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14. ABSTRACT The goal of the Marine Physical Laboratory FLIP (Floating Instrument Platform) program is to maintain FLIP fully operational to support Office of Naval Research (ONR) sponsored research programs. Management of FLIP includes providing a trained crew to support all scheduled scientific expeditions and maintaining FLIP and included support systems materially ready for sea. Routine maintenance funded under this proposal includes the repair, overhaul and/or the replacement of existing platform equipment necessary for FLIP to continue to operate safely in support of ONR research. Funding has also covered the cost of a routine dry docking of FLIP in 2007 and 2010. Dry dockings occur at 3-year intervals.					
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Operation and Maintenance of the Research Platform FLIP  
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Award #: N00014-06-1-0923  
Period of Award, 01 August 2006 to 30 June 2013

## Long-Term Goals

The goal of the Marine Physical Laboratory FLIP (Floating Instrument Platform) program is to maintain FLIP fully operational to support Office of Naval Research (ONR) sponsored research programs. Management of FLIP includes providing a trained crew to support all scheduled scientific expeditions and maintaining FLIP and included support systems materially ready for sea. Routine maintenance funded under this proposal includes the repair, overhaul and/or the replacement of existing platform equipment necessary for FLIP to continue to operate safely in support of ONR research. Funding has also covered the cost of a routine dry docking of FLIP in 2007 and 2010. Dry dockings occur at 3-year intervals.

## Description of the research platform FLIP

FLIP is a 355-foot long non-propelled stable platform, a facilities asset of ONR and operated by the Marine Physical Laboratory, Scripps Institution of Oceanography, University of California San Diego. FLIP was launched 22 June 1962, at the Gunderson Brothers Engineering Company, Portland, Oregon. The mission of FLIP is to serve as a stable platform in support of ONR sponsored research. Carrying a research party of 11-people and a crew of 5, FLIP can support research operations up to 30 days and can operate drifting or anchored in deep or shallow water. FLIP operates from the Scripps Nimitz Marine Facility in San Diego, California. Units of the Military Sealift Command and commercial tugs support FLIP for at-sea operations.

## Work Accomplished During this Grant Period, August 2006 through June 2013

During the period of this grant, FLIP supported 16 ONR funded research cruises and one commercial funded research program. FLIP spent 268 days at sea that included a transit to Hawaii and return, a 20 day RaDyo drift cruise south of the

Hawaiian Islands, an 18 days Navy Research Laboratory drift cruise that commenced 100 miles west of Monterey, California and an ONR HiRes cruise with FLIP anchored 20 miles west of Bodega Bay, in northern California. On 30 June 2010, a 1-day cruise was conducted to celebrate the 50<sup>th</sup> anniversary of FLIP's launching. During the periods 21 February to 16 March 2007 and 13 October to 16 November 2010, FLIP underwent routine dry dockings in the navy floating dry dock USS ARCO ARDM 5 at the Submarine Base, San Diego. Routine maintenance and platform preservation was performed by the FLIP crew throughout the award period.

Throughout the award period, FLIP maintained on inport crew of 3-Floating Lab Crewmembers, increasing to 5-crewmembers for all underway periods. Also, the FLIP program manager was funded at 40% throughout the period.

### Research Programs Supported by FLIP

#### 2006

15 Aug-11 Sept	PI R. Pinkel, MPL,	ONR, AESOP
02 Oct-04 Nov	PI J. Hildebrand, MPL	ONR Marine Mammal

#### 2007

21 Feb-16Mar	T. Golfinos	ONR Dry Dock in ARCO
30 Oct-29 Nov	PI J. Hildebrand, MPL	ONR/N45 Marine Mammal

#### 2008

03-25 Sep	PI K. Melville, MPL	ONR RaDyo Program
13 Oct-12 Nov	PI J. Hildebrand, MPL	ONR Marine Mammal Research

#### 2009

6-7 May	PI K. Melville, MPL	ONR Sea Trials
06-14 Jul	PI K. Melville, MPL	ONR ONR HiRes
03-13 Aug	T. Golfinos, MPL	ONR Transit to Hawaii
28 Aug-16 Sep	PI K. Melville, MPL	ONR ONR RaDyO (Hawaii)
29 Sep-10 Oct	T. Golfinos, MPL	ONR Transit to San Diego

#### 2010

01-19 Jun	PI K. Melville, MPL	ONR HiRes
13 Oct-Nov 16	T. Golfinos, MPL	ONR Dry Dock in ARCO
03-09 Dec	PI K. Melville, MPL	ONR HiRes

#### 2011

14-28 Sep	M. Wardlaw, ONR	ONR
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#### 2012

17 Apr-04 May	PI A. Anguelova, NRL	ONR
30 Jun,	MPL/ONR/SIO	FLIP 50th Anniversary cruise
23-27 Jul	PI J. Butman, ONR	ONR

#### 2013

03-06 Jun	T. Golfinos, MPL	Teledyne/Boeing Depth Sounder
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