Curriculum Vitae

Tetsuya Takemi
Professor
Atmospheric and Hydrospheric Disasters Research Division
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Education

Ph.D., Division of Earth and Planetary Sciences, Kyoto University, March 1999
- Thesis title: Studies on the Structure, Evolution, and Maintenance Mechanism of a Severe Squall Line in an Arid Region
- Thesis adviser: Takehiko Satomura

M.S., Division of Earth and Planetary Sciences, Kyoto University, March 1996
- Thesis title: Diagnostic Studies on the Mechanisms for Maintenance of a squall Line over an Arid Region of China
- Thesis adviser: Yasushi Mitsuta

B.S., Department of Geophysics, Kyoto University, March 1994
- Thesis title: A Severe Storm over an Arid Region of China
- Thesis adviser: Yasushi Mitsuta

Professional Experience

April 2021 - present
Professor, Disaster Prevention Research Institute, Kyoto University

March 2007 - March 2021
Associate Professor, Disaster Prevention Research Institute, Kyoto University

May 2004 - February 2007
Lecturer, Department of Environmental Science and Technology, Tokyo Institute of Technology

May 2001 - April 2002
Visiting Scientist, National Center for Atmospheric Research, Boulder, CO

April 1999 - April 2004
Assistant Professor, Graduate School of Engineering, Osaka University

Past and present research topics

Basic studies on mesoscale and microscale meteorology
Statistical and modeling study on severe local storms (heavy rains and strong winds)
Tropical convection, tropical cyclones, and air-sea interaction
Risk assessment of meteorological disasters under climate change
High-resolution modeling on local-scale atmospheric turbulence and dispersion over complex topography
Large-eddy-simulation studies on turbulence and dispersion in urban districts and complex topography

Atmospheric transport of desert dust aerosols
Atmospheric modeling of volcanic ash transport from volcanoes

Memberships

1994 - Present: Meteorological Society of Japan
1999 - Present: American Meteorological Society
2004 - Present: Japan Association for Wind Engineering
2004 - Present: American Geophysical Union
2004 - Present: Asia Oceania Geosciences Society
2010 - Present: Japan Geoscience Union
2015 - Present: Japan Society of Civil Engineers
2021 - Present: Architectural Institute of Japan

Service

2008 - Present: Editor (Co-Chief Editor, 2010 -), Journal of the Meteorological Society of Japan
2008 - 2014: Editor, Scientific Online Letters on the Atmosphere (SOLA)
2014 - Present: Chief Editor, Scientific Online Letters on the Atmosphere (SOLA)
2010 - Present: Member of the Board of the Directors, the Meteorological Society of Japan
2010 - 2016: Committee on Web Management and Information Technology, Meteorological Society of Japan
2011 - 2015: Secretary (Kinki local chapter), Japan Society for Atmospheric Environment
2011 - Present: Member of Program Committee, Japan Geosciences Union
2011 - Present: Member of Conference Organizing Committee, Meteorological Society of Japan
2012 - Present: Member of Meteorological Disaster Committee, Meteorological Society of Japan
2006, 2008, 2010, 2012, 2014, 2016, 2018, 2020: Member of Scientific Review Committee, National Symposium on Wind Engineering
2004 - 2008, 2016 - Present: Editor, Journal of Wind Engineering, JAWE
2020 - Present: Editor, Advances in Atmospheric Sciences

Article reviews for:

- Journal of the Meteorological Society of Japan
- Scientific Online Letters on the Atmosphere
- Journal of the Atmospheric Sciences
- Monthly Weather Review
- Weather and Forecasting
- Journal of Climate
- Journal of Geophysical Research
- Geophysical Research Letters
- Quarterly Journal of the Royal Meteorological Society
- Atmospheric Chemistry and Physics
- Atmospheric Research
- Atmospheric Environment
- Journal of Atmospheric and Solar-Terrestrial Physics

Meteorology and Atmospheric Physics
Weather and Climate Extremes
Environmental Research Letters
Earth and Planetary Science Letters
Climate Dynamics
Nature Communications
Atmosphere

