

Shunji Kotsuki, Ph. D. (小槻 峻司)

Associate Professor
Center for Environmental Remote Sensing (CEReS), Chiba University

Address: CEReS, Chiba-U., Yayoi-Cho 1-33, Inage-Ku, Chiba 263-8522, Japan

E-mail: shunji.kotsuki@chiba-u.jp

Website: <http://www.kotsuki-shunji.com>

Laboratory: <https://kotsuki-lab.com>



Last update: July 14, 2021

Professional Experience

2019/11–Present Associate Professor

Center for Environmental Remote Sensing (CEReS), Chiba University, Japan, Chiba University (concurrent; Department of Information Engineering, Faculty of Engineering since 2020/01)

2019/11–Present Visiting Scientist

Data Assimilation Research Team, RIKEN Center for Computational Science (R-CCS), Kobe, Japan

2019/10–Present Researcher

PRESTO, Japan Science and Technology Agency, Kobe, Japan

2019/04–2019/10 Research Scientist

Prediction Science Laboratory, RIKEN Cluster for Pioneering Research, Kobe, Japan

2018/05–2019/10 Affiliate Associate Professor

Graduate School of Science, Kyoto University, Japan

2018/04–2019/10 Research Scientist

Data Assimilation Research Team, RIKEN Center for Computational Science (R-CCS), Kobe, Japan

2018/04–2019/10 Research Scientist

Data Assimilation Research Team, RIKEN interdisciplinary Theoretical and Mathematical Sciences Program (iTHEMS), Kobe, Japan

2017/10–2019/10 Excellent Young Researcher

Initiative for Excellent Young Researchers, Ministry of Education, Culture, Sports, Science and Technology, Japan

2017/04–2019/10 Part-time Lecturer

Graduate School of Science, Kyoto University, Japan

2017/10–2018/03 Research Scientist

Data Assimilation Research Team, RIKEN Advanced Institute for Computational Science (AICS), Kobe, Japan

2014/01–2017/10 Postdoctoral Researcher

Data Assimilation Research Team, RIKEN Advanced Institute for Computational Science (AICS), Kobe, Japan

2013/12–2013/12 Postdoctoral Researcher

Japan Society for the Promotion of Science, Japan

2012/04–2013/11 Research Fellow

Japan Society for the Promotion of Science, Japan

2011/04–2012/03 Research Assistant

Disaster Prevention Research Institute, Kyoto University, Japan

Education

2013/11 Ph. D. Engineering (Urban Management Engineering)

Graduate School of Engineering, Kyoto University, Japan

2011/03 M. S. Engineering (Urban Management Engineering)

Graduate School of Engineering, Kyoto University, Japan

2009/03 B. S. Engineering (Civil Engineering)

Faculty of Engineering, Kyoto University, Japan

Awards to Research Achievements

2019/03 RIKEN Ohbu Award

RIKEN Incentive Research Award, Japan

2017/10 Leading Initiative for Excellent Young Researchers (LEADER)

Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan

2013/09 Thesis Award for Young Scientists

Japan Society of Hydrology and Water Resources

2013/02 HUME Prize (Top three master dissertation of the department)

Department of Urban Management, Graduate School of Engineering, Kyoto University, Japan

Awards to Presentations

2020/11 Outstanding Presentation Award

5th Global Prominent Symposium of Chiba University, Japan

2020/06 Outstanding Discussion Award

Japan Society of Civil Engineers, Japan

2013/08 Outstanding Presentation Award

6th Conference of the Asia Pacific Association of Hydrology and Water Resources

- 2013/05 **Best Presentation Award**
Remote Sensing Society of Japan
- 2013/02 **Best Presentation Award**
Annual Conference, Disaster Prevention Research Institute, Kyoto University, Japan

Funded Projects as the lead PI

- 2021/04–2025/03 **Grants-in-Aid for Scientific Research Foundation (A), JSPS, Japan**
Exploring Real-time Rainfall and Flood Predictions in Fugaku Era with the State-of-the-art Data Science (41,860K JPY)
- 2019/10–2023/03 **PRESTO (Precursory Research for Embryonic Science and Technology), JST, Japan**
Advancing Data Assimilation and Prediction Methods to Maximize "The Value of Observations" (82,160K JPY)
- 2018/04–2020/03 **Grants-in-Aid for Scientific Research Foundation (B), JSPS, Japan**
Land-Atmosphere-Coupled Data Assimilation: Improving Atmospheric and Hydrological Predictions by Hydrological Big Data Assimilation (17,420K JPY)
- 2017/10–2019/03 **Leading Initiative for Excellent Young Researchers, MEXT, Japan**
Advancing Real-Time Weather and Hydrological Predictions with Data Assimilation and Artificial Intelligence (18,000K JPY)
- 2015/04–2018/03 **Grant-in-Aid for Young Scientists (B), JSPS, Japan**
Process-based Crop Yield Prediction Using Satellite Observations (4,160K JPY)
- 2012/04–2013/12 **Grant-in-Aid for Fellows, JSPS, Japan**
Estimating Global Crop Yield Potential Using a Global Agricultural Water Resources Model (1,800K JPY)

