

# Un-manned Satellites on Postage Stamps : 12

By Guest Contributors Don Hillger and Garry Toth

## 12. The TOPEX-Poseidon satellite

This is the twelfth in a series of articles about un-manned satellites on postage stamps. This article features the environmental-observing **TOPEX-Poseidon** satellite jointly operated by the U.S. and France.

**TOPEX** is short for "Ocean Topography Experiment," the name of the original U.S. mission proposal, while **Poseidon** was the name of the original French mission proposal. TOPEX-Poseidon was launched on 10 August 1992 into a circular orbit at 1330 km altitude.

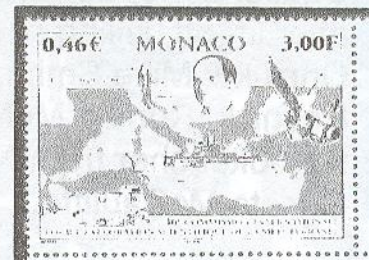
TOPEX-Poseidon was designed to provide long-term observations of global ocean circulation and ocean surface topography. The two radar altimeters on board were designed to measure sea height to within 3 cm, but inaccuracies in orbital determination increase the uncertainty relative to the geoid to approximately 10 cm. This measurement fact is nicely featured on a stamp issued by the French Southern and Antarctic Territories (C122) in 1992.

The sea surface height can be related to ocean currents and circulation that in turn are related to atmospheric circulation and climate patterns. In particular, the measurements from TOPEX-Poseidon are used to monitor the water warming in the eastern Pacific Ocean known as El Niño and the rebound effect of cold water conditions that follows, known as La Niña.

The TOPEX-Poseidon mission is part of the World Ocean Circulation Experiment (WOCE), which is a major oceanographic field program under the auspices of the World Climate Research Program (WCRP). [On a side note, a stamp publicizing WOCE was issued by French Southern and Antarctic Territories (172) in 1992.] One of the goals of WOCE is to combine satellite data with traditional observations to generate the first global 3D ocean circulation model.

TOPEX-Poseidon has one large solar array, a small high-gain dish antenna that stands off from the spacecraft body, and a Global Positioning System (GPS) antenna for accurate orbital determination that is on the end of a long pole attached to the spacecraft body. These features can be seen on many of the postal items featuring this satellite.

The large number of postal items that have been issued featuring the TOPEX-Poseidon satellite indicate the international nature and wide publicity given to the program. A table and images of many of the postal items showing TOPEX-Poseidon are presented both here and on the Website developed and maintained by the authors: <http://www.cira.colostate.edu/ramm/hillger/satellites.htm>. E-mail correspondence with the authors is welcome. Don Hillger can be reached at [hillger@cira.colostate.edu](mailto:hillger@cira.colostate.edu) and Garry Toth at [garry.toth@ec.gc.ca](mailto:garry.toth@ec.gc.ca).



See also Malagasy sheet on page 11 for a further image

Checklist of Postal Items Showing the TOPEX-Poseidon satellite

Country	Catalog Number*	Type of Item**	Year	Notes on Content
Dominica	2238c	One of SS6 (2238a-f)	2000	TOPEX-Poseidon
French Southern and Antarctic Territories	C122		1992	TOPEX-Poseidon
Malagasy Republic	1047	One of MS6 (1050a (1045-1050))	1992	TOPEX-Poseidon
Malagasy Republic	1047A	SS1 (1047)	1992	TOPEX-Poseidon
Mali	847	In margin of SS4 (847a-d)	1996	TOPEX-Poseidon
Monaco	2223		2001	TOPEX-Poseidon
Moldavia	Local	One of MS6	1997/8	TOPEX-Poseidon
New Caledonia	C268		1994	TOPEX-Poseidon
North Osetia	Local	One of imperforate MS6	1997	TOPEX-Poseidon
Tuva	Local	One of MS4	1994	TOPEX-Poseidon
Tuva	Local	One of MS4 overprinted	1994	TOPEX-Poseidon
United States	None	Cancel	1991	TOPEX-Poseidon
Yugoslavia	2502f	One of MS7 (2502a-g)	2000	TOPEX-Poseidon

\*Scott catalog number.

\*\*SS# = souvenir sheet, MS# = miniature sheet, where # = number of stamps in sheet, and the numbers in parentheses are the catalog numbers of the stamps in the sheet.



EARTH-MOON STATION  
Journey to a New Frontier  
Downey CA 90241



OCT 1 1991

Aerial III Cover—See Feature on Sir Francis Graham Smith on page 37

BRITISH SATELLITE - United Kingdom 3

The Aerial, today launched from Vandenberg Air Force Base. Will measure oxygen in the atmosphere, electronic density and radiation.