Refereed Publications

1. Mitsuta, Y., T. Hayashi, T. Takemi. Y. Hu, J. Wang, and M. Chen, 1995: Two severe local storms as observed in the arid area of northwest China. *Journal of the Meteorological Society of Japan*, Vol. 73, pp. 1269-1284.
2. Takemi, T., 1999: Evaporation of rain falling below a cloud base through a deep atmospheric boundary layer over an arid region. *Journal of the Meteorological Society of Japan*, Vol. 77, pp. 387-397.
3. Takemi, T., 1999: Structure and Evolution of a Severe Squall Line over the Arid Region in Northwest China. *Monthly Weather Review*, Vol. 127, pp. 1301-1309.
4. Takemi, T., and T. Satomura, 2000: Numerical experiments on the mechanisms for the development and maintenance of long-lived squall lines in dry environments. *Journal of the Atmospheric Sciences*, Vol. 57, pp. 1718-1740.
5. Takemi, T., 2000: Diurnal variability of the fair weather boundary layer over the western equatorial Pacific. *Umi To Sora*, Vol. 76, pp. 15-20.
6. Takahashi, S., M. Nabekura, O. Tsukamoto, T. Iwata, T. Takemi, and H. Ishida, 2000: Sea surface heat flux evaluation by on-board technique over tropical western Pacific. *Umi To Sora*, Vol. 76, pp. 21-26.
7. Takemi, T., and R. Rotunno, 2003: The effects of subgrid model mixing and numerical filtering in simulations of mesoscale cloud systems. *Monthly Weather Review*, Vol. 131, pp. 2085-2101.
8. Takemi, T., O. Hirayama, C. Liu, 2004: Factors responsible for the vertical development of tropical oceanic cumulus convection, *Geophysical Research Letters*, Vol. 31, L11109, doi:10.1029/2004GL020225.
9. Takemi, T., and R. Rotunno, 2005: CORRIGENDUM. *Monthly Weather Review,* Vol. 133, pp. 339-341.
10. Takemi, T., and N. Seino, 2005: Duststorms and cyclone tracks over the arid regions in east Asia in spring. *Journal of Geophysical Research*, Vol. 110, D18S11, doi:10.1029/2004JD004698.
11. Takemi, T., 2005: Explicit simulations of convective-scale transport of mineral dust in severe convective weather. *Journal of the Meteorological Society of Japan*, Vol. 83A, pp. 187-203.
12. Takemi, T., and N. Seino, 2005: Duststorms and mesoscale cloud systems over the east Asian deserts in spring. *Water, Air, & Soil Pollution:Focus*, Vol. 5, pp. 159-174.
13. Takemi, T., M. Yasui, J. Zhou, and L. Liu, 2005: Modeling study of diurnally varying convective boundary layer and dust transport over desert regions. *Scientific Online Letters on the Atmosphere*, Vol. 1, pp. 157-160.
14. Mikami, M., G.-Y. Shi, I. Uno, S. Yabuki, Y. Iwasaka, M. Yasui, T. Aoki, T.Y. Tanaka, Y. Kurosaki, K. Masuda, A. Uchiyama, A. Matsuki, T. Sakai, T. Takemi, M. Nakawo, N. Seino, M. Ishizuka, S. Satake, K. Fujita, Y. Hara, K. Kai, S. Kanayama, M. Hayashi, M. Du, Y. Kanai, Y. Yamada, X. Y. Zhang, Z. Shen, H. Zhou, O. Abe, T. Nagai, Y. Tsutsumi, M. Chiba, and J. Suzuki, 2006: Aeolian Dust Experiment on Climate Impact: An overview of Japan-China Joint Project ADEC. *Global and Planetary Change*, Vol. 52, pp.

142-172.

