

Japan

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Summary of operational and planned GOOS participation

<u>Operations</u>	<u>Comments</u>
Surface drifters	9 active and on the GTS February 2010. Plans to maintain 15. 12 with barometers
Wave	69 Nation wide Ocean Wave information network for Ports and Harbors system (NOWPHAS) http://www.pari.go.jp/bsh/ky-skb/ks-jyo/kaisy/eng/marine_home_e.htm
Moorings	Japanese TRITON array officially began Jan 2000 with an 18 buoy network completed Aug 2002. http://www.jamstec.go.jp/jamstec/TRITON/real_time/php/top.php Indian Ocean - USA/India and Japan program. http://www.pmel.noaa.gov/tao/taoweb/indian/all.html http://www.jamstec.go.jp/iorgc/iomics/datadisplay/buoysummary.php?LANG=0 OceanSITES http://www.oceansites.org/network/index.html JCOMMOPS reports 17 Japanese moorings reporting on GTS Feb 2010
XCTD/XBT/TSG	Hawaii-Japan high density line PX40. Three sections annually. Completed 34 sections 1998 through 2009. http://www.pol.geophys.tohoku.ac.jp/~kizu/jahmp/jahmp-e.htm PX5 (Australia-Japan), HDX, 3 sections to date with 783 good drops. See http://www-hrx.ucsd.edu/px05.html 1949 BATHY messages were submitted for GTS distribution in 2009. Some data from CTDs are reported in TESAC format.
ARGO	322 active February 2010. http://argo.kishou.go.jp/ Plans to deploy 41 in 2010 as of February 2010 Pacific ARGO regional Center with CSIRO and IPRC

<http://www.jamstec.go.jp/ARGORC/>

Sea Level

15 GLOSS MSL stations all of which are also FAST and reporting well. FAST data (20 Stations) posted at Hawaii center as of February 2010. Overall, operates 126 stations for various purposes: tsunami, Storm surge, navigation etc. Data from 69 tide stations are sent to the Permanent Service for Mean Sea Level monthly. see: <http://www.jma.go.jp/jp/choi/list1.html>

42 GPS positioned stations, 14 of which are both GLOSS MSL and FAST delivery.

<http://www.sonel.org/stations/cgps/survey/survey.cgps.html>

Time Series

Continuation of Repeat lines 137E (Japan to tropics) and 165E (Sub Arctic to tropics) 2-4 times per year.

Japan Coast Guard (JCG) repeats hydro sections along 144E in Western Pacific every Feb, along 110E and 150E in the Southern Ocean every December and March respectively. Temp, salinity, dissolved oxygen and nutrients

Fisheries Research Agency Oyashiro area "A line" off Hokkaido. 5 to 8 cruises/yr since 1987. Physical, biological and chemical measurements. Also occupies 138E south of Honshu every season to investigate the marine ecosystem (since 1999)

TS Hydrography

Latest and next Repeat Hydrographic sections (standard WOCE sampling):

P14N, Aleutians intersection with P1 and north, 2007, decadal.

P21, 17S, 2009, decadal.

P9, 137E, 1994 and 2010.

P13, 165E, 1992 (USA), 2011 Japan.

I10 (I2 plus I10 from 8S+111E). 1995 (USA), 2011-12 Japan

S4I, 1996 (USA). 2012-13 Japan

http://www.go-ship.org/RefSecs/Table_RefSecs1.4.pdf

http://ushydro.ucsd.edu/repeathydro_map.html

JMA long term Oceanographic and Meteorological cruises adjacent to Japan and western North Pacific. For year 2009 programs, go to:

http://www.data.kishou.go.jp/kaiyou/db/vessel_obs/data-report/html/ship/ship_e.php

Carbon

Under way measurements

Pyxis 2002-, Nagoya-Portland-LA-Toyohashi, monthly

Tokyo-Brisbane-Melbourne-Christchurch Monthly 2005-

SW Pacific, Tokyo-New Zealand, 2005-, monthly
North and Equatorial Pacific, 137E-34N/2S, seasonal
North Pacific, 50N and 28N along 165E, annual
North and Equatorial Pacific, 165E, 28N-5S, Biannual
Equatorial Pacific, 142E-165E, Equator, Biannual
N. Pacific, 40N, 24N and 9N to west of date line.
Port Elizabeth - Fremantle, 2008
Cape Town, Fremantle-Hobart, 2007/2008
Fremantle-Syowa Station, annual

Hydrographic Sections

155E, 20N to 44N, every 2 yrs
P1-47N, 2007 and then every 7-10 years
P3, 2005 then every 7-10 years (24N, Japan to date line)
P10, 2005 JAMSTEC and 2006 JHD. JAMSTEC every 7-10yrs
P14, 2007 mainly 7 to 10 year frequency
P1, 47N, 2007.
P14, 2007 mainly 7 to 10 year frequency
K2, 2001 onward, 47N-160E, every 2-3 yrs
A-line, 1996 onward, 42N-140E, every 4-6 yrs
RIGC-JAMSTEC, 2011/12, Akihiro Murata
RIGC-JAMSTEC, 2012/13, along S041/S04/S04P lines
from 33E to 166E

Biological	Northwest Pacific biogeochemical (Nutrients, primary productivity, CO ₂ etc) and hydrographic observations at stations K2 47N, 155E) and KNOT (44N, 155E).
Satellite	GCOM-W ocean wind speed, SST etc, 2011+ GCOM-C (climate) planned. SST, ocean color, etc http://www.jaxa.jp/projects/sat/gcom/index_e.html New Generation SST (NGSST) Project: http://www.ocean.caos.tohoku.ac.jp/%7Eemerge/sstbinary/actvalbm.cgi?eng=1 MTSAT-1R, 2005-2010. MTSAT-2, 2010-2014+(STAND BY) http://www.jma.go.jp/jma/jma-eng/satellite/
VOS	431 VOS and 5 VOSclim ships active February 2010. Operates 17 ASW and 5 ASAP ships. http://www.ncdc.noaa.gov/oa/climate/vosclim/vosclim.html
NEAR-GOOS	NEAR-GOOS Regional Real Time Data Base (RRTDB) http://goos.kishou.go.jp and Regional Delayed Mode Data Base (RDMDB). http://near-goos1.jodc.go.jp/ http://ioc.unesco.org/goos/NearGOOS/neargoos.htm