

Journal papers

- 1) Nomura, D., Yoshikawa-Inoue, H., Toyota, T., Shirasawa, K., 2010: Effects of snow, snow-melting and re-freezing processes on air-sea ice CO₂ flux, *Journal of Glaciology*, 56(196), 262-270.
- 2) Nomura, D., Nishioka, J., Granskog, M.A., Krell, A., Matoba, S., Toyota, T., Hattori, H. and Shirasawa, K., 2010: Nutrient distributions associated with snow and sediment-laden layers in sea ice of the southern Sea of Okhotsk, *Marine Chemistry*, Vol. 119, 1-8.
- 3) MORIMOTO M., KAWANOBE K., ABE O., KAWAI T., KAWAMURA T., SHIRASAWA K., 2010 : Under-ice salinity and stable isotope distribution of Saroma-ko Lagoon, Hokkaido, northern Japan., *Hydrological Processes*, 24, 904-916, 2010, doi:10.1002/hyp.7532
- 4) SHIRASAWA K., LEPPÄRANTA M., 2010 : Chapter 3.7 Measurements and modeling of the ice-ocean interaction, *Field techniques for sea ice research*, edited by H. EICKEN, R. GRADINGER, K. SALGANEK, K. SHIRASAWA, D. PEROVICH, M. LEPPÄRANTA, University of Alaska Press, Fairbanks, Alaska, USA, 231-258.
- 5) LEPPÄRANTA M., TERZHEVIK A., SHIRASAWA K., 2010: Solar radiation and ice melting in Lake Vedyurskoe, Russian Karelia, *Hydrology Research*, 41,1, doi:10.2166/nh.2010.122
- 6) NOMURA Daiki, SHIRASAWA Kunio, GRADINGER Rolf, EICKEN Hajo, 2010: Rapid physically driven inversion of the air-sea ice CO₂ flux in the seasonally landfast ice off Barrow, Alaska after onset of surface melt., *Continental Shelf Research*, 30, 1998-2004, 2010, doi:10.1016/j.csr.2010.09.014
- 7) SUGIMOTO, F., TATEYAMA, K., ENOMOTO, H., SHIRASAWA, K., 2010: Snow depth and sea-ice thickness measurements by drilling and an electromagnetic-induction technique in the Southern Ocean in 2003 and 2007., *Proceedings of the 20th IAHR International Symposium on Ice*, Lahti, Finland, June 14 to 18, 2010 (CD-ROM).
- 8) OIKKONEN, A., SHIRASAWA, K., LEPPÄRANTA, M., 2010: Ice drift in Baltic Sea and Sea of Okhotsk, *Proceedings of the 20th IAHR International Symposium on Ice*, Lahti, Finland, June 14 to 18, 2010 (CD-ROM).
- 9) MAKELÄ, M., SHIRASAWA, K., LEPPÄRANTA, M., 2010: Surface heat budget and ice covered period length at Saroma-ko Lagoon, Japan, *Proceedings of the 20th IAHR International Symposium on Ice*, Lahti, Finland, June 14 to 18, 2010 (CD-ROM).

