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Education

Hokkaido University, Japan 2002 – 2005

Ph.D. in Environmental Earth Science

Dissertation title: “Lower atmospheric response to the extratropical ocean fronts”

Hokkaido University, Japan 2000 – 2002

M.S. in Environmental Earth Science

Thesis title: “Seasonal linkage between the Indian Ocean Dipole and ocean-atmosphere variability over the tropical Pacific”

University of Tsukuba, Japan 1996 – 2000

B.S. in Geoscience

Thesis title: “Interaction between baroclinic instability waves and polar vortex associated with the Arctic Oscillation”

Professional Experience

Research Institute for Applied Mechanics, Kyushu University, Kasuga, Fukuoka, Japan

Professor 2019-present

Hakubi Center for Advanced Research, Kyoto University, Kyoto, Japan

Associate Professor 2014 – 2019

International Pacific Research Center, Honolulu, HI, USA

Assistant Researcher 2012 – 2014

Visiting Assistant Researcher 2009 – 2012

Postdoctoral Fellow 2007 – 2009

Japan Agency for Marine-Earth Science and Technology, Yokosuka, Japan

Postdoctoral Fellow 2005 – 2007

Hokkaido University, Sapporo, Japan

Research Assistant 2002 – 2005

Honors

The Young Scientists’ Prize of “Commendations for Science and Technology” from the Japan Ministry of Education, Culture, Sports, Science and Technology, 2015.

The Okada prize from the Oceanographic Society of Japan, 2013.

The Yamamoto-Shyono Medal from Society of Japan for the 2012 *Journal of Climate* paper entitled “Regional patterns of tropical Indo-Pacific climate change: Evidence of the Walker Circulation weakening”, 2012.

Professional Memberships

American Meteorological Society 2008 – present

American Geophysical Union 2002 – present

Meteorological Society of Japan 2000 – present

Oceanographic Society of Japan 2004 – present

Japan Geoscience Union 2017 – present

Service

Reviewer for *Nature*, *Nature Climate Change*, *Scientific Reports*, *Journal of Climate*, *Climate Dynamics*, *Quart. J. Roy.*

Session convener for Asia Oceania Geosciences Society-American Geophysical Union Joint Assembly (2012), Japan Geoscience Union Meeting (2013-2016), The Oceanographic Society of Japan Fall Meeting (2016)

Publications

1. **Tokenaga, H.**, I. Richter and Y. Kosaka, 2019: ENSO influence on the Atlantic Niño, revisited: Multi-year versus single-year ENSO events, *J. Climate*, in press, doi:10.1175/JCLI-D-18-0683.1.
2. Xie, S.-P., Q. Peng, Y. Kamae, X.T. Zheng, **H. Tokenaga**, and D. Wang, 2018: Eastern Pacific ITCZ dipole and ENSO diversity, *J. Climate*, **31**, 4449–4462.
3. Wang, H., S.-P. Xie, **H. Tokenaga**, Q. Liu and Y. Kosaka, 2016: Detecting cross-equatorial wind change as a fingerprint of climate response to anthropogenic aerosol forcing. *Geophys. Res. Lett.*, **43**, doi:10.1002/2016GL068521.
4. Chikamoto, M. O., A. Timmermann, Y. Chikamoto, **H. Tokenaga**, and N. Harada, 2015: Mechanisms and predictability of multiyear ecosystem variability in the North Pacific. *Global Biogeochem. Cycles*, **29**, 2001–2019, doi:10.1002/2015GB005096.
5. Yang, Y., S.-P. Xie, Y. Du, **H. Tokenaga**, 2015: Interdecadal difference of interannual variability characteristics of South China Sea SSTs associated with ENSO. *J. Climate*, **28**, 7145-7160.
6. Tomita, H., S.-P. Xie, H. Tokenaga, and Y. Kawai, 2013: Cloud response to the meandering Kuroshio Extension front. *J. Climate*, **26**, 9393-9398.
7. **Tokenaga, H.**, S.-P. Xie, C. Deser, Y. Kosaka and Y. M. Okumura, 2012: Slowdown of the Walker circulation driven by tropical Indo-Pacific warming. *Nature*, 491, 439-443, doi: 10.1038/nature11576.
8. **Tokenaga, H.**, S.-P. Xie, A. Timmermann, S. McGregor, T. Ogata, H. Kubota, and Y. M. Okumura, 2012: Regional patterns of tropical Indo-Pacific climate change: Evidence of the Walker Circulation weakening. *J. Climate*, **25**, 1689-1710.
(This paper has been highlighted in *Nature Geoscience* and awarded as **the 2012 Yamamoto-Shyono Medal** from the Meteorological Society of Japan)
9. Chowdary, J. S., S.-P. Xie, **H. Tokenaga**, , Y. M. Okumura, H. Kubota, N. C. Johnson, and X.-T. Zheng, 2012: Inter-decadal variations in ENSO teleconnection to the Indo-western Pacific for 1870-2007. *J. Climate*, **25**, 1722-1744.
10. **Tokenaga, H.**, and S.-P. Xie, 2011: Weakening of the equatorial Atlantic cold tongue over the past six decades. *Nature Geosci.*, **4**, 222-226, doi:10.1038/ngeo1078.
11. **Tokenaga, H.**, and S.-P. Xie, 2011: Wave and Anemometer-based Sea-surface Wind (WASWind) for climate change analysis. *J. Climate*, **24**, 267-285.
12. Cheng, X., S.-P. Xie, **H. Tokenaga**, and Y. Du, 2011: Interannual variability of high-wind occurrence over the North Atlantic. *J. Climate*, **24**, 6515-6527.
13. Tanimoto, Y., T. Kanenari, **H. Tokenaga**, and S.-P. Xie, 2011: Sea level pressure minimum along the Kuroshio and its extension. *J. Climate*, **24**, 4419-4434.
14. Xu, H., **H. Tokenaga**, and S.-P. Xie, 2010: Atmospheric effects of the Kuroshio large meander during 2004-05. *J. Climate*, **23**, 4704-4715.
15. Nagano, A., K. Ichikawa, H. Ichikawa, H. Tomita, **H. Tokenaga**, and M. Konda, 2010: Stable volume and heat transports of the North Pacific subtropical gyre revealed by identifying the Kuroshio water in synoptic hydrography south of Japan, *J. Geophys. Res.-Oceans*, **115**, doi:10.1029/2009JC005747.
16. Minobe, S., A. Kuwano-Yoshida, M. Miyashita, **H. Tokenaga**, and S.-P. Xie, 2010: Atmospheric response to the Gulf Stream: Seasonal variations. *J. Climate*, **23**, 3699-3719.
17. Xie, S.-P., Y. Du, G. Huang, X.-T. Zheng, **H. Tokenaga**, K. Hu, and Q. Liu, 2010: Decadal shift in El Niño influences on Indo-western Pacific and East Asian climate in the 1970s. *J. Climate*, **23**, 3352-3368.
18. **Tokenaga, H.**, and S.-P. Xie, 2009: Ocean tidal cooling effect on summer sea fog over the Okhotsk Sea. *J. Geophys. Res.-Atmos.*, **D14102**, doi:10.1029/2008JD011477.

