Nobuyuki UTSUMI, Ph.D.

Assistant Professor
Nagamori Institute of Actuators,
Kyoto University of Advanced Science, Japan
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RESEARCH FIELDS

- Weather systems and hydrologic cycle
  - Contributions of weather systems to global and regional hydrologic cycle and water-related disasters
  - Algorithm development of objective weather system detections
- Climate change
  - Climate change impact on future hydrologic extremes
  - Detection and attribution of anthropogenic impact on hydrologic extremes
- Satellite remote sensing of precipitation
  - Algorithm development of satellite-based precipitation retrievals
  - Validation of satellite-based precipitation products
- Water resources management
  - Future projection of water resources supply and demand
- Smart farming technology
  - Application of weather and climate big data for smart farming
  - Application of UAV remote sensing for smart farming

EDUCATION

Mar. 2015	**Ph.D. in Civil Engineering**, Graduate School of Engineering, The University of Tokyo *"Characteristics of global precipitation for different weather systems and the impacts of climate change" – Supervised by* ***Prof. Taikan OKI***
Mar. 2008	**M.S. in Civil Engineering**, Graduate School of Engineering, The University of Tokyo *"A correction and interpolation scheme for irregularly distributed precipitation data over Japan" – Supervised by* ***Prof. Shinjiro KANAE***
Mar. 2006	**B.S. in Agriculture,** Dept. of Global Agricultural Sciences, Faculty of Agriculture, The University of Tokyo

WORK EXPERIENCE

July 2020 – Present	**Assistant Professor**, Nagamori Institute of Actuators, Kyoto University of Advanced Science, Japan
July 2019 – June 2020	**Postdoctoral Scholar**, NASA Jet Propulsion Laboratory, California Institute of Technology, USA

July 2017 – June 2019	**Visiting Postdoctoral Scholar**, NASA Jet Propulsion Laboratory, California Institute of Technology, USA (JSPS Overseas Research Fellow)
Nov. 2015 – Mar. 2017	**Project Assistant Professor**, Institute of Industrial Science, The University of Tokyo
Aug. 2010 – Nov. 2015	**Project Researcher**, Institute of Industrial Science, The University of Tokyo
Apr. 2008 – June. 2009	**Assistant Researcher**, Mitsubishi UFJ Research and Consulting Co., Ltd.

AWARDS AND HONORS

Jul. 2017 - Jul. 2019	JSPS Overseas Research Fellowship, by Japan Society for the Promotion of Science (JSPS)
5th September 2014:	Excellent Presentation Award, for the presentation at 21st Symposium on Global Environment, Committee on Global Environment. JSCE
Apr. 2006- Mar. 2008:	Kajima Ikueikai Scholarship

GRANTS

Apr. 2022 – Mar. 2025	JAXA 3rd Research Announcement on the Earth Observations, “Improvement of the GSMaP Passive Microwave Algorithm for Snowfall Retrieval”, 11,221,000 JPY (approx. 98,000 USD)
Apr. 2021 – Mar. 2025	Grants-in-Aid for Scientific Research, Kiban-B, by Japan Society for the Promotion of Science (JSPS), Nobuyuki UTSUMI, “Investigating the driving mechanisms of the future changes in floods in the East Asia considering weather systems”, 13,000,00 JPY (approx. 114,000 USD)
Apr. 2021 – Mar. 2022	JAXA 2nd Research Announcement on the Earth Observations, Nobuyuki UTSUMI, “Evaluation of GPM/GSMaP products towards the improvement of satellite-based snowfall retrieval algorithms”, 1,750,000 JPY (approx. 15,000 USD)
Apr. 2019 – Mar. 2021	Grants-in-Aid for Scientific Research for Early-Career Scientists, by Japan Society for the Promotion of Science (JSPS), Nobuyuki UTSUMI, “Estimating time-accumulation of surface precipitation amount using instantaneous satellite observations” 4,290,000 JPY (approx. 37,000 USD)
Jul. 2017 – Jun. 2019	Overseas Research Fellowship, by Japan Society for the Promotion of Science (JSPS), “Development of an estimation technique for the contributions of weather systems to terrestrial hydrology”, 12,045,000 JPY (approx. 105,000 USD)
Oct. 2016 - Mar. 2018	Research Activity Start-up, Grants-in-Aid for Scientific Research, by Japan Society for the Promotion of Science (JSPS), Nobuyuki UTSUMI, “Investigation on the precipitation profiles for different weather systems based on satellite observations”, 2,990,000 JPY (approx. 26,000 USD)