15. Takemi, T., M. Yasui, J. Zhou, and L. Liu, 2006: Role of boundary layer and cumulus convection on dust emission and transport over a midlatitude desert area. *Journal of Geophysical Research*, Vol. 111, D11203, doi:10.1029/2005JD006666.
16. Takemi, T., 2006: Impacts of moisture profile on the evolution and organization of midlatitude squall lines under various shear conditions. *Atmospheric Research*, Vol. 82, pp. 37-54.
17. Takemi, T., 2007: A sensitivity of squall line intensity to environmental static stability under various shear and moisture conditions. *Atmospheric Research*, Vol. 84, pp. 374-389.
18. Takemi, T., 2007: Environmental stability control of the intensity of squall lines under low-level shear conditions. *Journal of Geophysical Research*, Vol. 112, D24110, doi:10.1029/2007JD008793.
19. Takemi, T., 2008: An eddy-resolving simulation of the diurnal variation of fair-weather convection and tracer transport. *Atmospheric Research*, Vol. 89, pp. 270-282.
20. Takemi, T., 2009: High-resolution numerical simulations of surface wind variability by resolving small-scale terrain features. *Theoretical and Applied Mechanics Japan*, Vol. 57, pp. 421-428.
21. Takemi, T., 2009: A high-resolution simulation of convective-scale transport of dust aerosol and its representation in cloud-resolving simulations. *Advances in Geosciences, Vol. 10: Atmospheric Science*, pp. 161-175, World Scientific Publishing Company.
22. Takemi, T., 2010: Dependence of the precipitation intensity in mesoscale convective systems to temperature lapse rate. *Atmospheric Research*, Vol. 96, pp. 273-285, doi:10.1016/j.atmosres.2009.09.002.
23. Ohno, H., and T. Takemi, 2010a: Mechanisms for intensification and maintenance of numerically simulated dust devils. *Atmospheric Science Letter*, Vol. 11, pp. 27-32., doi: 10.1002/asl.247.
24. Takemi, T., K. Kusunoki, K. Araki, T. Imai, K. Bessho, S. Hoshino, and S. Hayashi, 2010: Representation and localization of gusty winds induced by misocyclones with a high-resolution meteorological modeling. *Theoretical and Applied Mechanics Japan*, Vol. 58, pp. 121-130.
25. Oku, Y., T. Takemi, H. Ishikawa, S. Kanada, and M. Nakano, 2010: Representation of extreme weather during a typhoon landfall in regional meteorological simulations: a model intercomparison study for Typhoon Songda (2004). *Hydrologic Research Letters*, Vol. 4, pp. 1-5, doi: 10.3178/hrl.4.1.
26. Ohno, H., and T. Takemi, 2010b: Numerical study for the effects of mean wind on the intensity and evolution of dust devils. *Scientific Online Letters on the Atmosphere*, Vol. 6A, pp. 5-8, doi:10.2151/sola.6A-002.
27. Miyamoto, Y., and T. Takemi, 2010: An effective radius of the sea surface enthalpy flux for the maintenance of a tropical cyclone. *Atmospheric Science Letter*, Vol. 11, pp. 278-282, doi: 10.1002/asl.292.
28. Nomura, S., and T. Takemi, 2011: Environmental stability for afternoon rain events in the Kanto plain in summer. *Scientific Online Letters on the Atmosphere*, Vol. **7**, pp. 9-12, doi:10.2151/sola.2011-003.
29. Miyamoto, Y., and T. Takemi, 2011: Effects of surface exchange coefficients for high wind speeds on intensity and structure of tropical cyclones: Numerical simulations for Typhoon Ioke (2006). *Theoretical and Applied Mechanics Japan*, Vol. 59, pp. 275-283.
30. Inoue, H. Y., K. Kusunoki, W. Kato, H. Suzuki, T. Imai, T. Takemi, K. Bessho, M. Nakazato, S. Hoshino, W. Mashiko, S. Hayashi, T. Fukuhara, T. Shibata, H. Yamauchi, O. Suzuki, 2011: Fine-scale Doppler radar observation of a tornado and low-level misocyclones within a winter storm in the Japan Sea coastal region. *Monthly Weather Review*, Vol. 139, pp. 351-369, doi: 10.1175/2010MWR3247.1.