Funded Projects as the Co-PI (& Funds as Co-PI)

- 2021/07–2026/03 **Grants-in-Aid for Scientific Research Foundation (A), JSPS, Japan, PI: Prof. T. Oki (U. Tokyo)**
TBD
- 2020/07–2025/03 **JICA-JST SATREPS (Science and Technology Research Partnership for Sustainable Development), PI: Prof. K. Tanaka (Kyoto U.)**
Development of Innovative Climate Resilient Technologies for Monitoring and Controlling of Water Use Efficiency and Impact of Salinization on Crop Productivity and Livelihood in Aral Sea Region
- 2020/04–2023/03 **Program for Promoting Researches on the Supercomputer Fugaku, MEXT, PI: Prof. M. Satoh (U. Tokyo)**
Large Ensemble Atmospheric and Environmental Prediction for Disaster Prevention and Mitigation
- 2020/04–2023/03 **Global Prominent Research of Chiba University, PI: Prof. N. Tsumura**
Creation of Material Appearance and Affective Imaging

2020/04–2022/03 河川砂防技術研究開発公募, PI: Prof. S. Watanabe (U. Tokyo)

大規模気候データを活用したこれからの河川計画策定に向けた技術開発 (260K JPY)

2020/04–2023/03 JAXA Precipitation Measurement Mission, PI: Prof. Miyoshi (RIKEN)

Enhancing Precipitation Prediction Algorithm by Data Assimilation of GPM Observations

2013/04–2016/03 地球観測技術等調査研究委託事業, PI: Prof. A. Higuchi (Chiba U.)

食糧安全保障に向けた衛星入力を活用した環太平洋域での広域収量推定および短期予測の試み

Collaborative Research Projects

2020/04–2021/03 CEReS Joint Research Program, PI: Prof. Y. Sato (Hokkaido U.)

Development of Lightning Model Based on Global Cloud System Resolving Model

2020/04–2021/03 CEReS Joint Research Program, PI: Prof. Y. Touge (Tohoku U.)

Remote Sensing for Wildfire Occurrence and Hydrological Evaluation of Dryness in Radioactive Contamination Area in Chernobyl

Press Release

2021/07/07 Improving Typhoon Prediction with Geostationary Radar Observation

https://www.riken.jp/press/2021/20210707_1/index.html

2020/08/20 Global Precipitation Forecasting System by Simulation and Satellite Obs.

https://www.eorc.jaxa.jp/theme/NEXRA/index_e.htm

Certifications

2015 Certified and Accredited Meteorologists of Japan (ID: 9466)

2009 First-class National Government Employee with specialty in Engineering
National Personnel Authority, the Government of Japan

Editorship of Scientific Journals

2020/06–Present Editor, Journal of the Meteorological Society of Japan

2020/09–Present Editor, Journal of the Japan Society of Hydrology and Water Resources

Outreach

2018/11–Present JAXA Real-time Weather Watch (contributing as a developer)
https://www.eorc.jaxa.jp/theme/NEXRA/index_e.htm

2017/05–2019/10 Weather Forecaster, RIKEN Weather Forecast
<https://weather.riken.jp/index.html>

Scientific Organizing Committee

The RIKEN International School on Data Assimilation (RISDA 2018), Jan. 22-26, 2018.

Local Conference Organization (Co-Chair)

The 7th International Symposium on Data Assimilation (ISDA2019), Jan. 21-24, 2019. (co-chair)

The RIKEN International School on Data Assimilation (RISDA 2018), Jan. 22-26, 2018. (co-chair)

Proposal Review

FY2018 RIKEN Incentive Research Projects

Referee of Scientific Journals

- (01) Atmosphere (by MDPI)
- (01) Earth, Planets and Space (by Springer)
- (01) Earth and Space Sciences (by AGU)
- (01) Hydrology and Earth System Sciences (by EGU)
- (03) Hydrological Research Letters (by JSHWR)
- (01) Journal of Agricultural Meteorology (by SAMJ)
- (01) Journal of Geophysical Research – Atmospheres (by AGU)
- (03) Journal of Hydrology (by Elsevier)
- (07) Journal of Meteorological Society of Japan (by MSJ)
- (01) Meteorological Applications (by RMS)
- (01) Meteorology and Atmospheric Physics (by Springer)
- (03) Monthly Weather Review (by AMS)
- (05) Nonlinear Processes in Geophysics (by EGU)
- (04) Scientific Online Letters on the Atmosphere (by MSJ)
- (01) Tellus (by MISU Stockholm U.)