Feb. 2016 - Mar. 2017 The Japan Institute of Country-ology and Engineering Grant 15007., Nobuyuki UTSUMI, “Development of classification method of precipitation by its causal weather systems and the identification of the measure weather systems causing future extreme precipitation over Japan.”, 1,590,000 JPY (approx. 14,000 USD)

PROFESSIONAL SERVICE

2021 – present: Science Team Member, Precipitation Measurement Mission (PMM), Japan Aerospace Exploration Agency (JAXA)

2021 – present: Committee member, Advisory Committee for PMM Successor Mission, Japan Aerospace Exploration Agency (JAXA)

2021 – present: Committee member, Advisory Committee for PMM Data Applications, Japan Aerospace Exploration Agency (JAXA)

2017 – present: Member, Precipitation Measurement Mission Land Surface Working Group, National Aeronautics and Space Administration (NASA)

Paper reviewer for Climate Dynamics, Environmental Research Letters, Geophysical Research Letters, Hydrology and Earth System Sciences, Hydrological Research Letters, Hydrological Sciences Journal, Journal of Climate, Journal of Hydrometeorology, Journal of the Meteorological Society of Japan, Nature Climate Change, Theoretical and Applied Climatology, Water Resources Research

PUBLICATIONS (peer-reviewed)

Lee, S. S., Choi, J., Kim, G., Ha, K.-J., Seo, K.-H., Jung, C. H., Um, J., Zheng, Y., Guo, J., Song, S.-K., Lee, Y. G., and **Utsumi, N.** (2022). Examination of aerosol impacts on convective clouds and precipitation in two metropolitan areas in East Asia; how varying depths of convective clouds between the areas diversify those aerosol effects? Atmospheric Chemistry and Physics, 22(13), 9059–9081. https://doi.org/10.5194/acp-22-9059-2022

Utsumi, N., and Kim, H. (2022). Observed influence of anthropogenic climate change on tropical cyclone heavy rainfall. Nature Climate Change, 12(5), 436–440. https://doi.org/10.1038/s41558-022-01344-2

Lee, S. S., K.-J. Ha, M. G. Manoj, M. Kamruzzaman, H. Kim, **N. Utsumi**, and J. Guo (2021), Mid-latitude mixed-phase stratocumulus clouds and their interactions with aerosols: how ice processes affect microphysical, dynamic and thermodynamic development in those clouds and interactions? Atmospheric Chemistry and Physics, 21 (22), 16843-16868

Turk, F. J., S. E. Ringerud, Y. You, A. Camplani, D. Casella, G. Panegrossi, P. Sanò, A. Ebtehaj, C. Guilloteau, **N. Utsumi,** C. Prigent, C. Peters-Lidard, (2021), Adapting Passive Microwave-Based Precipitation Algorithms to Variable Microwave Land Surface Emissivity to Improve Precipitation Estimation from the GPM Constellation. Journal of Hydrometeorology, 22 (7), 1755–1781. https://doi.org/10.1175/JHM-D-20-0296.1.

Utsumi, N., F. J. Turk, Z. S. Haddad, P.-E. Kirstetter, and H. Kim (2021), Evaluation of Precipitation Vertical Profiles Estimated by GPM-Era Satellite-Based Passive Microwave Retrievals. Journal of Hydrometeorology, 22, 95–112, https://doi.org/10.1175/JHM-D-20-0160.1.