31. Nakayama, H., T. Takemi, and H. Nagai, 2011: LES analysis of the aerodynamic surface properties for turbulent flows over building arrays with various geometries. *Journal of Applied Meteorology and Climatology*, Vol. 50, pp. 1692-1712, doi: 10.1175/2011JAMC2567.1.
32. Takemi, T., S. Nomura, Y. Oku, and H. Ishikawa, 2012: A regional-scale evaluation of changes in environmental stability for summertime afternoon precipitation under global warming from super-high-resolution GCM simulations: A study for the case in the Kanto Plain. *Journal of the Meteorological Society of Japan*, Vol. 90A, pp. 189-212, doi: 10.2151/jmsj.2012-A10.
33. Takemi, T., 2012: Projected regional-scale changes in atmospheric stability condition for the development of summertime convective precipitation in the Tokyo metropolitan area under global warming. *Hydrologic Research Letters*, Vol. 6, pp. 17-22, doi: 10.3178/HRL.6.17.
34. Nakayama, H., T. Takemi, and H. Nagai, 2012: Large-eddy simulation of urban boundary-layer flows by generating turbulent inflows from mesoscale meteorological simulations. *Atmospheric Science Letters*, Vol. 13, pp. 180-186, doi: 10.1002/asl.377.
35. Takemi, T., 2012: Importance of the numerical representation of shallow and deep convection for simulations of dust transport over a desert region. *Advances in Meteorology*, Vol. 2012, Article ID 413584, 13 pages, doi:10.1155/2012/413584.
36. Arnold, D., D. Morton, L. Schicker, P. Seibert, M. W. Rotach, K. Horvath, J. Dudhia, T. Satomura, M. Müller, G. Zängl, T. Takemi, S. Serafin, J. Schmidli, S. Schneider, 2012: Issues in high-resolution atmospheric modeling in complex topography - The HiRCoT workshop, *Croatian Meteorological Journal (Hrv. metor. časopis)*, Vol. 47, pp. 3-11.
37. Miyamoto, Y., and T. Takemi, 2013: A transition mechanism for the spontaneous axisymmetric intensification of tropical cyclones. *Journal of the Atmospheric Sciences*, Vol. 70, pp. 112-129, doi: 10.1175/JAS-D-11-0285.1.
38. Takemi, T., 2013: High-Resolution Meteorological Simulations of Local-Scale Wind Fields over Complex Terrain: A Case Study for the Eastern Area of Fukushima in March 2011. *Theoretical and Applied Mechanics Japan*, Vol. 61, pp. 3-10.
39. Ishikawa, H., Y. Oku, S. Kim, T. Takemi, and J. Yoshino, 2013: Estimation of a possible maximum flood event in the Tone River basin, Japan caused by a tropical cyclone. *Hydrological Processes*, Vol. 27, pp. 3292-3300, doi: 10.1002/hyp.9830.
40. Vanderbauwhede, W., and T. Takemi, 2013: An investigation into the feasibility and benefits of GPU/multicore acceleration of the weather research and forecasting model. *High Performance Computing and Simulation (HPCS), 2013 International Conference on*, pp. 482-489, 1-5 July 2013, doi: 10.1109/HPCSim.2013.6641457
41. Takemi, T., 2014: Convection and precipitation under various stability and shear conditions: Squall lines in tropical versus midlatitude environment. *Atmospheric Research*, Vol. 142, pp. 111-123, doi:10.1016/j.atmosres.2013.07.010.
42. Tsuboi, A., and T. Takemi, 2014: The interannual relationship between MJO activity and tropical cyclone genesis in the Indian Ocean. *Geoscience Letters*, Vol. 1: 9, doi: 10.1186/2196-4092-1-9.
43. Oku, Y., J. Yoshino, T. Takemi, and H. Ishikawa, 2014: Assessment of heavy rainfall-induced disaster potential based on an ensemble simulation of Typhoon Talas (2011) with controlled track and intensity. *Natural Hazards and Earth System Sciences*, Vol. 14, 2699-2709, doi:10.5194/nhess-14-2699-2014.
44. Mori, N., M. Kato, S. Kim, H. Mase, Y. Shibutani, T. Takemi, K. Tsuboki, T. Yasuda, 2014: Local amplification of storm surge by Super Typhoon Haiyan in Leyte Gulf. *Geophysical Research Letters*, Vol.

41, pp. 5106-5113, doi:10.1002/2014GL060689.