水文・水資源学会誌 (03)

土木学会・水工学論文集 (06)

土木学会論文集 (01)

ながれ (01)

Affiliations

Japan Geoscience Union

Japan Society of Civil Engineers

Japan Society of Hydrology and Water Resources

Meteorological Society of Japan

The Remote Sensing Society of Japan

Editorship/Committee Member of Social Activities

2017/01–2018/12 Columns by Senior Researchers, Japan Society of Hydrology and Water Resources

2015/01–2016/12 Columns by Young Researchers, Japan Society of Hydrology and Water Resources

2015/06–2017/05 Associate Member, Committee on Hydrosience and Hydraulic Engineering, J Japan Society of Civil Engineers

Brief Narrative Summary

Dr. Shunji Kotsuki is an Associate Professor of Center for Environmental Remote Sensing (CEReS), Chiba University, and leading "Environmental Prediction Science". He received his B.S. (2009), M.S.(2011) and Ph. D. (2013) degrees in civil engineering from Kyoto University. He experienced his professional career as Post-doctoral Researcher (2014-2017), and Research Scientist (2017-2019) at RIKEN Center for Computational Science (R-CCS). He started leading his research group at CEReS, Chiba University since November, 2019.

Dr. Kotsuki is a leading scientist on data assimilation and numerical weather prediction with over 6 years of research experience in development of the global atmospheric data assimilation system (a.k.a. NICAM-LETKF). His research interests are in data assimilation mathematics, model parameter estimation, observation diagnosis including impact estimates, satellite data analysis, hydrological modeling, and atmospheric and hydrological disaster predictions. His techniques for an adaptive covariance inflation and assimilating observations with non-Gaussian errors have been incorporated in the RIKEN's global atmospheric data assimilation system, and improved its weather forecasts significantly.

In 2017, Dr. Kotsuki was selected as an Excellent Young Researcher by Ministry of Education, Culture, Sports, Science and Technology, Japan. He has been recognized by several prestigious awards such as the Thesis Award for Young Scientists from Japan Society of Hydrology and Water Resources Engineering (2013), and RIKEN Ohbu Research Incentive Award (2019). He is also the PRESTO researcher of JST, and visiting scientist of R-CCS, and exploring data-driven approaches for the environmental prediction science.

Publications: Peer-reviewed Articles (*: SK is corresponding author)

- [29]. Taler, J., Okazaki, A., Honda, T., Kotsuki, S., Yamaji, M., Kubota, T., Oki, R., Iguchi, T., and Miyoshi, T. (2021): Oversampling Reflectivity Observations from a Geostationary Precipitation Radar Satellite: Impact on Typhoon Forecasts within a Perfect Model OSSE Framework. *J. Adv. Modeling Earth Syst.* doi:10.1029/2020MS002332 (in press)
- [28]. Carrio, D. S., Bishop, C. H. and **Kotsuki, S.** (2021): Empirical determination of the covariance of forecast errors: an empirical justification and reformulation of Hybrid covariance models. *Q. J. R. Meteorol. Soc.* 147, 2033-2052. doi:10.1002/qj.4008
- [27]. Watanabe, S., **Kotsuki, S.**, Kanae, S., Tanaka, K. and Higuchi, A. (2020): Snow water scarcity induced by the record breaking warm winter in 2020 in Japan. *Sci. Rep.*, 10, 18541. doi:10.1038/s41598-020-75440-8.
- [26]. **Kotsuki, S.***, Pensoneault, A., Okazaki, A. and Miyoshi, T. (2020): Weight Structure of the Local Ensemble Transform Kalman Filter: A Case with an Intermediate AGCM. *Q. J. R. Meteorol. Soc.*, 146, 3399-3415. doi: 10.1002/qj.3852
- [25]. Miyoshi, T., **Kotsuki, S.**, Terasaki, K., Otsuka, S., Lien, G.-Y., Yashiro, H., Tomita, H., Satoh, M., and Kalnay, E. (2020): Precipitation Ensemble Data Assimilation in NWP Models. Satellite Precipitation Measurement. *Advances in Global Change Research*, 69, Springer, 983-991. doi:10.1007/978-3-030-35798-6_25
- [24]. **Kotsuki, S.***, Sato, Y., and Miyoshi, T. (2020): Data Assimilation for Climate Research: Model Parameter Estimation of Large Scale Condensation Scheme. *J. Geophys. Res.*, 125, e2019JD031304. doi: 10.1029/2019JD031304
- [23]. Otsuka, S., **Kotsuki, S.**, Ohhigashi, M., and Miyoshi, T. (2019): GSMaP RIKEN Nowcast: Global precipitation nowcasting with data assimilation. *J. Meteor. Soc. Japan*, 97, 1099-1117. doi:10.2151/jmsj.2019-061
- [22]. Okazaki, A., Honda, T., **Kotsuki, S.**, Yamaji, M., Kubota, T., Oki, R., Iguchi, T., and Miyoshi, T. (2019): Simulating precipitation radar observations from a geostationary satellite. *Atmos. Meas. Tech.*, 12, 3985-3996. doi: 10.5194/amt-2018-278
- [21]. **Kotsuki, S.***, Kurosawa, K., Otsuka, S., Terasaki, K. and Miyoshi, T. (2019): Global Precipitation Forecasts by Merging Extrapolation-based Nowcast and Numerical Weather Prediction with Locally-optimized Weights. *Wea. and Forecasting*, 34, 701-714. doi: 10.1175/WAF-D-18-0164.1
- [20]. **Kotsuki, S.***, Kurosawa, K., and Miyoshi, T. (2019): On the Properties of Ensemble Forecast Sensitivity to Observations. *Q. J. R. Meteorol. Soc.*, 145, 1897-1914. doi: 10.1002/qj.3534
- [19]. Terasaki, K., **Kotsuki, S.**, Miyoshi, T. (2019): Multi-year analysis using the NICAM-LETKF data assimilation system. *SOLA*, 15, 41-46. doi: 10.2151/sola.2019-009
- [18]. **Kotsuki, S.***, Terasaki, K., Kanemaru, K., Satoh, M., Kubota, T. and Miyoshi, T. (2019): Predictability of Record-Breaking Rainfall in Japan in July 2018: Ensemble Forecast Experiments with the Near-real-time Global Atmospheric Data Assimilation System NEXRA. *SOLA*, 15A, 1-7. doi: 10.2151/sola.15A-001