- 10) HUTTILA, T., PULKKANEN, M., ARKHIPOV, B., LEPPÄRANTA, M., SOLBAKOV, V., SHIRASAWA, K., SALONEN, K,2010.: Modelling circulation in an ice-covered lake, *Estonian Journal of Earth Sciences*, 59, 4, 298-309, 2010, doi:10.3176/earth.2010.4.06
- 11) Horinouchi, T., S. Nishizawa, C. Watanabe, A. Tomobayashi, S. Otsuka, T. Koshiro, Y.-Y. Hayashi, GFD Dennou Club,2010:Gfdnavi, Web-based Data and Knowledge Server Software for Geophysical Fluid Sciences, Part I: Rationales, Stand-alone Features, and Supporting Knowledge Documentation Linked to Data,
- 12) Nishizawa, S., T. Horinouchi, C. Watanabe, Y. Isamoto, A. Tomobayashi, S. Otsuka, GFD Dennou Club,2010:Gfdnavi, Web-based Data and Knowledge Server Software for Geophysical Fluid Sciences, Part II: RESTful Web Services and Object-Oriented Programming Interface
- 13) Kubokawa, H., M. Fujiwara, T. Nasuno, and M. Satoh,2010:Analysis of the tropical tropopause layer using the Nonhydrostatic Icosahedral Atmospheric Model (NICAM): Aqua·planet experiments, *Journal of Geophysical Research*, 115, D08102, doi:10.1029/2009JD012686
- 14) Sakazaki, T., and M. Fujiwara,2010:Diurnal variations in lower-tropospheric wind over Japan. Part I: Observational results using the Wind profiler Network and Data Acquisition System (WINDAS), *Journal of the Meteorological Society of Japan*, 88, No. 3, 325-347, doi:10.2151/jmsj.2010-305.
- 15) Sakazaki, T., and M. Fujiwara,2010:Diurnal variations in lower-tropospheric wind over Japan. Part II: Analysis of Japan Meteorological Agency mesoscale analysis data and four global reanalysis data sets, *Journal of the Meteorological Society of Japan*, 88, No. 3, 349-372, doi:10.2151/jmsj.2010-306.
- 16) Suzuki, J., M. Fujiwara, A. Hamada, Y. Inai, J. Yamaguchi, R. Shirooka, F. Hasebe, and T. Takano,2010 : Cloud-top height variability associated with equatorial Kelvin waves in the tropical tropopause layer during the Mirai Indian Ocean cruise for the Study of MJO-convection Onset (MISMO) campaign, *Scientific Online Letters on the Atmosphere*, 6, 97-100, doi:10.2151/sola.2010-025.
- 17) Lead Authors: A. Gettelman and M. Hegglin, Coauthors: S.-W. Son, M. Fujiwara, S. Tilmes, L. Pan, P. Hoor, H. Lee, G. Manney, T. Birner, G. Stiller, M. Rex, S. Kremser, D. Wuebbles, K. Walker, and J. A. Añel ,2010 : Chapter 7. Upper Troposphere and Lower Stratosphere (UTLS), *SPARC CCMVal Report on the Evaluation of Chemistry-Climate Models*, V. Eyring, T. G. Shepherd, and D. W. Waugh (Eds.), SPARC Report No. 5, WCRP-132, WMO/TD-No. 1526.
- 18) Gettelman, A., M. I. Hegglin, S-W. Son, J. Kim, M. Fujiwara, T. Birner, S.