Utsumi, N., H. Kim, F. J. Turk, and Ziad. S. Haddad (2019), Improving Satellite-Based Subhourly Surface Rain Estimates Using Vertical Rain Profile Information. J. Hydrometeor., 20 (5), 1015–1026, https://doi.org/10.1175/JHM-D-18-0225.1.

Madakumbura, G. D., H. Kim, **N. Utsumi**, H. Shiogama, E. M. Fischer, Ø. Seland, J. F. Scinocca, D. M. Mitchell, Y. Hirabayashi, and T. Oki (2019), Event-to-event intensification of the hydrologic cycle from 1.5 °C to a 2 °C warmer world. Scientific Reports, 9, 3483, doi:10.1038/s41598-019-39936-2.

Utsumi, N. and H. Kim (2018), Warm Season Satellite Precipitation Biases for Different Cloud Types Over Western North Pacific, IEEE Geosci. Remote Sens. Lett., 15(6), 808-812, doi:10.1109/LGRS.2018.2815590.

Watanabe. S., **N. Utsumi,** and H. Kim (2018), Projection of the changes in weather Potentially affecting tourism in the Yaeyama islands under global warming, Journal of Japan Society of Civil Engineers, Ser. G (Environmental Research), Vol.74, No.5, I_19-I_24.

Utsumi, N., H. Kim, S. Kanae, and T. Oki (2017), Relative contributions of weather systems to mean and extreme global precipitation, J. Geophys. Res. Atmos., 122, 152-167, doi:10.1002/2016JD025222.

Utsumi, N., H. Kim, S. Kanae, and T. Oki (2016), Which weather systems are projected to cause future changes in mean and extreme precipitation in CMIP5 simulations?, J. Geophys. Res. Atmos., 121, 522–537, 2016JD024939, doi:10.1002/2016JD024939.

Utsumi, N., H. Kim, S. Seto, S. Kanae, and T. Oki (2014), Climatological characteristics of fronts in the western North Pacific based on surface weather charts, J. Geophys. Res. Atmos., 119(15), 9400–9418, 2014JD021734, doi:10.1002/2014JD021734.

Shen, Y., T. Oki, S. Kanae, N. Hanasaki, **N. Utsumi**, and M. Kiguchi (2014), Projection of future world water resources under SRES scenarios: an integrated assessment, Hydrological Sciences Journal, 59(10), 1775–1793, doi:10.1080/02626667.2013.862338.

Seto, S., T. Iguchi, **N. Utsumi**, M. Kiguchi, and T. Oki (2013), Evaluation of Extreme Rain Estimates in the TRMM/PR Standard Product Version 7 Using High-Temporal-Resolution Rain Gauge Datasets over Japan, Sola, 9, 98–101.

Sarker, R. C., M. Kiguchi, **N. Utsumi**, K. Oki, and T. Oki (2013), The relationship between extreme precipitation and surface air temperature in Bangladesh., Journal of Japan Society of Civil Engineers, Ser. B1 (Hydraulic Engineering), 69(4), I_127–I_132, doi:10.2208/jscejhe.69.I_127.

Maeda, E. E., **N. Utsumi**, and T. Oki (2012), Decreasing precipitation extremes at higher temperatures in tropical regions, Nat Hazards, 64(1), 935–941, doi:10.1007/s11069-012-0222-5.

Utsumi, N., S. Seto, S. Kanae, E. E. Maeda, and T. Oki (2011), Does higher surface temperature intensify extreme precipitation?, Geophys. Res. Lett., 38(16), L16708.

Shen, Y., T. Oki, **N. Utsumi**, S. Kanae, and N. Hanasaki (2008), Projection of future world water resources under SRES scenarios: water withdrawal/Projection des ressources en eau mondiales futures selon les scénarios du RSSE: prélèvement d'eau, Hydrological Sciences Journal, 53(1), 11–33.

Utsumi, N., S. Kanae, H. Kim, S. Seto, T. Oki, T. Nitta, and Y. Hirabayashi (2008), Importance of wind-induced undercatch adjustment in a gauge-based analysis of daily precipitation over Japan, Hydrological Research Letters, 2, 47–51.