- [17]. **Kotsuki, S.*** Terasaki, K., Yashiro, H., Tomita, H., Satoh, M. and Miyoshi, T. (2018): Online Model Parameter Estimation with Ensemble Data Assimilation in the Real Global Atmosphere: A Case with the Nonhydrostatic Icosahedral Atmospheric Model (NICAM) and the Global Satellite Mapping of Precipitation Data. *J. Geophys. Res.*, 123, 7375-7392. doi: [10.1029/2017JD028092](https://doi.org/10.1029/2017JD028092)
- [16]. Honda, T., **Kotsuki, S.**, Lien, G.-Y., Okamoto, K. and Miyoshi, T. (2018): Assimilation of Himawari-8 All-Sky Radiances Every 10 Minutes: Impact on Precipitation and Flood Risk Prediction. *J. Geophys. Res.*, 122, 1-12. doi:[10.1002/2017JD027096](https://doi.org/10.1002/2017JD027096)
- [15]. **Kotsuki, S.***, Greybush, S., and Miyoshi, T. (2017): Can we optimize the assimilation order in the serial ensemble Kalman filter? A study with the Lorenz-96 model. *Mon. Wea. Rev.*, 145, 4977-4995. doi: [10.1175/MWR-D-17-0094.1](https://doi.org/10.1175/MWR-D-17-0094.1)
- [14]. Arakida, H., Miyoshi, T., Ise, T., Shima, S.-I., and **Kotsuki, S.** (2017): Non-Gaussian data assimilation of satellite-based Leaf Area Index observations with an individual-based dynamic global vegetation model. *Nonlin. Processes Geophys.*, 24, 553-567. doi:[10.5194/npg-24-553-2017](https://doi.org/10.5194/npg-24-553-2017)
- [13]. Grippa, M., Kergoat, L., Boone, A., Peugeot, C., Demarty, J., Cappelaere, B., Gal, L., Hiernaux, P., Mougin, E., Ducharne, A., Dutra, E., Anderson, M., Hain, C., and **ALMIP2 Working Group** (2017): Modeling surface runoff and water fluxes over contrasted soils in pastoral Sahel: evaluation of the ALMIP2 land surface models over the Gourma region in Mali. *J. Hydrometeoro.*, 18, 1847-1866. doi:[10.1175/JHM-D-16-0170.1](https://doi.org/10.1175/JHM-D-16-0170.1)
- [12]. Getirana, A., Boone, A., Peugeot, C., and **ALMIP2 Working Group** (2017): Streamflows over a West African basin from the ALMIP-2 model ensemble. *J. Hydrometeoro.*, 18, 1831-1845. doi:[10.1175/JHM-D-16-0233.1](https://doi.org/10.1175/JHM-D-16-0233.1)
- [11]. **Kotsuki, S.***, Ota, Y., and Miyoshi, T. (2017): Adaptive covariance relaxation methods for ensemble data assimilation: Experiments in the real atmosphere. *Q. J. R. Meteorol. Soc.*, 143, 2001-2015. doi: [10.1002/qj.3060](https://doi.org/10.1002/qj.3060)
- [10]. **Kotsuki, S.***, Miyoshi, T., Terasaki, K., Lien, G.-Y. and Kalnay, E. (2017): Assimilating the Global Satellite Mapping of Precipitation Data with the Nonhydrostatic Icosahedral Atmospheric Model NICAM. *J. Geophys. Res.*, 122, 1-20. doi:[10.1002/2016JD025355](https://doi.org/10.1002/2016JD025355)
- [9]. Otsuka, S., **Kotsuki, S.**, Miyoshi, T. (2016): Nowcasting with data assimilation: a case of Global Satellite Mapping of Precipitation. *Wea. and Forecasting*, 31, 1409-1416. doi:[10.1175/WAF-D-16-0039.1](https://doi.org/10.1175/WAF-D-16-0039.1)
- [8]. **Kotsuki, S.***, and Tanaka, K. (2015): SACRA - a method for the estimation of global high-resolution crop calendars from a satellite-sensed NDVI. *Hydrol. Earth Syst. Sci.*, 19, 4441-4461. doi: [10.5194/hess-19-4441-2015](https://doi.org/10.5194/hess-19-4441-2015)
- [7]. **Kotsuki, S.***, Takenaka, H., Tanaka, K., Higuchi, A. and Miyoshi, T. (2015): 1-km-resolution land surface analysis over Japan: Impact of satellite-derived solar radiation. *Hydrol. Res. Lett.*, 9(1), 14-19. doi: [10.3178/hrl.9.14](https://doi.org/10.3178/hrl.9.14)
- [6]. **Kotsuki, S.***, Terasaki, K., and Miyoshi, T. (2014): GPM/DPR Precipitation Compared with a 3.5-km-resolution NICAM Simulation. *SOLA*, 10, 204-209. doi:[10.2151/sola.2014-043](https://doi.org/10.2151/sola.2014-043)
- [5]. **Kotsuki, S.***, Tanaka, K. and Watanabe, S. (2014): Projected hydrological changes and their consistency under future climate in the Chao Phraya River Basin using multi-model and multi-scenario of CMIP5 dataset. *Hydrol. Res. Lett.*, 8(1), 27-32. doi:[10.3178/hrl.8.27](https://doi.org/10.3178/hrl.8.27)

