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U. S. DEPARTMENT OF COMMERCE
Maurice H. Stans, Secretary
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
Robert M. White, Administrator
ENVIRONMENTAL DATA SERVICE

AN ANNOTATED BIBLIOGRAPHY OF CLIMATIC MAPS OF THE
REPUBLIC OF VIETNAM



1965

Silver Spring, Maryland
February 1969

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AN ANNOTATED BIBLIOGRAPHY OF CLIMATIC MAPS OF THE
REPUBLIC OF VIETNAM

By
Annie E. Grimes
Atmospheric Sciences Library

Silver Spring, Maryland
February 1969

UDC 551.582.3:912:016(59)(597.3)

551.5	Meteorology
.582.3	Climatic maps and charts
912	Maps, atlases, etc.
016.	Bibliographies
(59)	Southeast Asia - Indochina
(597.3)	Republic of Vietnam

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction	v
II. Map of South Vietnam	vii
III. Map of Indochina	viii
IV. Map of Southeast Asia	ix
V. Map of the Far East	x
VI. Sources with abstracts	1-37
VII. Author Index	39-41
VIII. Subject Heading Index	43-46

INTRODUCTION

This bibliography is one of a continuing series prepared at irregular intervals by the Foreign Branch, Climatology Division, Environmental Data Service. Earlier titles in the series are listed on the inside of the front cover.

This bibliography of climatic maps includes all available sources in various libraries of the Washington Metropolitan Area with maps of Republic of Vietnam, Indochina and southeast Asia. Some sources may be in more than one of these libraries, however the call number for each source is recorded in the abstract for only one of them in the preferential order listed below:

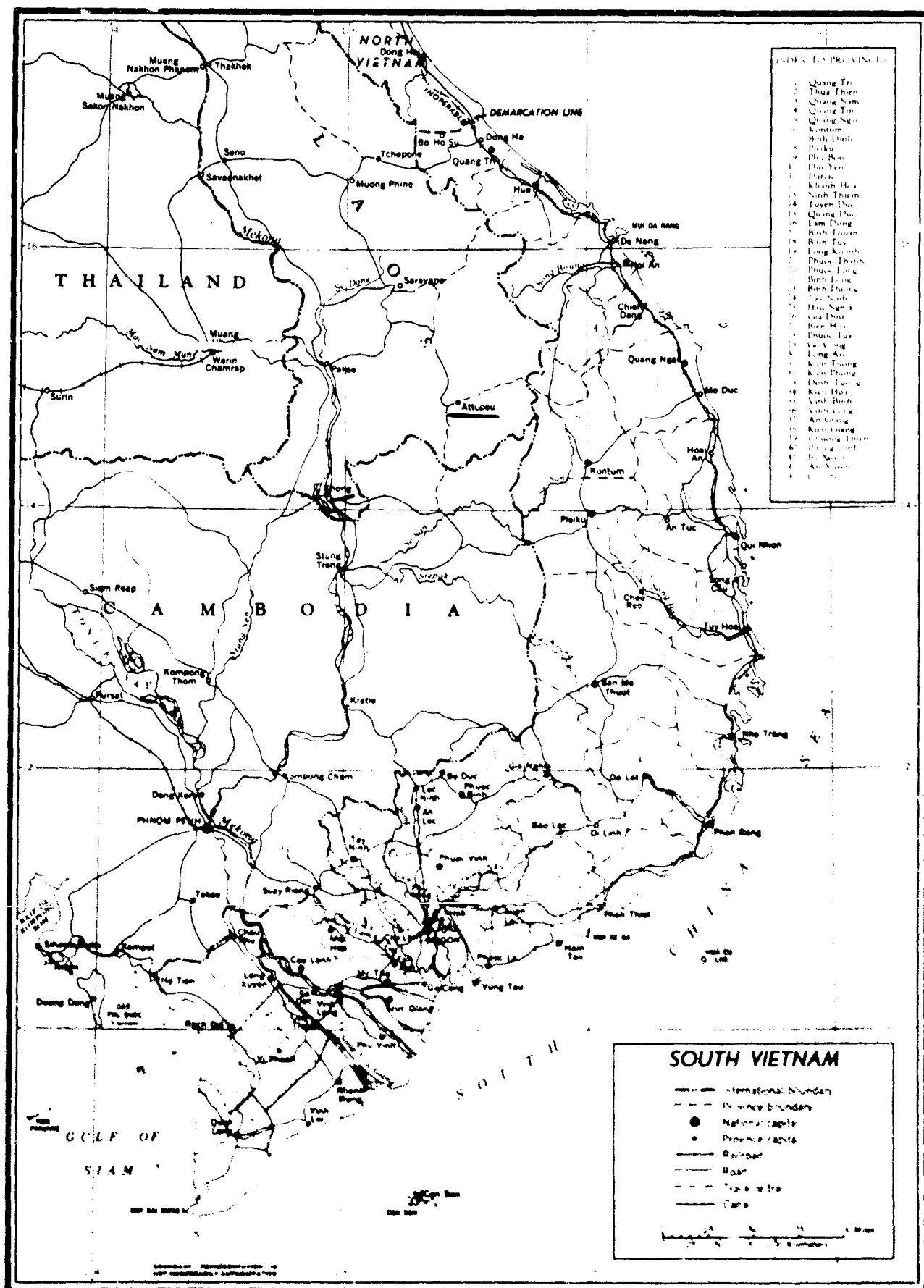
DAS	Atmospheric Sciences Library
DLC	Library of Congress
DNAL	National Agricultural Library
DN-HO	Naval Oceanographic Office Library

For example, a source listed in the National Agricultural Library, was not located at the time of search in the Atmospheric Sciences Library or the Library of Congress but it may be in the Naval Oceanographic Office Library, which is lower on the preferential list.

Map scales are presented in the abstracts. In the absence of printed information the scales have been determined by a natural scale indicator, prepared by S.W. Boggs, Chief, Division of Geography and Cartography, Department of the State.* The approximate values have been enclosed in sub-brackets as [1:40 000 000] if they were ascertained from maps having graticules or distance scales. However, maps with no graticules or distance scales require the estimation of distances; the values obtained from these estimated distances are recorded as follows, "scale is not indicated (about 1:100 000 000)."

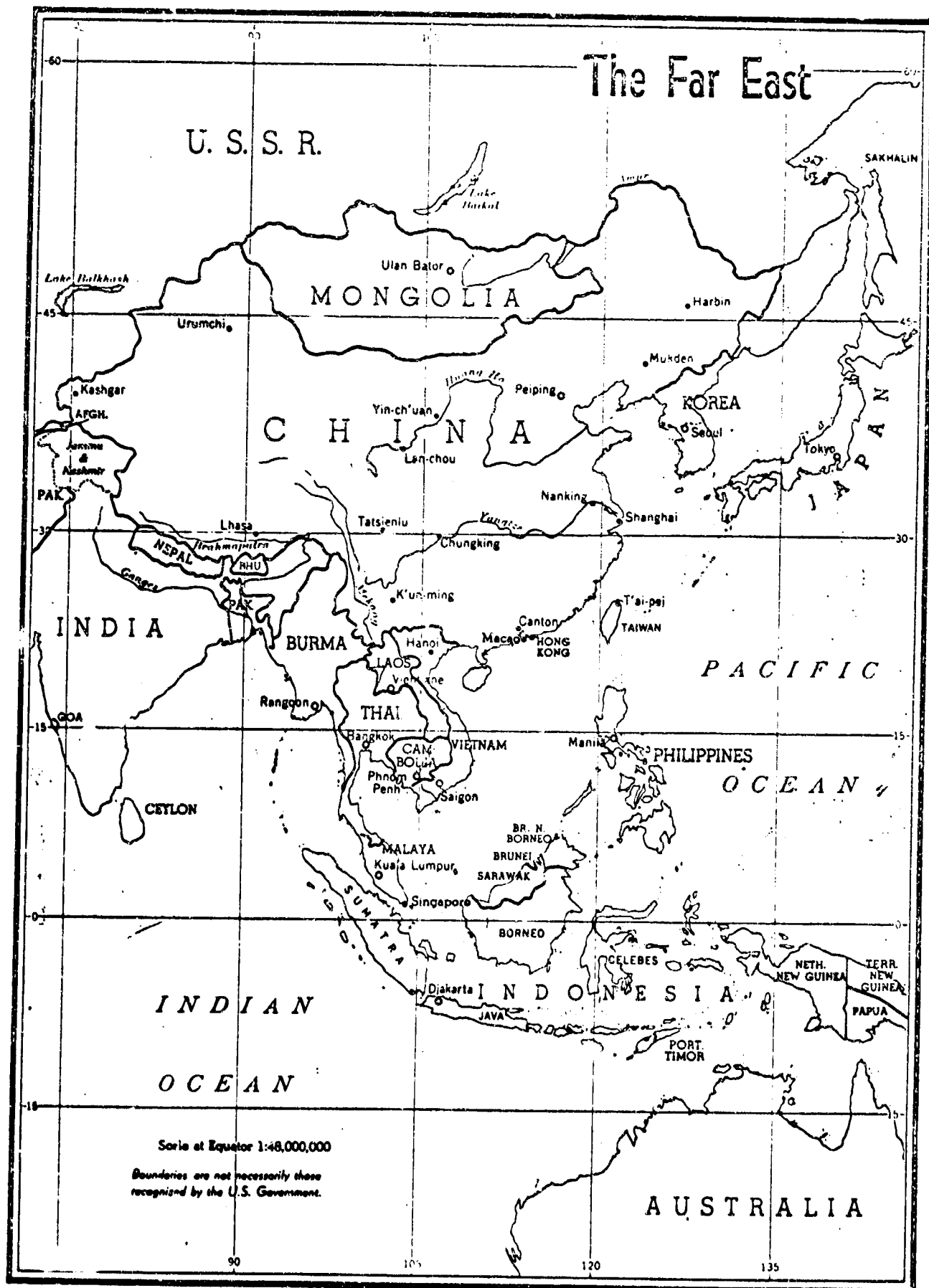
Translations of foreign titles to English are recorded.

*[Between 1924-1954]









AN ANNOTATED BIBLIOGRAPHY OF CLIMATIC MAPS OF THE
REPUBLIC OF VIETNAM

1901

1. Froc, Aloys Atlas of the mean isobars and mean directions of the wind in the Far East. Appendixes to the seventh and eighth reports of the Shanghai Meteorology Society. Zi-Ka-Wei, 1900 and 1901. DAS C/eb F9241.

...Consists of maps (scale 1:40 000 000) of the Far East (75°E-160°W, 5°N-70°N) with monthly mean isobars and mean wind direction by arrows based on 10 years of data.

1902

2. Beljonne, A. Répartition des pluies en Indo-Chine (Distribution of rain in Indochina). Bulletin Économique de l'Indo-Chine 5:294-300. (In French). Hanoi, 1902. DLC HC441 .A4.

...Presents a map (scale 1:8 250 000) of Indochina with bar graphs showing the annual rainfall for individual stations based on data for varying periods during 1886-1900. These individual stations include Hué, Tourane, Nha-trang, Lang-sa, Cap St. Jacques, Saigon, and Poulou Condore in South Vietnam.

1908

3. Brenier, H. Répartition saisonnière des récoltes et pluviométrie en Indo-chine (Seasonal distribution of harvests and rainfall in Indochina). Bulletin Économique 11(75):573-599. (In French). Hanoi-Haiphong, 1908. DLC HC441 .A4.

...Presents a map (scale 1:3 335 000) of Indochina with bar graphs (also numerical values) indicating monthly rainfall amounts in mm. based on 5 years of data for individual stations, which include Saigon, Ong-Yem, Hué, Tourane, Qui-Nhon, and Nhatrang in South Vietnam; line graphs showing monthly mean and mean extreme temperatures for selected stations (Saigon, Hué, and Qui-Nhon in South Vietnam); wind diagrams showing the wind direction during the summer monsoon (April-September) and the winter monsoon (October-March) and the duration in days (also numerical values) of wind by direction (8 points) for the two monsoon seasons at representative stations (Cap St. Jacques, Nhatrang and Tourane in South Vietnam). The source also contains an inset map, scale is not indicated (about 1:22 000 000), of the South China Sea area showing the usual typhoon tracks for each month. Some of these tracks reach South Vietnam.

1913

4. Chassigneux, E. Les dépressions continentales et le climat du Tonkin (The continental depressions and the climate of Tonkin). Revue de Géographic, Annuelle VII(II):1-135. (In French). Paris, 1913. DAS C/ed C488.

Source No. 4 continued.

...Presents the following: maps (scale 1:42 500 000, determined from graticules) of China and Indochina showing trajectories of typical Chinese and Indochinese continental depressions and tracks of specific Chinese and Indochinese continental depressions; examples of weather conditions by isobars and wind arrows at specified hours on selected days; map, scale is not indicated (about 1:14 000 000), of Indochina showing the location of meteorological stations in North Vietnam and South Vietnam used in this study.

1914

5. Brenier, Henri Essai d'atlas statistique de l'Indochine française (Statistical atlas of French Indochina). 256 pp. (In French). Hanoi-Haiphong, 1914. DLC HA1732 .B7.

...Includes a map (scale 1:6 000 000) of Indochina showing the distribution of annual precipitation (mm.) by hatched areas generally based on 7 years of data and a map, scale is not indicated (about 1:48 000 000), of east and southeast Asia with typical monthly typhoon tracks according to the Manila Observatory.

1917

6. Le Cadet, G. Régime pluviométrique de l'Indochine (Precipitation regime of Indochina). 50 pp. Hanoi-Haiphong, 1917. DAS C/ed AO-R.

...Presents the following: map (scale 1:3 000 000, determined from graticules) of Indochina and adjacent areas with annual mean isohyets (also hatched areas) in mm. based on data for 1907-1915; maps, scale is not indicated (about 1:13 000 000), of Indochina and adjacent areas with monthly mean isohyets (also hatched areas) in mm. based on data for 1906-1916.

1918

7. Constantin, L. L'Hydraulique agricole en Indochine. Atlas (Agricultural hydraulics of Indochina. Atlas). Congrès d'Agriculture Coloniale. Serie Hanoi, No. 15. 83pp. (In French). Hanoi-Haiphong, 1918. DNAL 26 C76H.

...Presents a map, scale is not indicated (about 1:3 600 000), of Annam, Cochinchina, Laos and Cambodia showing the distribution of the annual mean total rainfall amount based on 10 years (1906-1915) of data by hatched areas. There are also numerical annual rainfall amounts for individual stations. The southern part of Annam and Cochinchina are the areas which form South Vietnam.