- Kremser, M. Rex, J. A. Añel, H. Akiyoshi, J. Austin, S. Bekki, P. Braesike, C. Brühl, N. Butchart, M. Chipperfield, M. Dameris, S. Dhomse, H. Garny, S. C. Hardiman, P. Jöckel, D. E. Kinnison, J. F. Lamarque, E. Mancini, M. Marchand, M. Michou, O. Morgenstern, S. Pawson, G. Pitari, D. Plummer, J. A. Pyle, E. Rozanov, J. Scinocca, T. G. Shepherd, K. Shibata, D. Smale, H. Teyssèdre, and W. Tian, 2010: Multimodel assessment of the upper troposphere and lower stratosphere: Tropics and global trends, *Journal of Geophysical Research*, 115, D00M08, doi:10.1029/2009JD013638
- 19) Fujiwara, M., H. Vömel, F. Hasebe, M. Shiotani, S.-Y. Ogino, S. Iwasaki, N. Nishi, T. Shibata, K. Shimizu, E. Nishimoto, J. M. Valverde-Canossa, H. B. Selkirk, and S. J. Oltmans, 2010: Seasonal to decadal variations of water vapor in the tropical lower stratosphere observed with balloon-borne cryogenic frostpoint hygrometers, *Journal of Geophysical Research*, 115, D18304, doi:10.1029/2010JD014179
- 20) Sakazaki, T., M. Fujiwara, and H. Hashiguchi, 2010: Diurnal variations of upper tropospheric and lower stratospheric winds over Japan as revealed with middle and upper atmosphere radar (34.85N, 136.10E) and five reanalysis data sets, *Journal of Geophysical Research*, 115, D24104, doi:10.1029/2010JD014550
- 21) Nakamura T., Y. Kawasaki, T. Kono, and T. Awaji, 2010: Large-amplitude internal waves observed in the Kruzenshtern Strait of the Kuril Island Chain and possible water transport and mixing, *Cont. Shelf Res.*, 10.1016/j.csr.2009.07.01
- 22) Matsuda, J., H. Mitsudera, T. Nakamura, K. Uchimoto, T. Nakanowatari, N. Ebuchi, 2010: Wind and buoyancy driven overturning circulation in the Sea of Okhotsk, *Deep-Sea Res. Part I*, 56 (9), 1401-1418
- 23) Nakamura T., Y. Isoda, H. Mitsudera, S. Takagi, M. Nagasawa, 2010: Breaking of unsteady lee waves generated by diurnal tides, *Geophys. Res. Lett.*, 37, L04602, doi:10.1029/2009GL041456
- 24) Nakamura T., T. Toyoda, Y. Ishikawa, and T. Awaji, 2010: Effects of mass source/sink at the western boundary on the wind-driven gyres: Implications for the ventilation of the North Pacific intermediate layer through convection in the Okhotsk Sea and tidal mixing at the Kuril Straits, *J. Oceanogr.*, Vol. 66, 41-60
- 25) Tanimoto, Y., T. Kajitani, H. Okajima and S.-P. Xie, 2010: Relationship of summer monsoon Rainfall over Nepal with moisture flux and large scale atmospheric circulations, *Journal of the Meteorological Society of Japan*, 88, 79-90.
- 26) Chikamoto, Y., Y. Tanimoto, H. Mukougawa, and M. Kimoto, 2010: Relationship of summer monsoon Rainfall over Nepal with moisture flux and large scale

- atmospheric circulations, Journal of the Meteorological Society of Japan, 88, 183-202.
- 27) Koseki, S, and M. Watanabe,2010:Atmospheric Boundary Layer Response to Meso-scale SST anomalies in the Kuroshio Extension, Journal of Climate, 23, 2492-2507.
- 28) Ono, J., Ohshima, K. I.,2010:Numerical model studies on the generation and dissipation of the diurnal coastal-trapped waves over the Sakhalin shelf in the Sea of Okhotsk, Continental Shelf Research, 30, 588-597, doi:10.1016/j.csr.2009.06.006
- 29) Ohshima K. I., Nakanowatari, T., Riser, S., and Wakatsuchi, M.,2010:Seasonal variation in the in- and outflow of the Okhotsk Sea with the North Pacific, Deep-Sea Res. Part II, 57, 1247-1256, doi:10.1016/j.dsr2.2009.12.012
- 30) Nakanowatari T., Ohshima, K. I., Nagai, S.,2010 : What determines the maximum sea ice extent in the Sea of Okhotsk? Importance of ocean thermal condition from the Pacific, Journal of Geophysical Research, 115, C12031, doi:10.1029/2009JC006070
- 30) Kusahara, K., Hasumi, H., and Tamura, T.,2010:Modeling sea ice production and dense shelf water formation
in coastal polynyas around East Antarctica, Journal of Geophysical Research, 115, C10006, doi:10.1029/2010JC006133
- 31) Kawaguchi, Y., Nihashi, S., Mitsudera, H., and Ohshima, K. I.,2010 : Formation mechanism of huge coastal polynyas and its application to Okhotsk Northwestern Polynya, Journal of Physical Oceanography, 40(11), 2451-2465
- 32) Williams, G. D., Aoki, S., Jacobs, S. S., Rintoul, S. R., Tamura, T. and Bindoff, N.,2010:Antarctic Bottom Water from the Adelie and George V Land coast, East Antarctica (140-149E), Journal of Geophysical Research, 115, C04027, doi:10.1029/2009JC005812
- 33) Fukamachi, Y., Ohshima, K. I., Ebuchi, N., Bando, T., Ono, K., and Sano, M.,2010 : Volume transport in the Soya Strait during 2006-2008, Journal of Oceanography, 66(5), 685-696,
- 34) Fukamachi, Y., Ohshima, K. I., Mukai, Y., Mizuta, G., and Wakatsuchi, M.,2010:Sea-ice drift characteristics revealed by measurement of acoustic Doppler current profiler and ice-profiling sonar off Hokkaido in the Sea of Okhotsk, Annals of Glaciology, 52(57), 1-8
- 35) Nomura Daiki, Simizu Daisuke, Oouchida Chinatsu, Yasui Saori, Iida Takahiro, Hashida Gen, and Fukuchi Mitsuo,2010:Biogeochemical data of the 51st Japanese Antarctic Research Expedition in the Austral summer of 2009-2010,