45. Nakayama, H., T. Takemi, and H. Nagai, 2014: Large-eddy simulation of plume dispersion under various thermally stratified boundary layers. *Advances in Science and Research*, Vol. 11, pp. 75-81, doi:10.5194/asr-11-75-2014
46. Takemi, T., 2014: Characteristics of summertime afternoon rainfall and its environmental conditions in and around the Nobi Plain. *SOLA*, 10, 158-162, doi:10.2151/sola.2014-033
47. Ito, R., T. Satomura, and T. Takemi, 2014: Comparison of temperature increases with urban surface cover for different geographical conditions in Japan. *Geographical Review of Japan Series B*, Vol. 87, pp. 65-73, doi: 10.4157/geogrevjapanb.87.65
48. Takayabu, I., K. Hibino, H. Sasaki, H. Shiogama, N. Mori, Y. Shibutani, T. Takemi, 2015: On the effect of climate change on the development of Typhoon Haiyan. *Environmental Research Letters*, Vol. 10, 064011, doi:10.1088/1748-9326/10/6/064011
49. Nakayama, H., T. Takemi, H. Nagai, 2015: Large-eddy simulation of turbulent winds during the Fukushima Daiichi Nuclear Power Plant accident by coupling with a meso-scale meteorological simulation model. *Advances in Science and Research*, Vol. 12, pp. 127-133, doi: 10.5194/asr-12-127-2015.
50. Miyamoto, Y., and T. Takemi, 2015: A triggering mechanism for rapid intensification of tropical cyclones. *Journal of the Atmospheric Sciences*, Vol. 72, pp. 2666–2681, doi: 10.1175/JAS-D-14-0193.1
51. Takemi, T., 2015: Relationship between cumulus activity and environmental moisture during the CINDY2011/DYNAMO field experiment as revealed from convection-resolving simulations. *Journal of the Meteorological Society of Japan*, Vol. 93A, pp. 41-58, doi:10.2151/jmsj.2015-035.
52. Vanderbauwhede, W., and T. Takemi, 2015: Twinned buffering: A simple and highly effective scheme for parallelization of Successive Over-Relaxation on GPUs and other accelerators. *High Performance Computing and Simulation (HPCS), 2015 International Conference on*, pp. 436-443, 20-24 July 2015, doi: 10.1109/HPCSim.2015.7237073
53. Nakayama, H., T. Takemi, H. Nagai, 2015: The numerical analysis of the capping inversion effect in a convective boundary layer flow on the contaminant gas dispersion. *Procedia Earth and Planetary Science*, Vol. 15, pp. 560-565, doi:10.1016/j.proeps.2015.08.101
54. Mori, N., and T. Takemi, 2016: Impact assessment of coastal hazards due to future changes of tropical cyclones in the North Pacific Ocean. *Weather and Climate Extremes*, Vol. 11, pp. 53-69, doi:10.1016/j.wace.2015.09.002.
55. Nakayama, H., T. Takemi, H. Nagai, 2016: Development of local-scale high-resolution atmospheric dispersion model using large-eddy simulation. Part 5: Detailed simulation of turbulent flows and plume dispersion in an actual urban area under real meteorological conditions. *Journal of Nuclear Science and Technology*, Vol. 53, pp. 887-908, doi: 10.1080/00223131.2015.1078262.
56. Vanderbauwhede, W., and T. Takemi, 2016: An analysis of the feasibility and benefits of GPU/multicore acceleration of the Weather Research and Forecasting model. *Concurrency and Computation: Practice and Experience*, Vol. 28, pp. 2052-2072. doi: 10.1002/cpe.3522.
57. Unuma, T., and T. Takemi, 2016: Characteristics and environmental conditions of quasi-stationary convective clusters during the warm season in Japan. *Quarterly Journal of the Royal Meteorological Society*, Vol. 142, pp. 1232-1249. doi: 10.1002/qj.2726.
58. Ito, R., T. Takemi, and O. Arakawa, 2016: A possible reduction in the severity of typhoon wind in the northern part of Japan under global warming: A case study. *Scientific Online Letters on the Atmosphere*,

Vol. 12, pp. 100-105, doi:10.2151/sola.2016-023.