1920

8. Proc. Louis Atlas of the tracks of 620 typhoons. 1893-1918. Zi-ka-wei Observatory. 4pp. Zi-ka-wei - Chang-hai, 1920. DAS M15.23 F924a.

Source No. 8 continued.

...Presents maps (scale 1:22 000 000) determined from graticules) of the Far East (10°N.-48°N., 105°E.-150°E.) with mean isobars and typhoon tracks for each month (January-June, December), each 10-day period (July 1-October 31) and for November 1-15 and November 16-31 based on data for a 26-year period (1893-1918); maps (scale 1:2 500 000) of Projection Albers of the Far East (5°N.-60°N., 100°E.-140°E.) with monthly mean isobars, more advanced tracks of typhoons during each month and the density of typhoons for each month based on data for the period 1893-1898. These maps include South Vietnam.

1927

9. Bruzon, E. Note sur les typhoons (Note on typhoons). Extracted from Bulletin Économique. 9pp. (In French). Hanoi, 1927. DAS M/1530 B914.

...Includes maps (scale 1:26 000 000) of southeast Asia and maps (scale 1:26 000 000) of Indochina showing weather conditions at designated hours during a typhoon in September 1927.

10. Indochina. L'Observatoire Central Indochine pluviométrique (Precipitation in Indochina). 1 page. (In French). December 1927. DLC Map Division.

...Consists of polychrome maps, scale is not indicated (about 1:13 500 000), of the Indochinese Peninsula showing the distribution of monthly mean total amount of precipitation (mm.) based on data for an unspecified period.

1928

11. Carton, P. Note sur le climat de l'Indochine (Note on the climate of Indochina). Extracted from Feuille Mensuelle de Renseignements, Février 1928. 45pp. (In French). Hanoi, 1928. DAS M82/596 C3828n.

...Includes a polychrome map (scale 1:4 000 000) of Indochina showing the distribution of annual mean total precipitation amount (mean of 18 years: 1907-1924); polychrome maps, scale is not indicated (about 1:12 000 000), of Indochina with monthly mean total amount of precipitation based on the period 1907-1926; maps (scale 1:112 500 000) of South Asia, the Indian Ocean and the Pacific Ocean showing the wind regimes by arrows for 2 seasons (January-February; July-August) based on data for an unspecified period; maps (scale 1:26 500 000) of southeastern Asia and maps (scale 1:13 000 000) of Indochina showing examples of weather conditions during a typhoon in September 1927; maps (scale 1:26 000 000) of South and East Asia with January and July mean isobars and wind direction and speed by arrows and barbs based on 10 years of data.

12. Sion, Jules Asie des moussons (Monsoon Asia). Géographie Universelle IX(1):1-272. (In French). Paris, 1928. DAS C/e S618.

Source No. 12 continued.

...Includes the following for Monsoon Asia (India, Pakistan, Burma, Thailand, Cambodia, Laos, North Vietnam, South Vietnam, China, Korea, Japan, Taiwan, the Philippine Islands, Java, Sumatra, Borneo and the Celebes): maps (scale 1:55 000 000) with mean isobars (mm.) and wind by arrows for January and June, annual mean total rainfall amount (mm.) by hatched areas and climatic regions by hatched areas; maps (scale 1:85 000 000) showing continental depression and typhoon trajectories in January and June. Period of record is not specified.

1929

13. Indo China. Service Géographique Croquis relatifs à la fréquence à la marche des typhoons pendant la période de 1911 à 1929 (Surveys relative to the frequency and the path of typhoons during the period 1911-1929). (In French). DLC Map Division.

...Presents maps, scale is not indicated (about 1:15 000 000), of the China Sea and Indochina showing the typhoon tracks for each month (May-December) based on data for the period 1911-1929.

1930

14. Bruzon, E. and Carton, P. Le climat de l'Indochine et les typhons de la Mer de Chine (The climate of Indochina and the typhoons of the China Sea). 310 pp. (In French). Hanoi, 1930. DAS M82/596 B914c1.

...Contains the following: map (scale 1:9 350 000) determined from graticules) of Indochina showing the location of the climatological and meteorological stations in 1930; maps (scale 1:7 100 000) determined from graticules) of Indochina showing the distribution of stations of the precipitation network in 1930 and the seasonal (summer monsoon and winter monsoon) wind regime by arrows; maps (scale 1:37 500 000) determined from graticules) of the Far East (Mongolia, Manchuria, China, Japan, Korea, Philippine Islands and Indochina) with January and July mean isobars at 2200 GMT based on data for an unspecified period; maps (scale 1:12 750 000) determined from graticules) of Indochina showing examples of isobaric situations during the crachin period, the winter monsoon and the summer monsoon; polychrome maps, scale is not indicated (about 1:9 000 000), of Indochina showing the monthly distribution of rainfall amount in mm. and number of days with measurable rain for the period 1907-1929; polychrome map, scale is not indicated (about 1:7 050 000), showing the annual distribution of rainfall amount in mm. and number of days with measurable rain for the period 1907-1929; map (scale 1:46 000 000) determined from graticules) of the Far East showing mean tracks of typhoons based on data during the period 1865-1901; polychrome map (scale 1:1 000 000) of the Mékong, Song-Bé and Dong-Nai area showing the annual distribution of rainfall; polychrome map (scale 1:1 000 000) of the Kontum-Darlac area showing the annual distribution of rainfall; map (scale 1:46 000 000) determined from graticules) of the Far East showing the mean tracks of typhoons based on data during the period 1865-1901; map (scale 1:14 000 000) determined from graticules) of the China Sea and adjacent coastal

Source No. 14 continued.

and island areas showing the typhoon tracks (1911-1929) for each month (May-January); maps (scale 1:26 500 000) determined from graticules) of China, Indochina and the Philippines showing daily isobaric conditions during the passage of a typhoon in the South China Sea.

15. Carton, P. La météorologie agricole en Indochine (Agricultural meteorology in Indochina). 15 pp. (In French). Hanoi, 1930. DAS M/1710 C328ma.

...Presents maps (scale 1:9 375 000) of Indochina showing the climatological and meteorological network of stations for 1930 and the expected network for 1931-1932. The source also contains a map (scale 1:7 100 000) of Indochina showing the rainfall network in 1930.

16. Indochina. Service Météorologique Atlas (Atlas). 42 pp. (In French). Hanoi, 1930. DAS MB2.3/596 I51at.

...Consists of the following: maps (scale 1:7 100 000) determined from graticules) of Indochina showing the climatological and meteorological network in 1926 and 1930, pluviometrical network in 1926 and 1930, the climatological and meteorological network planned for 1932, networks for the transmission (reception and broadcast) of meteorological information, and network for the transmission of meteorological information planned for 1932; map (scale 1:12 750 000) determined from graticules) showing the network for the transmission of meteorological information in the Far East (Siberia, Japan, Korea, Manchuria, China, Formosa, Philippine Islands, Indochina, Palau, and Ryukyu Islands); maps (scale 1:37 500 000) determined from graticules) of the Far East (Indochina, Philippines, China, Korea, Ryukyu Islands, Manchuria, and Mongolia) with monthly mean isobars at 2200 GMT based on data for an unspecified period; maps (scale 1:15 000 000) determined from graticules) of Indochina, Formosa, Philippine Islands and the China Sea showing the monthly typhoon trajectories (1911-1929); map (scale 1:7 100 000) determined from graticules) of Indochina showing the summer monsoon and winter monsoon wind regimes by arrows based on data for an unspecified period; maps, scale is not indicated (about 1:25 800 000), of Indochina with monthly mean isotherms based on data for an unspecified period; polychrome maps, scale is not indicated (about 1:18 220 000), of Indochina showing the monthly distribution of rainfall amount (mm.) and number of days with measurable rain based on data for the period 1907-1929; polychrome maps, scale is not indicated (about 1:7 100 000), of Indochina showing the annual distribution of rainfall amount (mm.) and number of days with measurable rain based on 23 years (1907-1929) of data.

17. Indo-China. Service Météorologique Bulletin pluviométrique (Precipitation bulletin). 1906-1930. Phu-liên. DAS C/ed A0 (1906-1928) and C/ed A0-a (1929 and 1930 as supplement to Annales du Service Météorologique).

...Contains maps (scale 1:3 000 000) of Indochina showing the location of meteorological stations for 1906-1909 and with mean isohyets for each year (1906-1925), a polychrome map (scale 1:5 250 000) of Indochina

Source No. 17 continued.

showing the distribution of precipitation in 1906, a map (scale 1:12 000 000) of the China Sea and adjacent land areas showing the trajectories of typhoons in 1912, polychrome maps (scale 1:3 200 000) of Indochina showing the distribution of precipitation for each year (1926-1928), a map (scale 1:14 750 000) of the China Sea and adjacent land areas showing the trajectories of typhoons and depressions in 1928 and a map (scale 1:8 750 000) of Indochina showing the distribution of precipitation stations at the end of 1928.

18. Rapport au Gouverneur Général sur la période de 1928-29. (Report to the Governor General on the period 1928-29). Bulletin Économique de l'Indochine, Section B, 33(1):1-82. (In French). Hanoi, 1930. DLC HC441 .A4.

...Includes maps (scale 1:8 750 000) of Indochina showing the precipitation network and the climatological network at the end of 1929.

1931

19. Braak, C. Klimakunde von Hinterindien und Insulinde (Climate of the East India Islands and Southeast Asia). Handbuch der Klimatologie, Band IV, Teil R. 125 pp. (In German - translated into English in 1943 by A.A.F.) Berlin, 1931. DAS M8 H236h.

...Contains the following based on data for unspecified periods: maps (scale 1:65 000 000) determined from graticules) of Southeast Asia and the East Indies with mean isobars (mm.), numerical mean pressure (mm.) values at individual stations and wind direction by arrows for January and July; maps (scale 1:40 000 000) determined from graticules) of Southeast Asia and the East Indies with bimonthly (January-November) and annual mean isohyets (also hatched areas) in mm., distribution of months with greatest and least amounts of rainfall, and mean isonephs (tenths) for January and July; maps (scale 1:65 000 000) determined from graticules) of Southeast Asia and the East Indies with bimonthly (January-November) mean isotherms (°C.) at sea level and numerical values of mean temperature at selected stations. The text also present a map, scale is not indicated (about 1:19 500 000), of Indochina and the South China Sea with typhoon tracks for 1911-1928 and maps (scale 1:67 000 000) determined from graticules) of Southeast Asia south of 20°N. and the East Indies with mean isobars (mm.), numerical values of mean pressure (mm.) at selected stations and wind direction by arrows for May and November.

20. Gherzi, E., Zi-Ka-Wei Observatory The Winds and upper air currents along the China coast and in the Yangtse Valley. 240 pp. Shanghai, 1931. DAS C/eb C417w.

...Presents maps (scale 1:25 000 000) on Albers projection of the Far East (105°E.-150°E., 5°N.-50°N.) showing the monthly prevailing wind directions by arrows.

21. Russier, Henri with the collaboration of Henri Gourdon and Edouard Russier L'Indochine française (French Indochina). 123 pp. (In French). Hanoi-Haiphong, 1931. DLC DS534 .R8.

...Includes a polychrome map (scale 1:20 000 000) of Indochina showing the annual distribution of precipitation (mm.) based on data for an unspecified period.

1933

22. U.S. Navy Department Aerological charts for the Siberia, Japan, French Indochina, India, Philippine Islands and China area. [1933]. DAS MB2.3/266.5 U585a.

...Includes maps (scale 1:15 500 000) determined from graticules) of southeast Siberia, Japan, east China, Laos, Cambodia, North Vietnam, South Vietnam and the Philippine Islands with the following data: monthly mean number of rainy days by isolines; monthly mean isobars (mm.) and estimated prevailing wind direction by arrows at a height of 3000 meters (9842.5 ft.). Period of record was not specified.

1934

23. Carton, P. Le climat de l'Indochine (The climate of Indochina). Extracted from Bulletin général de l'Instruction publique, No. 2, 1934. 31 pp. (In French). October 1934. DAS MB2/596 C328c.

...Contains a map (scale 1:8 750 000) of the Indochinese Peninsula with prevailing winds for summer and winter; maps (scale 1:112 500 000) of South Asia, the Indian Ocean and the Pacific Ocean showing the wind regimes by arrows for 2 periods (January-February; July-August). These maps are based on data for unspecified periods.

24. Carton, P. Nouvelle classification des climats; Application à l'Indochine (New classification of climates; application to Indochina). Bulletin Économique de l'Indochine 37:1155-1168. (In French). Hanoi, November-December 1934. DLC HC441 .A4.

...Presents maps (scale 1:8 750 000) of Indochina showing the summer and winter wind regimes by arrows and the distribution of climatological stations and precipitation stations. There is also a polychrome map (scale 1:5 000 000) showing the different climates of Indochina.

25. Chevy, P. and Carton, P. Les courants de la mer Chine meridionale et leurs rapports avec le climat de l'Indochine. (Currents of the South China Sea and their relation to the climate of Indochina). Institut Océanographique de l'Indochine, Note 26. (In French). Hanoi, 1934. DN-HO SH307 I6N5.

...Presents a map (scale 1:8 750 000) of Indochina showing the wind regime during the summer monsoon and the winter monsoon by arrows; maps (scale 1:9 250 000) of Indochina with mean isotherms during the northeast or winter monsoon (represented by November means) and the summer monsoon (May-September) and lines at an equal degree of continentality.

26. Hubert, Henry Étude comparative des climats des colonies françaises (Comparative study of climates of the French colonies). Annales de Physique du Globe de la France d'Outre-Mer 1(2,3):33-62, 69-96. (In French). Paris, April and June 1934. DAS P.

...Presents a map (scale 1:9 000 000, determined from graticules) of Indochina showing the distribution of climates on that peninsula.

27. Indo-China. Service Météorologique Cartes pluviométriques mensuelles de 1934 (Monthly precipitation charts for 1934). (In French). DAS MB2.3/596 I41c.

...Contains maps (scale 1:2 700 000, determined by distance scale in km) of Cochinchina (southern part of South Vietnam) and Cambodia with monthly (February-December) total rainfall amount (mm.) and monthly rainfall amount as % of mean for 1934 by hatched and stippled areas. The maps also show the location of meteorological, climatological and rainfall stations.

28. Morin, Henry G. S. and Carton, P. Contribution a l'étude de l'influence des facteurs climatiques sur la répartition de l'endémie palustre en Indochine (Contribution to the study of the influence of climatic factors on the distribution of endemic swamp diseases in Indochina). Bulletin Économique de l'Indochine, N.S. 37:459-480. (In French). May-June 1934. DAS M/1730 MB58.

...Includes a map (scale 1:9 500 000, determined from graticules) of Indochina showing the degree of continentality by isolines.