- [4]. Watanabe, S., Hirabayashi, Y., **Kotsuki, S.**, Hanasaki, N., Tanaka, K., Mateo, C.M., Kiguchi, M., Ikoma, E., Kanae, S., Oki, T. (2014): Application of performance metrics for climate models to project future river discharge in Chao Phraya River Basin. *Hydrol. Res. Lett.*, 8(1), 33-38. [doi:10.3178/hrl.8.33](https://doi.org/10.3178/hrl.8.33)
- [3]. **Kotsuki, S.***, and Tanaka, K. (2013): Uncertainties of precipitation products and their impacts on runoff estimates through hydrological land surface simulation in Southeast Asia. *Hydrol. Res. Lett.*, 7(4), 79-84. [doi: 10.3178/hrl.7.79](https://doi.org/10.3178/hrl.7.79)
- [2]. **Kotsuki, S.***, and Tanaka, K. (2013): Impacts of Mid-Rainy Season Rainfall on Runoff into the Chao Phraya River, Thailand. *J. Disaster Res.*, 8(3), 397-405. [doi:10.20965/jdr.2013.p039](https://doi.org/10.20965/jdr.2013.p039)
- [1]. **Kotsuki, S.***, and Tanaka, K. (2013): Estimation of Climate Change Impact on Japanese Rice Yield and Water Resources. *Proceedings of 2013 IAHR World Congress*, A10344.

Publications: Non Peer-reviewed Articles

- [1]. **Kotsuki, S.***, and Tanaka, K. (2013): Long-term Water Balance Analysis Using Different Precipitation Products in Upper Chao Phraya River, Thailand. Proceedings of 6th APHW conference.

Invited Presentations

- [11]. **Kotsuki, S.**, Terasaki, K., Satoh, M., and Miyoshi, T.: Ensemble-Based Data Assimilation of GPM DPR Reflectivity into the Nonhydrostatic Icosahedral Atmospheric Model NICAM. JpGU 2021, June 3-6, 2021 (June 3, online)
- [10]. **Kotsuki, S.**, Miyoshi, T., Kondo, K. and Potthast, R.: A Local Particle Filter and Its Gaussian Mixture Extension: Experiments with an Intermediate AGCM. RIKEN Data Assimilation Seminar, September 11, 2020, (Sep. 11, online)
- [9]. **Kotsuki, S.**, Pensoneault, A., Okazaki, A. and Miyoshi, T.: Weight Structure of the Local Ensemble Transform Kalman Filter: A Case with an Intermediate AGCM. JpGU-AGU Joint Meeting 2020, July 12-16, 2020. (July 13, Makuhari Messe, Chiba)
- [8]. **Kotsuki, S.**: Leading Research on Data Assimilation in Global Weather Prediction System. Topological Data Analysis Laboratory Seminar, Apr. 29, 2020. (Apr. 29, Kyoto-Univ., Zoom)
- [7]. **Kotsuki, S.**: Introduction of Data Assimilation and Its Techniques. Topological Data Analysis Laboratory Seminar, Apr. 29, 2020. (Apr. 29, Kyoto-Univ, on Zoom)
- [6]. **Kotsuki, S.**: Data Assimilation Research for Global Weather Prediction, The 7th International Symposium on Water Environmental Systems, Nov. 15, 2019 (Nov. 15, Tohoku University, Sendai)
- [5]. **Kotsuki, S.**: Leading Research on Data Assimilation in Global Weather Prediction System. Earth Science Department Seminar, Aug. 27, 2019. (Aug. 27, U. Melbourne, Melbourne)
- [4]. **Kotsuki, S.**: Improving Global Precipitation Forecasts using Satellite-derived Precipitation Data, NWP seminar Bureau of Meteorology, Aug. 17, 2019. (Aug. 17, Australian Bureau of Meteorology, Melbourne)

