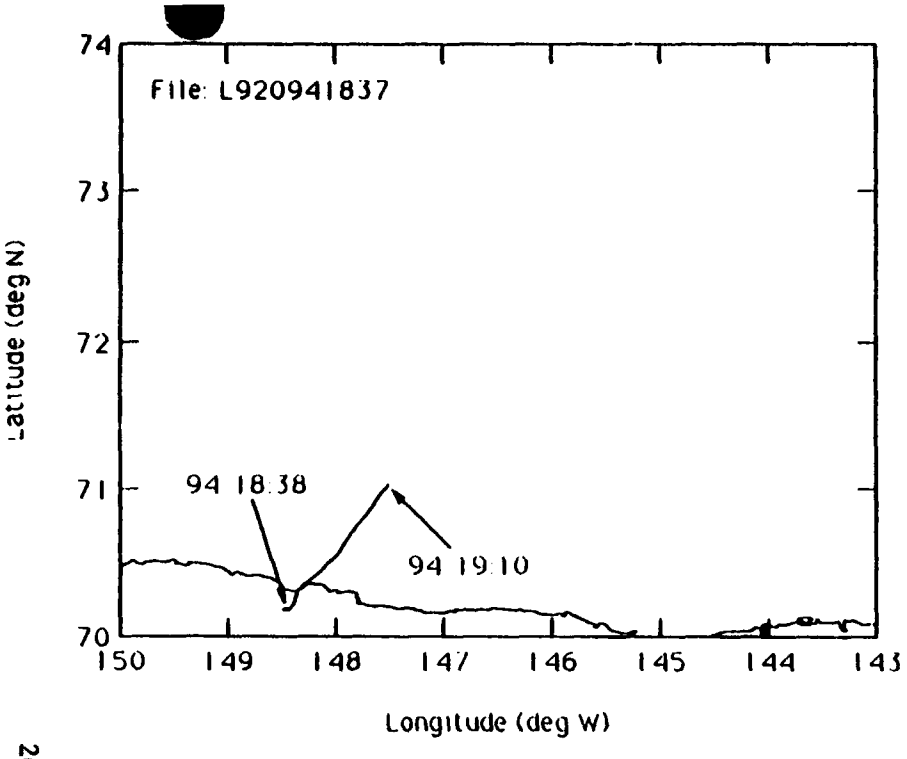
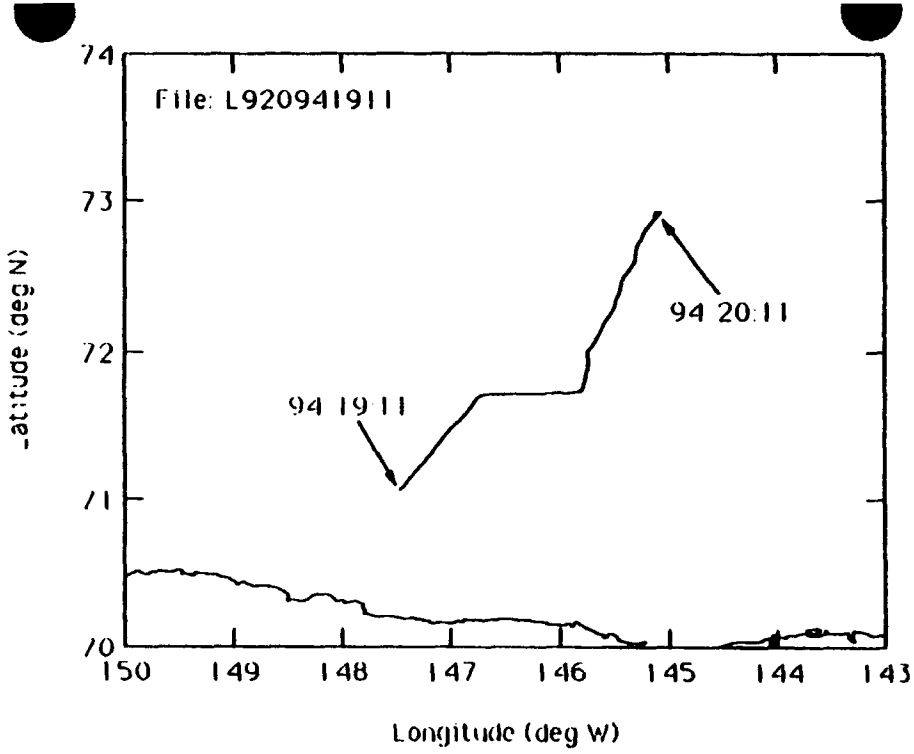
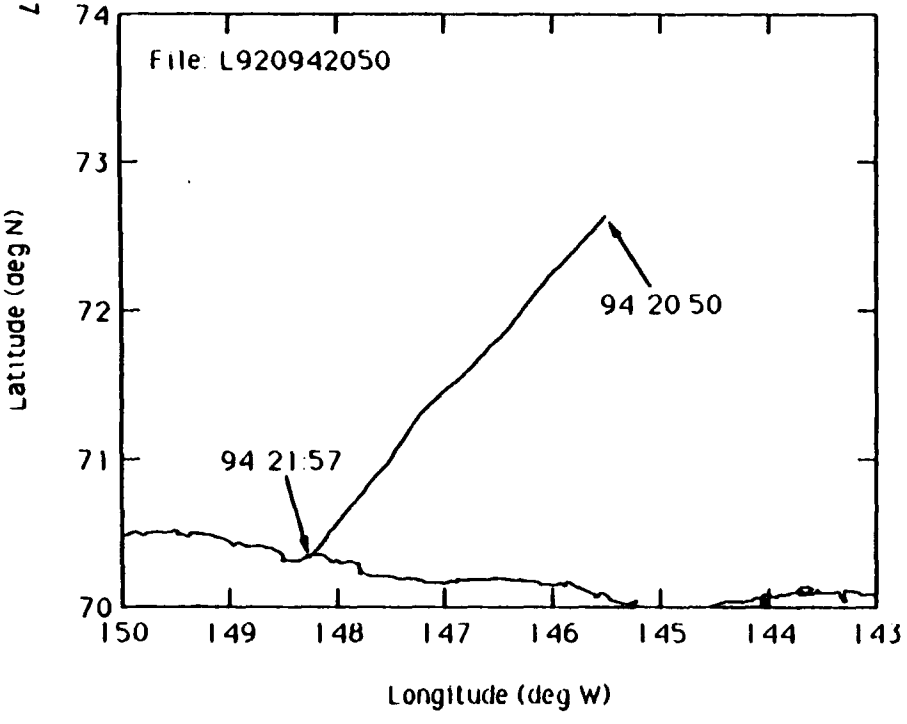
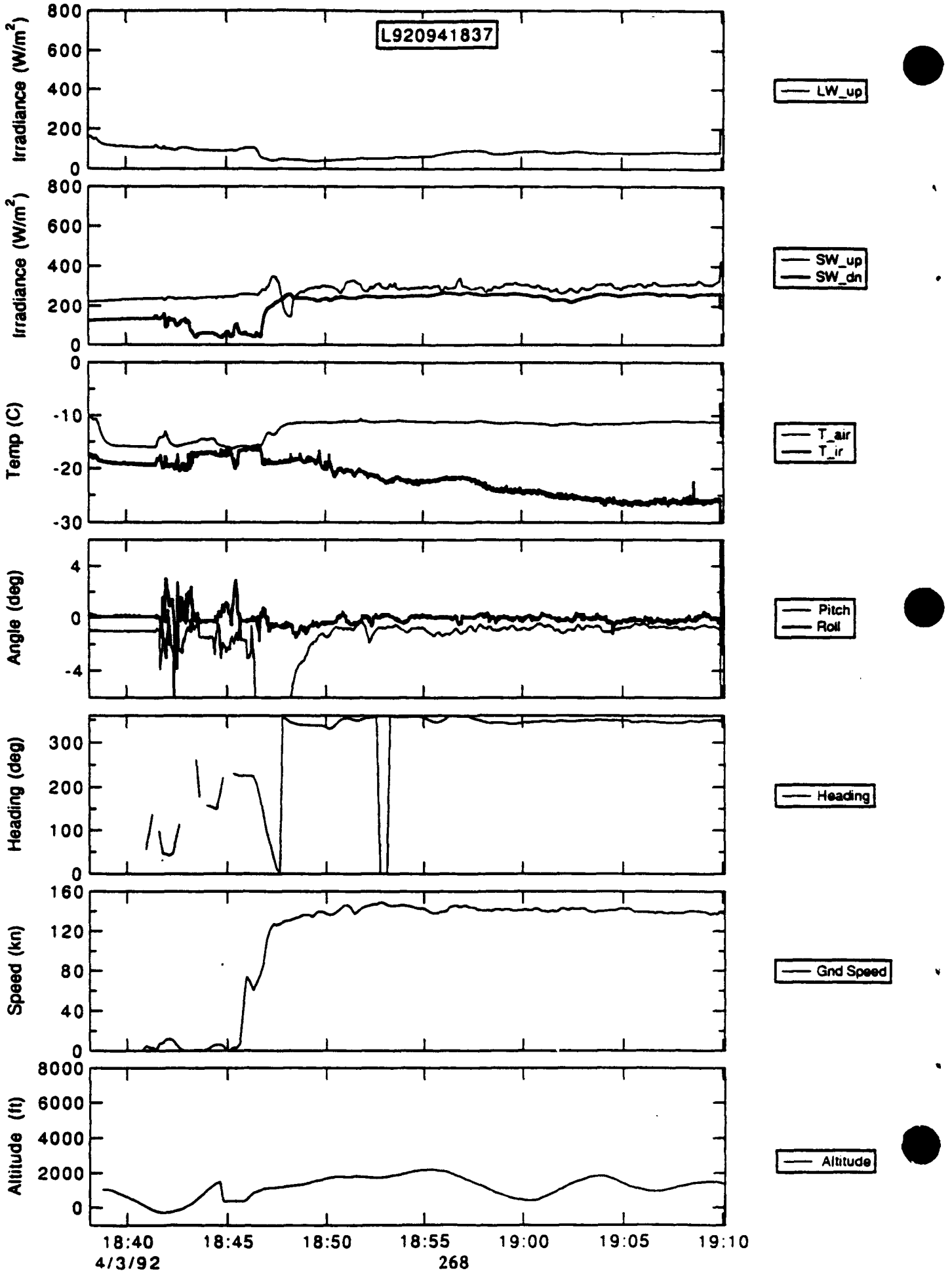
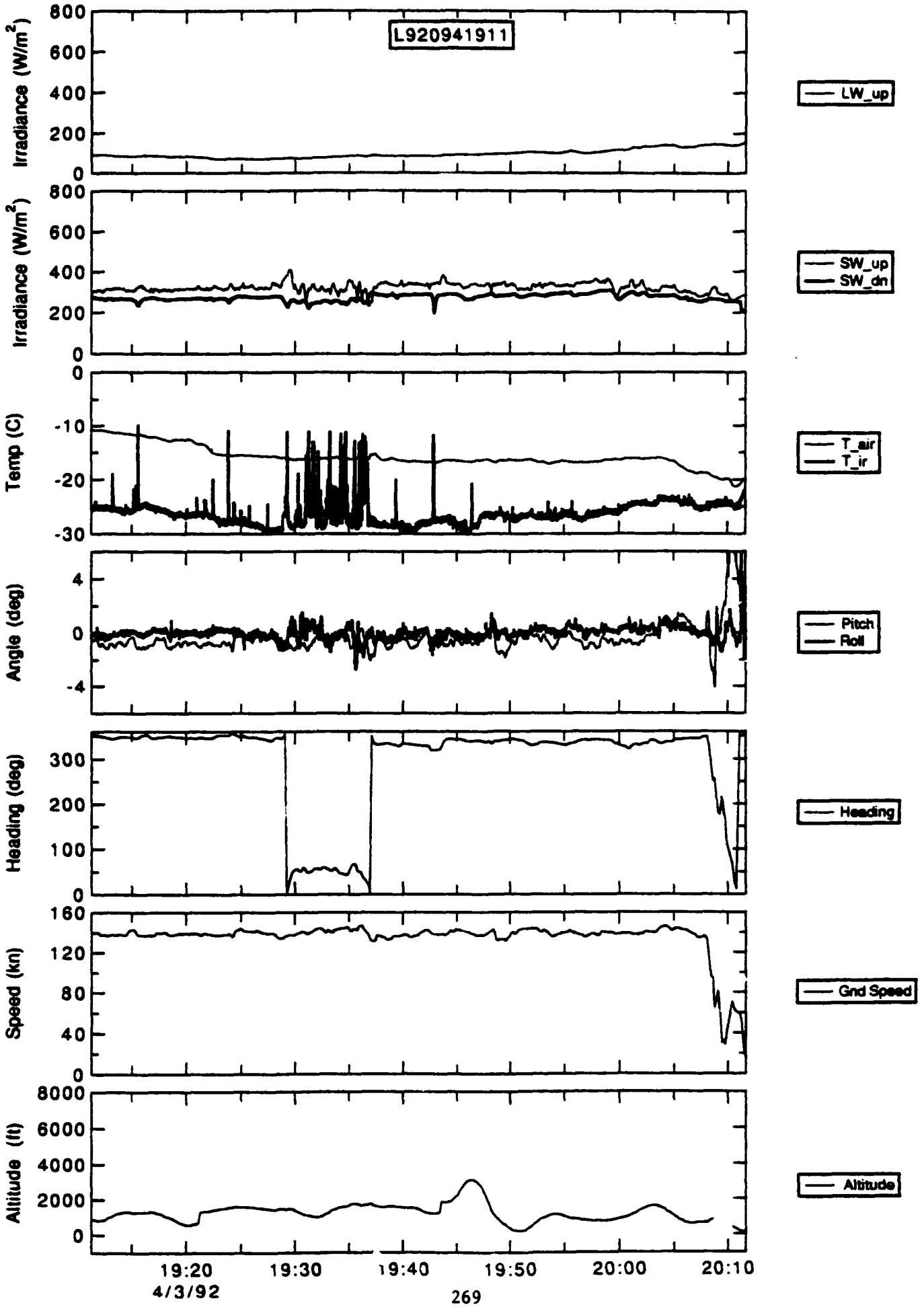
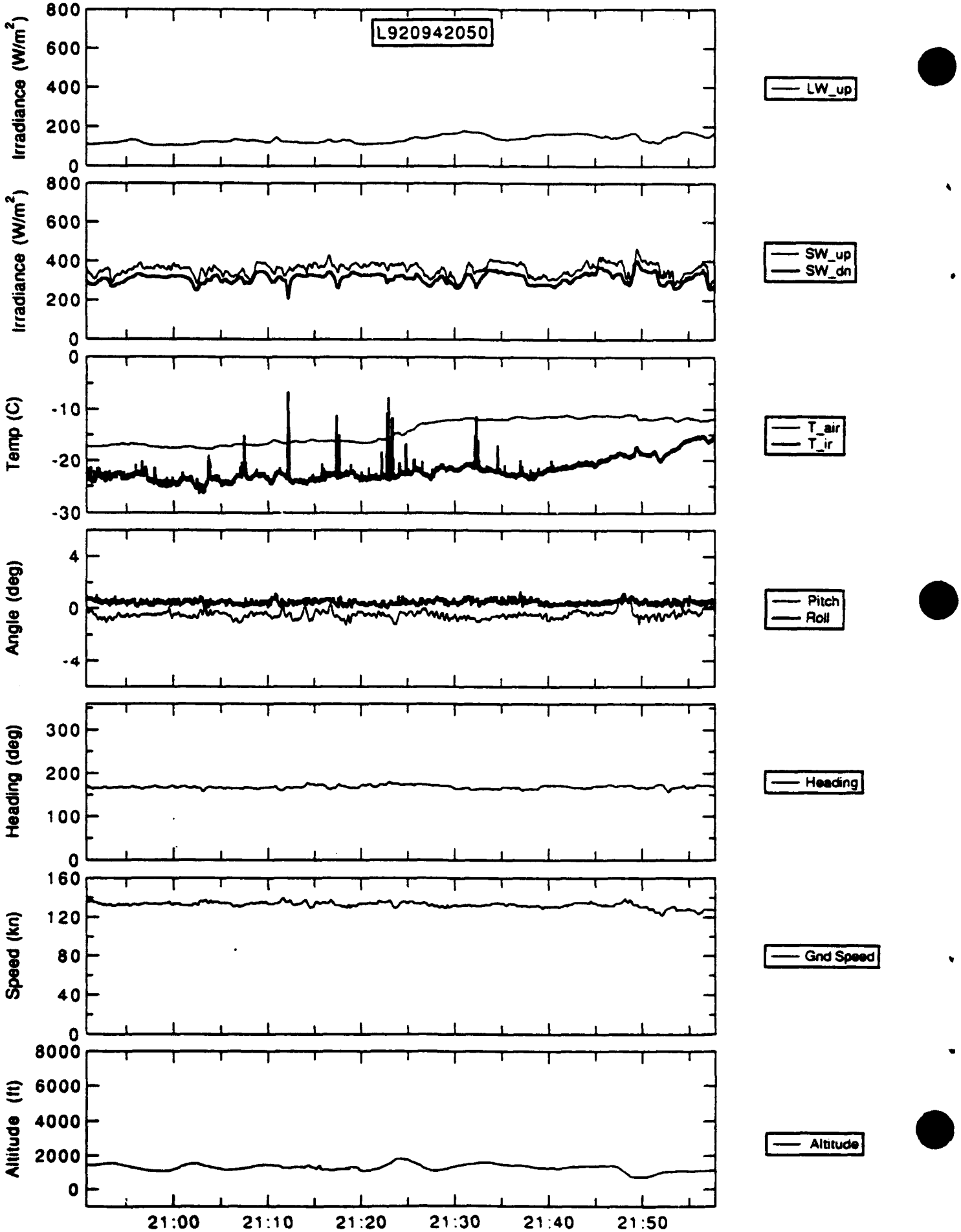