1935

29. Agard, A. L'Union Indochinoise Française ou Indochine Orientale. Régions naturelles et géographie économique (The French Indochinese Union or eastern Indochina. Natural regions and economic geography). 370 pp. (In French). Hanoi, 1935. DLC HC442 .A6.

...Contains a polychrome map, scale is not indicated (about 1:8 000 000), of Indochina, part of China, and part of Thailand showing the annual distribution of precipitation (mm.) based on 23 years (1907-1929) of data (after Bruzon and Carton).

30. Carton, P. Cartes pluviométriques moyennes mensuelles et annuelles - année moyenne 1907-1924 - du Tonkin et du Nord-Annam, de la Cochinchine et du Cambodge (Mean monthly and annual precipitation charts - yearly mean 1907-1924 - for Tonkin and North Annam, for Cochinchina and Cambodia). Supplement to Bulletin économique de l'Indochine, 1935. pp. 1-4. (In French). Hanoi, 1936. DAS M77/596 C328p.

...Includes polychrome maps (scale 1:2 300 000) of Cochinchina and Cambodia showing the monthly and annual distribution of precipitation (mm.) based on data summarized over the period 1907-1924.

31. Hubert, Henry Généralités sur la visibilité horizontale aux colonies (Generalities on horizontal visibility in the colonies). *Annales de Physique du Globe de la France d'Outre-Mer* 2(11):129-132, 141-146. (In French). Paris, October 1935. DAS P.

...Presents maps (scale 1:8 750 000) of Indochina with pie graphs showing the frequency (0, 1-4, 5-9, 10-20, and >20 days) of horizontal visibility <2 km. for each month in 1934 at individual stations in North Vietnam, South Vietnam, Cambodia and Laos.

32. Robequain, Charles L'Indochine française (French Indochina). Collection Armand Colin (Section de Géographie). (In French). Paris, 1935. DNAL 280.186 R54.

...Presents a map (scale 1:13 000 000) of Indochina showing the annual distribution of rainfall amount by hatched areas.

1936

33. Bruzon, E. La période du crachin sur les régions du golfe du Tonkin (The "crachin" season in the Gulf of Tonkin region). *Annales de Physique du Globe de la France d'Outre-Mer* 3(17):129-133, 139-142. (In French). Paris, October 1936. DAS P.

...Contains a map, scale is not indicated (about 1:12 500 000), of the Gulf of Tonkin region showing the location of stations used in this study.

1937

34. Great Britain. Meteorological Office. Weather in the China Seas and the western part of the North Pacific Ocean. Volume II, Part 3. Central portion of the China Sea. pp. 131-167. London, 1937. DAS MB2/512.3 G786w.

...Presents maps (scale 1:21 500 000) of China Sea area with monthly surface winds at individual stations (Cape St. James and Quang Tri in South Vietnam); maps (scale 1:19 000 000) of China Sea area with step diagrams showing the monthly distribution of mean number of days with fog, mean number of days with rain, mean cloud amount and mean total rainfall amount for selected stations (Cape St. James and Quang Tri in South Vietnam). These maps are based on 6-27 years of data.

1938

35. Tu, Chang-Wang A preliminary study on the mean air currents and fronts of China. *Memoir of the National Research Institute of Meteorology, Academia Sinica* XI(3):1-12. Nanking, September 1937. DAS M(055) A168m.

...Includes maps (scale 1:62 500 000) determined from graticules; reduced from scale 1:28 100 000) of China and adjacent areas with monthly mean air currents. These maps include North Vietnam, Laos, Cambodia and most of South Vietnam.

36. U.S. Weather Bureau Climatic features of the Philippine Island region. 82 pp. [1937]. DAS MB2/914 U587c.

...Presents a map (scale [1:15 500 000]) of the Philippine regions with diminutive graphs and numerical values of mean monthly rainfall amounts (inches). The map includes data for Nhatrang in South Vietnam.

1938

37. Deppermann, Charles E. Typhoons originating in the China Sea. 51 pp. Manila, 1938. DAS M15.2/5123 P552t.

...Includes maps, scale is not indicated (about 1:24 000 000), of the China Sea and adjacent land areas with isobars, streamlines and plotted data for individual stations (about 2-5 stations in South Vietnam; station names are not indicated on maps) at specified hours during typhoons within the period 1929-1931. The number of maps showing weather conditions during each typhoon varies from 1 to 13.

38. Gherzi, E. Air masses acting over China and the adjoining seas. Beiträge zur Physik der freien Atmosphäre 24:45-52. Leipzig, 1938. DAS M(05) B422.

...Presents maps, scale is not indicated (about 1:50 000 000), of China, Indochina and adjacent areas showing the seasonal tracks of air masses.

39. Great Britain. Meteorological Office Weather in the China Seas and in the western part of the North Pacific Ocean. Volume I. Part 1. General information. Part 2. Typhoons. M.O. 404a. 165 pp. and 45 pp. respectively. London, 1938. DAS MB2/512.3 G786w.

...Part 1 of the source presents maps (scale [1:240 000 000] determined from graticules) of east Asia (20°S.-70°N., 90°E.-160°E.) with monthly normal mean isobars (mb.) and mean isobars for the 16th day of each month (October 1934-September 1935) for comparison; map (scale [1:85 000 000] determined from graticules) of east Asia (0°-50°N., 105°E.-180°E.) with mean isotherms (°F) for February and August; map (scale [1:46 000 000] determined from graticules) of east Asia and the North Pacific (0°-55°N., 95°E.-170°W.) with annual mean isohyets (mm.); maps (scale [1:49 000 000] determined from graticules) of east Asia (100°E.-170°E.) with graphs showing monthly mean total amount of precipitation (mm.) and mean number of rain-days for individual stations (Quang-Tri in South Vietnam); maps (scale [1:80 000 000] determined from graticules) of east Asia with mean isonephs for February and August; map (scale [1:40 000 000] determined from graticules) of east Asia with graphs showing the monthly frequency (X and days) of fog for individual stations (Quang-Tri and Cape St. James in South Vietnam); map (scale [1:50 000 000] determined from graticules) of east Asia with graphs showing the monthly frequency (days) of thunder or thunderstorms for individual stations (Quang-Tri in South Vietnam). Part 2 on typhoons contains maps (scale [1:50 000 000] determined from graticules) of east Asia (0°-30°N., 100°E.-140°E.) showing the development of a typhoon in the China Sea (May 13-19, 1930); maps (scale

Source No. 39 continued.

1:60 000 000 determined from graticules) of east Asia (0°-50°N., 90°E.-150°E.) showing the areas in which typhoons may be encountered in each month of the year based on 38 years of data by crosshatching, mean isobars and numerical monthly frequencies of typhoons for individual areas based on 29 years (1893-1918, 1929-1931) of data; maps (scale 1:67 500 000 determined from graticules) of east Asia (0°-50°N., 95°E.-150°E.) showing examples of weather conditions during typhoons. Periods of record have been recorded in this abstract when specified in source.

40. Great Britain. Meteorological Office Weather in the China Seas and in the western part of the North Pacific Ocean. Volume III. Aids to forecasting. M.O. 404c. 170 pp. London, 1938. DAS M82/512.3 G786w.

...Contains maps (scale 1:55 000 000 determined from graticules) of the equatorial belt (0°-25°N., 65°E.-125°E.) showing the more persistent types of pressure distribution for the season June-September; maps (scale 1:55 000 000 determined from graticules) of the equatorial belt (5°S.-25°N., 85°E.-125°E.) showing the more persistent types of pressure distribution for September - October, November - February or March, December - January, January - February and March - May; maps (scale 1:32 500 000 determined from graticules) of east Asia (0°-50°N., 95°E.-150°E.) presenting the development of meteorological situations typical of some special aspects of the weather of the China station.

1939

41. Indo-China. Service Météorologique Annales (Yearbooks). 1928-1939. Hanoi. DAS C/ed AO-a.

...Presents maps (scale 1:8 500 000) of Indochina showing the climatological and meteorological network (1928-1932) and the precipitation network (1928-1930) for each year; polychrome maps, scale is not indicated (about 1:12 800 000), of Indochina with monthly mean isohyets (mm.) based on data for the period 1907-1926 in the 1928 volume; polychrome maps (scale 1:3 200 000) of Indochina with annual mean isohyets for each year (1928 and 1929); maps (scale 1:14 000 000) of the China Sea and adjacent land areas showing the tracks of typhoons or depressions which developed in the China Sea and those which developed in the Pacific Ocean for each year (1928-1939).

42. Iyer, V. Doraiswamy Typhoons and Indian weather. India Meteorological Department, Memoirs XXVI(VI):93-130. Delhi, 1939. DAS M(055) I39w.

...Presents maps (scale 1:40 000 000 determined from graticules) of south Asia and the West Pacific (10°-30°N., 60°-140°E.) with the tracks of typhoons which struck the coast of Indo-China or south China and moved westward redeveloping into storms or depressions in India for each month (July-November) during the period 1884-1930.

43. Lu, Alfred The monthly pressure distribution and the surface winds in the Far East. Memoir of the National Research Institute of Meteorology, Academia Sinica 12(4):1-25. Chungking, 1939. DAS M(055) A168m.

...Contains maps (scale 1:32 500 000) determined from marginal graticule ticks) of the Far East with monthly and annual mean isobars (mm.) and prevailing winds by arrows. These maps include North and South Vietnam, part of Cambodia and part of Laos.

1940

44. Carton, P. Le climat de l'Indochine (The climate of Indochina). Le Climat de l'Indochine et les typhoons de la Mer de Chine par E. Bruzon, P. Carton et A. Romer, Tome I. 211 pp. (In French). Hanoi, 1940. DAS M82/596 B914c1.

...Includes the following, based on data for unspecified periods: maps (scale 1:9 500 000) determined from graticules) of Indochina showing the meteorological and climatological network, the precipitation network, the distribution of mean isotherms for the coldest month (January), the degree of continentality by isolines and the annual amplitude of temperature by isolines; maps (scale 1:37 500 000) determined from graticules) of Indochina, China, Mongolia, Manchuria, Japan, Korea and the Philippines with mean isobars at 2200 G.M.T. for January and July; maps (scale 1:12 250 000) determined from graticules) of Indochina showing examples of isobaric conditions with plotted data for individual stations (8-9 stations in South Vietnam - some of the station names are not recorded) during a winter monsoon and a summer monsoon; polychrome maps, scale is not indicated (about 1:20 000 000), of Indochina and Thailand east of 100°E. with monthly rainfall amounts (mm.); map (scale 1:12 750 000) determined from graticules) of Indochina showing an example of isobaric conditions with plotted data for specified stations (Hatien, Cap St. Jacques, Padaran, Nha-Trang, Qui-Nhon, Quang-Ngai, and Quang-Tri in South Vietnam) during the crachin period; map (scale 1:12 750 000) determined from graticules) of Indochina showing an example of isobaric conditions with plotted wind data for individual stations (6 or 7 stations in South Vietnam - station names are not recorded) during a typhoon; maps (scale 1:2 300 000) determined from distance scale in Km.) of Cochin China and Cambodia showing the distribution of monthly and annual rainfall amounts by hatched and stippled areas. The source also contains a polychrome map (scale 1:4 000 000) of Indochina and Thailand east of 100°E showing the annual distribution of rainfall amount (mm.) based on data for the period 1907-1934.

45. Deppermann, Charles E. Upper air circulation (1-6 km.) over the Philippines and adjacent regions. 85 pp. Manila, 1940. DAS M57/914 P552u.

...Presents the following for the Philippines, southeast Asia and the East Indies: map (scale 1:19 500 000) determined from graticules) showing the distribution of stations (Tourane, Nhatrang, and Saigon in South Vietnam) with pilot balloon data; maps (scale 1:21 500 000) determined from

Source No. 45 continued.

graticules) showing the wind direction and speed by arrows and barbs for the main air streams (Northers, North Pacific Trade, South Pacific Trade, North Indian Westerlies, South Indian Westerlies, and Temperate Zone Westerlies) at surface and at heights of 1, 2, 3, 4, 5 and 6 km. for January, April, July and October based on data for an unspecified period for almost all of the areas; maps (scale [1:76 000 000]) determined from graticules) without outlines of land areas giving examples of (1) shallow triple-point storm-northers less than 2 km. deep, (2) striking ejection with height of south Pacific trade by Indian westerlies, (3) change of Philippine circulation aloft in one day, (4) pincer-movement of northers and South Pacific trade on Indian westerlies, (5) gradual intrusion of Indian westerlies, (6) encircling motion of northern trade increasing with altitude, (7) typhoon pushed eastward by temperate zone westerlies and (8) complex changes of typhoon air masses with height.

1941

46. Taiwan (Formosa). Weather Bureau Flight weather report for French Indo-China, Thailand and Dutch East Indies. 2 Volumes. (In Japanese). Taihoku, January 1941. DAS M82.2/596 T135f.

...Contains maps (scale [1:12 000 000]) of Indochina with monthly and annual mean isobars (mm.) and numerical values of mean pressure for individual stations; mean isotherms ($^{\circ}\text{C}$) and numerical values of mean temperature for individual stations; mean isohumes (%) and numerical values of mean relative humidity for representative stations; mean isonephs (tenths) and numerical values of mean cloud amount at specified stations; mean isohyets (mm.) and numerical values of mean amount of precipitation at individual stations; mean number of days with precipitation by isolines and numerical values for representative stations. There are also climatic maps (scale [1:12 000 000]) of Indochina based on data summarized over an unspecified period at 0900 and 1500 with monthly prevailing wind direction by arrows and numerical values for individual stations; monthly wind roses at representative stations; monthly and annual wind speed (mps) by isolines and numerical values at selected stations; monthly and annual mean isonephs (total and low clouds) and numerical total and low cloudiness values at designated stations; monthly and annual mean low cloud heights by isolines and numerical values at individual stations; annual mean number of clear and overcast days by isolines and numerical values at representative stations; monthly and annual number of days with fog, haze and thunderstorms by isolines and numerical values at selected stations; monthly and annual mean visibility by isolines and numerical values at individual stations.

47. U.S. Army Air Forces The Climate of Pacific Asia. DAS M82.1/5 U58c.

...Includes maps (scale [1:40 000 000]) of southeast Asia (10°N. - 45°N. , 100°E. - 150°E.) with selected types of pressure distributions and maps (scale [1:30 000 000]) of approximately the same area with mean isobars and prevailing wind direction for January and July.

1942

48. Great Britain. Meteorological Office. Weather in the Indian Ocean. Volume III. Aids to forecasting. M.O. 451c(1). London, 1942. DAS M82/267 G786w.