19. **Tokenaga, H.**, Y. Tanimoto, S.-P. Xie, T. Sampe, H. Tomita, and H. Ichikawa, 2009: Ocean frontal effects on the vertical development of clouds over the western North Pacific: In situ and satellite observations. *J. Climate*, 22, 4241-4260.
20. Tanimoto, Y., S.-P. Xie, K. Kai, H. Okajima, **H. Tokenaga**, T. Murayama, M. Nonaka, and H. Nakamura: Observations of marine atmospheric boundary layer transitions across the summer Kuroshio Extension. *J. Climate*, 22, 1360-1374.
21. Xie, S.-P., K. Hu, J. Hafner, **H. Tokenaga**, Y. Du, G. Huang, and T. Sampe: Indian Ocean capacitor effect on Indo-western Pacific climate during the summer following El Nino. *J. Climate*, 22, 730-747.
22. Moteki, Q., R. Shirooka, K. Yoneyama, B. Geng, M. Katsumata, T. Ushiyama, H. Yamada, K. Yasunaga, N. Sato, H. Kubota, K. K. Reddy, **H. Tokenaga**, A. Seiki, M. Fujita, Y. N. Takayabu, M. Yoshizaki, H. Uyeda and T. Chuda, 2007: The impact of the assimilation of dropsonde observations during PALAU2005 in ALERA. *SOLA*, 3, 97-100.
23. Sato, N., **H. Tokenaga**, R. Shirooka, and N. Suginoara, 2006: Influence of mechanical mixing on a low summertime SST in the western North Pacific ITCZ region. *Geophys. Res. Lett.*, 33, doi:10.1029/2006GL025997.
24. **Tokenaga, H.**, Y. Tanimoto, M. Nonaka, B. Taguchi, T. Fukamachi, S.-P. Xie, H. Nakamura, T. Watanabe, and I. Yasuda, 2006: Atmospheric sounding over the winter Kuroshio Extension: Effect of surface stability on atmospheric boundary layer structure. *Geophys. Res. Lett.*, 33, doi:10.1029/2005GL025102.
25. **Tokenaga, H.**, Y. Tanimoto, and S.-P. Xie, 2005: SST-induced surface wind variations over the Brazil-Malvinas confluence: Satellite and in situ observations. *J. Climate*, 18, 3470-3482.
26. **Tokenaga, H.**, and Y. Tanimoto, 2004: Seasonal transition of SST anomalies in the tropical Indian Ocean during El Nino and Indian Ocean dipole years. *J. Meteor. Soc. Japan*, 82, 1007-1018.
27. Xie, S.-P., J. Hafner, Y. Tanimoto, W.T. Liu, **H. Tokenaga**, and H.M. Xu, 2002: Bathymetric effect on the winter sea surface temperature and climate of the Yellow and East China Seas. *Geophys. Res. Lett.*, 29, doi:10.1029/2002GL015884R.
28. Tanaka, H.L., and **H. Tokenaga**, 2002: Baroclinic instability in high latitudes induced by polar vortex: A connection to the arctic oscillation. *J. Atmos. Sci.*, 59, 69-82.