File: L920941837
74
73
72
71
70
150
149
148
147
146
145
144
143
94 18:38
94 19:10
Latitude (deg N)
Longitude (deg W)

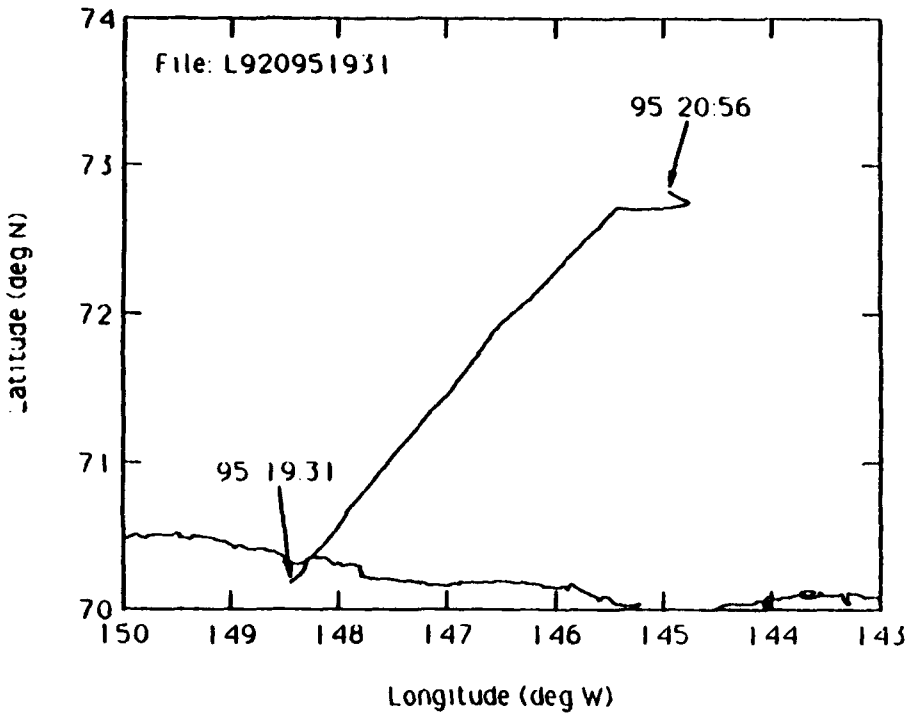

File: L920941911
74
73
72
71
70
150
149
148
147
146
145
144
143
94 19:11
94 20:11
Latitude (deg N)
Longitude (deg W)

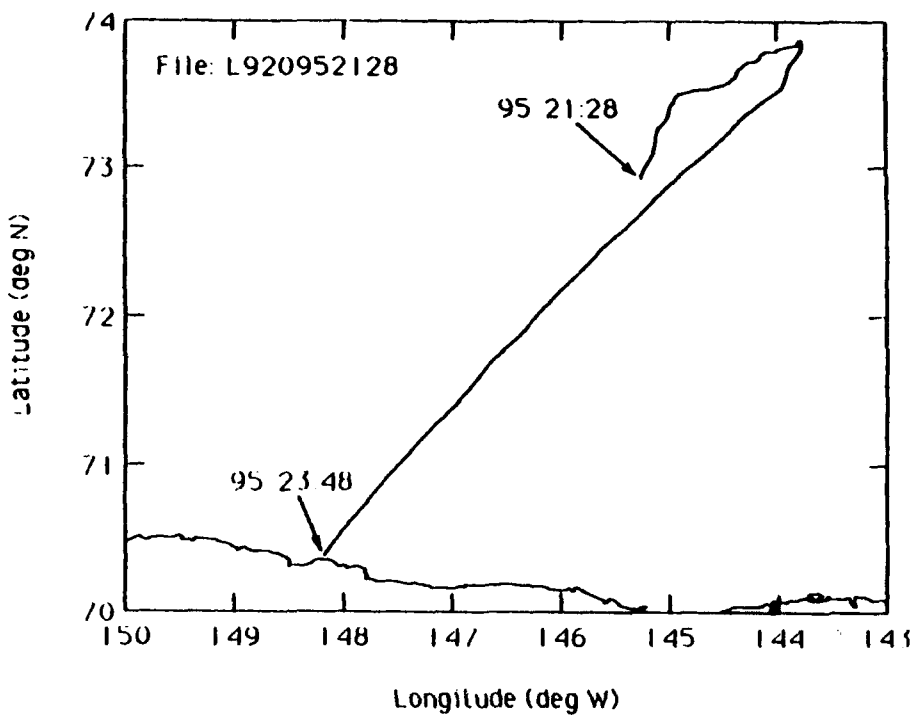

File: L920942050
74
73
72
71
70
150
149
148
147
146
145
144
143
94 21:57
94 20:50
Latitude (deg N)
Longitude (deg W)

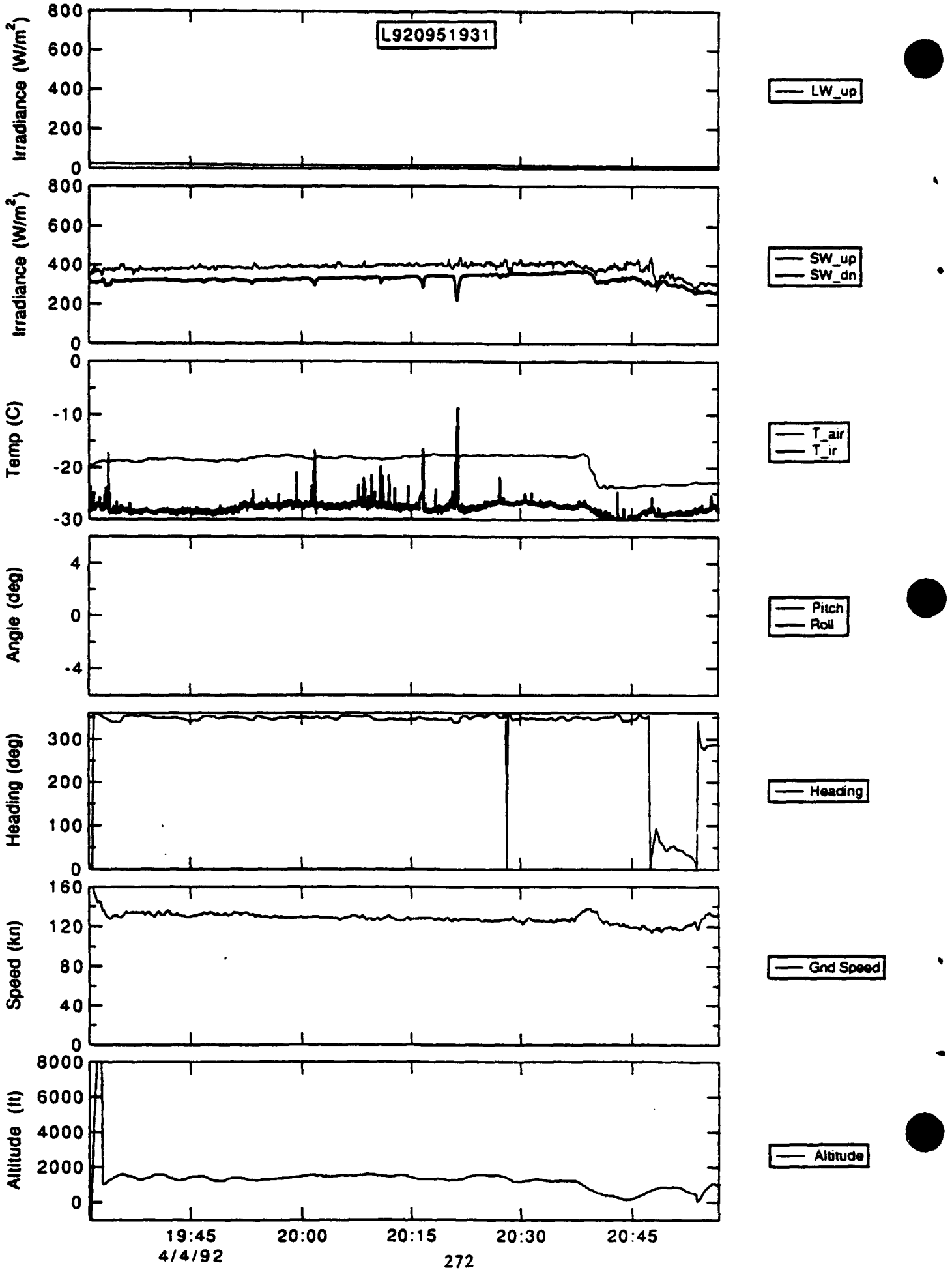

L920941837
Irradiance (W/m²)
800
600
400
200
0
LW_up
Irradiance (W/m²)
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
18:40
4/3/92
18:45
18:50
18:55
268
19:00
19:05
19:10

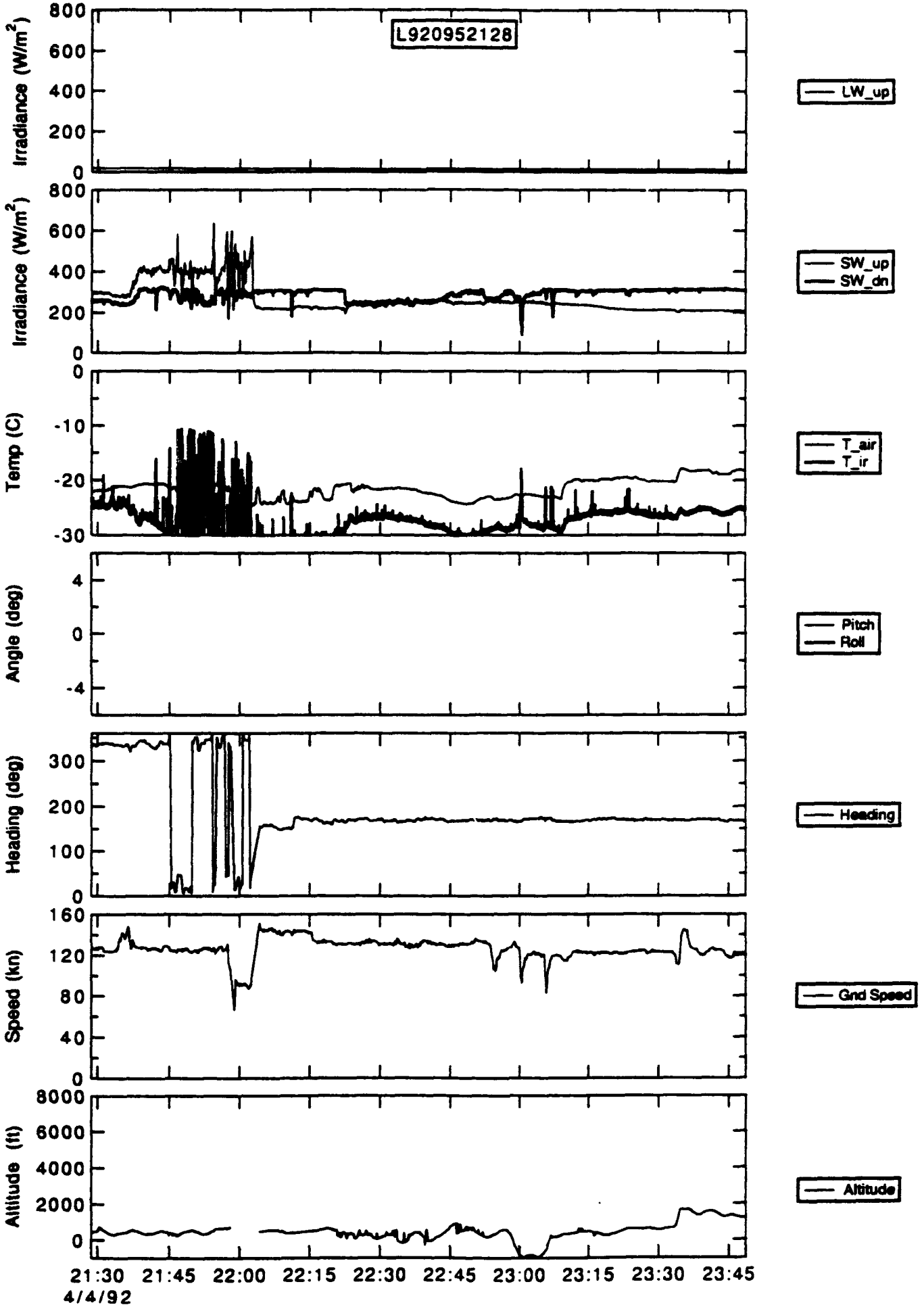

L920941911
Irradiance (W/m²)
800
600
400
200
0
LW_up
Irradiance (W/m²)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
19:20
4/3/92
19:30
19:40
19:50
20:00
20:10