...Presents synoptic charts (scale 1:33 000 000) illustrating typical weather situations in the different seasons for the Indian Ocean and adjacent land areas extending from 40°S to 40°N and from 15°E to 125°E. These typical illustrations include cyclonic disturbances, the advance and retreat of the monsoons and seasonal movements of the intertropical front.

49. U.S. Weather Bureau Southeastern Asia, India, Farther India and the East Indies. P.R.5. 236 pp. Washington, 1942. DAS M82 U587p.

...Includes the following: map (scale 1:8 750 000) determined from graticules) of Indochina showing the prevailing wind directions by arrows for summer and winter; maps (scale 1:40 000 000) determined from graticules) of southeast Asia and the East Indies with mean isonephs (tenths) for January and July; maps (scale 1:89 000 000) determined from graticules) of southeast Asia, East Indies and northern Australia with January and July mean isobars, prevailing wind direction by arrows and the position of the intertropical front; map (scale 1:89 000 000) determined from graticules) of southeast Asia, East Indies and northern Australia with January and July streamlines at 10,000 ft. and the position of the intertropical front; map (scale 1:89 000 000) determined from graticules) of southeast Asia, East Indies and northern Australia showing the monthly mean position of the intertropical front; maps (scale 1:10 000 000) of India, Farther India (Thailand, Indochina, Malaya and Andaman Islands), China and East Indies with January and July mean isobars and prevailing wind direction by arrows at surface, mean streamlines at 10,000 and 20,000 ft., and plotted prevailing wind direction and mean force (Beaufort) at 10,000 and 20,000 ft.

1943

50. Great Britain. Meteorological Office Weather in the Indian Ocean. Volume II. General information. M.O. 451a. London, 1943. DAS M82/267 G786w.

...Presents the following for the Indian Ocean and adjacent land areas including South Vietnam: maps (scale 1:57 500 000) determined from graticules) with mean isobars (mb.) and for the sea area only resultant winds by arrows for January-February, April, May, July-August, October, and November; maps (scale 1:85 000 000) determined from graticules) with resultant winds by arrows at heights of 1, 2, 3, 4, 6 and 8 km. for winter (December-February) and summer (June-August).

51. India. Meteorological Department Climatic charts of India and neighbourhood for meteorologists and airmen. New Delhi, 1943. DAS M82.3/54 I39c.

...Consists of the following: map (scale [1:22 000 000] determined from graticules) of India and neighboring areas (0°-40°N., 45°-115°E.) with annual mean isohyets (also hatched areas) in inches; map (scale 1:120 000 000) of India and adjacent areas (0°-40°N., 45°-115°E.) with monthly mean isobars (mb. and in.) and prevailing wind direction by arrows, mean tracks of storms and depressions and normal mean isohyets (also hatched areas) in inches, number of days with thunder and fog (numerical values for possibly 12 stations in South Vietnam - station names are not designated) based on data for about 4-6 years, plotted resultant wind direction and force for individual stations (possibly 3 in South Vietnam - station names are not recorded) at specified heights (1, 2, 3, 4, 6 and 8 km.) based on data for 1938-41, mean streamlines and mean isotachs (mph) irrespective of direction at specified heights (1, 2, 3, 4, 6, and 8 km.) based on data for 1938-41 with plotted resultant wind direction and force. Specified periods of record for Indochinese data are included in this abstract. Additional maps in this source do not contain data for South Vietnam.

52. India. Meteorological Department Climatological atlas for airmen. 100 pp. Poona, 1943. DAS M82.3/54 I39ca.

...Contains the following for India and adjacent areas (0°-40°N., 40°-115°E.): map (scale [1:28 000 000] determined from graticules) with annual mean isohyets (also hatched areas) in inches; maps (scale [1:40 000 000] determined from graticules) with monthly mean isobars (mb. and in.) and prevailing wind direction by arrows, mean isohyets (also hatched areas) in inches and mean tracks of storms and depressions, mean number of rainy days by isolines and hatched areas, mean number of days with thunder and fog by isolines and hatched areas for India and by numerical values for adjacent areas (possibly 12 stations in South Vietnam - station names are not designated) based on data for about 4-6 years; maps (scale [1:40 000 000] determined from graticules) with monthly plotted resultant wind direction and force (mph) for individual stations (possibly 3 in South Vietnam - station names are not designated), mean streamlines and mean isotachs (mph) irrespective of direction at 1.0, 2.0, 4.0, 6.0, and 8.0 km. based on data for 1938-1941. Specified periods of record for Indochinese data are included in this abstract. Additional maps in the source do not present data for South Vietnam.

53. Miller, L. C. Flying conditions in Indo China. U.S. Weather Bureau, Special Report No. 313. 68 pp. 1943. DAS M82.2 U587s.

...Contains maps (scale [1:18 250 000] determined from graticules) of Indochina showing the location of climatic stations and presenting graphs for individual stations (Hue, Tourane, Nhatrang, Dalat, Cap St. James and Saigon) showing the monthly mean amount (in.) of precipitation and the mean number of days with precipitation $\geq .01$ " based on data for an unspecified period. The source also includes maps (scale [1:43 000 000] determined from graticules) of the China Sea area, which includes the

Source No. 53 continued.

Indochinese Peninsula, showing the prevailing wind direction and speed by barbs for January, April, July and October at surface and heights of 1, 2, 3, 4, 5 and 6 kilometers.

54. Russier, Henri L'Indochine française (French Indochina). Dix-neuvième edition. (In French). Hanoi, 1943. DLC DS534 .R8.

...Presents a map (scale 1:10 000 000) of Indochina showing the monsoon wind directions by arrows.

55. U.S. Army Air Forces Preliminary climatic atlas of the world. Special Series No. 1 (Revised). July 1943. DAS MB2.3 U585s.

...Includes maps (scale 1:18 000 000) determined from graticules) of the Far East (15°S.-50°N., 80°E.-140°E.) with mean isobars (mb.) and wind roses for individual stations (names are not designated, however 1 or 2 stations are in South Vietnam) for January, April, July and October; graphs showing monthly values of mean amount of precipitation (inches) at selected stations (Dalat and Hue in South Vietnam); graphs showing monthly values of mean number of days with precipitation, mean temperature (°F) and mean cloud amount (%) at representative stations (Saigon and Nha Trang in South Vietnam); graphs showing monthly values of mean number of days with thunderstorms for selected stations (Hue in South Vietnam); graphs showing monthly values of mean daily maximum and minimum and absolute maximum and minimum temperatures (°F) for specified stations (Nha Trang in South Vietnam).

56. U.S. Army Air Forces Preliminary climatic atlas of the world. Special Series, No. 1 (Supplement). July 1943. DAS MB2.3 U585s.

...Contains maps (scale 1:18 500 000) determined from graticules) of the Far East (10°S.-50°N., 85°E.-140°E.) with graphs showing monthly values of mean daily maximum and minimum and absolute maximum and minimum temperatures (°F.) based on data for an unspecified period at individual stations (Nha Trang in South Vietnam).

57. U.S. Department of the Air Force Weather conditions affecting the target area of Indo-China, Thailand, Burma, Malay States, and occupied southern China. Air Weather Service Special Study No. 16. 10 pp. November 1943. DAS M(055) U58s.

...Presents the following for Indo-China, Thailand, Burma, Malay States and southern China: maps (scale 1:32 500 000) determined from graticules) showing the topography and routes along which vertical cross sections are given in text, dates of onset of NE monsoon by isolines and dates of onset of SW monsoon by isolines; maps (scale 1:32 500 000) determined from marginal graticule ticks) showing the surface air flow by arrows, 10,000 ft. air flow by arrows, mean cloud amount (<0.1, 0.1-0.4, 0.4-0.7, and >0.7) by crosshatching and mean number of days with rainfall by isolines for January showing generally prevailing conditions during the north-east monsoon (winter) season and for July showing generally prevailing conditions during the southeast monsoon (summer) season.

58. U.S. Weather Bureau Northern Hemisphere pressure center summaries.
Washington, 1943. DAS M82.3 U587no.

...The summaries are based on data taken from the maps of pressure center tracks which have been plotted from Historical Northern Hemisphere sea-level maps. In the section on the Asiatic theater the following numerical data are presented for each 5° square in Southeast Asia on charts (scale 1:30 000 000) determined from graticules): monthly frequency of lows at 1300 G.M.T., monthly frequency of highs at 1300 G.M.T., monthly distribution of intensities of lows at 1300 G.M.T., monthly distribution of intensities of highs at 1300 G.M.T. and monthly frequency distribution of number of lows summarized over the period 1929-1938. In supplement I the source contains charts (scale 1:40 000 000), with numerical monthly total frequency of lows from Japanese Kobe maps for 2200 to 0500 G.M.T. and monthly total frequency of lows from Northern Hemisphere Historical Maps for Southeast Asia, east of 105°E., based on the period 1929-1936.

1944

59. Gherzi, Ernest, Zikawei Observatory Climatological atlas of east Asia.
175 pp. Shanghai, 1944. DAS M82.3/5 Z68.

...Presents maps (scale 1:12 000 000) of east Asia with monthly and annual mean isotherms (°C), annual absolute extreme isotherms (°C), annual mean range of temperature by isolines, monthly and annual mean isohumes, monthly and annual mean isohyets, monthly and annual mean number of rainy days by isolines, monthly and annual mean isobars (mm.) and wind direction by arrows, selected tracks of typhoons which give a rather good idea of the possible and probable yearly distribution of these dangerous tropical centers, typical weather maps for each season and main climatic regions. East Asia includes Indochina, Thailand, China, Mongolia, southern Siberia, Formosa (Taiwan), Korea, Japan and the Philippines.

60. Great Britain. Meteorological Office Rainfall maps of the Far East.
M.O.M. 471. London, 1944. DAS M82.3/5 G786r. Oversize.

...Contains maps (scale 1:18 000 000) of the Far East (98°E.-152°E., 20°S.-45°N.) showing the topography; mean isohyets (inches) for January, April, July and October; monthly mean total amount of rainfall by step diagrams for individual stations (Quangtri and Cape St. James in South Vietnam).

61. Hare, F.K. The crachin. Synoptic Divisions Technical Memorandum No. 87
of Great Britain Meteorological Office. 7 pp. 1944. DAS M(055) G786s.

...Contains a map (scale 1:50 000 000) determined from graticules) of the Far East (China, Indo-China, Korea, Japan and eastern Siberia) with approximate streamlines during periods of the full winter monsoon; maps (scale 1:16 000 000) determined from marginal graticule ticks) of Indo-China and South China showing synoptic conditions during a crachin spell in January 1938; maps (scale 1:50 000 000) determined from graticules) of the Far East (China, Indo-China, Korea, Japan and eastern Siberia) showing the general pressure conditions at the beginning and end of the crachin period in 1938.

62. India. Meteorological Department Upper wind roses. Supplement to Climatic Charts of India and Neighbourhood for Meteorologists and Airmen. Poona, 1944. DAS MB2.3/54 I39c.

...Presents maps (scale 1:20 000 000) of India and neighborhood (5°S.-42°N., 40°E.-115°E.) with roses showing the monthly percentage frequencies of directions and speeds of upper winds at levels of 1, 2, 3, 4 and 6 km. for the morning at individual stations (names are not recorded, however 2 or 3 stations are in South Vietnam) with 10 or more observations per month. Although the maps indicate AM summaries the roses for the Russian and Indo-chinese stations are based on available data irrespective of time of ascent. Periods of record are not specified.

63. McIntosh, D.H. Tropical weather forecasting, with particular reference to N.E. India, Burma and the Bay of Bengal. Synoptic Division Technical Memorandum No. 123, pt. 3 of Great Britain Meteorological Office. 1944. DAS M(055) G786s.

Contains charts, scale is not indicated (about 1:100 000 000), of India, Pakistan, Burma, Ceylon, Thailand and Indo-China with normal air flow near surface during N.E. monsoon season; normal air flow in the lowest layers of the atmosphere in the post monsoon season; typical air flow near surface in pre-monsoon season; illustration of the formation of a typical disturbance in the N.E. monsoon season; distribution of winds and air masses in a western disturbance.

64. U.S. Weather Bureau Tropospheric weather factors likely to affect super-refraction of VHF-SHF radio propagation as applied to the tropical Western Pacific. Report RP-1. 100 pp. Washington, July 1944. DAS MB2.1/91 U587tr.

...Presents maps (scale [1:48 000 000]) of the tropical Western Pacific (30°S.-30°N., 94°E.-170°W.) with streamlines showing the major wind systems of January and July, seasonal frequency of rain (showers, steady rain, etc.) by isolines and normal monthly position of the Intertropic Convergence Zone.

1945

65. Dobby, E.H.G. Winds and fronts over southeast Asia. Geographical Review XXXV:204-218. New York, 1945. DAS P.

...Presents map (scale [1:130 000 000] determined from maps with partial graticules) of southeast Asia with monthly normal trajectories of wind and monthly position of the intertropical fronts.

66. Great Britain. Meteorological Office Meteorological report on China, Japan and adjacent areas. Aviation Met. Report No. 24. M.O.M. 365/24. 18 pp. 1945. DAS MB2 G786.

...Contains maps (scale [1:38 000 000]) of East and Southeast Asia with approximate streamlines during periods of full winter monsoon, frontogenesis over North China during a lull in the winter monsoon and circulation

Source No. 66 continued.

associated with wave development during a lull in the winter monsoon. The source also presents maps (scale [1:12 000 000]) of Indochina showing dynamically formed lee depression over the Gulf of Tongking for July 1938 at 0600 L.M.T.

67. India. Meteorological Department. Climatological charts of the Indian monsoon area. Poona, 1945. DAS M82.3/54 I39cl.

...Contains maps (scale [1:40 000 000] determined from graticules) of the Indian monsoon area (40°S.-40°N., 20°E.-130°E.) with monthly mean isobars (mb.), monthly mean streamlines and upper wind roses for individual stations (names are not recorded, however 2 are in South Vietnam) at levels of 0.5, 1, 2, and 3 km.; monthly mean rainfall amount (inches) by hatched areas and cyclone tracks. The period of record is not specified for climatic elements presented on these maps.

68. India. Meteorological Department Seasonal chart of prevailing wind and rainfall. Far Eastern and Pacific theatre. 1947. DAS M78.1 I39se.

...Consists of polychrome maps (scale [1:65 000 000] determined from graticules) of the Far Eastern and Pacific theatre (40°S.-40°N., 40°E.-70°W.) showing the distribution of wind force ≤ 2 for ≥ 10 days per month, wind force ≥ 7 for 5-10 days and > 10 days, and mean total rainfall amount (inches) for January, April, July and October. The maps also present prevailing wind direction for the sea areas. Periods of record are not specified.

1946?

