

# **Japan**

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## **Summary of Operational and Planned Oceanographic Observation Programs**

### **Surface drifters**

5 active 15 January 2012    <http://osmc.noaa.gov/Monitor/OSMC/OSMC.html>

### **Wave**

69 Nation wide Ocean Wave information network for Ports and Harbors system (NOWPHAS)

### **Moorings**

Japanese TRITON array officially began Jan 2000 with an 18 buoy network completed August 2002. [http://www.jamstec.go.jp/jamstec/TRITON/real\\_time/php/top.php](http://www.jamstec.go.jp/jamstec/TRITON/real_time/php/top.php)  
<http://www.jamstec.go.jp/iorgc/iomics/index.html>  
[http://www.data.kishou.go.jp/kaiyou/db/vessel\\_obs/data-report/html/buoy/buoy\\_e.php?year=2010](http://www.data.kishou.go.jp/kaiyou/db/vessel_obs/data-report/html/buoy/buoy_e.php?year=2010)

16 Japanese moorings reporting 15 January 2012  
<http://osmc.noaa.gov/Monitor/OSMC/OSMC.html>

JKEO4 Buoy <http://www.jamstec.go.jp/iorgc/ocorp/ktsfg/data/jkeo/>  
<http://www.jamstec.go.jp/iorgc/ocorp/ktsfg/data/jkeo/JKEOdata.htm>

### **XCTD/XBT/TSG**

Hawaii-Japan high density line PX40. Three sections annually. Completed 40 sections 1998 - 2011 <http://www.pol.gp.tohoku.ac.jp/~kizu/jahmp/jahmp-e.htm>

PX5 (Australia-Japan), HDX, 10 sections completed 2009-11. Total good drops 2548  
See <http://www-hrx.ucsd.edu/px05.html> for latest data

Oceanographic and Marine Meteorological Observations by Research Vessels  
[http://www.data.kishou.go.jp/kaiyou/db/vessel\\_obs/data-report/html/ship/ship\\_e.php](http://www.data.kishou.go.jp/kaiyou/db/vessel_obs/data-report/html/ship/ship_e.php)

### **ARGO**

273 active 25 January 2012. <http://argo.kishou.go.jp/> 24 deployments initially planned for 2012.

Pacific ARGO regional Center with CSIRO and IPRC  
[http://www.jamstec.go.jp/J-ARGO/index\\_e.html](http://www.jamstec.go.jp/J-ARGO/index_e.html)  
<http://www.jamstec.go.jp/ARGORC/>  
[http://www.jamstec.go.jp/ARGORC/status\\_top.html](http://www.jamstec.go.jp/ARGORC/status_top.html)

### **Sea Level**

15 GLOSS MSL stations all of which are also FAST.

<http://www.psmsl.org/data/obtaining/> FAST data (20 Stations) posted at Hawaii center as of December 2011. <http://ilikai.soest.hawaii.edu/uhs/c/woce.html>

Overall operates 140 stations for various purposes: tsunami, storm surge, navigation etc.

See also <http://www.ioc-sealevelmonitoring.org/index.php> for near-real time information

See: <http://www.jma.go.jp/jp/choi/list1.html> 38 GPS positioned stations, 13 of which are GLOSS. <http://www.sonel.org/spip.php?page=cgps>

### **Time Series**

Oceanographic and Marine Meteorological Observations by Research Vessels.

[http://www.data.kishou.go.jp/kaiyou/db/vessel\\_obs/data-report/html/ship/ship\\_e.php](http://www.data.kishou.go.jp/kaiyou/db/vessel_obs/data-report/html/ship/ship_e.php)

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):

P1, 47N, 2007

P3, 24N, Okinawa to Sandago, 2006, JMA

P9, 137E, 1994 and 2010.

P10, 147N, 2005, Decadal

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

P14S/C along 174E 2007 and 2013

P14N, P1 and Northward, 2007, Decadal

P21, 17S, 2009, Decadal.

I02+I10 (I2 plus I10 from 8S+111E). 1995 (USA), 2011-12 Japan

S4I, 1996 (USA). 2013 Japan

[http://www.go-ship.org/RefSecs/Table&Meas\\_May2010b.pdf](http://www.go-ship.org/RefSecs/Table&Meas_May2010b.pdf)

[http://ushydro.ucsd.edu/repeathydro\\_map.html](http://ushydro.ucsd.edu/repeathydro_map.html)

JMA long term Oceanographic and Meteorological cruises adjacent to Japan and western North Pacific. For year 2011 programs, go to:

[http://www.data.kishou.go.jp/kaiyou/db/vessel\\_obs/data-report/html/ship/ship\\_e.php](http://www.data.kishou.go.jp/kaiyou/db/vessel_obs/data-report/html/ship/ship_e.php)

[http://www.data.kishou.go.jp/kaiyou/db/vessel\\_obs/data-report/html/ship/efile\\_NoS2\\_e.html](http://www.data.kishou.go.jp/kaiyou/db/vessel_obs/data-report/html/ship/efile_NoS2_e.html)

## **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  
P3, 2006 then every 7-10 years (24N, Japan to date line)  
P10, 2005 JAMSTEC and 2006 JHD. JAMSTEC every 7-10yrs  
P1, 47N, 2007.  
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<sub>2</sub> etc) and hydrographic observations at stations K2 47N, 155E) and KNOT (44N, 155E).

## **Status of current and Future Satellites**

<http://www.wmo.int/pages/prog/sat/satellitestatus.php>

## **VOS**

3VOS, 2 of which are also VOSCLIM, ships operating 15 January 2012

<http://osmc.noaa.gov/Monitor/OSMC/OSMC.html>

<http://www.ncdc.noaa.gov/oa/climate/vosclim/vosclim.html>

Operates 17 ASW and 5 ASAP ships.

## **NEAR-GOOS**

NEAR-GOOS Regional Real Time Data Base (RRTDB) <http://goos.kishou.go.jp>  
and Regional Delayed Mode Data Base (RDMDDB). <http://near-goos1.jodc.go.jp/>