PUBLICATIONS (Books, Reports)

Haddad, Z. S., F. J. Turk, **N. Utsumi**, and P.-E. Kirstetter (2021), Intrinsic uncertainty in the sub-daily satellite products at their native resolutions, The Joint IPWG/GEWEX Precipitation Assessment (ed. R. Roca and Z.S. Haddad), WCRP Report 2/2021, World Climate Research Programme (WCRP), Geneva, Switzerland. DOI: 10.13021/gewex.precip.1.1

PUBLICATIONS (Peer Reviewed, in Japanese)

内海 信幸，金 炯俊，瀬戸 心太（2021）,フィンランドにおける降雪事例を対象とした衛星リモートセンシング降雪推定の検証，水工学論文集，Vol.66, (Accepted)

渡部 哲史，**内海 信幸**，北野 利一，中北 英一（2021），将来変化倍率の逆転に着目した d4PDF 領域実験における 2℃と 4℃上昇の極端降水量の考察，水工学論文集，Vol66,（Accepted）

渡部 哲史, 中村 みゆき, **内海 信幸** (2018)，アメダス観測点を対象とした d4PDF バイアス補正降水量データセットの開発, 水工学論文集, Vol.63, I_127-132

渡部 哲史, **内海信幸** (2018) 大規模気候予測情報類型化に向けた d4PDF 日本域降水量の特徴の把握，土木学会論文集 B1(水工学) Vol.74, No.4, I_169-I_174

芳村 圭，中村 晋一郎，鳩野 美佐子，向田 清峻，石塚 悠太，**内海 信幸**，木口 雅司，金 炯俊，乃田 啓吾，牧野 達哉，鼎信 次郎，沖 大幹 (2016), 平成 27 年 9 月関東・東北豪雨による茨城県常総市における鬼怒川洪水に関する調査及び考察, 土木学会論文集 B1(水工学), 72(4), I_1273-I_1278.

渡部 哲史, **内海 信幸**, 鼎 信次郎, 瀬戸 心太, 沖 大幹, 平林 由希子 (2013), GCM,RCP シナリオ,バイアス補正手法の選択が日降水量極値の将来予測に与える影響の考察, 水工学論文集 B1（水工学）, 57, 1_385-390. https://doi.org/10.2208/jscejhe.69.I_385

左藤 智子, 楠原 啓右, 今田 由紀子, **内海 信幸**, 鼎 信次郎 (2013), 台風に伴う将来の降水量極値の推定-高知市鏡川の治水計画への利用-, 土木学会論文集 b1（水工学）, 69(4), I_379-I_384, doi:10.2208/jscejhe.69.I_379.

内海 信幸, 瀬戸 心太, 鼎 信次郎, 沖 大幹 (2012), 気候変動に伴う豪雨変化の要因分析における大気湿潤度の考慮, 土木学会論文集 b1（水工学）, 68(4), I_421-I_426, doi:10.2208/jscejhe.68.I_421.

瀬戸 心太, 井口 俊夫, **内海 信幸**, 沖 大幹 (2012), Trmm/Pr バージョン 7 プロダクトの強い雨, 土木学会論文集 b1（水工学）, 68(4), I_373-I_378, doi:10.2208/jscejhe.68.I_373.

中村 晋一郎, **内海 信幸**, 渡部 哲史, 梯 滋郎, 沖 大幹 (2012), 平成 23 年 7 月新潟・福島豪雨による信濃川下流域での出水と被害の特徴: 平成 16 年 7 月新潟・福島豪雨との比較を中心として, 水文・水資源学会誌, 25(2), 113-121.

内海 信幸, 瀬戸 心太, 鼎 信次郎, 沖 大幹 (2011), 日本における 1 時間降水量の極値と地上観測気温の関係, 土木学会論文集 b1（水工学）, 67(4), I_307-I_312, doi:10.2208/jscejhe.67.I_307.