69. John, I.G. and Hare, F. K. Winter circulation over Burma, Thailand, and Indo-China. Synoptic Divisions Technical Memorandum No. 120 of Great Britain Meteorological Office. 10 pp. 1946?. DAS M(055) G786a.

...Presents synoptic maps (scale [1:16 000 000] determined from marginal graticule ticks) of Burma, Assam, Thailand, Indo-China and Tenasserim) for selected days at 1000 C.M.T. in January 1938 (data are plotted for several stations in South Vietnam - station names are not designated on maps); maps (scale [1:36 000 000] determined from graticules) of south-east and east Asia (0°-50°N., 90°-160°E.) showing general synoptic situations during the evening for selected days in January 1938.

1947

70. Garbell, Maurice A. Tropical and equatorial meteorology. 237 pp. New York--Chicago, 1947. DAS M G213t.

...Includes the following: map (scale [1:50 000 000] determined from graticules) of eastern Asia (8°-60°N., 100°-150°E.) showing the 4 principal modification routes of polar-continental air masses; maps (scale [1:65 000 000] determined from graticules) of southeast Asia (10°S.-25°N., 90°-145°E.) showing the general flow patterns at surface

Source No. 70 continued.

and specified heights (1, 2, 3, 4 and 6 km.) for January, April, July and October; maps (scale 1:110 000 000) determined from graticules) of southeast Asia (0°-45°N., 100°-140°E.) showing four typical synoptic configurations affecting the weather of subtropical and tropical eastern Asia (southern-solstice season). Additional maps are for larger areas.

71. Guilmet, Bernard Le temps en Indochine à l'usage des navigateurs aériens (Weather in Indochina for the use of aircraft navigators). 24 pp. (In French). circa 1947. DAS PF2924.

...Contains rough maps, scale is not indicated (about 1:42 000 000), of southeast Asia with wind trajectories at the surface and heights of 1000, 2000, 3000, 4000 and 6000 meters for January, April, July and October.

1948

72. Jong, Pin-chen Chinese air mass analysis. Memoirs of the Institute of Meteorology, Academia Sinica 15(3):1-17. Nanking, 1948. DAS M(055) A168m.

...Although this is a study on Chinese air masses the maps include data for North and South Vietnam, Laos and Cambodia. These maps (scale 1:47 500 000) determined from graticules) of east and southeast Asia, Japan and the Philippines present mean air streams at 7000 feet and 10,000 feet for January and July based on data for an unspecified period.

73. Kao, Y.S. General circulation of the lower atmosphere over the Far East. Memoirs of the Institute of Meteorology, Academia Sinica 16(1):1-7. Nanking, July 1948. DAS M(055) A168m.

...Presents maps (scale 1:50 000 000) determined from graticules) of China, Japan, the Philippines, Malaya, Burma, Laos, Cambodia, North Vietnam, South Vietnam, Thailand, East Pakistan and northeast India with monthly mean air streams at 10,000 feet level based on data for an unspecified period.

74. Tao, Shih-yen The mean surface air circulation over China. Memoirs of the Institute of Meteorology, Academia Sinica 15(4):1-7. Nanking, July 1948. DAS M(055) A168m.

...Includes maps (scale 1:65 000 000) determined from graticules) of part of Siberia, China, Japan, the Philippines, Laos, Cambodia, North Vietnam, South Vietnam, Thailand, Burma and East Pakistan with monthly mean surface streamlines based on observations during the period 1931-1936.

1949

75. India. Meteorological Department Meteorology for airmen in India.
Part I. General meteorological features. 58 pp. Bombay, 1949. DAS
 MB2.1/54 I39m.

...Contains a map (scale 1:36 500 000) determined from graticules) of South Asia (5°-40°N., 45°-115°E.) with annual mean isohyets (also hatched areas) in inches based on data for an unspecified period; maps (scale 1:40 000 000) determined from graticules) of South Asia (0°-40°N., 40°-110°E.) with streamlines and wind roses for individual stations (station names are not recorded - 2 or 3 stations are located in South Vietnam) at heights of 1 and 3 km. for January, April, July, and October based on data for an unspecified period; map (scale 1:36 500 000) determined from graticules) of South Asia (5°-25°N., 45°-110°E.) showing typical storm tracks (2 crossed South Vietnam) for April, May, October and November with dates of occurrence.

1950

76. Air Attache, Saigon, Indo-china Weather in Indo-china as pertains to aerial navigation. Translation from the French of a complete report of weather in Indo-China. IR-86-50. September 16, 1950. DN-HO-QC 90 Indo-china IR-86-50.

...This is a translation of "Le temps en Indochine à l'usage des navigateurs aériens" by Bernard Guilmet. See abstract under author.

77. Bruzon, E., Carton, P.; Romer, A. Aperçu général sur le climat de l'Indochine (General outline of the climate of Indochina). Le Climat de l'Indochine, Première Partie, pp. 1-99. (In French). January 1950. DAS MB2.2/596 I41c.

...Contains a map (scale 1:8 750 000) of Indochina with prevailing winds by arrows for summer and winter and a map (scale 1:9 500 000) of Indochina showing the locations of meteorological stations.

78. Dobby, E.H.G. Southeast Asia. 415 pp. London, 1950. DLC DS506 .D58.

...Includes a map (scale 1:10 200 000) of Indochina showing the distribution of the annual amount (inches) of precipitation by hatched areas. The source also contains the following: map, scale is not indicated (about 1:42 000 000) of Southeast Asia showing an example of a daily weather chart (synoptic chart); maps, scale is not indicated (about 1:150 000 000), of South and Southeast Asia showing the positions of the inter-tropical front for each month with arrows showing diagrammatically the manner in which the air masses move; map, scale is not indicated (about 1:45 000 000) of Southeast Asia showing areas distinctly dry, rainfall >80" and rainfall <60"; map, scale is not indicated (about 1:39 000 000), of southeast Asia and the South China Sea showing normal typhoon tracks; map (scale 1:45 000 000) of Southeast Asia showing Köppen's climatic regions.

79. Romer, A. Le régime des vents en Indochine (Wind regime in Indochina). Le Climat de l'Indochine, Deuxième Partie, pp. 101-158. (In French). January 1950. DAS MB2.2/596 I41c.

...Presents maps (scale 1:16 000 000) of southeast Asia showing typical pressure and wind situations during the winter monsoon and the summer monsoon.

80. United Nations. Economic Commission for Asia and the Far East Flood damage and flood control activities in Asia and the Far East. Flood Control Series, No. 1. 81 pp. Bangkok, October 1950. DAS M79.7 U58f.

...Presents maps (scale 1:55 000 000) determined from graticules) of Asia and the Far East (10°S.-45°N., 60°-150°E.) with mean sea level isobars (millibars) and surface wind by arrows for January and July; general extratropical cyclones tracks; general tropical cyclone tracks.

81. Venkiteshwaran, S.P. Winds at 10 kms. and above over India and its neighbourhood. Memoirs of the India Meteorological Department XXVIII(2): 55-120. Delhi, 1950. DAS M(055) I39m.

...Includes maps (scale 1:29 000 000) determined from graticules) of India and adjacent areas extending from 0° to 35°N. and from 45° to 110°E. with lines showing the general flow of air and plotted winds at the different pilot balloon stations at specified heights (10, 12, 14, 16, 18 and 20 kms.) for each month. The source does not contain plotted data for Indochina. The lines showing the general flow of air are based on available data for the area for the period 1920-1941.

1951

82. Ramage, C.S. Analysis and forecasting of summer weather over and in the neighbourhood of South China. Journal of Meteorology 8:289-299. Lancaster, October 1951. DAS M(05) A512j.

...Contains a map (scale 1:60 000 000) determined from graticules) of Indochina, South China and adjacent regions showing area included in this study and designating the places mentioned. The source also presents maps, scale is not indicated (about 1:37 000 000), of Indochina, South China and adjacent areas illustrating the four summer weather patterns. These patterns include tropical storms, pressure wave, broad deep south-westerlies - the Bai-U stream, and wedge from the North Pacific anti-cyclone and cyclonic cell.

83. Strahler, Arthur N. Physical geography. 442 pp. New York-London, 1951. DAS 551.4 3896p.

...Contains maps (scale 1:100 000 000) determined from graticules) for south and southeast Asia (20°S.-40°N., approximately 64°-130°E.) illustrating one interpretation of the air mass source regions and circulation patterns which govern the equatorial and tropical climates.

84. Thompson, B.W. An essay on the general circulation of the atmosphere over South-East Asia and the West Pacific. Quarterly Journal of the Royal Meteorological Society 77(334):569-597. London, October 1951. DAS M(05) R888q.

...Presents maps (scale 1:75 000 000) determined from graticules) of South-East Asia and the West Pacific showing the most common flow patterns at 2,000 ft. and 10,000 ft. from November-March, the airflows of May and their inter-relationship at 2,000 ft. and 10,000 ft., the general flow patterns in June at 2,000 ft. and at 10,000 ft. during late July, classic picture of the intertropical front in July, the common flow pattern at 10,000 ft. in September and examples of flow patterns associated with various weather conditions. These maps are based on data since September 1947.

85. Thompson, B.W. The upper-level flow-structure near typhoons. Quarterly Journal of the Royal Meteorological Society 77(332):272-282. London, April 1951. DAS M(05) R888q.

...Presents the following: maps (scale 1:46 000 000) determined from graticules) of the Southwest Pacific and adjacent land areas, which include North and South Vietnam showing at 10,000 ft. examples of a typhoon development at an airflow discontinuity, a typhoon development within N. Pacific Trades, and a typhoon moving northwards with narrowing sector of equatorial westerlies; map (scale 1:46 000 000) determined from graticules) of Southeast Asia (8°N.-20°N., 100°E.-125°E.) presenting an example at 10,000 ft. of a tropical storm development at an airflow discontinuity; map (scale 1:50 000 000) determined from graticules) of the Southwest Pacific and adjacent land areas, which include the eastern part of North and South Vietnam with a typical midsummer pressure-pattern which is frequently the birthplace of typhoons; maps (scale 1:60 000 000) determined from graticules) of Southeast Asia (0°-30°N., 100°E.-140°E.) with examples at 10,000 ft. of a typhoon with flows of N. and S. Pacific Trades, a secondary convergence zone between S. Pacific Trades and equatorial westerlies feeding into the southern sector of a typhoon into which continental air is also fed and a typhoon with flows of equatorial or N. Indian westerlies and N. Pacific Trades only.

86. U.S. Department of the Air Force Weather conditions on a southern Pacific air route. Travis AFB to Saigon, French Indo-China. Air Weather Service Special Study 105-44. 10 pp. Washington, April 1951. DAS M(055) U59s.

...Presents the following along the route from Travis AFB to Saigon: maps (scale 1:85 000 000) determined from partial graticules) with graphs for each of the terminals showing the seasonal percentage frequency of specified flying weather (contact, instrument, closed, instrument and/or closed), seasonal mean number of days with ceiling <450 ft. at specified hours (0600, 1400, and 2200), seasonal mean number of days with ceiling <1000 feet at specified hours (0600, 1400, and 2200), seasonal mean number of days with visibility <1 mile at specified hours (0600, 1400, and 2200); maps (scale 1:68 000 000) determined from graticules) showing typical seasonal surface synoptic types and typical seasonal 500 mb. synoptic type; map (scale 1:85 000 000) determined from partial

Source No. 86 continued.

graticules) with graphs showing seasonal net headwind or tailwind components (knots) for flights at 10,000 and 20,000 feet.

1952

87. Ramage, C.S. Relationship of general circulation to normal weather over southern Asia and the Western Pacific during the cool season. Journal of Meteorology 9(6):403-408. Lancaster, December 1952. DAS M(05) A512j.

...Presents a map (scale 1:60 000 000) determined from graticules) of southern Asia and the western Pacific, an area extending from 0°-30°N. and 80°-160°E., showing the geographical frequency of the formation of depressions by isolines for the season November-April based on data for the period 1932-1937.

1953

88. Canada. Department of Mines and Technical Surveys. Geographical Branch. Indo-China. Foreign Geography Information Series No. 6. pp. 16-18. Ottawa, 1953. DLC DS534 .C34.

...Contains maps (scale 1:7 125 000) determined from partial graticules) of Indochina with summer and winter monsoon winds by arrows; mean isotherms (°F.) for January, April, July and October; annual mean total precipitation amount (in.) by hatched areas; climatic regions by hatched areas.

89. Indochina, French. Service Météorologique Résumé mensuel du temps en Indochine (Monthly weather summary in Indochina). 1949-1953. (In French). DAS M06.1/596 V666r.

...See abstract under "Vietnam. Direction de la Météorologie, Bulletin mensuel du temps."

90. U.S. Quartermaster Research and Development Center, Watick, Mass. Environment of Southeast Asia. Environmental Protection Division Report No. 219. 45 pp. August 1953. DAS M86 U585r.

...Contains the following: polychrome maps (scale 1:14 500 000) determined from partial graticules) of Southeast Asia (Burma, Thailand, Laos, Cambodia, South Vietnam, North Vietnam and Malaya) with summer (June-August) and winter (December-February) mean total amount (inches) of precipitation and prevailing winds by arrows based on data for an unspecified period; map (scale 1:14 500 000) determined from partial graticules) of Southeast Asia with graphs showing the monthly mean and mean daily maximum and minimum temperatures at individual stations which include Saigon, Cap Padaran and Quang Tri in South Vietnam.

1954

91. Indo-China, French. Service Météorologique Bulletin Météorologique (Meteorological bulletin). 1953 and 1954. Title varies: Bulletin journalier prior to November 1953. (In French). DAS M09.2/596 I41b.

...This source, superseded by "Vietnam. Service Météorologique, Carte générale, 00 TU," presents surface daily weather maps (scale 1:30 000 000 at 60°N., stereographic projection for January 1953-April 1954, November and December 1954; scale 1:20 000 000 at 22°33'N., Mercator projection for May-November 1954) of Indochina and adjacent areas with isobars and plotted data (temperature, total cloud amount, wind direction and speed, pressure, dew point temperature, present weather, precipitation in 24 hours, height of the base of clouds lower than 2500 m. and amount of clouds with height of base lower than 2500 m.) for individual stations at 0000Z; daily maps (scale 1:30 000 000 for January 1953-April 1954, November and December 1954; scale 1:40 000 000 for May-November 1954) of Indochina and neighboring regions with plotted pilot balloon data (wind direction and speed) at 1-2 specified hours at heights of 300, 900 and 1500 m. at individual stations, daily maps (scale 1:25 000 000 for January 1953-April 1954, November and December 1954; scale 1:21 500 000 for May-November 1954) of Indochina and neighboring areas with isohypses at 0300 and 1500Z, isotherms at 0300 and 1500Z, plotted rawinsonde and/or pilot balloon observations (wind direction and speed) at 1-2 specified hours at individual stations and plotted radiotheodolite observations (geopotential height, temperature and dew point temperature) at 0000 or 0200Z at Hanoi in North Vietnam and Saigon in South Vietnam at levels of 700 and 500 mb.

