

Supplementary Table S1 List of papers using data from the 137°E section. Note that this list includes only those papers that specified use of the 137°E data, and does not include those papers that used the 137°E data through datasets or databases.

1967–1969

- Masuzawa J (1967) An oceanographic section from Japan to New Guinea at 137°E in January 1967. *Oceanogr Mag* 19:95–118
- Akiyama T (1968) Partial pressure of carbon dioxide in the Atmosphere and in sea water over the western North Pacific Ocean. *Oceanogr Mag* 20:133–146
- Akiyama T, Sagi T, Yura T (1968) On the distributions of pH in situ and total alkalinity in the western North Pacific Ocean. *Oceanogr Mag* 20:1–8
- Hayashi S, Miyashita I, Fujita I (1968) Maritime meteorological summary of western North Pacific Ocean in winter. *Oceanogr Mag* 20:105–120
- Kawarada Y, Kitou M, Furukawa K, Sano A (1968) Plankton in the western North Pacific in the winter of 1967 (CSK). *Oceanogr Mag* 20:9–29
- Masuzawa J (1968) Second cruise for CSK, Ryofu Maru, January to March 1968. *Oceanogr Mag* 20:173–185
- Akamatsu and Sawara (1969) The preliminary report of the third cruise for CSK, January to March 1969. *Oceanogr Mag* 21:83–96
- Akiyama T (1969) Carbon dioxide in the atmosphere and in sea water over the western North Pacific Ocean. *Oceanogr Mag* 21:121–127
- Kawarada Y, Sano A (1969) Distribution of chlorophyll and phaeophytin in the western North Pacific. *Oceanogr Mag* 21:137–146
- Kitou M, Tanaka O (1969) Note on a species of *Calanoides* (Copepoda, Calanoida) from the western North Pacific. *Oceanogr Mag* 21:67–81
- Sagi T (1969) The concentration of calcium and the calcium chlorosity ratio in the western North Pacific Ocean. *Oceanogr Mag* 21:61–66
- Sagi T (1969) The ammonia content in sea water in the western North Pacific Ocean. *Oceanogr Mag* 21:113–119

1970–1974

- Hayashi S, Takano H, Yamashita A (1970) Maritime meteorological summary of the western North Pacific Ocean in the winters of 1967, 1968 and 1969. *Oceanogr Mag* 22:95–123
- Masuzawa J (1970) Geostrophic flux of the North Equatorial current south of Japan. *J Oceanogr Soc Jpn* 26:61–64
- Masuzawa J, Akiyama T, Kawarada Y, Sawara T (1970) Preliminary report of the Ryofu Maru Cruise Ry7001 in January–March 1970. *Oceanogr Mag* 22:1–25
- Sagi T (1970) On the distribution of nitrate nitrogen in the wesetern North Pacific Ocean. *Oceanogr Mag* 22:63–74
- Masuzawa J (1972) Water characteristics of the North Pacific central region. In: Stommel H, Yoshida K (eds) *Kuroshio—Its Physical Aspects*. Univ Tokyo Press, Tokyo, pp 95–127
- Nagasaka K and Sawara T (1972) A preliminary report of the cruise of the R/V Ryofu-Marui in January–March 1971. *Oceanogr Mag* 24:25–38
- Kitou M (1974) Chaetognatha. In: Marumo R (ed) *Marine Plankton*, Univ Tokyo Press, Tokyo, pp 65–85 (in Japanese)

Sagi T, Yura T, Akiyama T (1974) The cadmium content in sea water in the adjacent regions of Japan and in the western North Pacific. *Oceanogr Mag* 25:101–110

1975–1979

Masuzawa J, Nagasaka K (1975) The 137°E oceanographic section. *J Mar Res* 33(Suppl):109–116

White WB, Hasunuma K, Solomon H (1978) Large-scale seasonal, secular variability of the subtropical front in the western North Pacific from 1954 to 1974. *J Geophys Res* 83:4531–4544