L920942050
Irradiance (W/m²)
800
600
400
200
0
LW_up
Irradiance (W/m²)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
21:00
4/3/92
21:10
21:20
21:30
21:40
21:50


File: L920951931
95 20:56
95 19:31
74
73
72
71
70
150
149
148
147
146
145
144
143
Latitude (deg N)
Longitude (deg W)


File: L920952128
95 21:28
95 23:48
74
73
72
71
70
150
149
148
147
146
145
144
143
Latitude (deg N)
Longitude (deg W)


L920951931
Irradiance (W/m²)
800
600
400
200
0
LW_up
Irradiance (W/m²)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
19:45
4/4/92
20:00
20:15
20:30
20:45


L920952128
Irradiance (W/m²)
800
600
400
200
0
LW_up
Irradiance (W/m²)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
21:30
21:45
22:00
22:15
22:30
22:45
23:00
23:15
23:30
23:45
4/4/92

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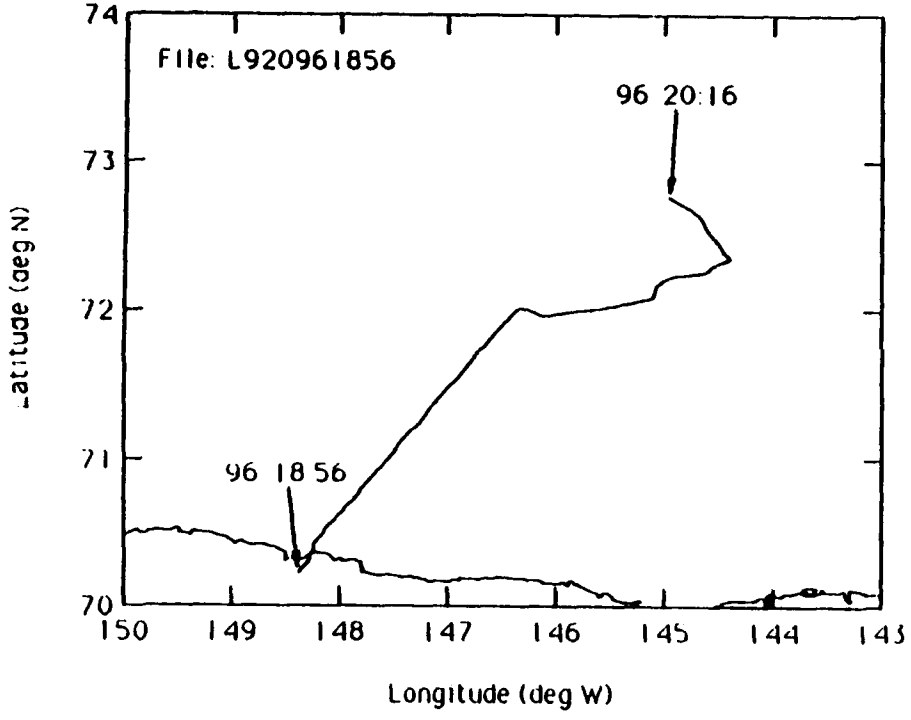
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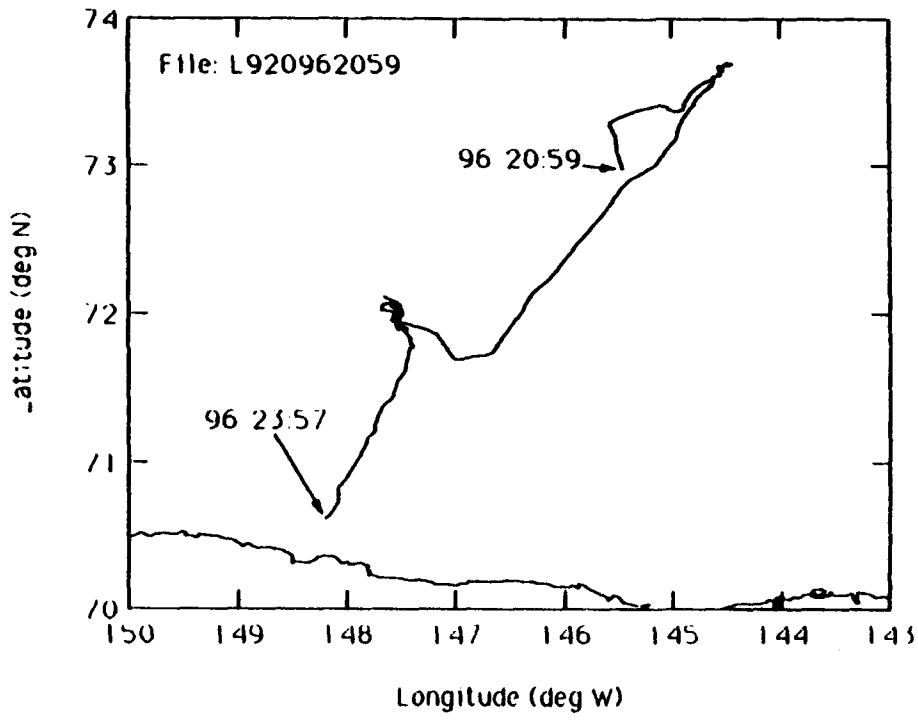
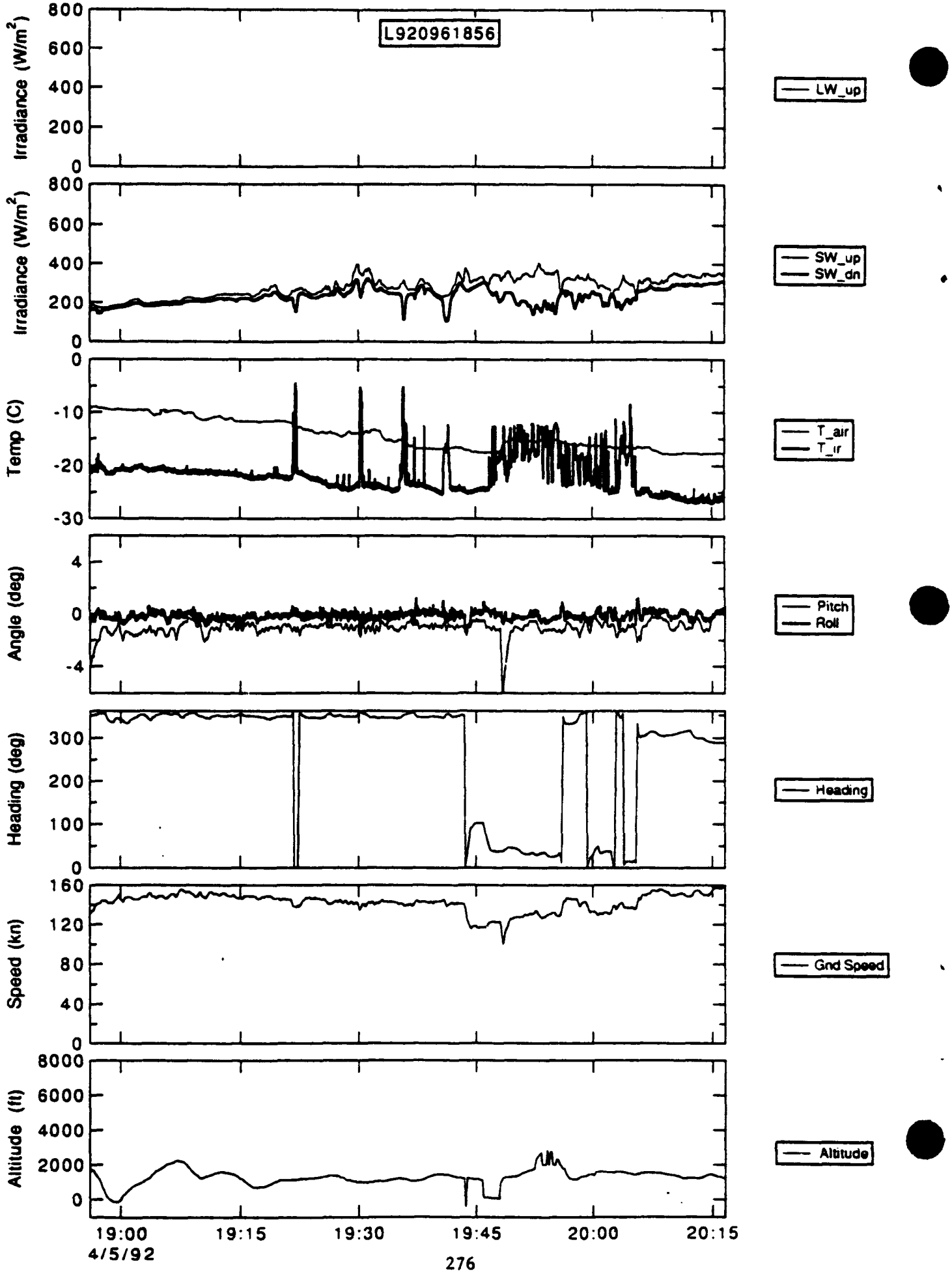
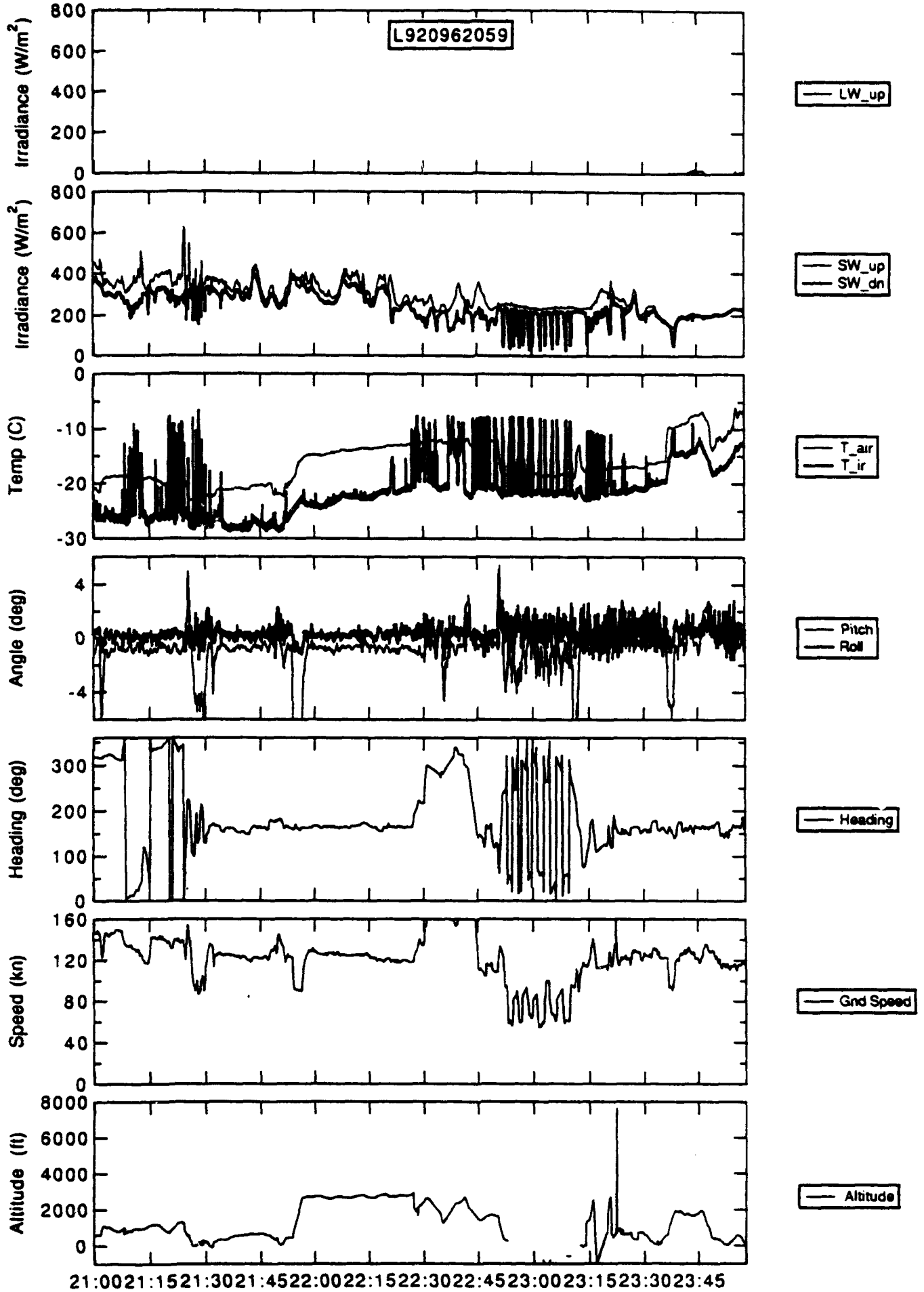
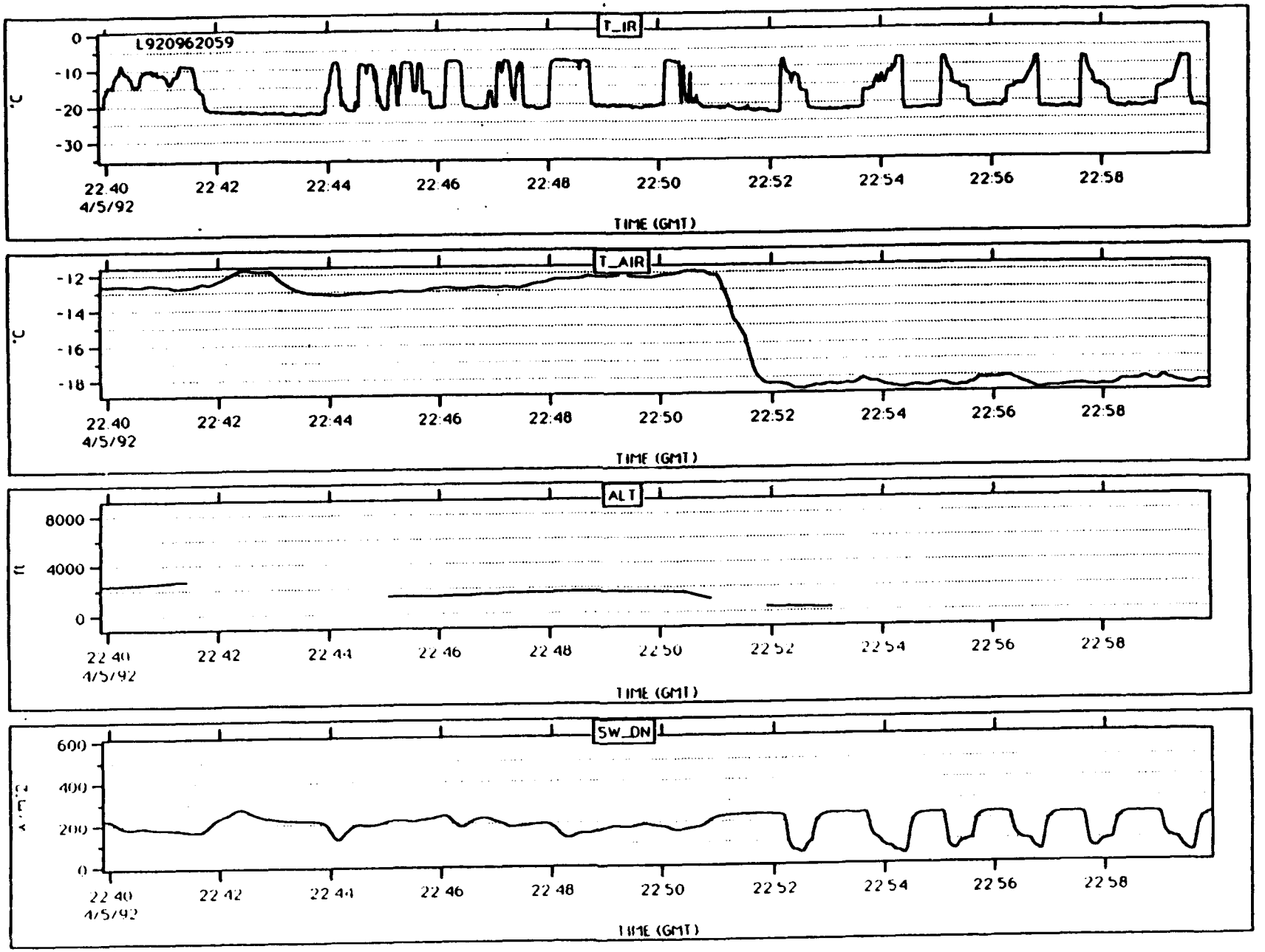
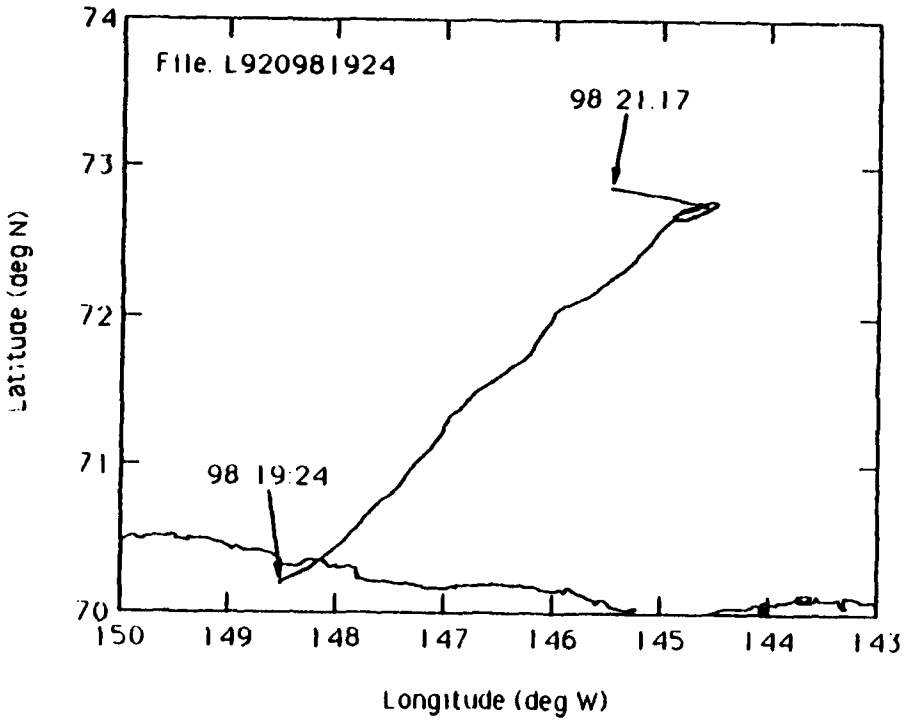
96 20:16
96 18 56
74
73
72
71
70
150
149
148
147
146
145
144
143
Latitude (deg N)
Longitude (deg W)