92. Sanderson, Robert W. Notes on the climate of Indochina. Weatherwise 7(3):56-59, 69. Boston, June 1954. DAS M(05) W362.

...Presents maps (scale 1:19 000 000 determined from marginal graticule ticks) of Indochina showing the prevailing surface wind flow by arrows for summer monsoon (June-August) and winter monsoon (December-February) based on data for an unspecified period; distribution of mean amount of precipitation by crosshatching for summer (June-August) and winter (December-February) based on data for an unspecified period. The source also contains maps (scale 1:64 000 000 determined from marginal graticule ticks) of Indochina and adjacent sea area with isolines showing the number of occurrences of typhoons per 2° square in a 25-year period for summer (June-August) and autumn (September-November).

93. U.S. Air Weather Service. Weather and climate of Indochina. 101 pp. June 1954. DAS M82.2/596 U5815w.

...Presents maps (scale 1:7 300 000 determined from partial graticules) of Indochina showing the topography; location of stations; seasonal (June-August, December-February) mean wind speed and prevailing direction by arrows and numerical values for individual stations (Tourane, Qui Nhon, Nha Trang, Cap Padaran, Saigon and Ile Poulou Obi in South Vietnam), prevailing surface wind flow by arrows, areas with >70% cloud cover and areas with >45" of rain for June-August and with >10" of rain for November-

Source No. 93 continued.

January. The source also contains maps (scale [1:7 500 000] determined from graticules) of Indochina with graphs showing monthly mean number of days with thunderstorms for individual stations (Tourane, Nha Trang and Saigon in South Vietnam) based on data for an unspecified period, monthly mean and mean extreme temperatures (°F.) at representative stations for specified periods (Quang Ngai - 33 years, Nha Trang - 33 years and Saigon - 31 years in South Vietnam), monthly mean relative humidity at selected stations for designated period. (Quang Ngai - 10 years, Saigon - 21 years and Nha Trang - 13 years in South Vietnam), monthly mean total amount (inches) of precipitation at selected stations for specified periods (Quang Ngai - 33 years, Nha Trang - 33 years and Saigon - 33 years in South Vietnam), monthly mean number of days with precipitation ≥ 0.004 " at individual stations (Quang Ngai, Nha Trang and Saigon based on data for 34 years), monthly mean cloud cover at specified stations (Quang Ngai, Nha Trang and Saigon in South Vietnam based on 33 years of data), bimonthly mean frequency (%) of observations with ceilings < 3280 and < 655 ft. at 0600 and 1300 LST at selected stations (Tourane, Qui Nhon, Cap Padaran and Saigon in South Vietnam) based on data for an unspecified period, bimonthly mean frequency (%) of observations with visibility < 2.5 and $< .5$ mi. at 0600 and 1300 LST for representative stations (Tourane, Qui Nhon, Cap Padaran and Saigon in South Vietnam) based on data for an unspecified period, monthly mean number of days with haze at 0600 and 1300 LST at selected stations (Tourane, and Saigon based on 7-8 years of data), and monthly mean number of days with specified operational weather conditions (contact flying, medium level operations and high level operations) at 0600 and 1300 LST at individual stations (Tourane, Nha Trang and Saigon in South Vietnam based on periods of 7-8 years); maps (scale [1:7 300 000] determined from graticules) with descriptive data on the geography of the Indochina coastal region; maps (scale [1:7 500 000] determined from partial graticules) of Indochina showing the distribution of months with low water and high water in streams; map (scale [1:3 950 000] determined from graticules) of Indochina showing the location of weather stations and airports.

94. Vietnam. Service Météorologique Résumé mensuel du temps en Indochine (Monthly weather summary in Indochina). 1954. (In French). DAS M06.1/596 V666r.

...See abstract under "Vietnam. Direction de la Météorologie, Bulletin mensuel du temps."

1955

95. Ramage, C.S. The cool-season tropical disturbances of Southeast Asia. Journal of Meteorology 12(3):252-262. Lancaster, 1955. DAS M(05) A5121.

...Contains maps (scale [1:75 000 000] determined from marginal coordinates) of India and southeast Asia showing the positions of a tropical trough on March 25, 27, 29 and 31, 1953 and on April 2, 1953 as it

Source No. 95 continued.

moved eastward from India across the Bay of Bengal, Indochina, western part of the China Sea and the central part of the China Sea.

96. Watts, I.E.M. Equatorial weather with particular reference to Southeast Asia. 224 pp. New York, 1955. DAS M82 W349e.

...Includes a map (scale 1:64 500 000) determined from graticules) of Southeast Asia with mean dates of onset of northeast monsoons by isolines; maps (scale 1:65 000 000) determined from marginal graticule ticks) of Southeast Asia south of approximately 20°N. with surface streamlines for January, April, July, and October; maps (scale 1:30 000 000) determined from partial graticules) of Southeast Asia with mean rainfall amount (inches) by hatched areas for January, April, July and October; map (scale 1:22 500 000) determined from partial graticules) of Southeast Asia south of 15°N. with annual rainfall amount (inches) by hatched areas; maps (scale 1:55 000 000) determined from marginal graticule ticks) of Southeast Asia south of 15°N. showing wind streams at 20,000 ft. for summer and winter and at 30,000 ft. for winter.

1957

97. Thailand. Meteorological Department. Monthly and annual rainfall of Thailand for 1955. (In Thai and English). Bangkok, January 1957. DAS M06.1/593 T364mr.

...Presents maps (scale 1:21 500 000) determined from graticules) of Southeast and East Asia and adjacent sea areas showing the typhoon and depression tracks in 1955. Several of these crossed the Indochinese coast and at least one of them entered South Vietnam.

98. U.S. Hydrographic Office. Sailing directions for the western shores of the South China Sea from Singapore Strait to and including Hong Kong. H.O. Pub. No. 125. Fifth edition. 458 pp. Washington, 1957. DAS M82/512.3 U58s.

...Includes a map (scale 1:27 000 000) of the western Pacific Ocean and coastal areas with typical typhoon tracks.

99. U.S. Office of Naval Operations. Marine climatic atlas of the world. Volume III. Indian Ocean. NAVAER 50-1C-530. Washington, September 1957. DAS M82.3 U585m Oversize.

...Includes maps (scale 1:40 000 000) of the Indian Ocean area with circular tables showing for individual stations the seasonal frequency of wind component aiding (increasing) aircraft ground speed by specified speeds (≥ 20 , ≥ 40 , ≥ 60 , ≥ 80 and ≥ 100 knots) at levels of 850, 700 and 500 mb.; circular tables showing the seasonal percentage frequency of wind component retarding (decreasing) aircraft ground speed by specified speeds (≥ 20 , ≥ 40 , ≥ 60 , ≥ 80 and ≥ 100 knots) at levels of 850, 700 and 500 mb.; seasonal wind roses at 850, 700 and 500 mb. Data are recorded for Saigon

Source No. 99 continued.

(Tan-Son-Nhut Airport) based on data for the period January 1951-November 1955.

1958

100. Chin, P.C. Tropical cyclones in the western Pacific and China Sea area. Hong Kong, 1958. DAS M15.2 C539tr.

...Includes maps (scale 1:12 500 000) of the area bounded by latitudes 5°N. to 30°N. and longitudes 105°E. to 150°E. with the tracks of tropical cyclones for each month, the tracks of tropical cyclones which gave rise to persistent gales at the Royal Observatory at Hong Kong for each month (June-November), abnormal typhoon tracks, typical typhoon tracks, frequencies of occurrence of tropical cyclones by isolines for each month (June-November), graphs showing the number of occurrences of tropical cyclones for each 2-1/2° square by months, monthly and annual roses showing the percentage frequency distribution of the direction of motion of tropical cyclones for each 2-1/2° square and graphs showing the percentage frequency distribution of the speed of motion of tropical cyclones for each 2-1/2° square for each month (June-December). These maps are based on data for the period 1884-1953.

101. Thompson, Will F. Analogs of Canal Zone climate in India and Southeast Asia. U.S. Quartermaster Research and Engineering Center, Natick, Mass. Technical Report EP-91. 24 pp. June 1958. DAS M86 U585t.

...Presents maps (scale 1:16 875 000) determined from graticules) of India and Southeast Asia with the location of stations; numerical values of mean relative humidity for the driest month at individual stations; numerical values of mean cloud amount (tenths) and mean wind speed (mph) for the wettest month at individual stations; numerical values at individual stations and crosshatching of areas closely analogous with Balboa Heights and Cristobal of mean temperature for the warmest month and for the coldest month, mean daily maximum temperature and mean daily range of temperature for the warmest month, mean daily minimum temperature for the coldest month, annual mean total precipitation amount, mean total precipitation amount for the wettest month, and number of wet months; composite of areas closely analogous with Balboa Heights and with Cristobal by crosshatching. Warmest, coldest, driest and wettest months vary by station. The individual stations include 19 stations in South Vietnam. The period of record is not specified.

102. United Nations Location of hydrologic and rainfall stations. No. 1. Map No. 1074X. May 1958. DLC Map Division.

...Is a map (scale 1:4 900 000) of Laos, Cambodia and part of South Vietnam showing the location of the existing recording rainfall stations and the proposed rainfall stations.

103. Vietnam. Service Météorologique Climatic charts. Average precipitation in Vietnam, Laos and Cambodia. (In Vietnamese and English). DAS M06.1/596 V666cl.

...Consists of polychrome maps (scale 1:72 000 000) of North Vietnam, South Vietnam, Laos, and Cambodia showing the distribution of the monthly and annual amount of precipitation (mm.) based on data summarized over an unspecified period.

104. Vietnam. Service Météorologique Typhoon tracks. Approximate tracks of typhoons which entered the southern China Sea (from 1948 to 1957). (In Vietnamese and English). 1958. DAS M15 73 V666ty.

...Consists of maps (scale 1:19 500 000) showing the monthly typhoon tracks which entered the southern China Sea from 1948 to 1957. Some of these dissipated on land areas of North Vietnam, South Vietnam, Laos, and Cambodia.

1959

105. France. Service Hydrographique Instructions nautiques. Détroit de Malacca, Presqu'île de Malacca, Indochine (Sailing directions. Malacca Straits, Malacca Peninsula, Indochina). Série K(IV). 403 pp. (In French). Paris, 1959. DN-HO FR VK 905 v.1 1959.

...Includes maps (scale 1:165 000 000) of South Asia and Australia with mean isobars and wind by arrows for January and July based on data summarized over an unspecified period and maps (scale 1:27 500 000) of Indochina and the South China Sea showing typhoon trajectories based on data for the period (1911-1929) for each month (August, October and December).

106. U.S. Operations Mission to Vietnam. Division of Agriculture and Natural Resources Vietnamese agricultural statistics. 55 pp. Saigon, March 1959. DNAL 173.2 IN8Vi.

...Includes a map, scale is not indicated (about 1:6 000 000), of South Vietnam with annual mean amount (inches) of rainfall by hatched areas and maps, scale is not indicated (about 1:14 000 000), of South Vietnam with mean amount (inches) of rainfall by hatched areas for January, April, July and October.

1960

107. Ramage, C.S. (ed.) Notes on the meteorology of the tropical Pacific and southeast Asia. U.S. Air Force, Cambridge Research Center, Geophysics Research Directorate, Air Force Surveys in Geophysics, No. 126. 174 pp. Bedford, Massachusetts, June 1960. DAS M(055) U58as.

...Includes the following: maps (scale 1:38 000 000) determined from marginal graticule coordinates) of southeast Asia (5°-40°N., 65°-140°E.) showing mean resultant 30,000 ft. winds (direction by arrows; isotachs in knots) and axis of southern jet stream for winter; maps (scale

Source No. 107 continued.

1:37 000 000] determined from marginal graticule ticks) of southeast Asia (0°-35°N., 95°-145°E.) with mean isonephs (oktas) for December, March, May and August. The appendices consist of reprints of articles by C.S. Ramage. Abstracts of these articles which contain maps of southeast Asia appear in this bibliography.

108. Vitvitskiĭ, G.N. Klimaty zarubezhnoĭ Azii (Climates in Asia outside the U.S.S.R.). 396 pp. (In Russian). Moscow, 1960. DAS M82.1/5 V854k1.

...Includes maps (scale 1:80 000 000] determined from graticules) of southeast Asia (5°-40°N., 80°-145°E.) showing the air current at the height of 3 km. by arrows for April, second half of June and first half of July, second half of July, and August; map (scale 1:11 200 000] determined from graticules) of Indochina showing the annual distribution of mean total amount of precipitation (mm.) by hatched areas. These maps are based on data for an unspecified period. Additional maps in the source are for larger areas.

1961

109. Bunnag, C.V. and Buajitti, K. Upper winds over southeast Asia and neighboring areas. 48 pp. Bangkok, August 1961. DAS M57.2 B942 up Oversize.

...Presents maps (scale 1:30 000 000]) of southeast Asia (60°E.-150°E., 10°S.-45°N.) with monthly mean streamlines at heights of 5,000 and 10,000 feet based on data for the period 1956-1958.

110. Chambers, Jack V. An environmental comparison of southeast Asia and the island of Hawaii. U.S. Quartermaster Research and Engineering Command, Natick, Massachusetts, Research Study Report RER-38. January 1961. EDS-Foreign Branch files.

...Includes polychrome maps (scale 1:14 500 000]) of Southeast Asia with annual mean isohyets (inches) and seasonal (June-August; December-February) mean isohyets and prevailing surface wind direction by arrows.

111. Dobby, E.H.G. Monsoon Asia. 381 pp. Chicago, 1961. DAS 915 D632mo.

...Presents maps (scale 1:90 000 000] determined from graticules) showing the air masses and movements over Monsoon Asia at the year-end and at mid-year based on data for an unspecified period.

112. Kendrew, W.G. The climate of the continents. Fifth edition. 608 pp. Oxford, 1961. DAS MB K33c.

...Presents the following: map (scale 1:120 000 000] determined from partial graticules) of southeastern Asia showing the trajectories of dominant air-masses on page 194; map (scale 1:80 000 000] determined from graticules) of southeastern Asia and Indonesia with January and July mean isobars (inches) and streamlines on page 215; map (scale

Source No. 112 continued.

[1:60 000 000] determined from graticules) of southeastern Asia and adjacent sea areas with monthly generalized typhoon tracks.

113. Vietnam. Direction de la Météorologie Résumé mensuel du temps (Monthly weather summary). 1955-1961. (In French). Saigon. DAS MO6.1/596 V666r.