花崎 直太, **内海 信幸**, 山田 智子, 沈 彦俊, M. Bengtsson, 鼎 信次郎, 大瀧 雅寛, 沖 大幹 (2007), 温暖化時の水資源影響評価のための全球統合水資源モデルの開発, 水工学論文集 土木学会水工学委員会 編, 51, 229-234.

PRESENTATIONS

Utsumi, N., G. Liu, S. Watanabe (2022). Lack of snow cover scattering signature over south Greenland and its impact on GSMaP passive microwave snowfall retrieval, 10th Workshop of the International Precipitation Working Group, 14 June, 2022, Fort Collins, CO, USA & Online

Utsumi, N., F. J. Turk, Z. S. Haddad, P. E. Kirstetter, and H. Kim (2021). Vertical precipitation profiles estimated by satellite-based passive microwave retrievals, 26 April 2021, EGU General Assembly 2021, Online

Utsumi, N. (Speaker as an Early Career Researcher), How can early career scientists benefit from WCRP?, WCRP Climate Research Forum: Climate research priorities for the next decade, 7th April 2021, Online (Invited)

Utsumi, N., F. J. Turk, Z. S. Haddad, P. E. Kirstetter, and H. Kim (2020). Precipitation Vertical Profiles Estimated by GPM-era Satellite-based Passive Microwave Retrievals, e-poster ID 164, Presented at the Earth Observation for Water Cycle Science 2020, 2020, November 16, Online.

Haddad, Z., S. Hristova-Veleva, and **N. Utsumi**, 2020: Decadal trends in convection from satellite microwave observations of near-surface wind and deep precipitating clouds, EGU General Assembly 2020, 4 – 8 May, 2020, Online.

Utsumi, N. and H. Kim, Machine Learning Approach for Estimating Storm-top Height Based on Passive Microwave Brightness Temperature, Asia Oceania Geosciences Society 17th Annual Meeting, 28 June – 4 July, 2020, Hongcheon, South Korea. (Conference canceled).

Kim, H., G. D. Madakumbura, S. Wang, H. Shiogama, E. M. Fischer, **N. Utsumi**, JH Yoon, Intensification of Wet and Dry Swing and Flood and Heatwave Compound Extreme in Japan 2018, Asia Oceania Geosciences Society 17th Annual Meeting, 28 June – 4 July, 2020, Hongcheon, South Korea. (Conference canceled).

Utsumi, N. and F. J. Turk, How well do passive microwave algorithms estimate vertical profiles of precipitation?, in AGU Fall meeting, 9-13 December, 2019, San Francisco, USA.

Kim, H., G. D. Madakumbura, S. Wang, H. Shiogama, E. M. Fischer, **N. Utsumi**, JH Yoon, Flood and heatwave in Japan 2018 and future increase of consecutive compound risk in a warmer world, in AGU Fall meeting, 9-13 December, 2019, San Francisco, USA.

Watanabe, S., H. Kim, **N. Utsumi**, Developing a method adjusting bias of long-term and multivariate outputs from ensemble experiments by Earth system models for the projection of hydrology under climate change, in AGU Fall meeting, 9-13 December, 2019, San Francisco, USA. (Poster)

Turk, F. J. and **N. Utsumi**, Investigating Vertical Precipitation Profiles Estimated from a Passive Microwave Algorithm, Separated by Land Surface Conditions, 2019 NASA PMM Science Team Meeting, 4 – 8 November, 2019, Indianapolis, USA.