- [3]. **Kotsuki, S.** and Miyoshi, T.: Diagnosing Observation Impacts and Error Covariance with NICAM-LETKF. LMU Data Assimilation Seminar, Jun. 18, 2019. (Jun. 18, Munich Univ, Munich)
- [2]. **Kotsuki, S.** and Miyoshi, T.: Diagnosing Observation Impacts and Error Covariance with NICAM-LETKF. DWD NWP Seminar, Jun. 13, 2019. (Jun. 13, Deutscher Wetterdienst, Offenbach)
- [1]. **Kotsuki, S.**, Sato, Y., Terasaki, K., Yashiro, H., Tomita, H., Satoh, M. and Miyoshi, T.: Model Parameter Estimation with Data Assimilation using NICAM-LETKF. JpGU Meeting 2019, May 26-30, 2019. (May 29, Makuhari Messe, Chiba)

Appendix: CV only in Japanese

Publications: Peer-reviewed Articles in Japanese

- [12]. 小槻峻司*, 桃井裕広, 菊地亮太, 渡部哲史, 山田真史, 阿部紫織, 綿貫翔 (2020): 回帰学習器のアンサンブル学習による降雨洪水氾濫モデル・エミュレータ. 水工学論文集, 76, 367-372. [doi:10.2208/jscejhe.xx](https://doi.org/10.2208/jscejhe.xx)
- [11]. 関本大晟, 渡部哲史, 小槻峻司, 山田真史, 阿部紫織, 綿貫翔 (2020): 降雨流出氾濫モデル・エミュレータによる浸水範囲予測. 水工学論文集, 76, 547-552. [doi:10.2208/jscejhe.xx](https://doi.org/10.2208/jscejhe.xx)
- [10]. 阿部紫織, 渡部哲史, 山田真史, 小槻峻司, 綿貫翔 (2019): 大規模気候予測情報を用いた浸水解析に降水量観測値と海面水温パターンが及ぼす影響. 水工学論文集, 64, 1081-1086. [doi:10.2208/jscejhe.75.2_I_1081](https://doi.org/10.2208/jscejhe.75.2_I_1081)
- [9]. 田中智大, 渡部哲史, 小槻峻司*, 林義晃, 丸谷靖幸, 峠嘉哉, 山崎大, 木村匡臣, 田上雅浩, 江草智弘, 橋本雅和, 仲吉信人 (2018): 最前線の水文・水資源学 ～WACCA 世代の挑戦～, 水文・水資源学会誌, 31(6), 509-540. [doi: 10.3178/jjshwr.31.509](https://doi.org/10.3178/jjshwr.31.509)
- [8]. 小槻峻司*, 田中賢治 (2014): 衛星観測植生指標を活用した全球農事暦プロダクトの高精度化. 土木学会論文集 B1, 70(4), 259-264. [doi: 10.2208/jscejhe.70.I_259](https://doi.org/10.2208/jscejhe.70.I_259)
- [7]. 小槻峻司*, 田中賢治, 小尻利治 (2013): 気候変動が日本の水資源に与える影響推計 (II) -水需給・米生産変化とその適応策-. 水文・水資源学会誌, 26, 143-152. [doi: 10.3178/jjshwr.26.143](https://doi.org/10.3178/jjshwr.26.143)
- [6]. 小槻峻司*, 田中賢治, 小尻利治 (2013): 気候変動が日本の水資源に与える影響推計 (I) -日本全域水資源モデルの開発-. 水文・水資源学会誌, 26, 133-142. [doi: 10.3178/jjshwr.26.133](https://doi.org/10.3178/jjshwr.26.133)
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- [2]. 小槻峻司*, 田中賢治, 小尻利治, 浜口俊雄 (2012): 群知能最適化手法を用いた分布型流出モデルのパラメーター同定. 土木学会論文集 B1, 68, 523-528. [doi: 10.2208/jscejhe.68.I_523](https://doi.org/10.2208/jscejhe.68.I_523)
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- [4]. 小槻峻司, 田中賢治 (2014): 西アフリカ乾燥域における AMSR-E 土壌水分プロダクトと陸面過程モデル解析値の比較. 2013 年土壌水分ワークショップ論文集, 33-36.