Other Publications

1. **Tokenaga, H.**, 2014: Study of long-term tropical ocean changes caused by ocean-atmosphere interaction, *Umi no Kenkyu*, 23, 111-125.
2. **Tokenaga, H.**, Y. Kosaka, and S.-P. Xie, 2011: Indian Ocean Dipole and Basin-wide modes. *Tenki*, 53, 231-233 (in Japanese).
3. **Tokenaga, H.**, S.-P. Xie, F. Kobashi, and Y. Tanimoto, 2009: Local and remote influences of the Kuroshio Extension on the atmosphere. *U.S. CLIVAR Variations*, 7(1), 1-4.
4. Tomita, H., **H. Tokenaga**, and Y. Tanimoto, 2008: Estimation of surface air specific humidity using satellite data over the Kuroshio Extension region. *Monthly Kaiyo*, 49, 93-99 (in Japanese).
5. Konda, M., H. Ichikawa, A. Nagano, **H. Tokenaga**, and I. Yasuda, 2008: Observational analysis of the variability of the sea surface heat flux near the temperature front in the Kuroshio Extension region. *Monthly Kaiyo*, 49, 83-92 (in Japanese).
6. Kobashi, F., Y. Tanimoto, N. Iwasaka, T. Murayama, M. Nonaka, **H. Tokenaga**, and M. Konda, 2008: Variation of marine atmospheric boundary layer observed over the winter Kuroshio Extension. *Monthly Kaiyo*, 49, 49-56 (in Japanese).
7. Tanimoto, Y., S.-P. Xie, K. Kai, **H. Tokenaga**, H. Okajima, T. Murayama, M. Nonaka, and H. Nakamura, 2008: Modifications of marine atmospheric boundary layer across summer Kuroshio Extension. *Monthly Kaiyo*, 49, 42-48 (in Japanese).
8. Tanimoto, Y., **H. Tokenaga**, and K. Kai, 2006: In-situ observations of Kuroshio extension's influence on the atmosphere. *Monthly Kaiyo*, 44, 75-80 (in Japanese).
9. Xie, S.-P., M. Nonaka, Y. Tanimoto, **H. Tokenaga**, H.M. Xu, W.S. Kessler, R.J. Small, W.T. Liu, and J. Hafner, 2004: A fine view from space. *Bull. Amer. Meteor. Soc.*, 85, 1060-1062.

Invited and Selected Talks

1. **Tokenaga, H.**, 2016: Patterns and influence of tropical ocean warming: Observtions and simulations, *2nd JSPS Core-to-core International Workshop*, Hanoi, Vietnam, August 2016.

2. **Tokenaga, H.**, S.-P. Xie, A. Timmermann, S. McGregor, T. Ogata, H. Kubota, and Y. M. Okumura, 2012: Regional patterns of tropical Indo-Pacific climate change: Evidence of the Walker Circulation weakening. *AGU Fall meeting*, San Francisco, December 2012.
3. **Tokenaga, H.**: Detection of climate change patterns over the tropical Indo-Pacific: Long-term change in the Walker Circulation. Award Lecture for the Yamamoto-Shyono Medal (in Japanese), *MSJ Fall meeting*, Sapporo, Japan, October 2012.
4. **Tokenaga, H.**, S.-P. Xie, C. Deser, Y. Kosaka, Y.M. Okumura, A. Timmermann, S. McGregor, H. Kubota, and T. Ogata: Observed and simulated patterns of tropical Indo-Pacific climate change over the past six decades: Evidence of the Walker circulation slowdown. *The 3rd International Conference on Earth System Modelling*, Hamburg, Germany, September 2012.
5. **Tokenaga, H.**: A long, consistent surface wind dataset for climate change analysis: Application over the tropical Indo-Pacific, *WCRP Open Science Conference*, Denver, October 2011 (Selected as an oral presentation at Parallel Session)
6. **Tokenaga, H.**, S. -P. Xie, and S. Minobe: Atmospheric effects of the Gulf Stream and Kuroshio Extension, *AGU Fall meeting*, San Francisco, December 2008.