59. Unuma, T., and T. Takemi, 2016: A role of environmental shear on the organization mode of quasi-stationary convective clusters during the warm season in Japan. *Scientific Online Letters on the Atmosphere*, Vol. 12, pp. 111-115, doi:10.2151/sola.2016-025.
60. Tsuboi, A., T. Takemi, and K. Yoneyama, 2016: Seasonal environmental characteristics for the tropical cyclone genesis in the Indian Ocean during the CINDY2011/DYNAMO field experiment. *Atmosphere*, 7, 66. doi: 10.3390/atmos7050066.
61. Lorenz, R. D., M. R. Balme, Z. Gu, H. Kahanpaa, M. Klose, M. V. Kurgansky, M. R. Patel, D. Reiss, A. P. Rossi, A. Spiga, T. Takemi, W. Wei, 2016: History and applications of dust devil studies. *Space Science Reviews*, Vol. 203, pp. 5-37, doi: 10.1007/s11214-016-0239-2.
62. Rafkin, S., B. Jemmett-Smith, L. Fenton, R. Lorenz, T. Takemi, J. Ito, D. Tyler, 2016: Dust devil formation. *Space Science Reviews*, Vol. 203, pp. 183-207, doi: 10.1007/s11214-016-0307-7.
63. Kurgansky, M. V., R. D. Lorenz, N. O. Renno, T. Takemi, Z. Gu, W. Wei, 2016: Dust devil steady-state structure from a fluid dynamics perspective. *Space Science Reviews*, Vol. 203, pp. 209-244, doi: 10.1007/s11214-016-0281-0.
64. Spiga, A., E. Barth, Z. Gu, F. Hoffmann, J. Ito, B. Jemmett-Smith, M. Klose, S. Nishizawa, S. Raasch, S. Rafkin, T. Takemi, D. Tyker, W. Wei, 2016: Large-eddy simulations of dust devils and convective vortices. *Space Science Reviews*, Vol. 203, pp. 245-275, doi: 10.1007/s11214-016-0284-x.
65. Takemi, T., R. Ito, O. Arakawa, 2016: Effects of global warming on the impacts of Typhoon Mireille (1991) in the Kyushu and Tohoku regions. *Hydrological Research Letters*, Vol. 10, pp. 81-87, doi: 10.3178/hrl.10.81.
66. Takemi, T., R. Ito, O. Arakawa, 2016: Robustness and uncertainty of projected changes in the impacts of Typhoon Vera (1959) under global warming. *Hydrological Research Letters*, Vol. 10, pp. 88-94, doi: 10.3178/hrl.10.88.
67. Takemi, T., Y. Okada, R. Ito, H. Ishikawa, E. Nakakita, 2016: Assessing the impacts of global warming on meteorological hazards and risks in Japan: Philosophy and achievements of the SOUSEI program. *Hydrological Research Letters*, Vol. 10, pp. 119-125, doi: 10.3178/hrl.10.119.
68. Takano, K. T., K. Nakagawa, M. Aiba, M. Oguro, J. Morimoto, Y. Furukawa, Y. Mishima, K. Ogawa, R. Ito, and T. Takemi, 2016: Projection of impacts of climate change on windthrows and evaluation of potential silvicultural adaptation measures: A case study from empirical modelling of windthrows in Hokkaido, Japan, by Typhoon Songda (2004). *Hydrological Research Letters*, Vol. 10, pp. 138-144. doi: 10.3178/hrl.10.138.
69. Poulidis, A.-P., T. Takemi, 2017: A 1998-2013 climatology of Kyushu, Japan: Seasonal variation of stability and rainfall. *International Journal of Climatology*, Vol. 37, pp. 1843-1858, doi: 10.1002/joc.4817.
70. Mizuta, R., A. Murata, M. Ishii, H. Shiogama, K. Hibino, N. Mori, O. Arakawa, Y. Imada, K. Yoshida, T. Aoyagi, H. Kawase, M. Mori, Y. Okada, T. Shimura, T. Nagatomo, M. Ikeda, H. Endo, M. Nosaka, M. Arai, C. Takahashi, K. Tanaka, T. Takemi, Y. Tachikawa, K. Temur, Y. Kamae, M. Watanabe, H. Sasaki, A. Kitoh, I. Takayabu, E. Nakakita, M. Kimoto, 2017: Over 5,000 years of ensemble future climate simulations by 60 km global and 20 km regional atmospheric models. *Bulletin of the American Meteorological Society*, Vol. 98, pp. 1383-1398, doi: 10.1175/BAMS-D-16-0099.1.