JARE data report

- 36) Williams, G.D., S. Nicol, N. Bindoff, S. Aoki, A. Meijers, S. Marsland, A. Klocker, Y. Iijima, 2010: Surface oceanography of BROKE-West, along the Antarctic Margin of the South-West Indian Ocean (30-80 degE), Deep-Sea Res. Part II, , doi:10.1016/j.dsr2.2009.04.020
- 37) Aoki, S., Y. Sasai, H. Sasaki, H. Mitsudera, and G.D. Williams, 2010: The cyclonic circulation in the Australian-Antarctic basin simulated by an eddy-resolving general circulation model, Ocean Dynamics, doi:10.1007/s10236-009-0261-y, 2010
- 38) Williams, G.D., S. Aoki, S.R. Rintoul, S.S. Jacobs, T. Tamura, N.L. Bindoff, 2010: Antarctic Bottom Water production along the Adelie and George V Land coast, East Antarctica (140-149oE), J. Geophys. Res, doi:10.1029/2009JC005812
- 38) Fukamachi, Y., Rintoul, S. R., Church, J. C., Aoki, S., Sokolov, S., Rosenberg, M. A., and Wakatsuchi, M., 2011: Strong export of Antarctic Bottom Water east of the Kerguelen Plateau, Nature Geoscience, 3(5), 327-331, doi:10.1038/ngeo842, 2010
- 39) Fujisaki, A., H. Yamaguchi, and H. Mitsudera, 2010: Numerical experiments of air-ice drag coefficient and its impact on ice-ocean coupled system in the Sea of Okhotsk , Ocean Dynamics 60, doi: 10.1007/s10236-010-0265-7, 10.1007/s10236-010-0265-7
- 40) Shimizu, K., and F. Hasebe, 2010: Fast-response high-resolution temperature sonde aimed at contamination-free profile observations, Atmos. Meas. Tech., 3, 1673-1681, doi:10.5194/amt-3-1673-2010
- 41) Yoshida Kohei, and Yamazaki Koji, 2010: Role of vertical eddy heat flux in the response of tropical tropopause temperature to changes in tropical sea-surface temperature, Journal of Geophysical Research, 115, D01108, 10.1029/2009JD012783
- 42) Matsumura, S., Huang, G., Xie, S.-P., Yamazaki, K. ,2010:SST-forced and internal variability of the atmosphere in an ensemel GCM simulation, Journal of the Meteorological Society of Japan, 88, 43-62, 10.2151/jmsj.2010-104
- 43) Ogi, M., Yamazaki, K., 2010:Trends in the summer northern annular mode and Arctic sea ice, SOLA, 6, 041-044, 10.2151/sola.2010-011
- 44) Ogi, M., Yamazaki, K., Wallace, J. M.,2010:Influence of winter and summer wind anomalies on summer Arctic sea ice extent, Geophysical Research Letters, 37, L07701, 10.1029/2009GL042356
- 45) Kuroda Yuhji, Yamazaki Koji, 2010 : Influence of solar cycle and QBO