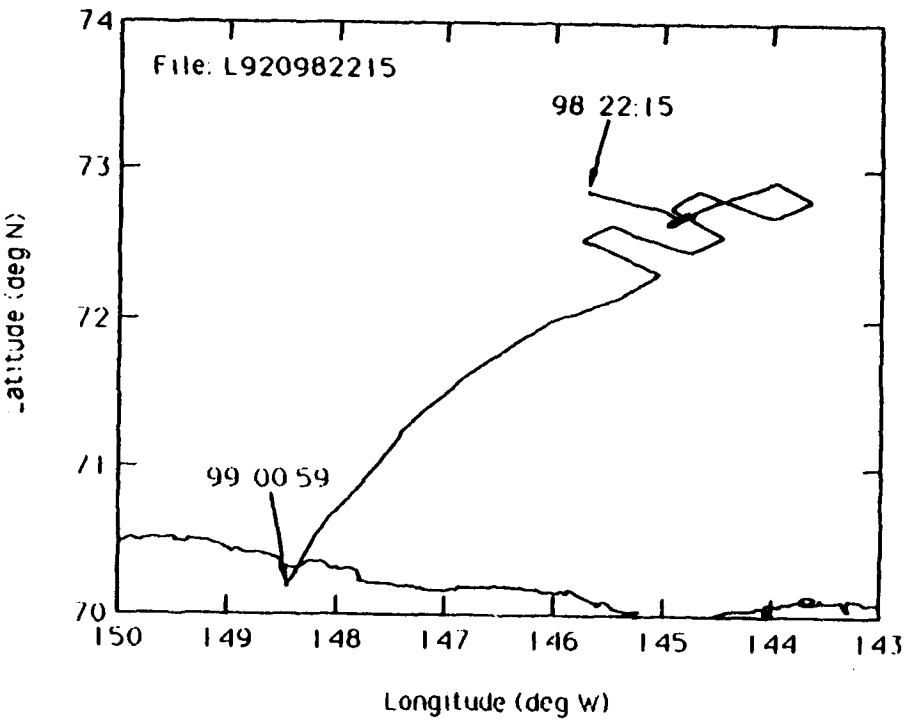

File: L920962059
96 20:59
96 23:57
74
73
72
71
70
150
149
148
147
146
145
144
143
Latitude (deg N)
Longitude (deg W)

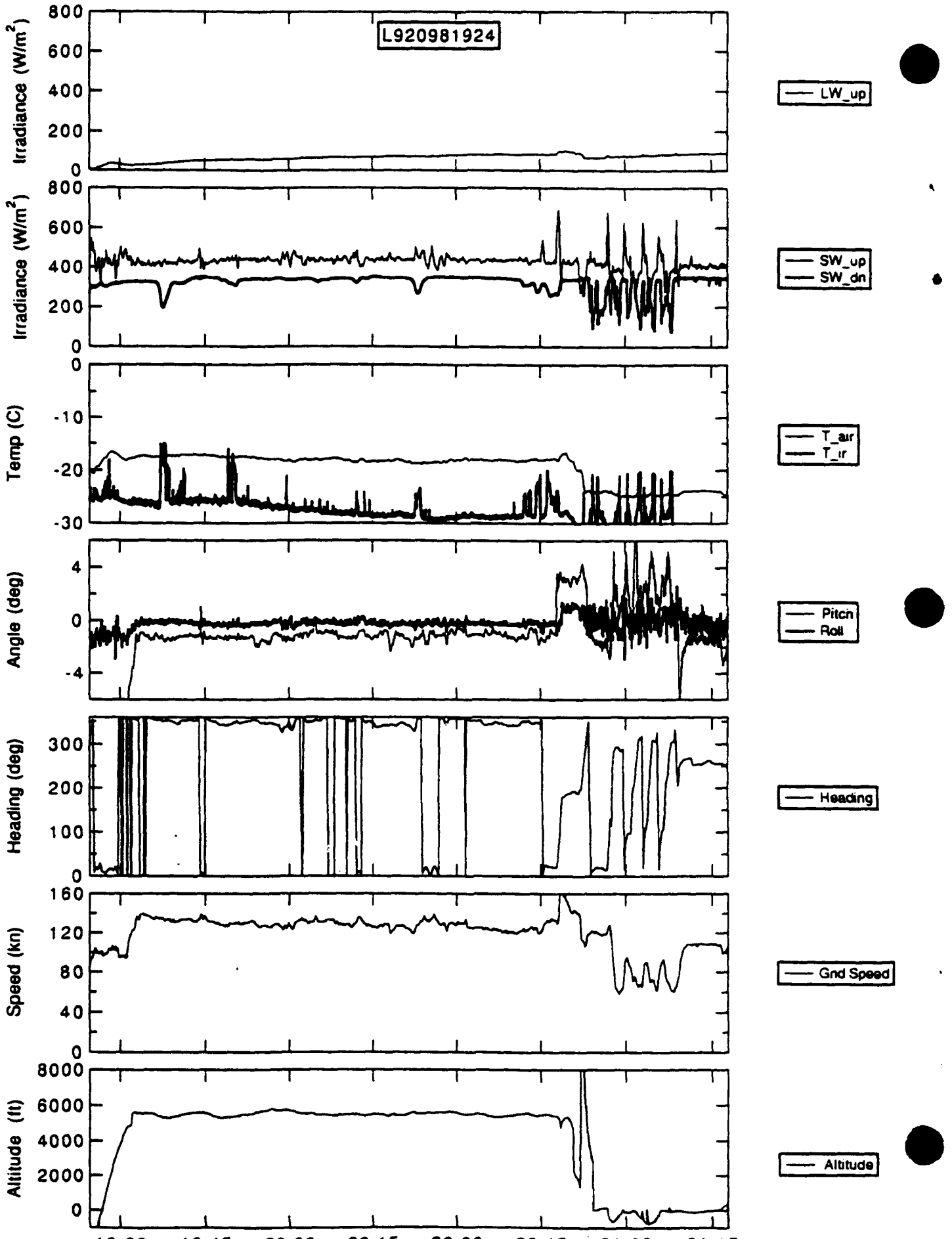

L920961856
Irradiance (W/m2)
800
600
400
200
0
LW_up
Irradiance (W/m2)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
19:00
4/5/92
19:15
19:30
19:45
20:00
20:15


L920962059
Irradiance (W/m²)
800
600
400
200
0
LW_up
Irradiance (W/m²)
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
21:0021:1521:3021:4522:0022:1522:3022:4523:0023:1523:3023:45
4/5/92


T_IR
L920962059
0
-10
-20
-30
°C
22:40
4/5/92
22:42
22:44
22:46
22:48
22:50
22:52
22:54
22:56
22:58
TIME (GMT)
T_AIR
-12
-14
-16
-18
°C
22:40
4/5/92
22:42
22:44
22:46
22:48
22:50
22:52
22:54
22:56
22:58
TIME (GMT)
ALT
8000
4000
0
ft
22:40
4/5/92
22:42
22:44
22:46
22:48
22:50
22:52
22:54
22:56
22:58
TIME (GMT)
SW_DN
600
400
200
0
22:40
4/5/92
22:42
22:44
22:46
22:48
22:50
22:52
22:54
22:56
22:58
TIME (GMT)


File: L920981924
98 21:17
98 19:24
74
73
72
71
70
150
149
148
147
146
145
144
143
Latitude (deg N)
Longitude (deg W)


File: L920982215
98 22:15
99 00:59
74
73
72
71
70
150
149
148
147
146
145
144
143
Latitude (deg N)
Longitude (deg W)


L920981924
Irradiance (W/m²)
800
600
400
200
0
LW_up
Irradiance (W/m²)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
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Altitude
19:30
4/7/92
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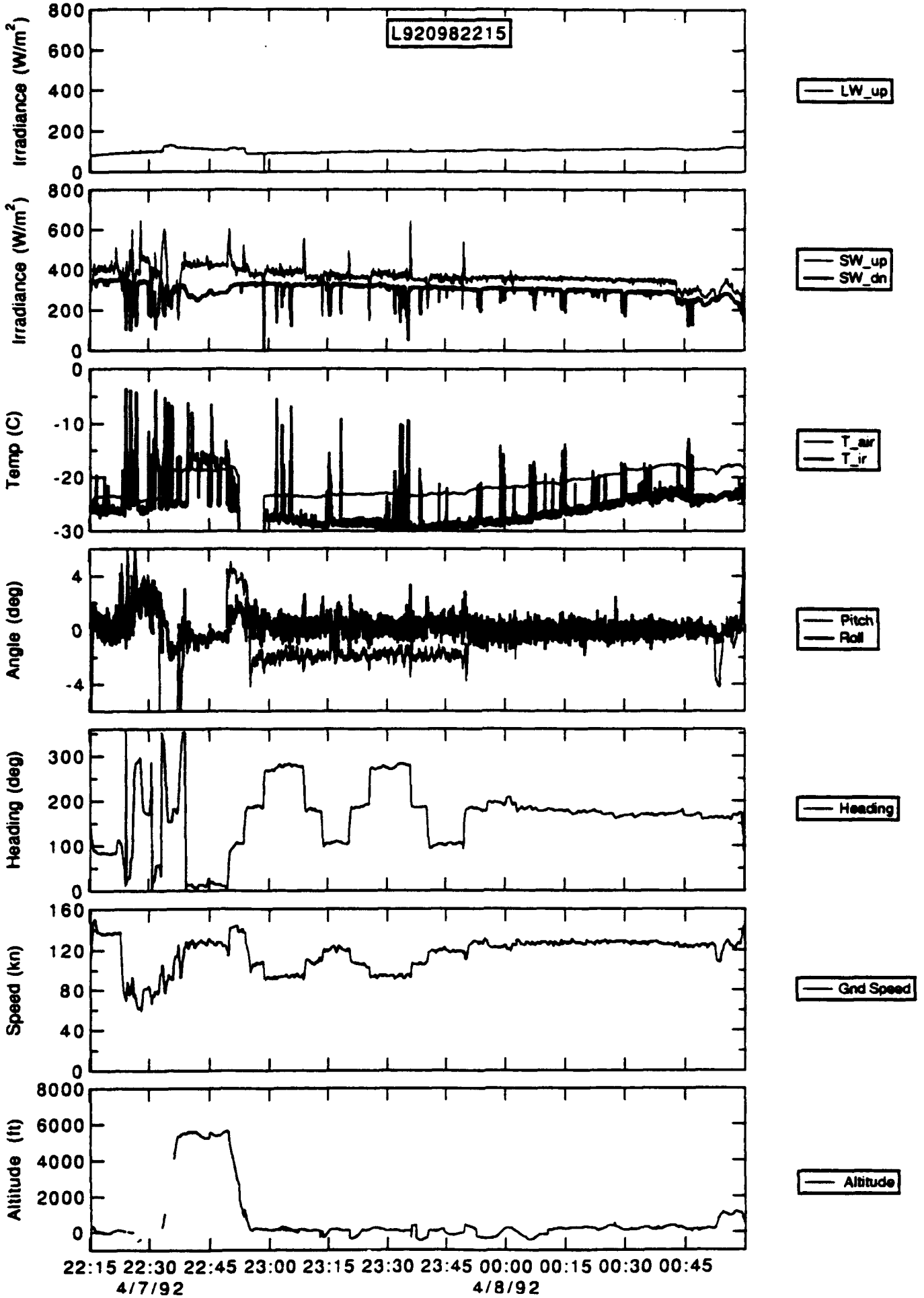
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600
400
200
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LW_up
Irradiance (W/m²)
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600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
22:15 22:30 22:45 23:00 23:15 23:30 23:45 00:00 00:15 00:30 00:45
4/7/92
4/8/92