71. Shimura, T., N. Mori, T. Takemi, R. Mizuta, 2017: Long term impacts of ocean wave-dependent roughness on global climate systems. *Journal of Geophysical Research: Oceans*, Vol. 122, pp. 1995-2011, doi: 10.1002/2016JC012621.
72. Okada, Y., T. Takemi, H. Ishikawa, S. Kusunoki, and R. Mizuta, 2017: Future changes in atmospheric conditions for the seasonal evolution of the Baiu as revealed from projected AGCM experiments. *Journal of the Meteorological Society of Japan*, Vol. 95, pp. 239-260, doi:10.2151/jmsj.2017-013.
73. Kanada, S., T. Takemi, M. Kato, S. Yamasaki, H. Fudeyasu, K. Tsuboki, O. Arakawa, I. Takayabu, 2017: A multi-model intercomparison of an intense typhoon in future, warmer climates by four 5-km-mesh models. *Journal of Climate*, Vol. 30, pp. 6017-6036, doi: 10.1175/JCLI-D-16-0715.1.
74. Poulidis, A.-P., T. Takemi, M. Iguchi, and I. A. Renfrew, 2017: Orographic effects on the transport and deposition of volcanic ash: A case study of Mt. Sakurajima, Japan. *Journal of Geophysical Research: Atmosphere*, Vol. 122, pp. 9332-9350, doi: 10.1002/2017JD026595.
75. Poulidis, A.-P., T. Takemi, A. Shimizu, M. Iguchi, S. F. Jenkins, 2018: Statistical analysis of dispersal and deposition patterns of volcanic emissions from Mount Sakurajima, Japan. *Atmospheric Environment*, Vol. 179, pp. 305-320, doi: 10.1016/j.atmosenv.2018.02.021.
76. Yoshida, T., T. Takemi, and M. Horiguchi, 2018: Large-eddy-simulation study of the effects of building height variability on turbulent flows over an actual urban area. Boundary-Layer Meteorology, Vol. 168, pp. 127-153, doi: 10.1007/s10546-018-0344-8.
77. Yanase, T., and T. Takemi, 2018: Diurnal variation of simulated cumulus convection in radiative-convective equilibrium. Scientific Online Letters on the Atmosphere, Vol. 14, pp. 116-120, doi: 10.2151/sola.2018-020.
78. Dong, H., S. Cao, T. Takemi, and Y. Ge, 2018: WRF simulation of surface wind in high latitudes. Journal of Wind Engineering and Industrial Aerodynamics, Vol. 179, pp. 287-296, doi: 10.1016/j.jweia.2018.06.009.
79. Takemi, T., 2018: The evolution and intensification of Cyclone Pam (2015) and resulting strong winds over the southern Pacific islands. Journal of Wind Engineering and Industrial Aerodynamics, Vol. 182, pp. 27-36, doi: 10.1016/j.jweia.2018.09.007.
80. Takemi, T., 2018: Importance of terrain representation in simulating a stationary convective system for the July 2017 Northern Kyushu Heavy Rainfall case. Scientific Online Letters on the Atmosphere, Vol. 14, pp. 153-158, doi:10.2151/sola.2018-027.
81. Yoshida, T., and T. Takemi, 2018: Properties of mixing length and dispersive stress in airflows over urban-like roughness obstacles with variable height. Scientific Online Letters on the Atmosphere, Vol. 14, pp. 174-178, doi:10.2151/sola.2018-031.
82. Nakayama, H., and T. Takemi, 2018: Large-eddy simulation studies for predicting plume concentrations around nuclear facilities using an overlapping technique. International Journal of Environment and Pollution, Vol. 64, Nos. 1/3, pp. 125-144, doi: 10.1504/IJEP.2018.099153.
83. Morimoto, J., K. Nakagawa, K. T. Takano, M. Aiba, M. Oguro, Y. Furukawa, Y. Mishima, K. Ogawa, R. Ito, T. Takemi, F. Nakamura, and C. J. Peterson, 2019: Comparison of vulnerability to catastrophic

wind of Abies plantation forests and natural mixed forests in northern Japan. Forestry: An International Journal of Forest Research, Vol. 92, pp. 436-443, doi: 10.1093/forestry/cpy045.

84. Takemi, T., T. Yoshida, S. Yamasaki, and K. Hase, 2019: Quantitative estimation of strong winds in an urban district during Typhoon Jebi (2018) by merging mesoscale meteorological and large-eddy simulations. Scientific Online Letters on the Atmosphere, Vol. 15, pp. 22-27, doi:10.2151/sola.2019-005.
85. Nayak, S., and T. Takemi, 2019: Dynamical downscaling of Typhoon Lionrock (2016) for assessing the resulting hazards under global warming. Journal of the Meteorological Society of Japan, Vol. 97, pp. 69-88, doi:10.2151/jmsj.2019-003.
86. Nayak, S., and T. Takemi, 2019: Dependence of extreme precipitable water events on temperature. Atmósfera, Vol. 32, pp. 159-165, doi: 10.20937/ATM.2019.32.02.06.
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and 7 Japanese-written books.

Teaching experiences

Teaching areas:

1. Applied meteorology (mesoscale and microscale meteorology)
2. Environmental fluid dynamics/turbulence modeling
3. Atmospheric environment
4. Natural disaster science

I have supervised 4 PhD students, 28 master course students, and 11 undergraduate students.

- Osaka University: 5 master students and 9 undergraduate students
- Tokyo Institute of Technology: 4 master students and 2 undergraduate students

- Kyoto University: 4 PhD students and 19 master students