Sano A, Satoh N, Kubo N (1979) Floating particulate petroleum residue, tar balls, in the western North Pacific. *Oceanogr Mag* 30:47–54

Shigehara K, Kimura K, Ohoyama J, Kubo N (1979) Fluorescing materials in marine environment and petroleum pollution: I. Analytical method and preliminary report of the result. *Oceanogr Mag* 30:61–74

Suzuoki T, Shirakawa K (1979) Visual observation on the floating pollutants in open ocean. *Oceanogr Mag* 30:55–60

1980–1984

Minami H, Kamihira E, Nishizawa J (1981) Some features of water mass on the warm eddies south of Honshu, Japan. *Umi to Sora* 57:1–18 (in Japanese with English abstract)

Nagasaka K (1981) Long-term variation of sea water temperature. *Tenki* 28:553–556 (in Japanese)

Kimura Y (1982) Short-term temperature variation along 137°E in the subtropical region of the western North Pacific. *Oceanogr Mag* 32:1–10

White WB, Meyers G, Hasunuma K (1982) Space/time statistics of short-term climatic variability in the western North Pacific. *J Geophys Res* 87:1979–1989

Suzuoki T, Matsuzaki M (1983) Tar ball distribution and dynamics of surface waters in the western North Pacific. *Oceanogr Mag* 33:19–26

Kurihara K (1984) Analysis of the statistical relationship between the end of the Baiu in Tokyo and sea water temperatures in the western tropical Pacific Ocean. *Geophys Mag* 41:159–171

1985–1989

Kurihara K (1985) Relationship between the surface air temperature in Japan and sea water temperature in the western tropical Pacific during summer. *Tenki* 32:407–417 (in Japanese)

Guan B (1986) Current structure and its variation in the equatorial area of the western North Pacific Ocean. *Chin J Oceanol Limnol* 4:239–255

Sudo (1986) Deep Water property variations below about 4000 m in the Shikoku Basin. *La mer* 24:21–32

Takatani S, Sagi T, Imai M (1986) Distributions of floating tars and petroleum hydrocarbons at the surface in the western North Pacific. *Oceanogr Mag* 36:33–42

Andow T (1987) Year-to-year variation of oceanography sub-surface section along the meridian of 137°E. *Oceanogr Mag* 37:47–73

Fushimi K (1987) Variation of carbon dioxide partial pressure in the western North Pacific surface water during the 1982/83 El Niño event. *Tellus* 39B:214–227

