

The Global Tropical Moored Buoy Array

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Project Summary

The Global Tropical Moored Buoy Array program (GT MBA) is a NOAA contribution to the Global Ocean Observing System (GOOS), the Global Climate Observing System (GCOS), and the Global Earth Observing System of Systems (GEOSS). The goal of the moored buoy program is to provide high quality moored time series and related data throughout the global tropics for improved description, understanding and prediction of seasonal to decadal time scale climate variability. Focus on the tropics is dictated by its role as a heat engine for the Earth's climate system, engendering phenomena such as the El Niño/Southern Oscillation (ENSO), the monsoons, the Indian Ocean Dipole, and tropical Atlantic climate variability. This program supports NOAA's strategic plan goal to "Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond." It also provides key observational underpinning for the international Climate Variability and Predictability (CLIVAR) program's research efforts on climate variability and change. Management of the tropical moored buoy array program is consistent with the "Ten Climate Monitoring Principles". Program oversight at the international level is through CLIVAR basin panels and the CLIVAR/JCOMM Tropical Moored Buoy Implementation Panel (TIP). A web site containing comprehensive information on the program can be found at <http://www.pmel.noaa.gov/tao/global/global.html> .

The Office of Climate Observations and Monitoring (COM) supports of the Global Tropical Moored Buoy Array program focuses on four major elements. These are the Prediction and Research Moored Array in the Tropical Atlantic (PIRATA), the Research moored Array for African-Asian-Australian Monsoon Analysis and prediction (RAMA), Flux Reference Stations, and Tropical Salinity. The TAO array, also part of the GT MBA program, is managed by NOAA/NDBC. PMEL continues to provide instrumentation and mooring hardware unique to ATLAS for TAO under contract to NDBC, which is funded by the National Weather Service. The Japan Agency for Marine-Earth Science and Technology ([JAMSTEC](#)) operates the Triangle Trans-Ocean Buoy Network (TRITON) of buoys in the western Pacific. The planned and present status of the GT MBA is shown in Table 1. GMTBA data are available in near-real-time to operational centers worldwide on the Global Telecommunications System (GTS) and publically available on PMEL's Display and Delivery pages, <http://www.pmel.noaa.gov/tao/disdeldel/disdeldel.html> .

Table 1. GTMBA planned and present composition. Some sites are occupied by both a surface and subsurface mooring. The majority of moorings are provided by NOAA. Foreign mooring contributions are from Japan (TAO/TRITON and RAMA), France and Brazil (PIRATA), India and China (RAMA). Percent Complete is based on the number of moorings.

	TAO/TRITON	PIRATA	RAMA	GTMBA
Sites Planned	67	18 127	42	
Sites Implemented	67	17	28	112
Moorings Planned	72	19 137	46	
NOAA Moorings Implemented	59	17	21	97
Foreign Moorings Implemented	13	1 23	9	
Total Moorings Implemented	72	18	30	120
Percent Complete	100%	95% 88%	65%	