Utsumi, N., H. Kim, F. J. Turk, and Z. S. Haddad, Using vertical rain profile information to improve satellite-based sub-hourly surface rain estimates, in 12th International Precipitation Conference, 19-21 June, 2019, Irvine, California, USA. (Poster)

Kim, H. and **N. Utsumi**, Systematic biases associated with cloud types in satellite precipitation estimations, in 12th International Precipitation Conference, 19-21 June, 2019, Irvine, California, USA. (Poster)

Turk, F. J., **N. Utsumi,** Z. S. Haddad, P. Kirstetter, Towards Consistency between the Near-Surface and Vertical Precipitation Structure in the GPM Precipitation Constellation Data Record, in 12th International

Precipitation Conference, 19-21 June, 2019, Irvine, California, USA. (Poster)

Utsumi, N., H. Kim, F. J. Turk, and Z. S. Haddad, Improving satellite-based sub-hourly surface rain estimates using vertical rain profile information, in AGU Fall meeting, 10-14 December, 2018, Washington, D.C., USA. (Poster)

Watanabe, S., H. Kim, **N. Utsumi**, Development of a bias adjustment method for large ensemble experiment and hydrological applications, in AGU Fall meeting, 10-14 December, 2018, Washington, D.C., USA. (Poster)

Kim, H., I. G. De La Torre Villarreal, A. E. Amador Umanzor, N. Utsumi, Linkage between regional weather systems and hydrologic cycles over Central America, in AGU Fall meeting, 10-14 December, 2018, Washington, D.C., USA. (Poster)

Utsumi, N., H. Kim, F. J. Turk, and Z. S. Haddad, Improving satellite-based sub-hourly surface rain estimates using vertical rain profile information, in 9TH Workshop of International Precipitation Working Group, 5-9 November 2018, Seoul, South Korea.

Utsumi, N., and F. J. Turk, A self-consistent ensemble approach to propagate detection, estimation, and evolution uncertainties through Global Precipitation Measurement surface precipitation mapping. in SPIE Asia-Pacific Remote Sensing, 26 September, 2018, Honolulu, Hawaii, USA, No. 10782-26.

Utsumi, N. and H. Kim, Systematic Differences in Satellite Precipitation Products Associated with Cloud Types over Western North Pacific, in AGU Fall meeting, 11 -15 December, 2017, New Orleans, USA.

Watanabe, S., H. Kim, **N. Utsumi**, Developing an approach to effectively use super ensemble experiments for the projection of hydrological extremes under climate change, in AGU Fall meeting, 11 -15 December, 2017, New Orleans, USA.

Utsumi, N., H. Kim, Shinjiro Kanae, and T. Oki, Relative contributions of different weather systems to the changes in annual mean and extreme precipitation in CMIP5 models, in AGU Fall meeting, 12 -16 December, 2016, San Francisco, USA. (Poster)

Watanabe, S., **N. Utsumi**, M. Take, A. Iida, Impact assessment of climate change on tourism in the Pacific small islands based on the database of long-term high-resolution climate ensemble experiments, in AGU Fall meeting, 12 -16 December, 2016, San Francisco, USA.

Revel, M., **N. Utsumi**, S. Yoshikawa, S. Kanae, Predictability of Seasonal Precipitation Intensities Associated with Tropical Cyclones and Disturbances in Indo-China Region, in AGU Fall meeting, 12 -16 December, 2016, San Francisco, USA. (Poster)

Utsumi, N., H. Kim, and T. Oki, Intercomparison of satellite precipitation products for different cloud types, in 8th IPWG and 5th IWSSM Joint Workshop, 3 – 7 Oct, 2016, Bologna, Italy.

Revel, M., **N. Utsumi**, S. Yoshikawa, S. Kanae, Contribution of Pacific Japan Teleconnection to Different Weather Systems in Thailand Monsoon Domain, 2016 Annual Conference, Japan Society of Hydrology and Water Resources, 15 – 17 Sep. 2016, Fukushima.

Utsumi, N., H. Kim, and T. Oki, Development of a tracer scheme for the causal weather systems of precipitation for global hydrological models, in Proceedings of the 7th International Conference on Water Resources and Environment Research, s02-19-1 (pp.1-2), 5 – 9 June, 2016, Kyoto, Japan**.**

Utsumi, N., H. Kim, S. Kanae, and T. Oki, Relative contributions of weather systems to the changes of annual and extreme precipitation with global warming, 2015 Korea Water Resources Association Conference,

Gangwon-do, 28-29 May 2015, South Korea.