- Inoue HY, Sugimura Y, Fushimi K (1987) $p\text{CO}_2$ and $\delta^{13}\text{C}$ in the air and surface sea water in the western North Pacific. *Tellus* 39B:228–242
- Saiki M (1987) Interannual variation of the subtropical gyre in the western North Pacific. *Umi to Sora* 63:113–125 (in Japanese with English abstract)
- Hanawa K, Watanabe T, Iwasaka N, Suga T, Toba Y (1988) Surface thermal conditions in the western North Pacific during the ENSO events. *J Meteorol Soc Jpn* 66:445–456
- Inoue H, Sugimura Y (1988) Distribution and variations of oceanic carbon dioxide in the western North Pacific, eastern Indian, and Southern Ocean south of Australia. *Tellus* 40B:308–320
- Inoue H, Sugimura Y (1988) Distribution of the $p\text{CO}_2$ in the surface seawater of the western and central equatorial Pacific during the 1986/87 El Niño/Southern Oscillation event. *Geophys Res Lett* 15:1499–1502
- Kano Y (1988) Variation of oceanographic conditions in the western North Pacific and its relation to the Kuroshio and El Niño events. *Umi to Sora* 63:159–174 (in Japanese with English abstract)
- Kendall TR (1989) Fluctuation of transports and sea level in the western boundary region of the tropical Pacific Ocean. *J Oceanogr Soc Jpn* 45:279–287
- Suga T, Hanawa K, Toba Y (1989) Subtropical mode water in the 137°E section. *J Phys Oceanogr* 19:1605–1618
- 1990–1994
- Kawashima K, Nagai N (1990) Distribution of planktonic chaetognaths in the western North Pacific. *Oceanogr Mag* 40:53–64
- Yasunari T (1990) Impact of Indian monsoon on the coupled atmosphere/ocean system in the tropical Pacific. *Meteorol Atmos Phys* 44:29–41
- Fushimi K, Nishikawa M, Mitsuda H (1991) Floating pumices in the western North Pacific. *Oceanogr Mag* 41:59–74
- Hirota M, Nemoto K, Murata A, Fushimi K (1991) Observation of carbon dioxide concentrations in air and surface sea water in the western North Pacific Ocean. *Oceanogr Mag* 41:19–28
- Hayashi K, Dokiya Y, Ohyama J, Sagi T, Murata E, Fushimi K, Tanaka S (1992) Deposition of selenium and arsenic on the western North Pacific. *Oceanogr Mag* 42:43–53
- Hirota M, Nemoto K, Murata A, Fushimi K (1992) The observation of greenhouse gases and substances that deplete the ozone layer on board the Research Vessel Ryofu Maru of the Japan Meteorological Agency. *Weather Service Bull* 59:145–159 (in Japanese)
- Inoue HY, Sugimura Y (1992) Variations and distributions of CO_2 in and over the equatorial Pacific during the period from the 1986/88 El Niño event to the 1988/89 La Niña event. *Tellus* 44B:1–22
- Qiu B, Joyce TM (1992) Interannual variability in the mid-and low latitude western North Pacific. *J Phys Oceanogr* 22:1062–1079
- Fushimi K, Hirota M, Nemoto K, Murata AM (1993) Distribution of methane in the surface seawater and the air/sea flux over the western North Pacific. *Oceanogr Mag* 43:33–46
- Gouriou Y, Toole J (1993): Mean circulation of the upper layers of the western equatorial Pacific Ocean. *J Geophys Res* 98:22495–22520
- Hirota M, Nemoto K, Murata AM, Fushimi K (1993) Observation of methane concentrations in air and surface sea water in the western North Pacific Ocean. *Oceanogr Mag* 43:21–31

- Murata AM (1993) A note on large annual growth rate of atmospheric CO₂ over the western North Pacific in the period 1990–1991. *Oceanogr Mag* 43:1–20
- Kimura S, Tsukamoto K, Sugimoto T (1994) A model for the larval migration of the Japanese eel: roles of the trade winds and salinity front. *Mar Biol* 119:185–190
- Minami H, Takatsuki Y, Matsubara T (1994) The heat flux from sea surface and heat transport in the ocean along the 137°E observation line. *Umi to Sora* 69:231–244 (in Japanese with English abstract)