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Publications: Reports in Japanese

- [7]. 小槻峻司, 寺崎康児, 新保明彦, 坂本雅巳, 藤田匡, 津口裕茂, 北島尚子, 竹見哲也, 高薮縁, 金丸佳矢, 鼎信次郎, 中村尚, 富田浩文, 三好建正 (2019): 「平成 30 年 7 月豪雨に関する緊急対応研究会」の報告. 天気, 66(3), 253-259.
- [6]. 川畑拓矢, 上野玄太, 中野慎也, 藤井陽介, 三好建正, 小守信正, 増田周平, 茂木耕作, 小槻峻司, 澤田洋平, Peter Jan van Leeuwen, 長尾大道 (2019): 第 9 回データ同化ワークショップの報告. 天気, 66(2), 51-54.
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Invited Presentations (in Japanese)

- [10]. 小槻峻司: 「観測の価値」を最大化するデータ同化手法の開発：～最先端の天気予報研究より～, 設計に活かすデータ同化研究会, 02/19, 2021. (Feb. 19, Online)

- [9]. 小槻峻司: Local Ensemble Transform Kalman Filter: introduction and practical techniques. Mathematical Modelling Seminar, 12/22, 2020. (Dec. 22, Online)
- [8]. 小槻峻司, 岡崎淳史, 樺山修: COVID-19 感染予測数理モデルのアンサンブルデータ同化: 感染力と地球環境の関連分析. JST・感染症問題と環境・エネルギー分野に関するエキスパートセミナー, 07/22, 2020. (Jul. 22, online)
- [8]. 小槻峻司: リモートセンシングデータを使った天気予報研究の最前線. 千葉大学経済人倶楽部・絆 公開講座, 02/21, 2020. (Feb. 21, 千葉大学アカデミックリンクセンター)
- [7]. 小槻峻司: データ同化と経験科学の相似性について. 科学基礎論学会, 11/30, 2019 (Nov. 30, 日本大学文理学部)
- [6]. 小槻峻司, 三好建正: 全球大気データ同化システムによる天気予報研究の最前線. 第 14 回名工大・核融合研合同セミナー, 07/18, 2019. (Jul. 18, 名工大 2 号館)
- [5]. 小槻峻司: 天気予報研究の最前線 -研究者は何に魅せられているか-. 阪神高速道路株式会社・堺建設部勉強会, 11/08, 2018. (Nov. 08, 阪神高速道路株式会社・堺建設部)
- [4]. 小槻峻司, 黒澤賢太, 三好建正: EFSO の現状と惑星気象研究への発展の可能性. 第 19 回惑星圏研究会, 02/27-03/01, 2018. (Feb 27, 東北大学・青葉サイエンスホール)
- [3]. 小槻峻司, 黒澤賢太, 三好建正: 全球大気データ同化システム NICAM-LETKF を使った EFSO 観測インパクト推定. 第 8 回データ同化ワークショップ, 01/19, 2018. (Jan 19, 明治大学中野キャンパス)
- [2]. 小槻峻司, 三好建正: 全球大気アンサンブルデータ同化システム NICAM-LETKF による衛星降水観測データ同化. 地震研特定共同研究(B)「データ同化」勉強会, 2017. (Jul 14, 東大地震研究所)
- [1]. 小槻峻司, 三好建正: 予測モデルのためのデータ同化. PSTEP 研究集会「太陽地球圏環境予測のためのモデル研究の展望」, 01/26-27, 2017. (Jan 27, 名古屋大学, 名古屋)

September 2016 iTHES School on Data Assimilation, RIKEN iTHES

http://www.data-assimilation.riken.jp/jp/events/ithes_da_2016fall/

千葉大学 マル合審査

- [2]. 博士後期課程: マル合 (2021 年 07 月)
- [1]. 博士前期課程: マル合 博士後期課程: 合 (2019 年 12 月)

千葉大学大学院 融合理工学府 地球環境科学専攻 リモートセンシングコース 講義

- [2]. 地球観測社会システム (分担; T4&T5; FY20, 21)
- [1]. 地球環境科学専攻特別講義 II (分担; T1&T2; FY21)

千葉大学 工学部情報工学コース 講義

- [2]. 量子力学基礎(1) (T4&T5; FY20, 21)
- [1]. リモートセンシング工学 (分担; T4&T5; FY19, 20, 21)

千葉大学 環境リモートセンシング研究センター 委員会 (赤字: 委員長)

- [21]. 中期計画推進, 自己点検・評価, 計算機および DB, 環境 ISO 実行, 広報, 予算, 学術推進企画小
- [20]. 中期計画推進, 自己点検・評価, 計算機および DB, 環境 ISO 実行, 広報
- [19]. 中期計画推進, 自己点検・評価

千葉大学 その他

- [21]. 科研費事前確認支援制度・支援教員

Teaching Experiences (at RIKEN)

- Spring 2019** Data Assimilation A, a graduate- and undergraduate-level introductory data assimilation course, Faculty of Science, Kyoto University
- Spring 2018** Data Assimilation A, a graduate- and undergraduate-level introductory data assimilation course, Faculty of Science, Kyoto University
- Fall 2017** Data Assimilation B, a graduate- and undergraduate-level advanced data assimilation course, Faculty of Science, Kyoto University
- Spring 2017** Data Assimilation A, a graduate- and undergraduate-level introductory data assimilation course, Faculty of Science, Kyoto University
- Spring 2016** Special Lecture on Mathematical Science: Data Assimilation, a graduate- and undergraduate-level introductory data assimilation course, Faculty of Science, Kyoto University