Utsumi, N., H. Kim, and T. Oki, Contribusions of weather system to future precipitation change over the East Asia in CMIP5 models, Third International Workshop on Studies on future climate projection of the Asian region utilizing the CMIP5 multi-model ensemble data, 27th March, 2015, Tokyo, Japan (Poster)

Utsumi, N., H. Kim and T. Oki, Estimation of Precipitation Biases in CMIP5 Models for Different Synoptic Weather Systems, the 7th International Conference on the Global Water and Energy Cycle, 14-17 July 2014, Hague, The Netherlands (Poster)

Utsumi, N., H. Kim, S. Seto, S. Kanae, and T. Oki, Development of a front dataset in 1.0-degree grids for the East Asia based on surface weather chart and its applications, IG32-ST31-AS53-A017, AOGS 11th Annual Meeting (AOGS2014), 28 July to 01 August 2014, Sapporo.

Kim, H., **N. Utsumi,** and T. Oki, Estimation of Uncertainty Propagation through Terrestrial Hydrologic Simulations and Objective Evaluation Strategy for In-situ and Satellite Observations of Precipitation, 2013 AGU Fall Meeting, 9-13 December 2013, San Francisco, USA.

Yoshimura, K., N. **Utsumi, H.** Fudeyasu, T. Yamada, and H. Kim, Observation and Modeling studies of relationship between surface temperature and extreme precipitation, CLIMATE 2013, 2013, Lawrence Berkeley National Laboratory, USA.

Sarker, R. C., M. Kiguchi, **N. Utsumi**, K. Oki, and T. Oki, The relationship between extreme precipitation and surface air temperature in Bangladesh., The 57th Conference on Hydraulic Engineering, March, 2013, Nagoya.

Utsumi, N., S. Seto, S. Kanae, and T. Oki, Winter time extra tropical cyclones and associated precipitation around Japan under warmer climate, AOGS-AGU (WPGM) Joint Assembly 2012, 13-17 Aug. 2012, Singapore

Sato, T., Y. Imada, N. **Utsumi,** M. Mori, S. Kanae, Changes in heavy rainfall associated with typhoons in the Asia-Pacific region since the late 20th century, AOGS-AGU (WPGM) Joint Assembly 2012, 13-17 Aug. 2012, Singapore

Utsumi, N., T. Oki, S. Seto, S. Kanae, and E. E. Maeda, Relationships between extreme daily precipitation intensity and temperature over the world based on in-situ observation data, Geophysical Research Abstracts Vol. 13, EGU2011-4805-2, 2011, EGU General Assembly 2011, 3 – 8 April, 2011, Vienna. (Poster)

Utsumi, N., S. Seto, S. Kanae and T. Oki：AGU Fall Meeting, “Analyzing the relations of hourly precipitation extremes and temperature over Japan based on ground observational records”, December 2010, San Francisco, USA. (Poster)

PRESENTATIONS (in Japanese)

内海 信幸，Guosheng Liu，渡部哲史，グリーンランド南部における積雪面マイクロ波シグナルの特徴と GSMaP 降雪リトリーバルへの影響，GPM および衛星シミュレータ合同研究集会，2022 年 3 月 4 日，オンライン

内海 信幸，北西太平洋で観測された熱帯低気圧に伴う豪雨の変化傾向と気候変動の関係，第 13 回京都大学大気科学コロキウム (13th Atmospheric Science Colloquium)，2021 年 11 月 5 日，オンライン（Invited）

内海 信幸，金 炯俊，瀬戸 心太（2021）,フィンランドにおける降雪事例を対象とした衛星リモートセンシング降雪推定の検証，水工学講演会，2021 年 12 月 10 日，オンライン

渡部 哲史，**内海 信幸**，北野 利一，中北 英一（2021），将来変化倍率の逆転に着目した d4PDF 領域実験における 2℃と 4℃上昇の極端降水量の考察，水工学講演会，2021 年 12 月 10 日，オンライン

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