1995–1999

- Bessho S (1995) Geostrophic balance of the western North Pacific tropical current. *Geophys Mag Ser 2* 1:1–4
- Bessho S (1995) Interannual variations in the main thermocline in the western North Pacific along the 137°E meridian. *Geophys Mag Ser 2* 1:5–11
- Bingham FM, Lukas R (1995) The distribution of intermediate water in the western equatorial Pacific during January–February 1986. *Deep Sea Res II* 42:1545–1573
- Inoue HY, Matsueda H, Ishii M, Fushimi K, Hirota M, Asanuma I, Takasugi Y (1995) Long-term trend of the partial pressure of carbon dioxide (pCO₂) in surface waters of the western North Pacific, 1984–1993. *Tellus* 47B:391–413
- Suga T, Hanawa K (1995) Interannual variations of North Pacific Subtropical Mode Water in the 137°E section. *J Phys Oceanogr* 25:1012–1017
- Murata AM, Fushimi K (1996) Temporal variations in atmospheric and oceanic CO₂ in the western North Pacific from 1990 to 1993: possible link to the 1991/92 ENSO event. *J Meteorol Soc Jpn* 74:1–20
- Shuto K (1996) Internal variations of water temperature and salinity along the 137°E meridian. *J Oceanogr* 52:575–595
- Ando K, McPhaden M (1997) Variability of surface layer hydrography in the tropical Pacific Ocean. *J Geophys Res* 102:23063–23078
- Kuragano T, Shibata A (1997) Sea surface dynamic height of the Pacific Ocean derived from TOPEX/POSEIDON altimeter data: calculation method and accuracy. *J Oceanogr* 53:585–599
- Takahashi T, Feely RA, Weiss RF, Wanninkhof RH, Chipman DW, Sutherland SC, Takahashi TT (1997) Global air-sea flux of CO₂. *Proc Natl Acad Sci* 94:8292–8299
- Kaneko I, Takatsuki Y, Kamiya H, Kawae S (1998) Water property and current distributions along the WHP-P9 section (137°–142°E) in the western North Pacific. *J Geophys Res* 103:12959–12984
- Murata AM, Kaneko I, Nemoto K, Fushimi K, Hirota M (1998) Spatial and temporal variations of surface seawater fCO₂ in the Kuroshio off Japan. *Mar Chem* 59:189–200
- Sugimoto T, Tadokoro K (1998) Interdecadal variations of plankton biomass and physical environment in the North Pacific. *Fish Oceanogr* 7:289–299
- Qu T, Mitsudera H, Yamagata T (1999) A climatology of the circulation and water mass distribution near the Philippine coast. *J Phys Oceanogr* 29:1488–1505
- Takatani S, Oikawa K, Ogawa Kan (1999) Long-term monitoring of background marine pollution (oil pollution) in the western North Pacific. *Weather Service Bull* 66(Sp):S89–S96 (in Japanese)

2000–2004

- Inoue HY (2000) CO₂ exchange between the atmosphere and the ocean: carbon cycle studies of the Meteorological Research Institute since 1968. In: Handa N, Tanoue E, Hama T (eds) Dynamics and Characterization of Marine Organic Matter. Terra Sci, Tokyo, pp 509–531
- Suga T, Kato A, Hanawa K (2000) North Pacific Tropical Water: Its climatology and temporal changes associated with the climate regime shift in the 1970s. *Prog Oceanogr* 47:223–256
- You Y, Suginoara N, Fukasawa M, Yasuda I, Kaneko I, Yoritaka H, Kawamiya M (2000) Roles of the Okhotsk Sea and Gulf of Alaska in forming the North Pacific Intermediate Water. *J Geophys Res* 105:3253–3280
- Aoyama M, Hirose K, Miyao T, Igarashi Y, Povinec PP (2001) ¹³⁷Cs activity in surface water in the western North Pacific. *J Radioanal Nucl Chem* 248:789–793
- Ishii M, Inoue HY, Matsueda H, Saito S, Fushimi K, Nemoto K, Yano T, Nagai H, Midorikawa T (2001) Seasonal variation in total inorganic carbon and its controlling processes in surface waters of the western North Pacific subtropical gyre. *Mar Chem* 75:17–32
- Kaneko I, Takatsuki Y, Kamiya H (2001) Circulation of intermediate and deep waters in the Philippine Sea. *J. Oceanogr* 57:397–420
- Kimura S, Inoue T, Sugimoto T (2001) Fluctuation in the distribution of low-salinity water in the North Equatorial Current and its effect on the larval transport of the Japanese eel. *Fish Oceanogr* 10:51–60
- Xie SP, Liu T, Liu Q, Nonaka M (2001) Far-reaching effects of the Hawaiian Islands on the Pacific Ocean-atmosphere. *Science* 292:2057–2060
- Aoki Y, Suga T, Hanawa K (2002) Subsurface subtropical fronts of the North Pacific as inherent boundaries in the ventilated thermocline. *J Phys Oceanogr* 32:2299–2311
- Feely RA, Boutin J, Cosca CE, Dandonneau Y, Etcheto J, Inoue HY, Ishii M, Quéré CL, Mackey DJ, McPhaden M, Metzl N, Poisson A, Wanninkhof R (2002) Seasonal and interannual variability of CO₂ in the equatorial Pacific. *Deep Sea Res II* 49:2443–2469
- Hirose K, Kamiya H (2003) Vertical nutrient distributions in the western North Pacific Ocean: Simple model for estimating nutrient upwelling, export flux and consumption rates. *J Oceanogr* 59:149–161
- Luo JJ, Yamagata T (2003) A model study on the 1988–89 warming event in the northern North Pacific. *J Phys Oceanogr* 33:1815–1828
- You Y, Suginoara N, Fukasawa M, Yoritaka H, Mizuno K, Kashino Y, Hartoyo D (2003) Transport of North Pacific Intermediate Water across Japanese WOCE sections. *J Geophys Res* 108:3196. doi:10.1029/2002JC001662
- Nagai N (2004) Middle and long-term variations of marine plankton along JMA's 137°E hydrographic section. *Weather Service Bull* 71(Sp):S17–S26 (in Japanese)