...See abstract under "Vietnam. Direction de la Météorologie, Bulletin mensuel du temps."

114. Vietnam. Service Météorologique Bulletin météorologique journalier (Daily meteorological bulletin). 1955-1961. (In French). Saigon. DAS MO9.2/596 V666b.

...See abstract under "Vietnam. Direction de la Météorologie, Carte générale 00 UT."

1962

115. Michigan. University. Department of Geography Analysis of geographic and climatic factors in coastal southeast Asia. Report No. 04231-I-F. 178 pp. Ann Arbor, Michigan, March 1962. DAS M(051) M624ana.

...Presents the following: maps (scale [1:14 250 000] determined from partial graticules) of southeast Asia with mean isohyets (also hatched areas) in inches and prevailing surface wind direction by arrows based on data for an unspecified period for 2 seasons (June-August; December-February); map (scale [1:12 125 000] determined from marginal graticule ticks) of southeast Asia with graphs showing monthly amounts of precipitation and numerical annual amounts in inches for individual stations (Saigon, Dalat, Nha Trang and Hue in South Vietnam) based on data for an unspecified period; map (scale [1:12 125 000] determined from marginal graticule ticks) of southeast Asia showing the precipitation regions and location of weather stations (16 stations in South Vietnam); maps, scale is not indicated (about 1:55 000 000), of Indo-China and the South China Sea with monthly (May-January) typhoon tracks during 1911-1929.

116. Vietnam. Direction de la Météorologie Bulletin mensuel du temps (Monthly weather bulletin). 1949-...(December 1962). Title and issuing office vary: Indochina, French. Service Météorologique, Résumé mensuel du temps en Indochine for 1949-1953; Vietnam. Service Météorologique, Résumé mensuel du temps en Indochine for 1954; Vietnam. Direction de la Météorologie, Résumé mensuel du temps for 1955-1961. (In Vietnamese and French). Saigon. DAS MO6.1/596 V666r.

...Presents maps (scale [1:5 750 000]) of Indochina showing monthly numerical values of total amount of precipitation, departure of total precipitation from the mean, total number of days with precipitation and departure of total number of days with precipitation from the mean for each year 1952-1954; maps (scale [1:5 750 000]) of Indochina

Source No. 116 continued.

showing the position of precipitation stations for individual years during the period 1952-1962; maps (scale 1:7 500 000) of Mercator projection showing the position of Indochinese precipitation stations for each year (1949-1951); maps (scale 1:5 750 000) of Indochina showing network of meteorological stations for individual years during the period 1954-1962; maps (scale 1:20 000 000) of China Sea area showing the trajectories of tropical disturbances and cyclones for individual years during the period 1953-1962; maps, scale is not indicated (about 1:13 000 000), of Indochina with monthly wind roses at heights of 500, 1500, 3000 and 5000 m. at 0600 or 0800 for individual stations and monthly surface wind roses at specified hours for designated stations for 1956-1958. The volumes with data for 1960 and 1961 were not available for this survey.

1963

117. Gabites, J.F. The origin of tropical cyclones. Technical Report of the Japan Meteorological Agency, No. 21. Proceedings of the Inter-regional Seminar on Tropical Cyclones in Tokyo, 18-31 January 1962. pp. 53-58. Tokyo, March 1963. DAS M(055) J35rep.

...Includes maps (scale 1:135 000 000) of the tropical Pacific and southeast Asia showing the depths of the main air streams in February and August, constructed from monthly mean data and charts for the 850, 700, 500, 300 and 200 mb. surfaces by C.J. Wiederanders.

118. Vietnam. Cộng-Hòa. Nha Giám-Đốc Khí-tượng Đại-lược thời-tiết năm (Annual weather summary). 1961-1963. (In Vietnamese). Saigon. DAS.

...Presents maps (scale 1:14 000 000) of the China Sea area (7°N.-29°N., 98°E.-133°E.) showing the trajectories of tropical depressions and typhoons for each year (1961-1963).

1964

119. Bucknell, J. Climatology. 163 pp. London, 1964. DAS MB B925c.

...Includes maps, scale is not indicated (about 1:45 000 000), of Indochina and the Philippines showing the summer and winter wind directions by arrows on page 69.

120. U.S. Air Weather Service. Climatic atlas of Indochina (excluding Malaya and Burma). Special Study 105-6. San Francisco, December 1964. DAS M(055) US8s.

...Presents maps (scale 1:9 250 000) of Indochina (Cambodia, Laos, Thailand, South Vietnam and North Vietnam) with monthly mean maximum and mean minimum isotherms (°F.), mean isohumes (%), mean number of days with precipitation by isolines, maximum and minimum isohyets (inches), mean isohyets (inches), maximum amount of precipitation (inches) in 24 hours by isolines, mean number of days with thunderstorms by isolines,

Source No. 120 continued.

mean number of days with fog by isolines, mean isonephs (%), mean number of days with total cloud cover $\leq 3/10$ and $\geq 7/10$ by isolines, mean number of days with total cloud cover $\leq 3/10$ and visibility $\geq 2-1/2$ miles at 0600 and 1300 LST by isolines, mean number of days with cloud cover below 10,000 feet $\leq 3/10$ and visibility $\geq 2-1/2$ miles at 0600 and 1300 LST by isolines, mean number of days with ceiling ≥ 1000 feet and visibility $\geq 2-1/2$ miles at 0600 and 1300 LST by isolines, mean number of days with ceiling ≥ 1000 feet and visibility $\geq 2-1/2$ miles and wind ≤ 10 knots at 0600 and 1300 LST by isolines and mean isobars (mbs.). There is also a topography map (scale 1:9 000 000) of the same area. The maps are based on data for 2-50 years.

121. U.S. Operations Mission. Civil Aviation Assistance Group. Directorate of Meteorology Climatological information for meteorological stations of the Republic of Vietnam. March 1964. DAS M82.3/596 U58cl.

...Presents maps, scale is not indicated (about 1:6 600 000) of South Vietnam, North Vietnam, Laos and Cambodia with monthly and annual mean isohyets (in.) based on Average Precipitation Charts published by Direction of Meteorology, Republic of Vietnam, 1958.

122. Vietnam. Direction de la Météorologie Carte générale 00 UT (General map at 00Z). 1955-...(December 1964). Title and issuing office vary: Vietnam. Service Météorologique, Bulletin météorologique journalier prior to 1961. (In French). Saigon. DAS Oversize maps.

...Supersedes "Indochina, French. Service Météorologique, Bulletin météorologique," 1953 and 1954. This source contains daily weather maps (scale 1:30 000 000, stereographic projection) with mean isobars, fronts and plotted data (temperature, dew point temperature, low cloud types, middle cloud types, wind direction and speed, total cloud amount, present weather and past weather) for individual stations at 0000Z for 1955-1964 and maps (scale 1:30 000 000, stereographic projection) with isohypse at 0300 and 1500Z, isotherms at 0300 and 1500Z and plotted wind data for individual stations for January 1955-June 1956. The section of Asia covered by these maps varies but within the general area of 0°-55°N., 70°E.-160°E.

1965

123. Ohman, Howard L. Climatic atlas of Southeast Asia (Temperature, rainfall, temperature-humidity index). U.S. Army Natick Laboratories, Natick, Massachusetts, Technical Report ES-19. 94 pp. December 1965. DAS M(055) U586tc ES-19.

...Consists of polychrome maps (scale 1:6 600 000) of Southeast Asia showing the location of stations, the distribution of monthly mean temperatures (°F.), the distribution of monthly mean daily maximum and minimum temperatures (°F.), the distribution of absolute maximum and minimum temperatures (°F.), the distribution of monthly and annual mean total precipitation amounts (inches), the distribution of monthly mean number of rainy days and the distribution of the temperature-humidity index.

124. U.S. Air Weather Service Climate of Republic of Vietnam. Special Study 105-9. 118 pp. APO San Francis , 1965. DAS M(055) U58s 105-9.

...Includes a map, scale is not indicated (about 1:5 000 000), of the Republic of Vietnam showing the location of stations; maps, scale is not indicated (about 1:10 000 000), showing the tracks of typhoons and tropical storms affecting the Republic of Vietnam during the period 1947-1964 for each month (April, June, September, October, November and December); maps, scale is not indicated (about 1:8 000 000) of the Republic of Vietnam showing the distribution of January, April, July and October mean maximum and minimum temperatures (°F.), mean relative humidity (%), mean total amount of precipitation (inches), mean number of days with precipitation, mean number of days with thunderstorms, mean number of days with total cloud cover $\leq 3/10$ and mean number of days with fog; maps, scale is not indicated (about 1:12 000 000), of the Republic of Vietnam with isolines showing the January, April, July and October distribution of percent of time with ceilings, percent of time with ceilings below 30,000 ft., percent of time with ceilings below 10,000 ft., percent of time with ceilings below 3,000 ft., percent of time with ceilings between 5,000 and 10,000 ft., percent of time with ceilings between 10,000 and 15,000 ft., percent of time with ceilings between 20,000 and 25,000 ft., percent of time with ceilings between 25,000 and 30,000 ft., and percent of time with visibilities < 5 miles and < 1 mile for specified intervals (0300-0800 and 0900-1400); maps, scale is not indicated (about 1:8 000 000), of the Republic of Vietnam with January, April, July and October mean number of days with ceilings ≥ 1000 ft. and visibility $\geq 2-1/2$ miles at 0600 and 1300 LST; map, scale is not indicated (about 1:9 000 000), of the Republic of Vietnam with January, April, July and October prevailing surface streamlines.

125. U.S. Air Weather Service Climatic brief for the Republic of Vietnam. 12 pp. Det. 14, 30th Weather Squadron, APO San Francisco, July 1965. DAS M82.1/592 U581cl.

...Presents a map (scale 1:11 875 000) of the Indochinese Peninsula showing the distribution of months of wet season.

126. U.S. Air Weather Service Climatic summary, Republic of Vietnam, North Vietnam, Laos, March, April, June and July. APO San Francisco, 1965. DAS M82.2/592 U581cl.

...Presents for each month (March, April, June and July) maps (scale 1:8 500 000) showing the distribution of high water periods of streams in Indochina; maps (scale 1:7 800 000) of Indochina showing the distribution of mean total amount of precipitation and mean number of days with precipitation; maps (scale 1:11 600 000) of Southeast Asia showing the distribution of the % frequency of occurrences of visibility ≤ 2 miles at 0700 and 1300 LST by isolines; maps (scale 1:9 200 000) of Southeast Asia with mean daily maximum isotherms and numerical values of record high temperatures for selected stations and mean daily minimum isotherms with numerical values of record low temperatures at selected stations; maps (scale 1:11 500 000) of

Source No. 126 continued.

Indochina showing the distribution of the wet season (months); maps (scale 1:11 000 000) of Southeast Asia showing mean wind flow at low level (2000 ft.) and at 850, 700, 500, 400, 300 and 200 mb. levels by arrows; maps (scale 1:11 500 000) of coastal waters of North Vietnam and the Republic of Vietnam with mean sea surface isotherms. There are also maps, scale is not indicated (about 1:11 750 000), showing the distribution of mean number of days favorable for low level operations (ceilings ≥ 1500 ft. with visibility ≥ 3 miles) and medium level operations (ceilings ≥ 5000 ft. with visibility ≥ 5 miles) for June and July; map, scale is not indicated (about 1:15 000 000), for April and maps (scale 1:7 300 000) for June and July showing the distribution of mean number of days with thunderstorms.

127. Vietnam. Cộng-hòa Đại-lược thời-tiết tháng (Monthly weather summary). February 1962, January 1963-November 1964 January 1965. (In Vietnamese; beginning in June 1963 table headings are in English). Saigon. DAS MO6.1/592 V666da.

...Contains maps (scale 1:14 000 000) of the China Sea area (7°N.-29°N., 98°E.-129°E.) showing the trajectories of typhoons and tropical disturbances in September, October and November 1964 and January 1965.

1966

128. Fujioka, Yoshikazu An outline of climate of Southeast Asia. Water Resource Utilization in Southeast Asia, Symposium Series III, pp. 51-54. Kyoto University, 1966. DAS M(055) K99sv No. 3.

...Contains maps, scale is not indicated (about 1:87 500 000), of Southeast Asia, the Philippines and the East Indies with January and July mean isobars (mb.) and wind direction by arrows; a map, scale is not indicated (about 1:50 000 000), of Southeast Asia northern Australia, East Indies and the Philippines showing the annual distribution of precipitation; maps, scale is not indicated (about 1:125 000 000), of Southeast Asia, northern Australia and the Philippines with January and July mean isotherms (°C.).

129. Takenouchi, Toshio A hydrologic study of the Mekong Basin. Water Resource Utilization in Southeast Asia, Symposium Series III, pp. 55-66. Kyoto University, 1966. DAS M(055) K99sy No. 3.

...Includes a map, scale is not indicated (about 1:9 500 000), of Indochina showing the distribution of annual mean total precipitation amount (mm) in the lower Mekong basin area.

130. U.S. Air Weather Service Ceiling/visibility for Southeast Asia (5000 & 5). Special Study 105-12/2. Various pagings. APO San Francisco, May 1966. DAS M(055) USSa 105-12/2.

...Consists of maps (scale 1:86 000 000) of Southeast Asia showing the distribution of monthly mean number of days with ceilings ≥ 5000 ft.

Source No. 130 continued.

and visibility ≥ 5 miles at 0700, 1000, 1300, 1600 and 1900 LST by isolines based on data for 2-10 years.

131. U.S. Air Weather Service Ceiling/visibility atlas for Southeast Asia (1000 & 2-1/2). Special Study 105-12/1. Various pagings. APO San Francisco, April 1966. DAS M(055) U58s 105-12/1.

...Consists of maps (scale 1:87 000 000) of Southeast Asia showing the distribution of mean number of days with ceilings ≥ 1000 ft. and visibility $\geq 2-1/2$ miles at 0700, 1000, 1300, 1600 and 1900 LST by isolines based on data for 2-10 years.

132. U.S. Air Weather Service. Climate of Southeast Asia. Special Study 105-11/1-12. 12 volumes. APO San Francisco, 1965-1966. DAS M(055) U58s 105-11/1-12.