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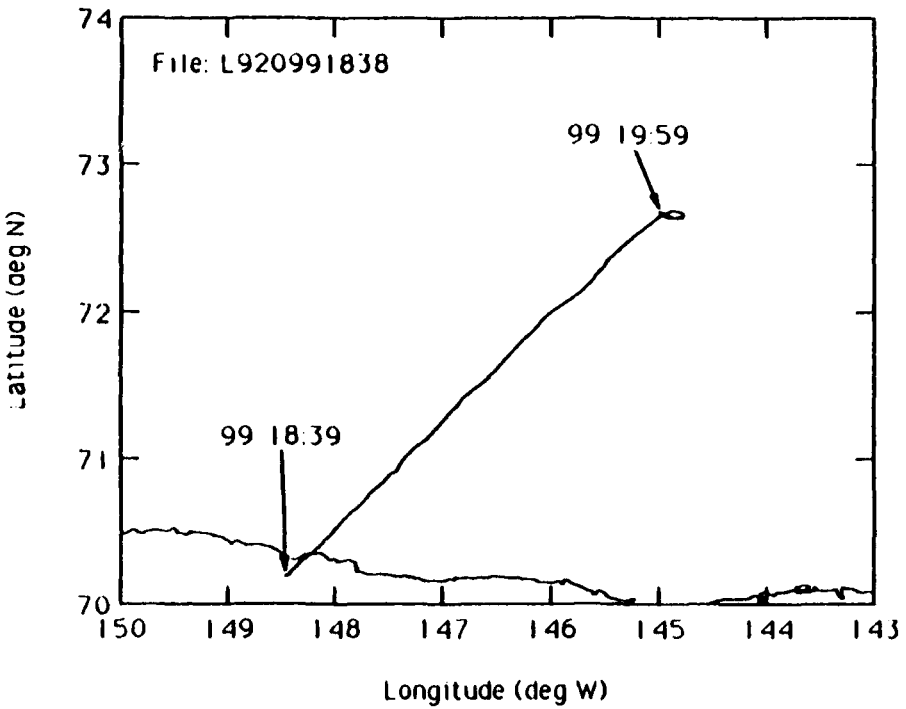
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72
71
70
150
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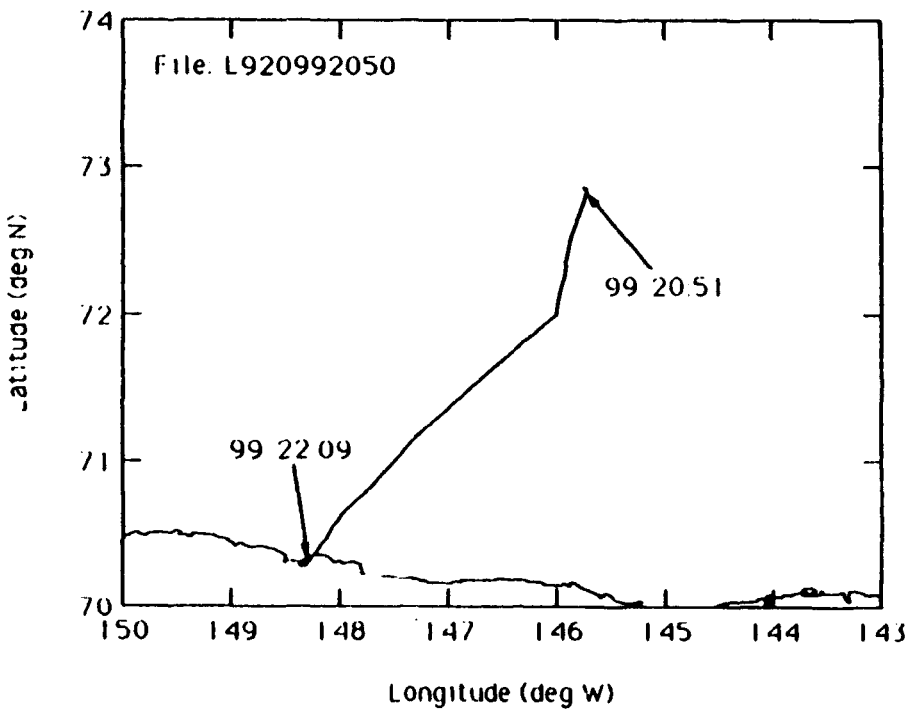
148
147
146
145
144
143
Latitude (deg N)
Longitude (deg W)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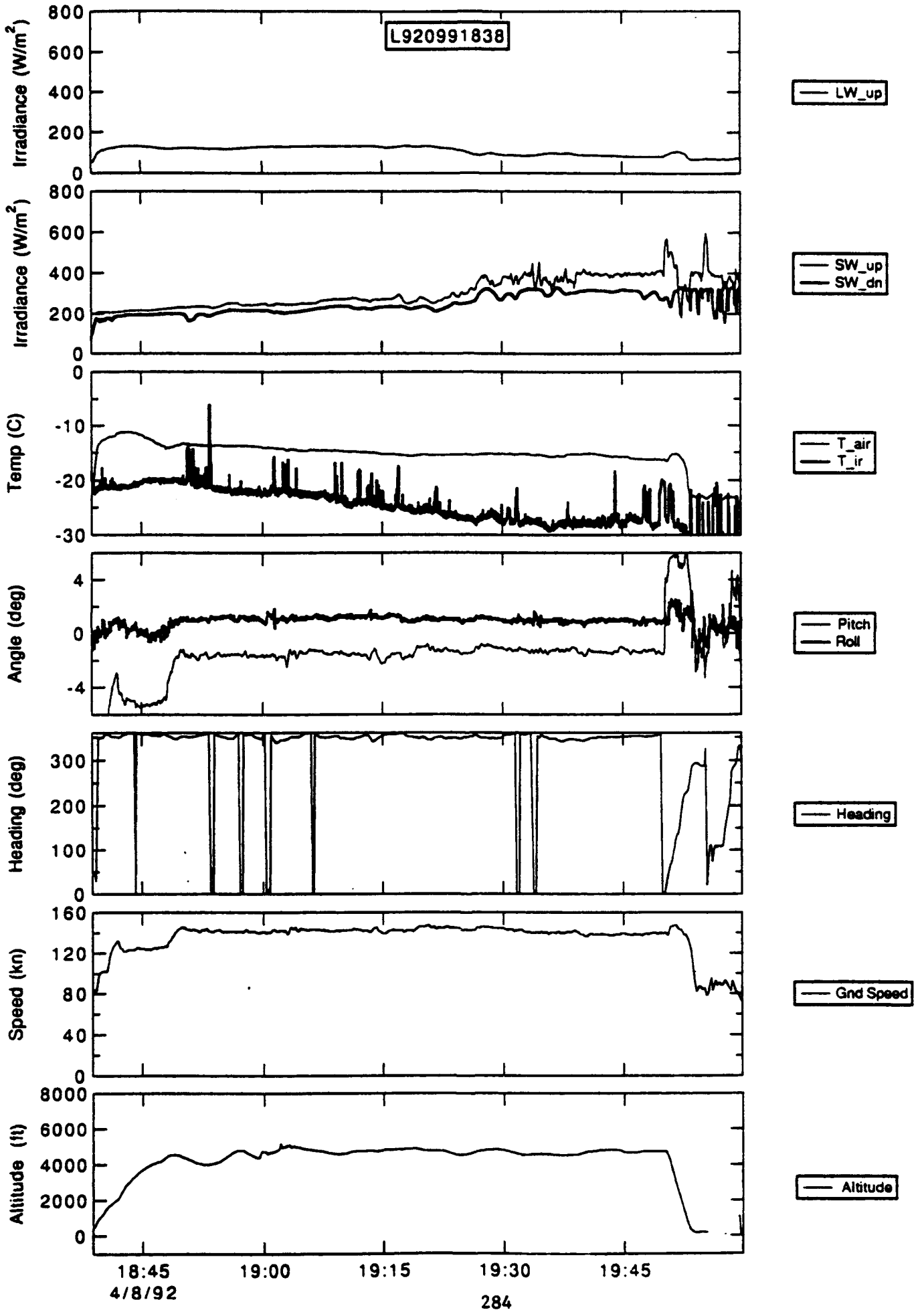
143
Latitude (deg N)
Longitude (deg W)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Irradiance (W/m²)
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400
200
0
LW_up
Irradiance (W/m²)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
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4000
2000
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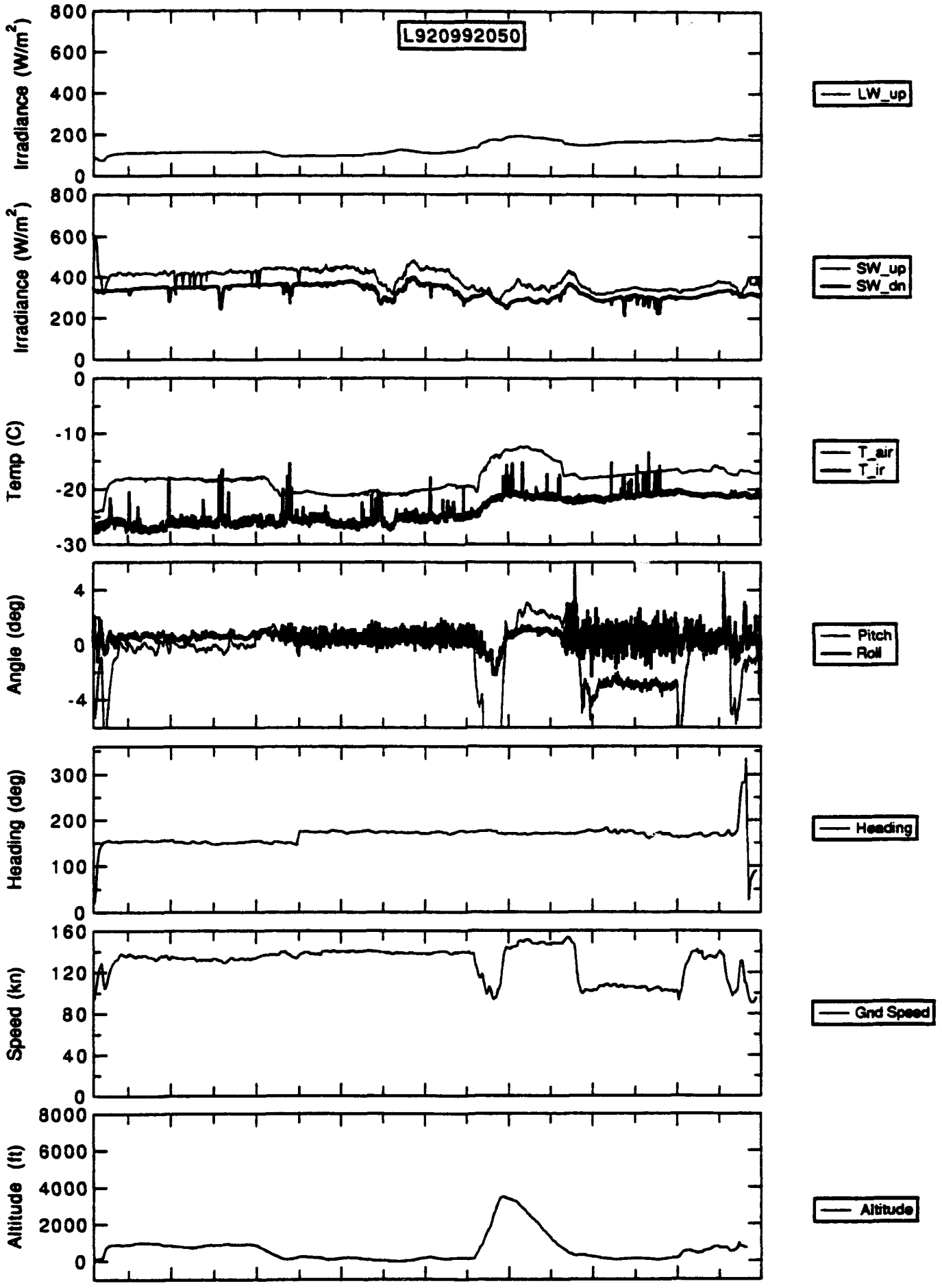
Altitude
18:45
4/8/92
19:00
19:15
19:30
19:45
284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LW_up
Irradiance (W/m2)
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600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
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4/8/92
21:10
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21:40
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22:00