2005–2009

- Midorikawa T, Nemoto K, Kamiya H, Ishii M, Inoue HY (2005) Persistently strong oceanic CO₂ sink in the western subtropical North Pacific. *Geophys Res Lett* 32:L05612. doi:10.1029/2004GL021952

- Nakano T, Kaneko I, Endoh M, Kamachi M (2005) Interannual and decadal variabilities of NPIW salinity minimum core observed along JMA's hydrographic repeat sections. *J Oceanogr* 61:681–697
- Soga T, Takatsuki Y, Hayashi K (2005) Variability of the North Pacific Subtropical Mode Water along 137°E after mid-1990s. *Weather Service Bull* 72(Sp):S131–S138 (in Japanese)
- Watanabe YW, Ishida H, Nakano T, Nagai N (2005) Spatiotemporal decreases of nutrients and chlorophyll-a in the surface mixed layer of the western North Pacific from 1971 to 2000. *J Oceanogr* 61:1011–1016
- Kimura S, Tsukamoto K (2006) The salinity front in the North Equatorial Current: A landmark for the spawning migration of the Japanese eel (*Anguilla japonica*) related to the stock recruitment. *Deep Sea Res II* 53:315–325
- Midorikawa T, Ishii M, Nemoto K, Kamiya H, Nakadate A, Masuda S, Matsueda H, Nakano T, Inoue HY (2006) Interannual variability of winter oceanic CO₂ and air-sea CO₂ flux in the western North Pacific for 2 decades. *J Geophys Res* 111:C07S02. doi:10.1029/2005JC003095
- Kim H, Kimura S, Shinoda A, Kitagawa T, Sasai Y, Sasaki H (2007) Effect of El Niño on migration and larval transport of the Japanese eel (*Anguilla japonica*). *ICES J Mar Sci* 64:1387–1395
- Nakano T, Kaneko I, Soga T, Tsujino H, Yasuda T, Ishizaki H, Kamachi M (2007) Mid-depth freshening in the North Pacific subtropical gyre observed along the JMA repeat and WOCE hydrographic sections. *Geophys Res Lett* 34:L23608. doi:10.1029/2007GL031433
- Aoyama M, Goto H, Kamiya H, Kaneko I, Kawae S, Kodama H, Konishi Y, Kusumoto K, Miura H, Moriyama E, Murakami K, Nakano T, Nozaki F, Sasano D, Shimizu T, Suzuki H, Takatsuki Y, Toriyama A (2008). Marine biogeochemical response to a rapid warming in the main stream of the Kuroshio in the western North Pacific. *Fish Oceanogr* 17:206–218
- Hayashi K (2008) Should we treat any low-potential-vorticity water observed in the 137°E section as the North Pacific subtropical mode water? *Weather Service Bull* 75(Sp):S97–S103 (in Japanese)
- Lee S, Hama T, Ishii M, Saito S, Yanagi K (2008) Spatial and temporal changes in the concentration of various phosphorus pools and their possible biogeochemical roles in the oligotrophic subtropical western North Pacific. *J Geophys Res* 113:C03017. doi:10.1029/2007JC004330
- Fujii M, Chai F, Shi L, Inoue HY, Ishii M (2009) Seasonal and interannual variability of oceanic carbon cycling in the western and central tropical-subtropical Pacific: A physical-biogeochemical modeling study. *J Oceanogr* 65:689–701
- Ishida H, Watanabe WY, Ishizaka J, Nakano T, Nagai N, Watanabe Y, Shimamoto A, Maeda N, Magi M (2009) Possibly of recent changes in vertical distribution and size composition of chlorophyll-a in the western North Pacific region. *J Oceanogr* 65:179–186
- Oka E (2009) Seasonal and interannual variation of North Pacific Subtropical Mode Water in 2003–2006. *J Oceanogr* 65:151–164

