

Jens de Bruijn

Research Scholar & Post-doctoral researcher

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15-07-1991
Dutch

Education

MSc Hydrology, cum laude Universiteit Utrecht, The Netherlands
2013 - 2015

A thesis in collaboration with IIASA on non renewable groundwater and global flood security. Marked 8.6 (out of 10).

BSc Geosciences Vrije Universiteit, The Netherlands
2009 - 2012

A thesis on the dynamics of fresh & saltwater system in Holme-next-the-Sea, East Anglia. The research was performed in collaboration with the Vrije Universiteit Amsterdam and the University of East Anglia. Marked 9.0 (out of 10).

Skills

Languages

Dutch: mother tongue
English: fluent

IT

Experienced Python programmer. Experience in R, web development, MATLAB, ArcGIS, QGIS and ENVI. Experience using both SQL and NoSQL databases. Experience in various machine learning techniques (neural networks, Naïve Bayes) and Bayesian statistics.

Publications

de Bruijn, J.A., de Moel, H., Jongman, B. Wagemaker, J, Aerts, J (2018)
"TAGGS: Grouping Tweets to Improve Global Geoparsing for Disaster Response."
Journal of Geovisualisation and spatial analysis

Bierkens, M.F.P., Reinhard, S., **de Bruijn, J.A.**, Veninga, W, Wada, Y. (2019)
"The Shadow Price of Irrigation Water in Major Groundwater-Depleting Countries."
Water Resources Research

Bischke B., Helber P., Zhao Z., **de Bruijn J.A.**, Borth D. (2019) *"The multimedia satellite task at MediaEval 2018: Emergency response for flooding events."*
2018 Working Notes Proceedings of the MediaEval Workshop.

de Bruijn, J.A., de Moel, H., Jongman, B. et al. (2020) *"A Global Database of Historic and Real-time Flood Events based on Social Media."* Scientific Data.

de Bruijn, J.A., de Moel, H., Weerts A., de Ruiter, M. Basar, E, Aerts, J. (2020)
"Improving the classification of flood tweets with contextual hydrological information in a multimodal neural network." Computers and Geosciences.

de Ruiter, M.C., **de Bruijn, J.A.**, Englhardt, J., Daniell, J.E. et al. (2020)
"The Asynergies of Structural Disaster Risk Reduction Measures: Comparing Floods and Earthquakes." Earth's Future.

de Bruijn, J.A., Daniell, J., Pomonis, A., Gunasekera, R. (2020)
"Using rapid damage observations from social media for Bayesian updating of hurricane vulnerability functions: A case study of Hurricane Dorian." NHESSD (preprint).

Burek, P., Smilovic, M., Guillaumot, L., **de Bruijn, J.A.**, et al. (2020)
"Community Water Model CWatM Manual." IIASA report.

Work experience

Research scholar IIASA, Austria
February, 2020 - current

Research scholar in the Water Security Group at IIASA working on coupling a large-scale agent-based model of farmer behavior developed at IVM to the hydrological model CWatM. Associate editor of the ISlpedia science communication project.

Post-doctoral researcher IVM, The Netherlands
February, 2020 - current

Development of large-scale agent-based model of farmer behavior coupled with the hydrological model developed at IIASA (CWatM). Leading model development of the COASTMOVE project, and supervising three PhD students in the COASTMOVE and DOWN2EARTH projects. Limited teaching duties.

Ph.D. Researcher IVM, The Netherlands
September, 2015 - September, 2020

Ph.D. Researcher Floods and Online Media at the Institute for Environmental Studies, focussing on the localization, classification and detection of global floods events from online media (see www.globalfloodmonitor.org) and integration of online media in rapid damage assessments.

Short term consultant World Bank
December, 2019 - June, 2020

Integrating the use of online media observations in the Global RAPid post-disaster Damage Estimation (GRADE) using Bayesian statistics.

Data Scientist FloodTags, The Netherlands
October, 2018 - November, 2019

Responsible for data analysis, data interpretation and modelling work related to online media content floods, droughts and community management on several, diverse projects, such as: 1) organizing disaster response through online media use in the Phillipines, 2) showing the relationship between flood risk reduction and the presence of mangrove forests at the north coast of Java, 3) providing online media content to create a parametric flood insurance scheme in Myanmar, Laos and Cambodia and 4) organization of a MediaEval task.

Short term Scholar UCSB, USA
March, 2017 - May, 2017

Two-month visit to the University of California, Santa Barbara, collaborating with geography department.

Research Assistant IIASA, Austria
June, 2015 - August, 2015

Continuation of research for MSc Thesis as part of the Young Scientist Summer Program at the International Institute of Applied System Analysis.

Board member GeoVUsie, The Netherlands
December, 2011 - December, 2012

Board member of Earth Sciences' study association GeoVUsie. Besides regular managerial tasks, charged with sales, membership management and guidance of committees, the organization of large events including festivals and career events.