

# CARBON TIME SERIES STATIONS: PACIFIC OCEAN

International Ocean Carbon Coordination Project ([www.ioccp.org](http://www.ioccp.org))

Last updated: September 2011

Mooring/Station/ Ship name	Period of operation	Location	Basic description	Measurements frequency	PI	Country
<b>Stations monitored from SHIPS</b>						
Halifax Line	2006- present	From Halifax to (41°10'N, 60°31'W)	TIC, TA, pH, O <sub>2</sub> , nutrients, CFCs, Chlorophyll(a)	1/year	K. Azetsu-Scott	Canada
HOT (NW Pacific)	1988- present	22°45'N 158°W	Profile DIC and TA, surface pCO <sub>2</sub> ; hydrography and biogeochemical measurements	monthly	D. Karl	USA
JKEO	2010- present	38°N, 146°30'E	0m-bottom, 36 layers, DIC, TA, pH	1-2/year	M. Honda, M. Wakita	Japan
JMA's monitoring program by RV Ryofu Maru and RV Keifu Maru (N Pacific)	2003- present	137°E(P9), 30°N-5°N, mostly 5° intervals	0 - 2000m, 22 layers DIC, <sup>13</sup> C, pH, CFCs (measured in selected cruises). Underway pCO <sub>2</sub> since 1983. TA after 2010.	seasonal, since 2010 twice/year (Jan-Feb, June- July).	M. Ishii	Japan
JMA's monitoring program by RV Ryofu Maru and RV Keifu Maru (N Pacific)	2003- present	165°E(P13), 50°N -28°N, mostly 2-3° intervals	0 - 2000m, 22 layers DIC, TA and CFCs measured on selected cruises. Underway pCO <sub>2</sub> since 1997	1/year (June- July)	M. Ishii	Japan
JMA's monitoring program by RV Ryofu Maru and RV Keifu Maru (N and Eq Pacific)	2003- present	165°E(P13), 28°N -3°S, mostly 2-3° intervals	0 - 2000m, 22 layers DIC, <sup>13</sup> C, pH* and CFCs* measured on selected cruises. Underway pCO <sub>2</sub> since 1997. TA after 2010.	2/year (Jan-Feb, Jun-Jul)	M. Ishii	Japan
KEO	2010- present	32°N, 145°E	0m - bottom, 36 layers, DIC, TA, pH	1-2/year	M. Honda, M. Wakita	Japan
Munida Time Series Transect	1998- present	45°46'S 170°43'E – 45°50'S 170°30'E	Surface pCO <sub>2</sub> and water column measurements at 45.83S 170.50E of AT and CT	6/year	K. Currie	New Zealand

Nanwan Bay	1986-	21°56'N 120°46'E	7 stations with measurement depths to 50 m, including T, S, DO, pH, nutrients	4/year	C.T.A. Chen	Taiwan R.O.C.
Ocean Station Papa – Line P	1970's- present	48°21'N, 126°W to 50°N, 145°W	pH, DIC and alkalinity at 6 stations plus continuous pCO <sub>2</sub> along the line	3/year	L. Miller S. Johannessen	Canada
SEATS station	'99 - '03, '04 –'10, 2011 - present	18°15'N, 115°40'E	salinity, dissolved oxygen, major nutrients, alkalinity and total CO <sub>2</sub>	4/year, 1/year, 2/year	George T. F. Wong	Taiwan
<b>Stations monitored by MOORINGS</b>						
Ala Wai HiOOS	Jun 2008- present	21°17'N, 157°51'W	MAPCO2 system	continuous	C. Sabine, E. DeCarlo	USA
CCE1 (California Current Ecosystem Mooring 1)	Nov 2008- present	33°N, 122°W	Surface MAPCO2 system, T/S, pH, O <sub>2</sub> ; at 40 m: T/S, Chl-a, NO <sub>3</sub> , turbidity, pH, O <sub>2</sub>	continuous	C. Sabine, U. Send, M. Ohman	USA
CCE2	Jan 2010- present	34°20'N, 120°49'W	MAPCO2 system	continuous	C. Sabine, U. Send, M. Ohman	USA
Cape Elizabeth, (WA, USA)	Jun 2006- present	47°21'N 124°44'W	MAPCO2 system	continuous	C. Sabine	USA
CRIMP (Coral Reef Instrumented Monitoring Platform)	May 2008- present	21°28'N, 157°48'W	MAPCO2 system	continuous	C. Sabine, E. DeCarlo	USA
Heron Island	Oct 2009- present	22°28'S, 151°56'E	MAPCO2 system	continuous	C. Sabine, B. Tillbrook	USA
Kilo Nalu HiOOS	Jun 2008- present	21°17'N, 157°53'W	MAPCO2 system	continuous	C. Sabine, E. DeCarlo	USA
KEO (Kuroshio Extension Observatory)	Sep 2007- present	32°24'N, 144°30'E	MAPCO2 system	continuous	C. Sabine, M. Cronin	USA
KNOT (Kyodo western North Pacific Ocean Time-series)	1992 - present	44°N, 155°E	Mooring with 0m - bottom, 36 layers: DIC, TA, pH, CFCs	1-2/year	M. Wakita	Japan
La Parguera	Jan 2009- present	17°57'N, 67°03'W	MAPCO2 system	continuous	C. Sabine, D. Gledhill, J. Coredor	USA

Station PAPA	Jun 2007-present	50°N, 145°W	MAPCO2 system	continuous	C. Sabine, M. Cronin	USA
S1	2010 - present	30°N, 145°E	Mooring with 0m - bottom, 36 layers: DIC, TA, pH, CFCs	1-2/year	M. Honda, M. Wakita	Japan
Stratus	Oct 2006-present	19°36'S, 85°24'W	MAPCO2 system	continuous	C. Sabine, B. Weller	USA
TAO 1 (Tropical Atmosphere Ocean project)	Sep 2009-present	0°, 110W	MAPCO2 system	continuous	C. Sabine	USA
TAO 2	May 2004-present	0°, 125°W	MAPCO2 system	continuous	C. Sabine	USA
TAO 3	May 2004-present	0°, 140°W	MAPCO2 system	continuous	C. Sabine	USA
TAO 4	Jan 2010-present	0°, 155°W	MAPCO2 system	continuous	C. Sabine	USA
TAO 5	Feb 2010-present	0°, 165°W	MAPCO2 system	continuous	C. Sabine	USA
TAO 6	Jun 2009-present	8°S, 165°W	MAPCO2 system	continuous	C. Sabine	USA
TAO 7	Jul 2005-present	0°, 170°W	MAPCO2 system	continuous	C. Sabine	USA
WHOT	Dec 2004-present	22°48'N, 158°W	MAPCO2 system		C. Sabine, B. Weller	USA