2010–2014

- Hidaka K, Nakata K (2010) Interannual variations of the planktonic ecosystem in the slope water and Kuroshio south of Japan in February in the years 1990–2002. *J Oceanogr* 66:741–753
- Jing Z, Wu L (2010) Seasonal variation of turbulent diapycnal mixing in the northwestern Pacific stirred by wind stress. *Geophys Res Lett* 37:L23604. doi:10.1029/2010GL045418
- Lee S, Hama T, Ishii M, Saito S, Omori Y, Sasano D, Yanagi K (2010) Concentration and UV reactivity of total organic carbon in the upper layer in the oligotrophic subtropical western North Pacific. *J Geophys Res* 115:C11019. doi:10.1029/2009JC005321
- Midorikawa T, Ishii M, Saito S, Sasano D, Kosugi N, Motoi T, Kamiya H, Nakadate A, Nemoto K, Inoue HY (2010) Decreasing pH trend estimated from 25-yr time series of carbonate parameters in the western North Pacific. *Tellus Ser B* 62:649–659
- Omori Y, Hama T, Ishii M, Saito S (2010) Relationship between the seasonal change in fluorescent dissolved organic matter and mixed layer depth in the subtropical western North Pacific. *J Geophys Res* 115:C06001. doi:10.1029/2009JC005526
- Qiu B, Chen S (2010) Interannual variability of the North Pacific Subtropical Countercurrent and its associated mesoscale eddy field. *J Phys Oceanogr* 40:213–225
- Ren L, Riser SC (2010) Observations of decadal time scale salinity changes in the subtropical thermocline of the North Pacific Ocean. *Deep Sea Res II* 57:1161–1170
- Sugimoto S, Hanawa K, Narikiyo K, Fujimori M, Suga T (2010) Temporal variations of the Kuroshio transport and its relation to atmospheric variations. *J Oceanogr* 66:611–619
- Ishii M, Kosugi N, Sasano D, Saito S, Midorikawa T, Inoue HY (2011) Ocean acidification off the south coast of Japan: a result from time series observations of CO₂ parameters from 1994 to 2008. *J Geophys Res* 116:C06022. doi:10.1029/2010JC006831
- Midorikawa T, Ishii M, Sasano D, Kosugi N, Sugimoto H, Hiraishi N, Masuda S, Suzuki T, Takamura TR, Inoue HY (2011) Ocean acidification in the subtropical North Pacific estimated from accumulated carbonate data. *Pap Meteorol Geophys* 62:47–56
- Omori Y, Hama T, Ishii M, Saito S (2011) Vertical change in the composition of marine humic-like fluorescent dissolved organic matter in the subtropical western North Pacific and its relation to photoreactivity. *Mar Chem* 124:38–47
- Shibano R, Yamanaka Y, Okada N, Chuda T, Suzuki S, Niino H, Toratani M (2011) Responses of marine ecosystem to typhoon passages in the western subtropical North Pacific. *Geophys Res Lett* 38:L18608. doi:10.1029/2011GL048717
- Sugimoto S, Hanawa K (2011) Quasi-decadal modulations of North Pacific Intermediate Water area in the cross section along the 137°E meridian: impact of the Aleutian Low activity. *J Oceanogr* 67:519–531
- Wada A, Midorikawa T, Ishii M, Motoi T (2011) Carbon system changes in the East China Sea induced by Typhoons Tina and Winnie in 1997. *J Geophys Res* 116:C07014. doi:10.1029/2010JC006701
- Kobashi F, Kubokawa A (2012) Review on North Pacific Subtropical Countercurrent and Subtropical Front: Role of mode water in ocean circulation and climate. *J Oceanogr* 68:21–43
- Li Y, Wang F, Zhai F (2012) Interannual variations of subsurface spiciness in the Philippine Sea: observations and mechanism. *J Phys Oceanogr* 42:1022–1038