- modulation on the southern annular mode, Geophysical Research Letters, 37, L12703, 10.1029/2010GL043252
- 46) Matsumura, S., Yamazaki, K., and Tokioka, T., 2010 : Summertime land-atmosphere interaction in response to anomalous snow cover in northern Eurasia, Journal of Geophysical Research, 115, D20107, 10.1029/2009JD012342
- 47) Yamazaki, K., and Ikeda, M., 2010: The greenhouse effect, climate change, and impacts on water resources, 13-30, Sustainable low-carbon society, Editors: Yoshida, F. and Ikeda, M. Hokkaido University Press

Proceedings

- 1) SHIRASAWA Kunio, EBUCHI Naoto, LEPPÄRANTA Matti, ISHIKAWA Masao, TAKATSUKA Toru, 2010: Ice edge dynamics from C-band radar and HF radar coastal stations., Proc. of the 25th Intl. Symp. on Okhotsk Sea and Sea Ice, Mombetsu, Japan, 21-26 February 2010, 65-76.
- 2) LEPPÄRANTA Matti, OIKKONEN Annu, SHIRASAWA Kunio , 2010: Studies of the frequency spectrum of sea ice velocity in the Sea of Okhotsk. , Proc. of the 25th Intl. Symp. on Okhotsk Sea and Sea Ice, Mombetsu, Japan, 21-26 February 2010, 77-80.
- 3) TATEYAMA Kazutaka, ENOMOTO Hiroyuki, SHIRASAWA Kunio , 2010 : Western Arctic sea ice thinning - Results from field observations and satellite remote sensing -, Proc. of the 25th Intl. Symp. on Okhotsk Sea and Sea Ice, Mombetsu, Japan, 21-26 February 2010, 116-118.
- 4) Ohshima, K. I., Nakanowatari, T., Nihashi, S., Nishioka, J., Nakatsuka, T., and Wakatsuchi, M., 2010: Impact of sea ice production and its recent reduction on overturning and material circulation in the Okhotsk Sea and North Pacific., Report on Amur-Okhotsk Project, No. 6, Research Institute for Humanity and Nature, 21-29
- 5) Yamaguchi, H., Ono J., Ohshima, K. I., Kurokawa, A., 2010 : A system for numerical prediction of spilled oil behavior in the Sea of Okhotsk including ice-covered condition, Proceeding of 25th International Symposium on Okhotsk Sea and Sea Ice, 17-24
- 6) Ebuchi, N., Fukamachi, Y., and Ohshima, K. I., 2010: Propagation of subinertial variations in the Soya Warm Current revealed by HF ocean radars, Proceedings of the 2010 IEEE International Geoscience and Remote Sensing Symposium,

3051-3054., 10.1109/IGARSS.2010.5654460

- 7) Rintoul, S. R., Speer, K., Sparrow, M., Meredith, M., Hoffmann, E., Fahrbach, E., Summerhayes, C., Worby, A., England, M., Bellerby, R., Speich, S., Costa, D., Hall, J., Hindell, M., Hosie, G., Stansfield, K., Fukamachi, Y., Bruin, de T., Naveira Garabato, A., Alberson, K., Ryabinin, V., Shin, H. C., and Gladyshev, S. ,2010: Southern Ocean Observing Systems (SOOS): Rationale and Strategy for Sustained Observations of the Southern Ocean, Proceedings of OceanObs '09: Sustained Ocean Observations and Information for Society (Vol. 2), ESA Publication WPP-306, doi:10.5270/OceanObs09.cwp.74
- 8) Ebuchi, N., and Liu., W. T.,2010:AMSR and DFS Synergy., Proceedings of IGARSS 2010, pp. 1812-1814., 10.1109/IGARSS.2010.5649640
- 9) Ebuchi, N.,2010:Sensor synergy of active and passive microwave instruments for observations of marine surface winds., Proceedings of ISPRS Technical Committee VIII Symposium 2010 pp. 964-968.
- 10) Matsuda,J,Uchimoto,K,Mitsudera,H,2010 : Modeling intermediate water and iron in the Sea of Okhotsk and the northern North Pacific, Final reports of the Amur Okhotsk project 2005-2009