Student Interns Supervised (at RIKEN)

- [5]. Aulia Febianda Anwar Tinumbang, Kyoto University (RIKEN CCS internship program, 2018)
- [4]. Andrew Pensoneault, University of Iowa (RIKEN CCS internship program, 2018)
- [3]. Takuya Kurihana, University of Tsukuba (RIKEN AICS internship program, 2017)
- [2]. Taiga Shibata, University of the Ryukyus (RIKEN AICS internship program, 2017)
- [1]. Yaping Chang, University of Chinese Academy of Sciences (RIKEN International Program Associate, 2015)

Appendix-B: Publications: Peer-reviewed Articles in Japanese (English)

- [12]. **Kotsuki, S.**, Momoi, M., Kikuchi, R, Watanabe, S., Yamada, M., Abe, S., and Watanuki A. (2020): Emulating rainfall-runoff-inundation model through ensemble learning of multiple regularized regressors. *Ann. J. Hydraulic Engineering*, 76, 367-372. doi:10.2208/jscejhe.xx (in press)
- [11]. Sekimoto, T, Watanabe, S., **Kotsuki, S.**, Yamada, M., Abe, S. and Watanuki, A. (2020): Predicting flood inundation area by rainfall-runoff-inundation model emulator. *Ann. J. Hydraulic Engineering*, 76, 547-552. doi:10.2208/jscejhe.xx (in press)
- [10]. Abe, S., Watanabe, S., Yamada, M., **Kotsuki, S.** and Watanuki, A. (2019): Impact on observed rainfall and patterns of sea surface temperature on flood analysis using massive climate prediction data. *Ann. J. Hydraulic Engineering*, 64, 1081-1086. doi:10.2208/jscejhe.75.2_I_1081
- [9]. Tanaka, T., Watanabe, S., **Kotsuki, S.**, and Coauthors (2018): Frontiers in hydrology and water resources research - WACCA generation's challenges. *J. Japan Soc. Hydrol. Wat. Resour.*, 31(6), 509-540. doi: 10.3178/jjshwr.31.509
- [8]. **Kotsuki, S.**, and Tanaka, K. (2014): Improvement of global crop calendar product using satellite-sensed vegetation indexes. *Ann. J. Hydraulic Engineering*, 70(4), 259-264. doi: 10.2208/jscejhe.70.I_259
- [7]. **Kotsuki, S.**, Tanaka, K. and Kojiri, T. (2013): Estimation of climate change impact on Japanese water resources Part II: Water demand–supply balance, rice yield changes, and an adaptation plan, *J. Japan Soc. Hydrol. Wat. Resour.*, 26, 143-152. doi: 10.3178/jjshwr.26.143
- [6]. **Kotsuki, S.**, Tanaka, K. and Kojiri, T. (2013): Estimation of climate change impact on Japanese water resources: Part I The development of a Japanese water resource model, *J. Japan Soc. Hydrol. Wat. Resour.*, 26, 133-142. doi: 10.3178/jjshwr.26.133
- [5]. **Kotsuki, S.**, Tanaka, K. and Kojiri, T. (2013): An estimation of global agricultural water demand including spatial distribution of crop species. *Environ. Sci.*, 26(2), 158-166. doi: 10.11353/sesj.26.158
- [4]. **Kotsuki, S.**, and Tanaka, K. (2013): Estimating vapor supply from irrigated cropland using hydrological land surface model and atmospheric water balance method. *Ann. J. Hydraulic Engineering*, 69, 1801-1806. doi: 10.2208/jscejhe.69.I_1801
- [3]. **Kotsuki, S.**, Tanaka, K., Kojiri, T. and Hamaguchi, T. (2012): Simulation of global water cycle in land using a crop calendar specified by phenological analysis of NDVI. *J. Japan Soc. Hydrol. Wat. Resour.*, 25, 373-388. doi: 10.3178/jjshwr.25.373
- [2]. **Kotsuki, S.**, Tanaka, K., Kojiri, T. and Hamaguchi, T. (2012): Parameter identification of distributed runoff model using the particle swarm optimization method. *Ann. J. Hydraulic Engineering*, 68, 523-528. doi: 10.2208/jscejhe.68.I_523
- [1]. **Kotsuki, S.**, Tanaka, K., Kojiri, T. and Hamaguchi, T. (2011): Development of water circulation model including irrigation. *Ann. J. Hydraulic Engineering*, 55, 553-558. doi:10.2208/jscejhe.67.I_553

水工学論文集 → *Ann. J. Hydraulic Engineering*

水文・水資源学会誌 → *J. Japan Soc. Hydrol. Wat. Resourc.*

環境科学会誌 → *Environ. Sci.*