- Midorikawa T, Ishii M, Kosugi N, Sasano D, Nakano T, Saito S, Sakamoto N, Nakano H, Inoue HY (2012) Recent deceleration of oceanic $p\text{CO}_2$ increase in the western North Pacific in winter. *Geophys Res Lett* 39:L12601. doi:10.1029/2012GL051665
- Purkey SG, Johnson GC (2012) Global contraction of Antarctic Bottom Water between the 1980s and 2000s. *J Clim* 25:5830–5844
- Qiu B, Chen S (2012) Multidecadal sea level and gyre circulation variability in the northwestern tropical Pacific Ocean. *J Phys Oceanogr* 42:193–206
- Qiu B, Chen S, Carter GS (2012) Time-varying parametric subharmonic instability from repeat CTD surveys in the northwestern Pacific Ocean. *J Geophys Res* 117:C09012. doi:10.1029/2012JC007882
- Takatani Y, Sasano D, Nakano T, Midorikawa T, Ishii M (2012) Decrease of dissolved oxygen after the mid-1980s in the western North Pacific subtropical gyre along the 137E repeat section. *Global Biogeochem Cycles* 26:GB2013. doi:10.1029/2011GB004227
- Yara Y, Vogt M, Fujii M, Yamano H, Hauri C, Steinacher M, Gruber N, Yamanaka Y (2012) Ocean acidification limits temperature-induced poleward expansion of coral habitats around Japan. *Biogeosciences* 9:4955–4968
- Guo XY, Zhu XH, Long Y, Huang DJ (2013) Spatial variations in the Kuroshio nutrient transport from the East China Sea to south of Japan. *Biogeosciences* 10:6403–6417
- Katsura S, Oka E, Qiu B, Schneider N (2013) Formation and subduction of North Pacific tropical water and their interannual variability. *J Phys Oceanogr* 43:2400–2415
- Li Y, Wang F (2013) Thermohaline intrusions in the thermocline of the western tropical Pacific Ocean. *Acta Oceanol Sin* 32:47–56
- Zhai F, Hu D (2013) Revisit the interannual variability of the North Equatorial Current transport with ECMWF ORA-S3. *J Geophys Res* 118:1349–1366
- Zhai F, Hu D, Qu T (2013) Decadal variations of the North Equatorial Current in the Pacific at 137°E. *J Geophys Res* 118:4989–5006
- Hu S, Hu D (2014) Variability of the Pacific North Equatorial Current from repeated shipboard acoustic Doppler current profiler measurements. *J Oceanogr* 70:559–571
- Qiu B, Chen S, Klein P, Sasaki H, Sasai Y (2014) Seasonal mesoscale and submesoscale eddy variability along the North Pacific Subtropical Countercurrent. *J Phys Oceanogr* 44:3079–3098
- Sugimoto S, Hanawa K (2014) Influence of Kuroshio path variation south of Japan on formation of subtropical mode water. *J Phys Oceanogr* 44:1065–1077
- Takatani Y, Enyo K, Iida Y, Kojima A, Nakano T, Sasano D, Kosugi N, Midorikawa T, Suzuki T, Ishii M (2014) Relationships between total alkalinity in surface water and sea surface dynamic height in the Pacific Ocean. *J Geophys Res* 119:2806–2814
- 2015–
- Iida Y, Kojima A, Takatani Y, Nakano T, Sugimoto H, Midorikawa T, Ishii M (2015) Trends in $p\text{CO}_2$ and sea–air CO_2 flux over the global open oceans for the last two decades. *J Oceanogr* 71:637–661
- Ma X, Sun C (2015) Water mass characteristics in the western North Pacific based on a streamfunction projection. *Sci China Earth Sci* 58:2067–2077
- Nagai N, Tadokoro K, Kuroda K, Sugimoto T (2015) Latitudinal distribution of chaetognaths in winter along the 137°E meridian in the Philippine Sea. *Plankton Benthos Res* 10:141–153