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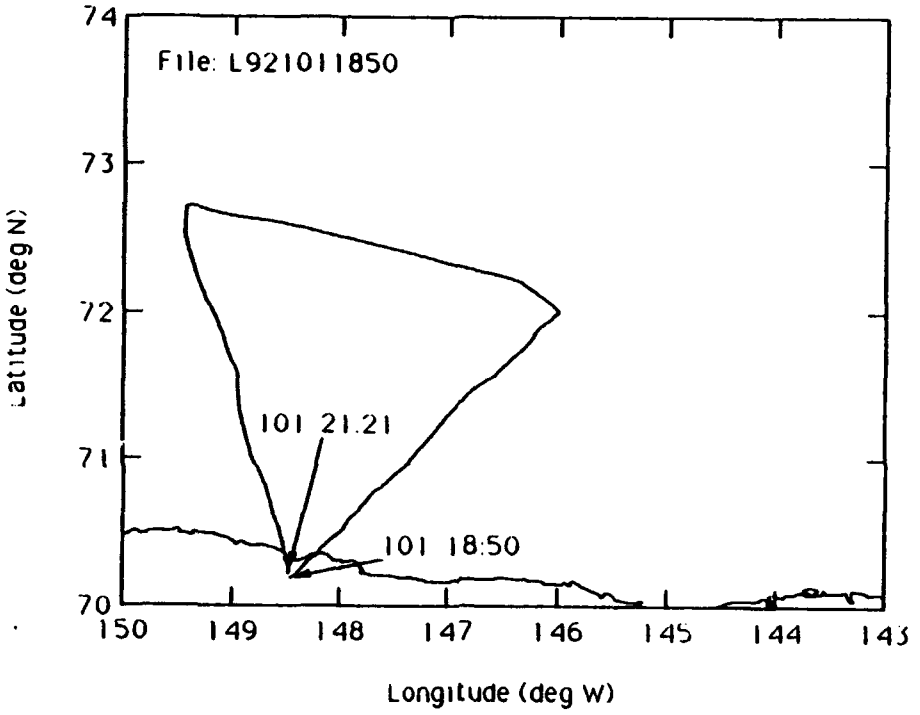
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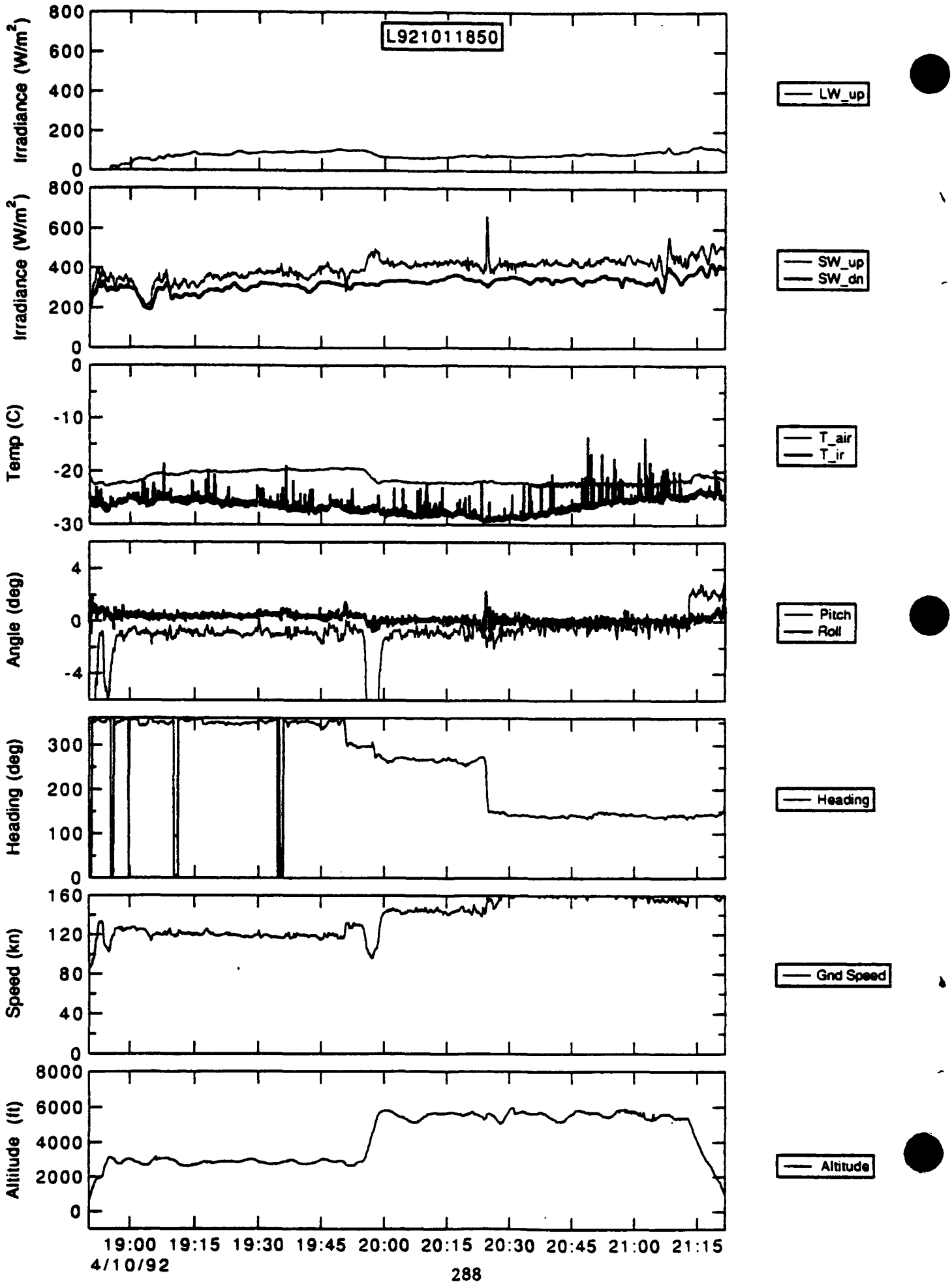
101 18:50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Irradiance (W/m²)
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600
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200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
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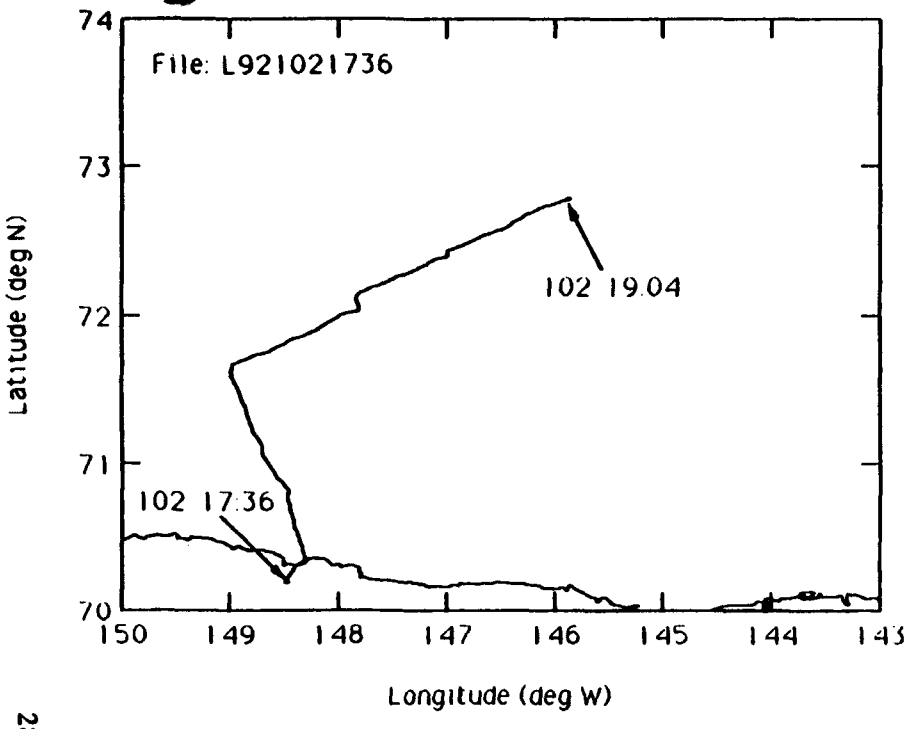
4000
2000
0
Altitude
19:00 19:15 19:30 19:45 20:00 20:15 20:30 20:45 21:00 21:15
4/10/92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148
147
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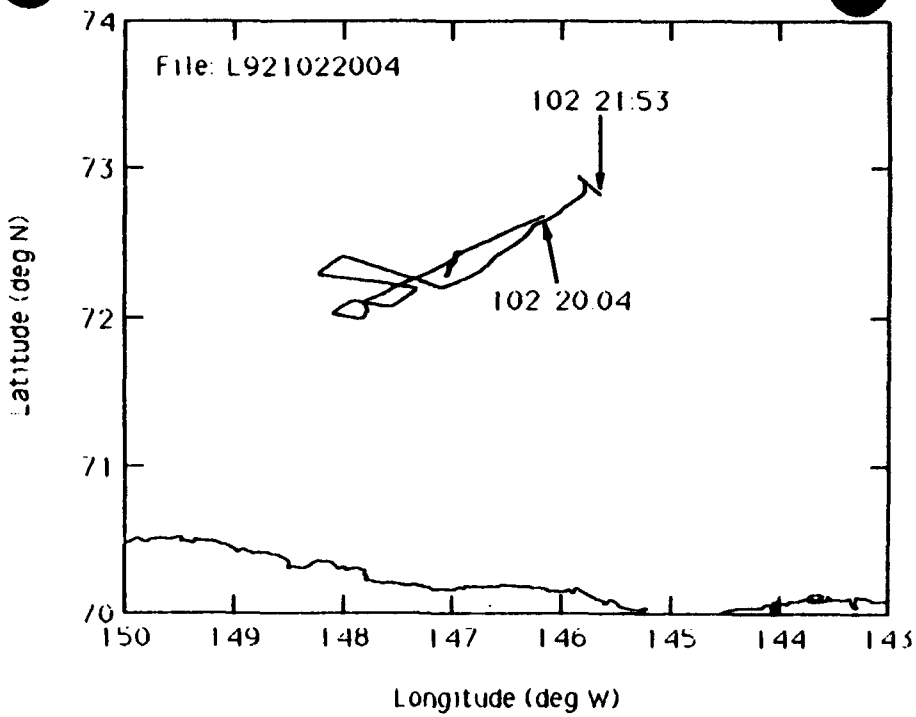
145
144
143
Latitude (deg N)
Longitude (deg W)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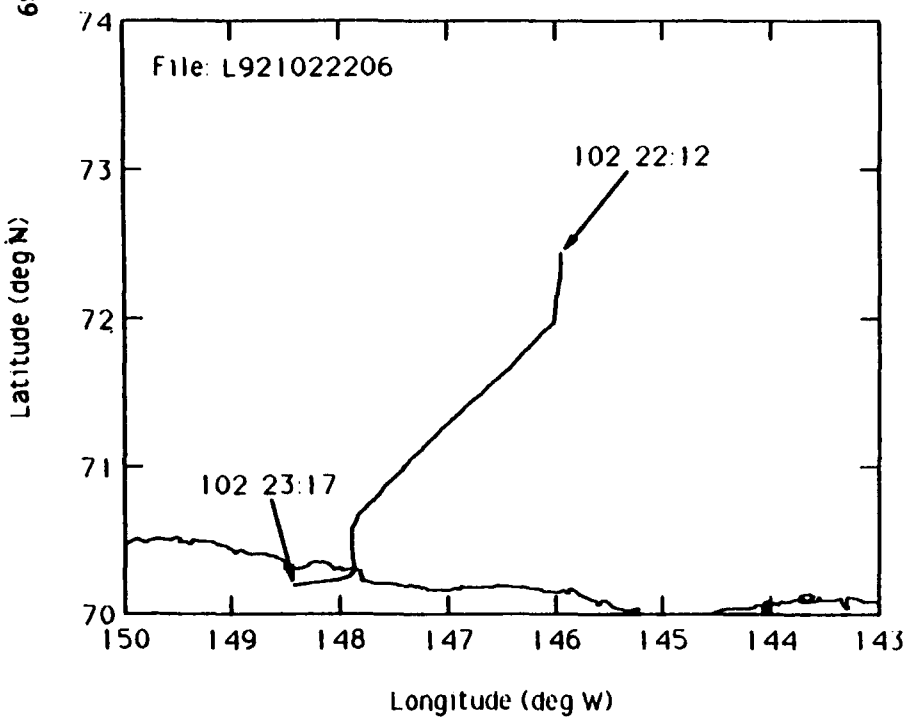
Longitude (deg W)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71
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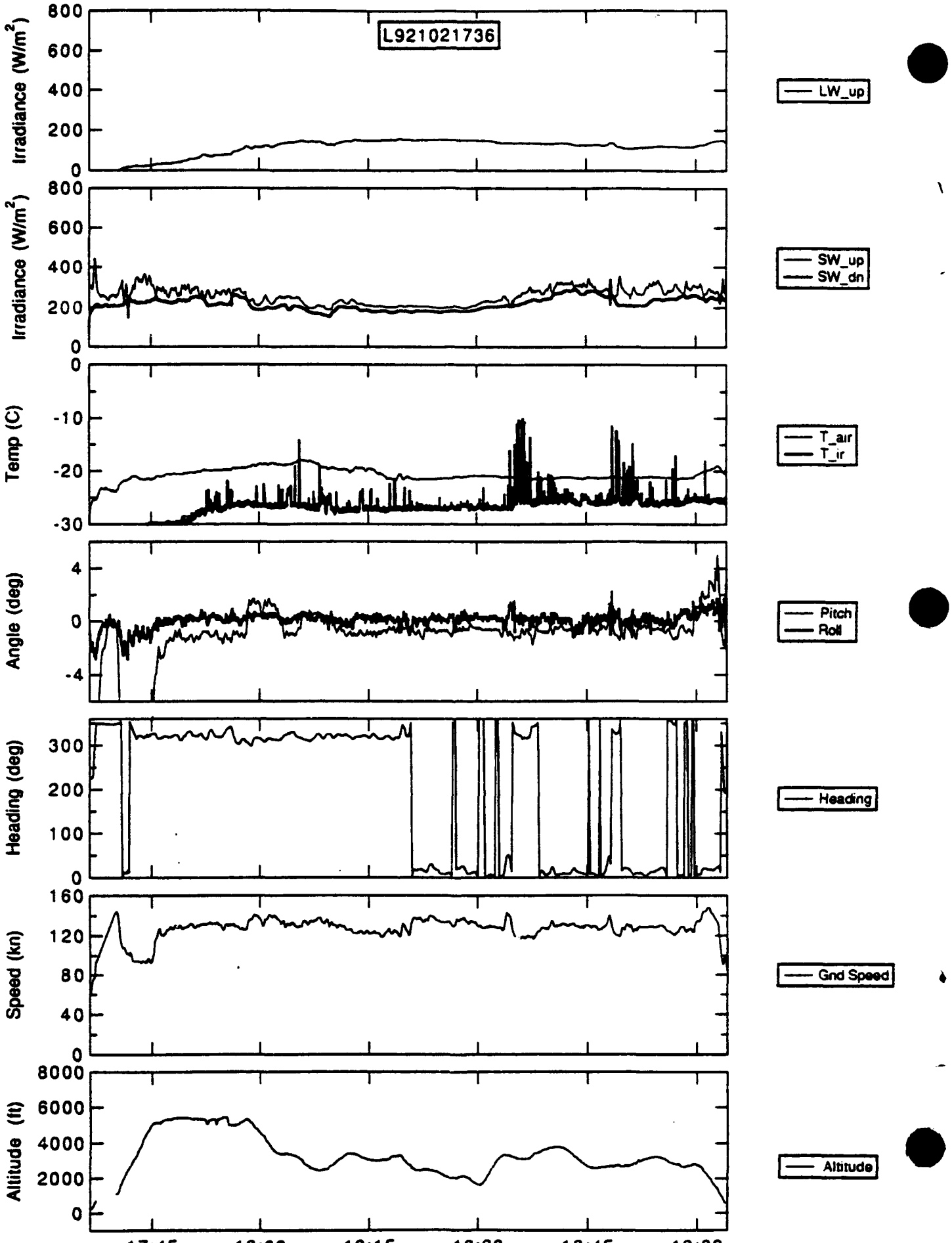
145
144
143
Latitude (deg N)
Longitude (deg W)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Irradiance (W/m²)
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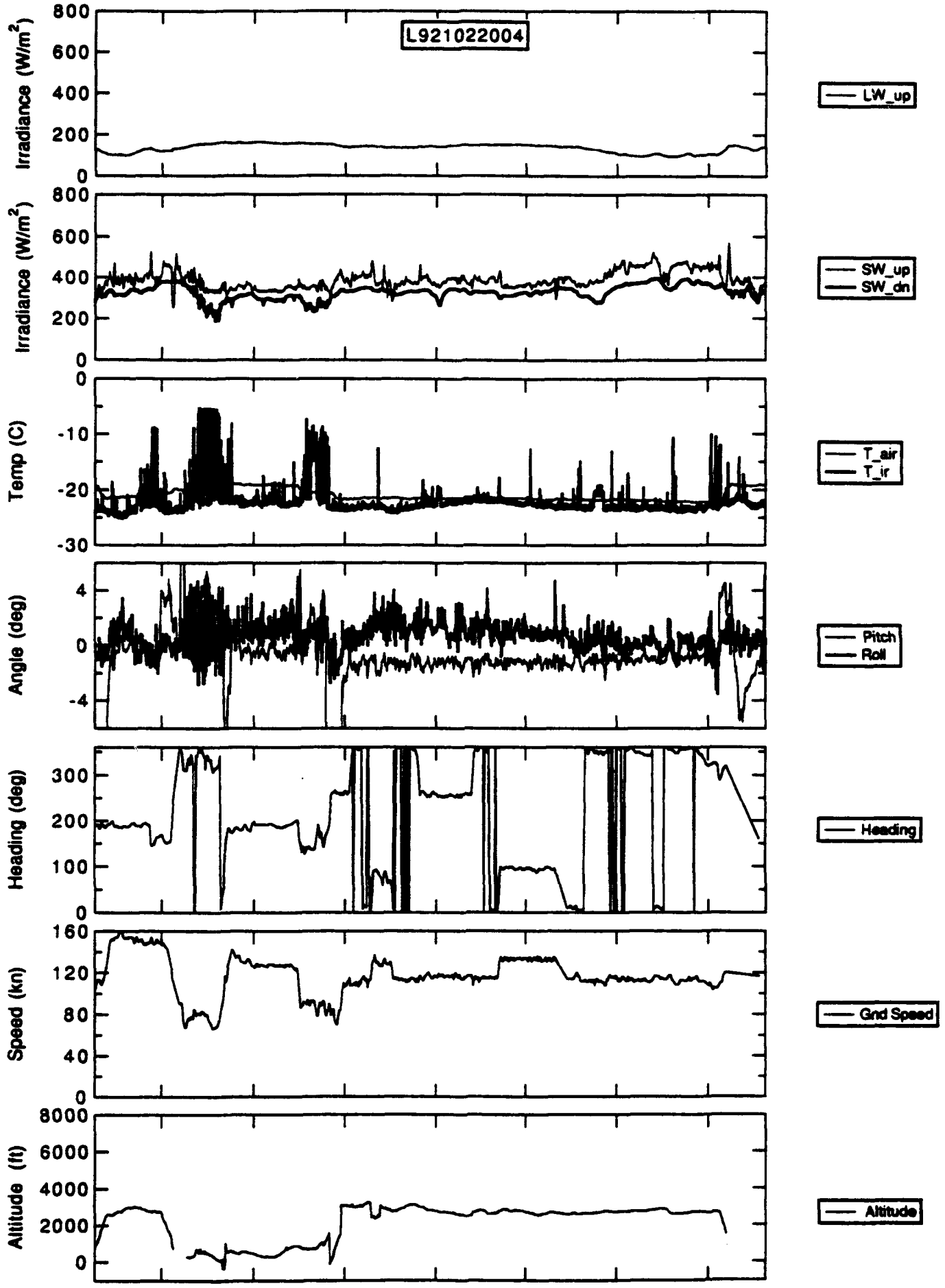
600
400
200
0
LW_up
Irradiance (W/m²)
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
17:45
4/11/92
18:00
18:15
18:30
18:45
19:00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600
400
200
