

# FLIP (Floating Instrument Platform)

Flotilla 18 member **Kathleen Johnson** arranged an incredible tour for our members on the famous FLIP vessel moored at the docks at Point Loma Research Facility across from the police docks.

The date for this once in a lifetime opportunity was Sunday, November 27. There was room for twenty members for this tour and depending on the popularity we might be able to arrange another tour early next year.

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FLIP (Floating Instrument Platform) is the US Navy's oldest, and most unusual, research vessel.

Commonly referred to as the FLIP ship, it is actually a 355ft long, spoon-shaped buoy which can be flipped from horizontal to a vertical position by pumping 700t of seawater into the 'handle' end whilst flooding air into the 'cradle', causing it to rise up out of the sea.

Once the 28 minute transformation from horizontal to vertical has taken place, 300m of the buoy are submerged underwater, keeping the 700 long-ton mass steady and making it perfect for researching wave height, acoustic signals, water temperature and density, and for the collection of meteorological data.

FLIP was created in 1962 by scientists Dr Fred Fisher and Dr Fred Spiess, who wanted a more stable space than a conventional research ship to study wave forms. The build was funded by the US Office of Naval Research (who still own the buoy) and the Marine Physical Laboratory of the Scripps Institution of Oceanography (who still operate it) and launched by The Gunderson Brothers Engineering Company of Portland, Oregon.

FLIP was given a \$2m makeover in 1995 and currently resides in La Jolla, California, although it operates all over the world. The buoy has so far completed over 300 operations.



THE FLIP TRANSFORMATION

The transformation from horizontal to vertical is one of the most impressive sights on the ocean. Because of the potential interference with the acoustic instruments, FLIP has no engines or other means of propulsion, so it has to be towed out to sea. In tow, FLIP can reach speeds of 7–10 knots.

“FLIP’s unique design makes it the only vessel in the world capable of operating both horizontally and vertically.”

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The pictures on the following page were provided by Jon Coats.

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**Rey and Loretta Armstrong**



**Joe Stevens**



**Jon Coats**