- Nakano T, Kitamura T, Sugimoto S, Suga T, Kamachi M (2015) Long-term variations of North Pacific tropical water along the 137°E repeat hydrographic section. *J Oceanogr* 71:229–238
- Nan F, Yu F, Wang R, Si G (2015) Ocean salinity changes in the northwest Pacific subtropical gyre: the quasi-decadal oscillation and the freshening trend. *J Geophys Res* 120:2179–2192
- Nishikawa H, Toyoda T, Masuda S, Ishikawa Y, Sasaki Y, Igarashi H, Sakai M, Seito M, Awaji T (2015) Wind-induced stock variation of the neon flying squid (*Ommastrephes bartramii*) winter-spring cohort in the subtropical North Pacific Ocean. *Fish Oceanogr* 24:229–241
- Oka E, Qiu B, Takatani Y, Enyo K, Sasano D, Kosugi N, Ishii M, Nakano T, Suga T (2015) Decadal variability of subtropical mode water subduction and its impact on biogeochemistry. *J Oceanogr* 71:389–400
- Chen X, Qiu B, Du Y, Chen S, Qi Y (2016) Interannual and interdecadal variability of the North Equatorial Countercurrent in the Western Pacific. *J Geophys Res* 121:7743–7758
- Sugimoto S, Kako SI (2016) Decadal variation in winter mixed layer depth south of the Kuroshio Extension and its influence on winter mixed layer temperature. *J Clim* 29:1237–1252
- Tseng Y-H et al (2016) North and Equatorial Pacific Ocean circulation in the CORE-II hindcast simulations. *Ocean Model* 104:143–170
- Hsu AC, Xue H, Chai F, Xiu P, Han YS (2017) Variability of the Pacific North Equatorial Current and its implications on Japanese eel (*Anguilla japonica*) larval migration. *Fish Oceanogr* 26:251–267
- Oka E, Katsura S, Inoue H, Kojima A, Kitamoto M, Nakano T, Suga T (2017) Long-term change and variation of salinity in the western North Pacific subtropical gyre revealed by 50-year long observations along 137°E. *J Oceanogr* 73:479–490
- Qiu B, Nakano T, Chen S, Klein P (2017) Submesoscale transition from geostrophic flows to internal waves in the northwestern Pacific upper ocean. *Nature Comm* 8:14055. doi:10.1038/ncomms14055
- Toyoda T et al (2017) Interannual-decadal variability of wintertime mixed layer depths in the north pacific detected by an ensemble of ocean syntheses. *Clim Dyn*. 49:891–907