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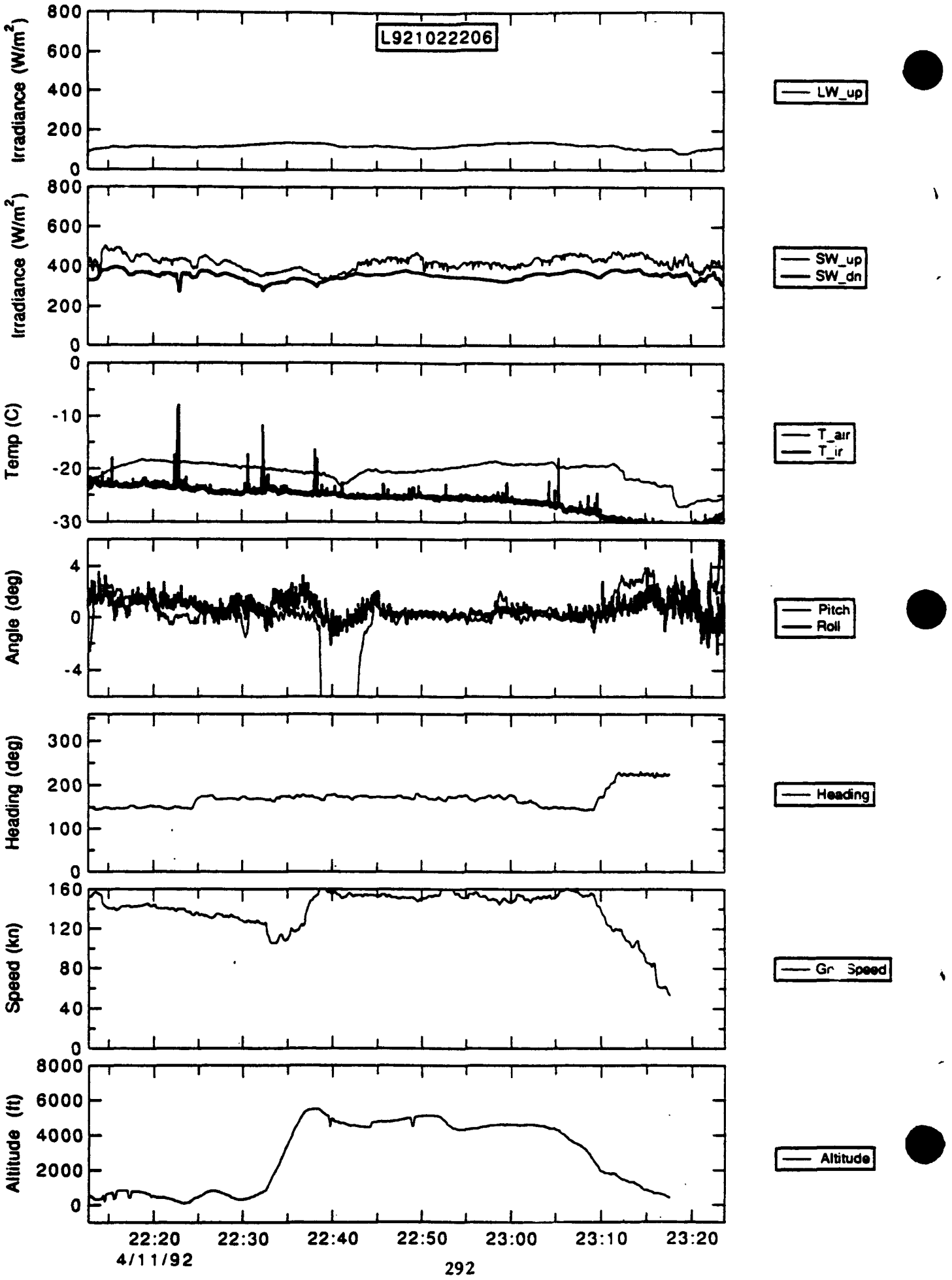
LW_up
Irradiance (W/m²)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
20:15
4/11/92
20:30
20:45
21:00
21:15
21:30
21:45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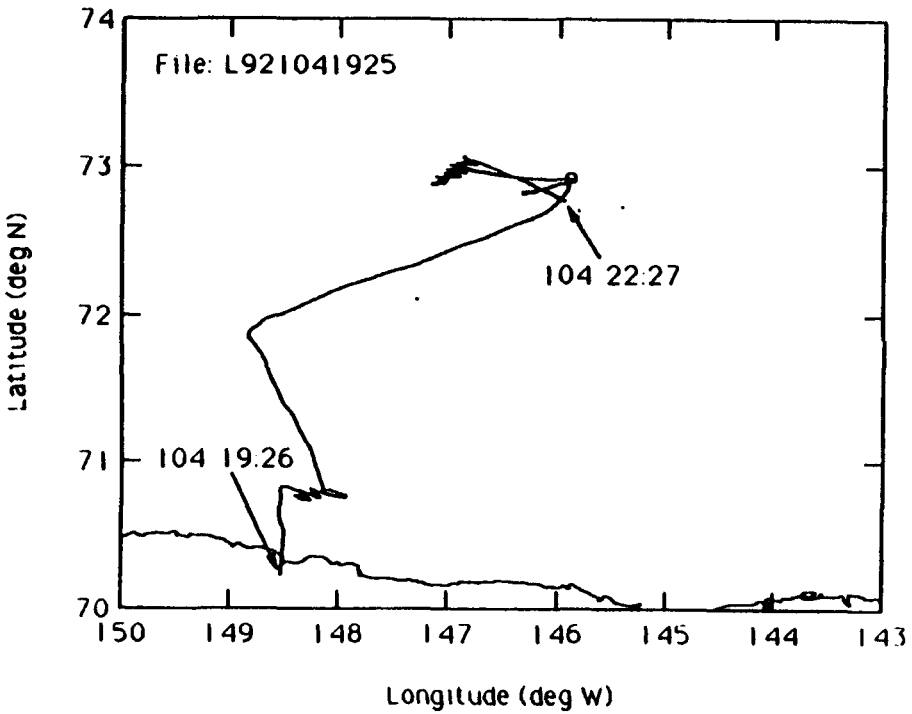
200
0
LW_up
Irradiance (W/m2)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gr Speed
Altitude (ft)
8000
6000
4000
2000
0
Altitude
22:20
4/11/92
22:30
22:40
22:50
23:00
23:10
23:20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Latitude (deg N)
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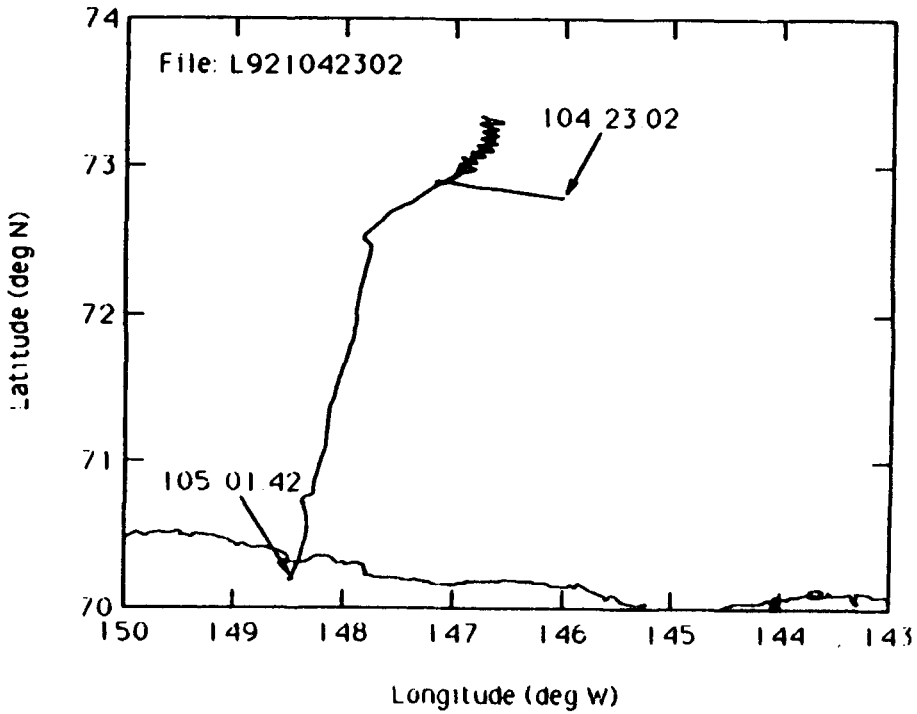
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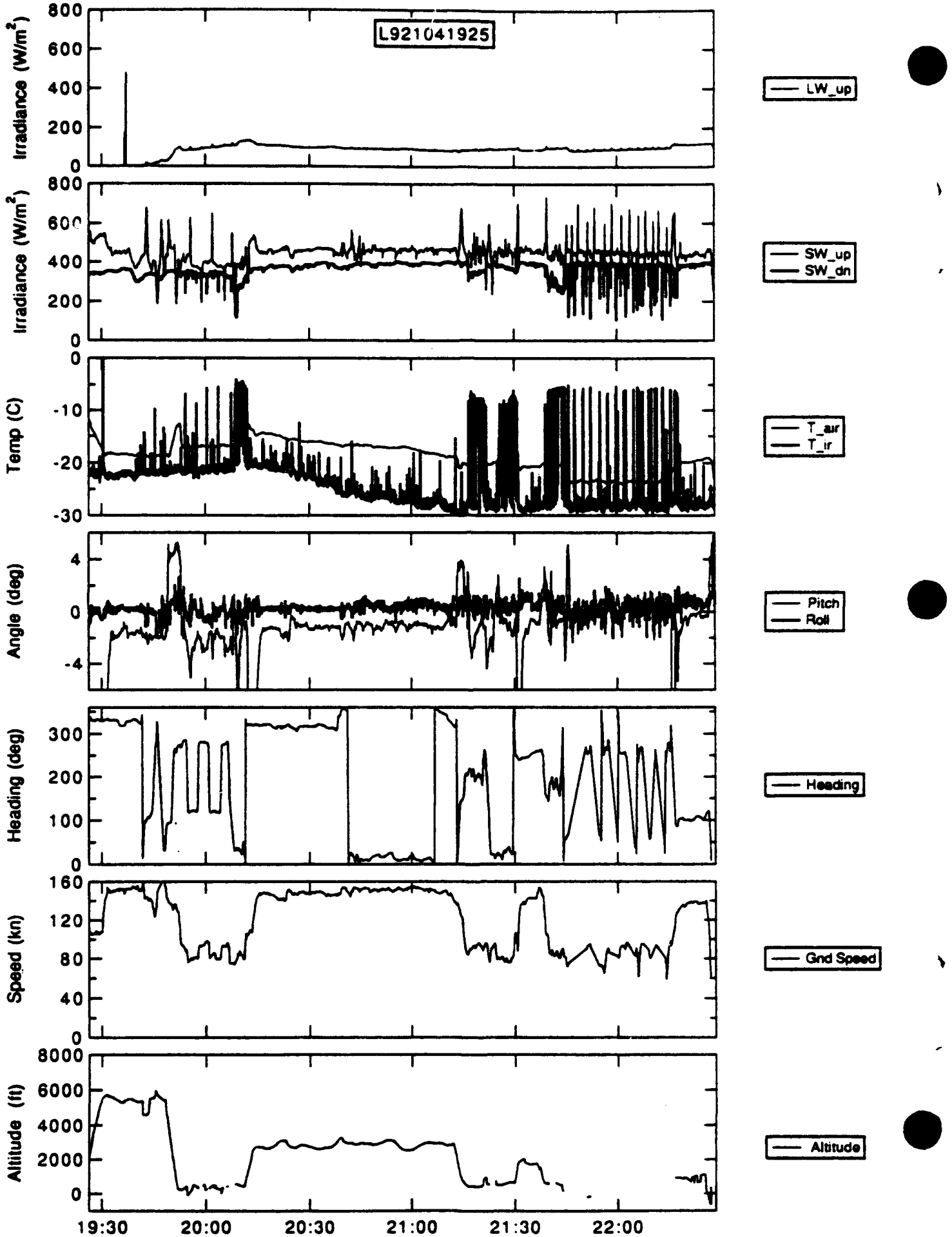
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600
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200
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LW_up
Irradiance (W/m²)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
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19:30
4/13/92
20:00
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21:00
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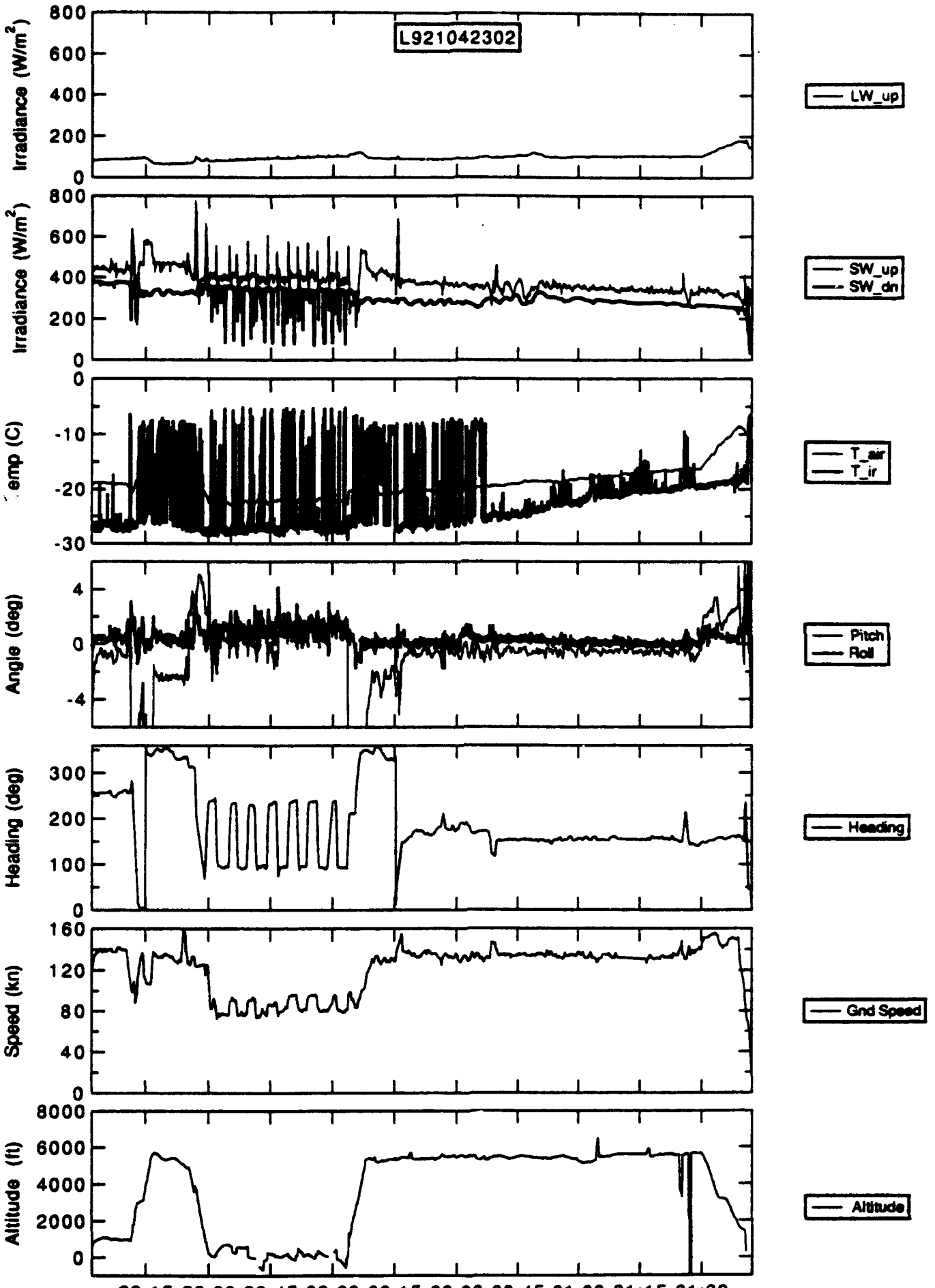
22:00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LW_up
Irradiance (W/m²)
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
300
200
100
0
Heading
Speed (kn)
160
120
80
40
0
Gnd Speed
Altitude (ft)
8000
6000
4000
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4/13/92
4/14/92