...Presents maps (scale 1:9 000 000) of Southeast Asia showing the monthly distribution of mean number of days with precipitation by isolines, mean phytets (inches), maximum and minimum monthly amounts (inches) of precipitation by isolines, maximum amount of precipitation in 24 hours by isolines, mean number of days with thunderstorms by isolines, mean isonephs (%), mean number of days with total cloud cover $\leq 3/10$ by isolines, mean frequency of visibility ≤ 2 miles at 0700 and 1300 by isolines, mean number of days with fog by isolines, mean maximum and minimum temperatures by isolines, mean isohumes (%), mean position of polar front, mean air flow (knots) at specified heights (2000, 5000, 10,000, 20,000, 30,000 and 40,000 ft) prevailing surface streamlines (April-December), mean number of favorable days for low level operations (ceiling ≥ 2000 feet and visibility ≥ 3 miles), mean number of favorable days for mid level operations (ceiling ≥ 5000 feet and visibility ≥ 5 miles), mean number of favorable days for high level operations ($\leq 3/8$ cloud cover below 10,000 feet and visibility > 5 miles), mean surplus/deficit rainfall by isolines and mean traction-ability; map (scale 1:11 000 000) of Southeast Asia with mean sea currents (knots) and mean sea surface temperatures ($^{\circ}\text{F.}$); map, scale is not indicated (about 1:11 000 000), of North Vietnam and Republic of Vietnam with mean frequencies of breakers, sea and swell during north-east monsoon.

133. U.S. Air Weather Service Sky cover/visibility atlas for Southeast Asia (3/10 & 2-1/2). Special Study 105-12/3. Various pagings. APO San Francisco, August 1966. DAS M(055) U58s 105-12/3.

...Consists of maps (scale 1:88 000 000) of Southeast Asia (3/10 & 2-1/2) showing the distribution of monthly mean number of days with total sky cover $\leq 3/10$ and visibility $\geq 2-1/2$ miles at 0700, 1000, 1300, 1600 and 1900 LST based on data for 2-10 years.

1967

134. Chang, Jen-hu The Indian summer monsoon. The Geographical Review 57(3):373-396. New York, July 1967. DAS P.

...Presents maps (scale 1:60 000 000) of Monsoon Asia with mean resultant winds at 700 mb. in April and at 200 mb. in June and mean isotherms at 500 mb. in July.

135. Schutz, C. Monsoonal influences on wind, rain and cloud throughout southeast: A study covering the peninsula and archipelago. Research Memorandum 5418-PR. 152 pp. The Rand Corporation, Santa Monica, California, October 1967. DAS 507.2 R186r No. 5418-PR.

...Presents maps (scale 1:97 500 000) of southeast Asia showing the seasonal mean position of the Intertropical Convergence Zone and typical surface streamlines for January, April, July and October. There are also maps (scale 1:9 300 000) of southeast Asia (Burma, Laos, Thailand, Cambodia and North and South Vietnam) with seasonal wind roses for individual stations; seasonal cloud clocks showing the frequency of clear days (<1/8-4/8), broken sky (5/8-7/8) and overcast (8/8) for morning, midday and evening for individual stations; seasonal distribution of precipitation amounts by hatched areas.

136. U.S. Air Weather Service Low level persistency analysis for Southeast Asia (2000 a/o 3). Special Study 105-13/2. Various pagings. APO San Francisco, March 1967. DAS M(055) U58s 105-13/2.

...Consists of maps (scale 1:87 500 000) of Southeast Asia showing the monthly distribution of percent frequency of ceilings <2000 ft. and/or visibility <3 mi at 0700, 1300 and 1900 LST; probability of ceilings <2000 ft. and/or visibility <3 mi. at 0700 LST and continuing to 1000 LST; probability of ceilings <2000 ft. and/or visibility <3 mi. at 0700 LST continuing to 1300 LST; probability of ceilings <2000 ft. and/or visibility <3 mi. at 0700 LST continuing to 1600 LST; probability of ceilings <2000 ft. and/or visibility <3 mi. at 0700 LST continuing to 1900 LST; probability of ceilings <2000 ft. and/or visibility <3 mi. at 0700 LST continuing to 0700 LST the following day; probability of ceilings <2000 ft. and/or visibility <3 mi. at 1300 LST continuing to 1600 LST; probability of ceilings <2000 ft. and/or visibility <3 mi. at 1300 LST continuing to 1900 LST; probability of ceilings <2000 ft. and/or visibility <3 mi. at 1300 LST continuing to 0700 LST the following day; probability of ceilings <2000 ft. and/or visibility <3 mi. at 1900 LST continuing to 0700 LST the following day. The period of record varies from 2-10 years.

137. U.S. Air Weather Service Sky cover/visibility atlas for Southeast Asia (<3/10 below 10,000 & >5). Special Study 105-12/4. Various pagings. APO San Francisco, January 1967. DAS M(055) U58s 105-12/4.

...Consists of maps (scale 1:88 000 000) of Southeast Asia showing the distribution of the monthly mean number of days with <3/10 sky cover below 10,000 ft. and visibility >5 miles at 0700, 1000, 1300, 1600 and 1900 LST by isolines. The period of record varies from 2 to 10 years.

AUTHOR INDEX

	<u>Source Number with Publication Date</u>
Agard, A.	29(1935)
Air Attache, Saigon, Indo-china	76(1950)
Beljonne, A.	2(1902)
Braak, C.	19(1931)
Brenier, H.	3(1908)
Brenier, Henri	5(1914)
Bruzon, E.	9(1927), 14(1930), 33(1936), 77(1950)
Buajitti, K.	109(1961)
Bucknell, J.	119(1964)
Bulletin Économique de l'Indochine	18(1930)
Bunnag, C.V.	109(1961)
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Carton, P.	11(1928), 14(1930), 15(1930), 23(1934), 24(1934), 25(1934), 28(1934), 30(1935), 44(1940), 77(1950)
Chambers, Jack C.	110(1961)
Chang, Jen-hu	134(1967)
Chassigneux, E.	4(1913)
Chevy, P.	25(1934)
Chin, P.C.	100(1958)
Constantin, L.	7(1918)
Deppermann, Charles E.	37(1938), 45(1940)
Dobby, E.H.G.	65(1945), 78(1950), 111(1961)
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Froc, Aloys	1(1901)
Froc, Louis	8(1920)
Fujioka, Yoshikazu	128(1966)
Gabites, J.F.	117(1963)
Garbell, Maurice A.	70(1947)
Gherzi, E.	20(1931), 38(1938), 59(1944)
Gourdon, Henri	21(1931)
Great Britain. Meteorological Office	34(1937), 39(1938), 40(1938), 48(1942), 50(1943), 60(1944), 66(1945)
Guilmet, Bernard	71(1947)
Hare, F.K.	61(1944), 69(1946?)
Hubert, Henry	26(1934), 31(1935)

AUTHOR INDEX (Continued)

	<u>Source Number with Publication Date</u>
India. Meteorological Department	51(1943), 52(1943), 62(1944), 67(1945), 68(1945?), 75(1949)
Indochina. L'Observatoire Central	10(1927)
Indo China. Service Géographique	13(1929)
Indochina. Service Météorologique	16(1930), 17(1930), 27(1934), 41(1939), 89(1953), 91(1954)
Indo-China, French. Service Météorologique	See Indochina. Service Météorologique
Iyer, V. Doraiswamy	42(1939)
John, I.G.	69(1946?)
Jong, Pin-chen	72(1948)
Kao, Y.S.	73(1948)
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Le Cadet, G.	6(1917)
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McIntosh, D.H.	63(1944)
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Miller, L.C.	53(1943)
Morin, Henry G.S.	28(1934)
Ohman, Howard L.	123(1965)
Ramage, C.S.	82(1951), 87(1952), 95(1955), 107(1960)
Robequain, Charles	32(1935)
Romer, A.	77(1950), 79(1950)
Russier, Edouard	21(1931)
Russier, Henri	21(1931), 54(1943)
Sanderson, Robert W.	92(1954)
Schutz, C.	135(1967)
Sion, Jules	12(1928)
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Takenouchi, Toshio	129(1966)
Tao, Shih-Yen	74(1948)
Thailand. Meteorological Department	97(1957)
Thompson, B.W.	84(1951), 85(1951)
Thompson, Will F.	101(1958)
Tu, Chang-Wang	35(1937)

AUTHOR INDEX (Continued)

	<u>Source Number with Publication Date</u>
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United Nations. Economic Commission for Asia and the Far East	80(1950)
U.S. Air Weather Service	93(1954), 120(1964), 124(1965), 125(1965), 126(1965), 130(1966), 131(1966), 132(1966), 133(1966), 136(1967), 137(1967)
U.S. Army Air Forces	47(1941?), 55(1943), 56(1943)
U.S. Department of the Air Force	57(1943), 86(1951)
U.S. Hydrographic Office	98(1957)
U.S. Navy Department	22(1933)
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Venkiteshwaran, S.P.	81(1950)
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Vietnam. Công-hòa. Nha Giám-Đốc khí-tuong	118(1963)
Vietnam. Direction de la Météorologie	113(1961), 116(1962), 122(1964)
Vietnam. Service Météorologique	94(1954), 103(1958?), 104(1958), 114(1961)
Vitvitskiĭ, G.N.	108(1960)
Watts, I.E.M.	96(1955)

SUBJECT HEADING INDEXSource Numbers

Air currents	See Wind
Air flow	See Wind
Air mass tracks	38, 70, 78, 111, 112
Ceiling frequency	86, 93, 124
Ceiling/visibility frequency	120, 124, 126, 130, 131, 132, 136
Ceiling/visibility/wind frequency	120
Clear days	See State of sky
Climatic regions	12, 24, 26, 59, 78, 88
Cloud amount	
mean	19, 34, 39, 46, 49, 55, 93, 101, 107, 120, 132
mean of low	46
Cloud cover/visibility frequency	See Sky cover/visibility
Cloud frequency	57, 93, 120, 124, 132
Cloud heights, mean low	46
Continental, degree of	25, 28, 44
Cyclones	
tropical	80
direction of motion	100
frequency	100
speed of motion	100
tracks	67, 100
extratropical, tracks of	80
Depressions	
frequency of formation	87
trajectories	4, 12, 17, 41, 51, 52, 97, 118
Disturbance	
trajectories of tropical	116, 127
Fog	34, 39, 46, 51, 52, 120, 132
Front	
position of intertropical	48, 49, 65, 78, 84
position of polar	132
Haze	46, 93
High	
frequency	58
intensity	58
Humidity, relative	
mean	46, 59, 93, 101, 120, 124, 132
Intertropical Convergence Zone	64, 135
Low	
frequency	58
intensity	58

SUBJECT HEADING INDEX (Continued)Source Numbers

Monsoon	
wind direction	54
winds	88
dates of onset of NE	57, 96
dates of onset of SW	57
Overcast days	See State of sky
Precipitation	
amount	
departures	116
frequency	64, 78
maximum	93, 120, 132
maximum in 24 hours	120, 132
mean and/or total	2, 3, 5, 6, 7, 10, 11, 12, 14, 16, 17, 19, 21, 27, 29, 30, 32, 34, 36, 39, 41, 44, 46, 51, 52, 53, 55, 59, 60, 67, 68, 75, 78, 88, 90, 92, 93, 96, 101, 103, 106, 108, 110, 115, 116, 121, 123, 124, 126, 128, 129, 132, 135
minimum	120, 132
months with greatest and least	19
surplus/deficit	132
days	
departures	116
mean and/or total number	14, 16, 22, 34, 39, 46, 52, 53, 55, 57, 59, 93, 116, 120, 123, 124, 126, 132
regions	115
Pressure	
examples of isobaric situations	14, 40, 44, 47, 61, 79
mean	1, 8, 11, 12, 14, 16, 19, 22, 39, 43, 44, 46, 47, 49, 50, 51, 52, 55, 59, 67, 80, 105, 112, 128
Rainfall	See Precipitation
Relative Humidity	See Humidity, relative
Sea current	132
Sea surface temperature	See Temperature, sea surface
Sky cover/visibility frequency	120, 132, 133, 137
State of sky	
broken	135
clear	46, 135
overcast	46, 135
Stations	82, 93, 101, 123
climatological	1, 15, 16, 18, 24, 27, 41, 44, 53
meteorological	4, 14, 15, 16, 17, 27, 33, 41, 44, 77, 116
pilot balloon	45

SUBJECT HEADING INDEX (Continued)

	<u>Source Numbers</u>
Stations (cont'd)	
precipitation	14, 15, 16, 17, 18, 24, 27, 41, 44, 102, 116
transmission network (reception and broadcast of meteorological infor- mation)	16
weather	93, 115
Storm	
development of tropical tracks	85 51, 52, 75, 124
Temperature	
absolute maximum and minimum	55, 56, 59, 123
mean	16, 19, 25, 39, 44, 46, 55, 59, 88, 90, 123
mean maximum and minimum	3, 55, 56, 90, 93, 101, 120, 123, 124, 126, 132
range	44, 59, 101
sea surface	126, 132
Temperature-Humidity Index	123
Thunder	39, 51, 52
Thunderstorms	46, 55, 93, 120, 124, 126, 132
Tropical trough	See Trough, Tropical
Trough, tropical	
position of	95
Typhoon	
density	8
development	39, 85
frequency	39, 91
tracks	3, 5, 8, 12, 13, 14, 16, 17, 19, 41, 42, 59, 78, 97, 98, 100, 101, 104, 105, 112, 115, 118, 124, 127
Typhoons, areas of	39
Upper air temperature	134
Upper wind	
circulation	57, 70, 72, 73, 81, 84, 86, 95, 108, 126, 132
depths of main air stream	117
direction and speed of main air streams	45
mean streamlines	49, 52, 75, 109
prevailing direction	22, 49, 53
resultant	50, 51, 52, 107, 134
roses	62, 67, 75, 99, 116
speed	49, 51, 52, 53, 99
trajectories	71

SUBJECT HEADING INDEX (Continued)Source Numbers

Visibility	
frequency	31, 86, 93, 126, 132
mean	46
Visibility/ceiling frequency	See Ceiling/visibility frequency
Visibility/ceiling/wind frequency	See Ceiling/visibility/wind frequency
Visibility/sky cover frequency	See Sky cover/visibility frequency
Weather conditions	
examples	4, 9, 11, 37, 39, 40, 45, 57, 61, 83, 66, 69, 70, 78, 79, 84, 86
operational	86, 93, 126, 132
Weather maps	
daily	69, 91, 122
typical	48
Weather patterns	82, 83
Wet season, months of	101, 125, 126
Wind	12, 34, 35
circulation	57, 63, 66, 70, 83, 92, 93
direction	3, 11, 19, 59, 119, 128
mean	1
prevailing	20, 23, 43, 46, 47, 49, 51, 52, 77, 80, 90, 93, 105, 110, 115
duration (days) by direction	3
force frequency	68
regimes	11, 14, 16, 23, 24, 25
roses	46, 55, 116, 135
speed	11, 46, 93, 101
streamlines	61, 64, 66, 74, 96, 112, 132, 135
trajectories	65