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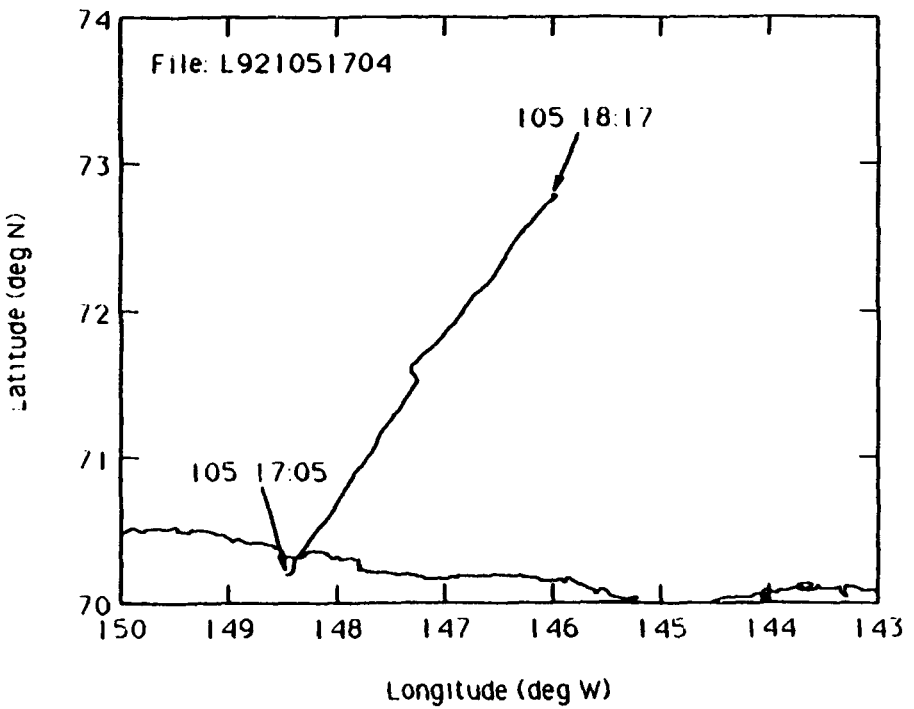
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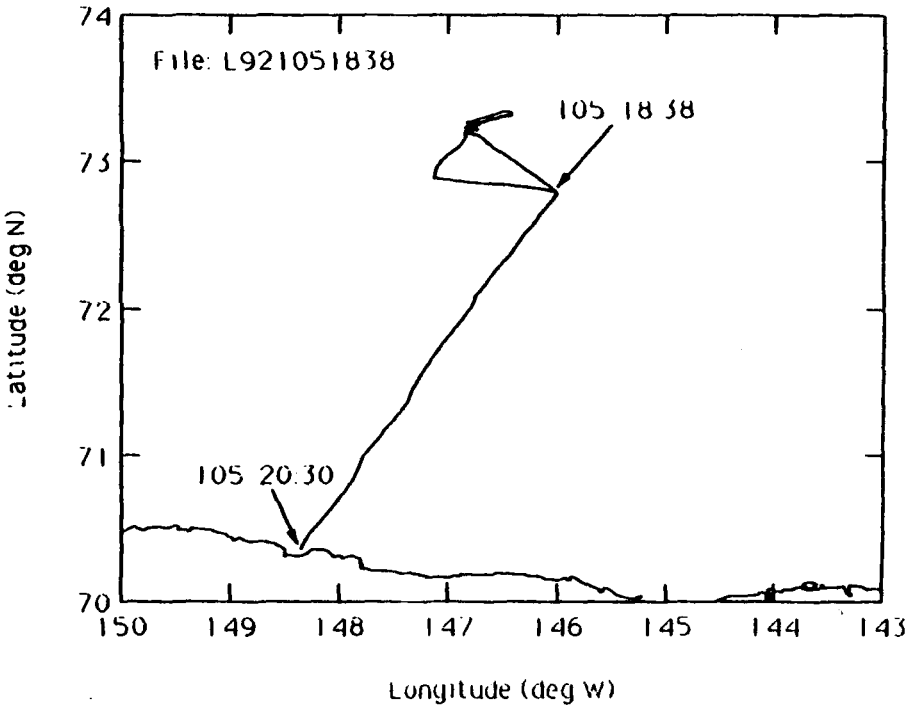
Latitude (deg N)
Longitude (deg W)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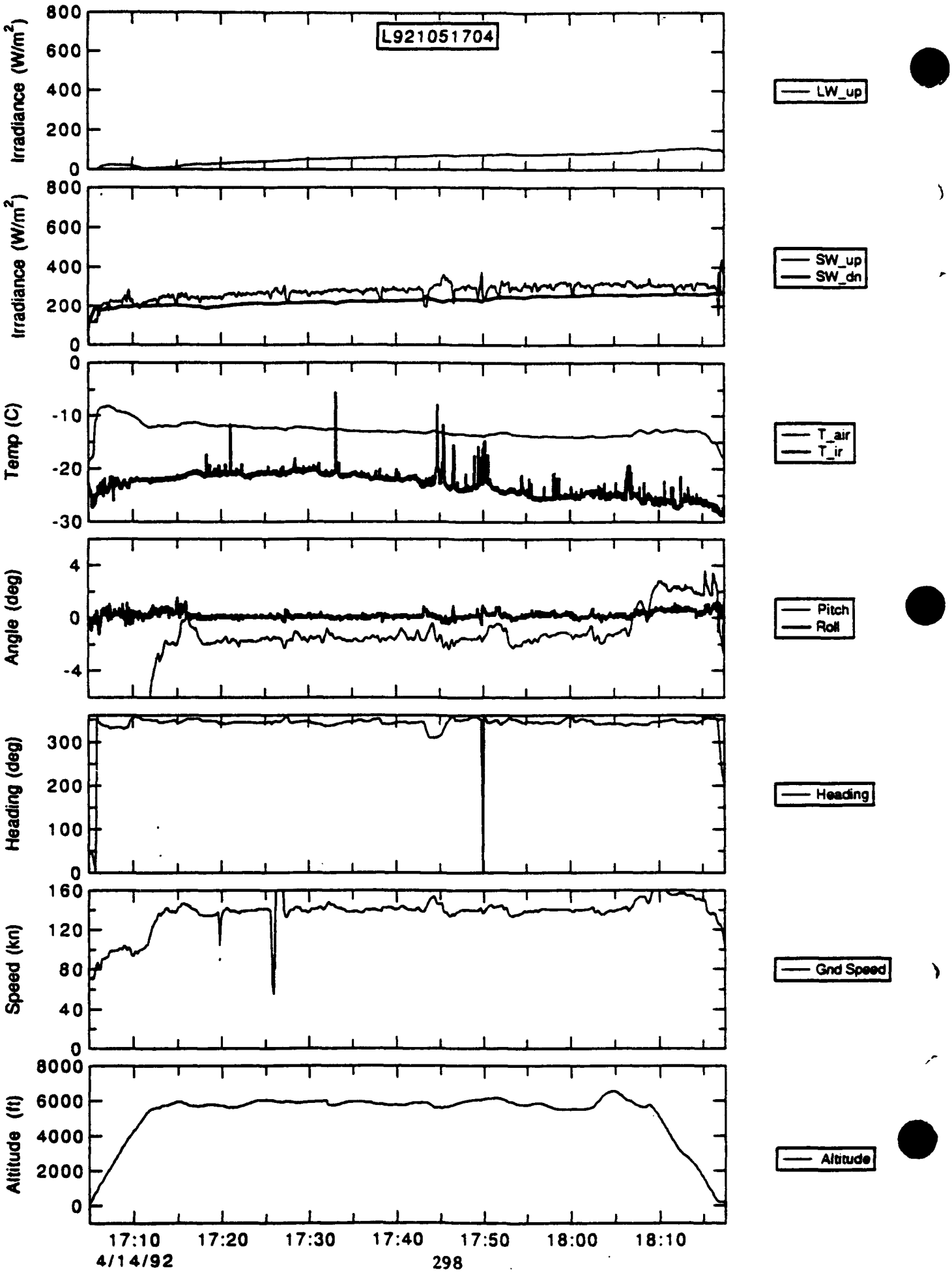
Longitude (deg W)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Irradiance (W/m2)
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0
SW_up
SW_dn
Temp (C)
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-10
-20
-30
T_air
T_ir
Angle (deg)
4
0
-4
Pitch
Roll
Heading (deg)
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200
100
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Heading
Speed (kn)
160
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80
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8000
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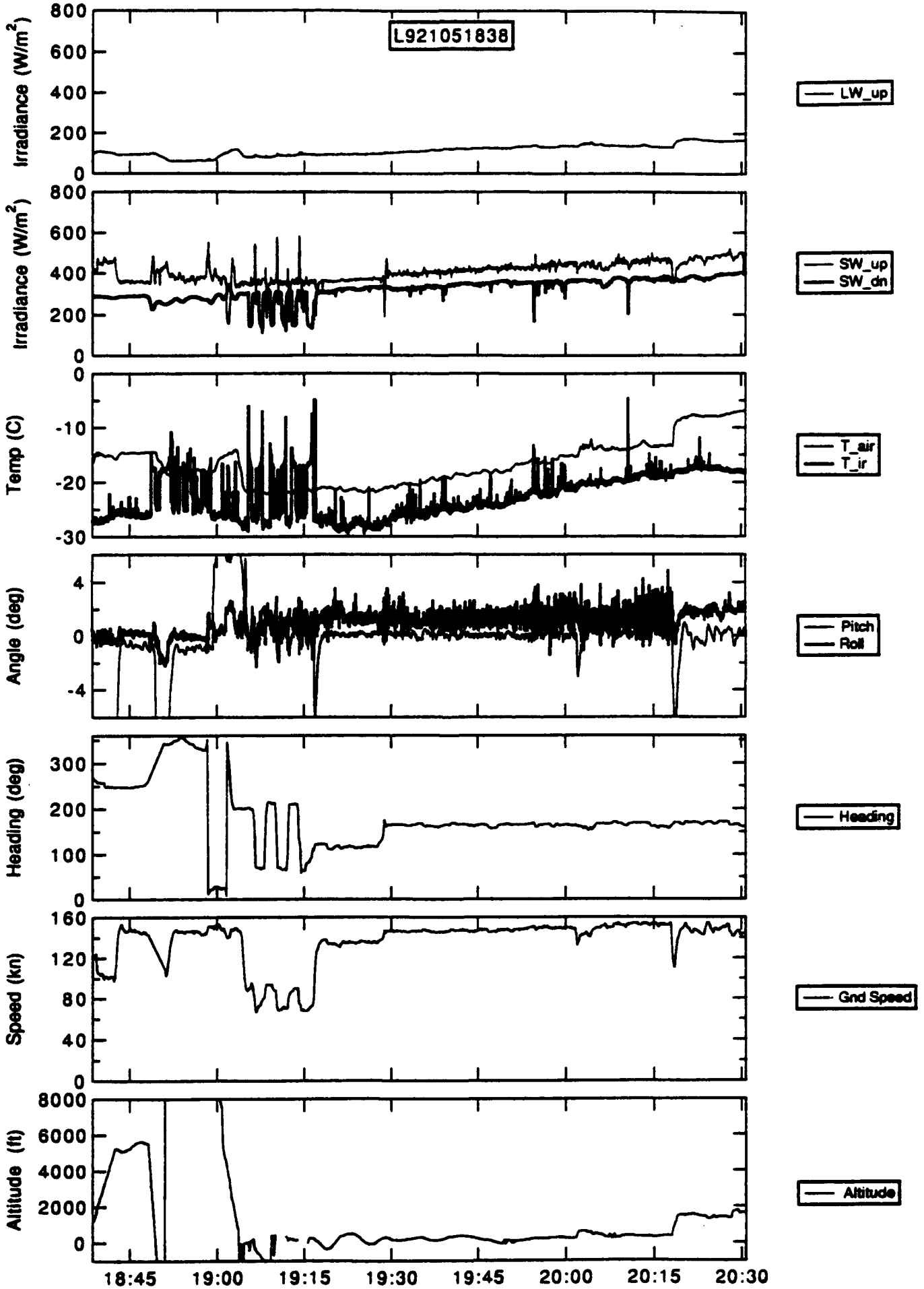
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LW_up
Irradiance (W/m2)
800
600
400
200
0
SW_up
SW_dn
Temp (C)
0
-10
-20
-30
T_air
T_ir
Angle (deg)
4
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-4
Pitch
Roll
Heading (deg)
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Heading
Speed (kn)
160
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Gnd Speed
Altitude (ft)
8000
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Altitude
18:45
4/14/92
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20:15
20:30

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