

# IIASA at AGU 2019

Below lists related AGU sessions and papers featuring IIASA researchers, alumni, and former Young Scientists Summer Program (YSSP) Participants.

More information regarding the event may be found [here](#), and for the full program please visit the [AGU Program page](#).

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## Monday, 09 December

### PAPERS

[B11H-2223 - Methods beyond Observations and Models: Analytical Options and Open Gaps](#)

[Stephan Pietsch](#), Ecosystem Services and Management (ESM) Program

[B13H-2597 - Elevated CO<sub>2</sub>, Mycorrhiza, and the Boreal Forest Carbon Balance](#)

[Oskar Franklin](#), ESM Program

[B13L-2471 - Increased nitrous oxide emissions in East Asia as estimated by bottom-up and top-down approaches](#)

[Wilfried Winiwarter](#), Air Quality and Greenhouse Gases (AIR) Program

[B13M-2658 - Application of different assessment approaches among ecosystem services considering demand and supply focused on forest carbon](#)

[Moonil Kim](#), ESM Program

Cholho Song, Korea University, YSSP 2017

Sungeun Cha, Korea University, YSSP 2018

[B51L-2401 - Partitioning of plant functional trait variation into phenotypic plasticity and neutral components reveals functional differences among neotropical tree species](#)

[Florian Hofhansl](#), ESM & Evolution & Ecology (EEP) Programs

[Ulf Dieckmann](#), EEP Program

Oskar Franklin, ESM Program

[GC11F-1157 - Modeling wildfire dynamics using FLAM coupled with deep learning methods](#)

[Andrey Krasovskii](#), [Ping Yowargana](#), [Dmitry Schchepashchenko](#), [Florian Kraxner](#), ESM Program

Xikun Hu, KTH Royal Institute of Technology, YSSP 2019

[GC13F-1202 - A regional nuclear conflict has global implications for food security](#)

[Christian Folberth](#), [Nikolay Khabarov](#), ESM Program

Wenfeng Liu, EAWAG Swiss Federal Institute of Aquatic Science and Technology, YSSP 2015

Alison Heslin, Columbia University, IIASA alumna

[GC13G-1219 - The Role of Social Networks and Migration in Climate Adaptation among Subsistence Farming Households: A Stylized Agent-Based Model](#)

Nicolas Choquette-Levy, Princeton University, YSSP 2019

[Matthias Wildemeersch](#), Advanced Systems Analysis (ASA) Program

[Simon Levin](#), Princeton University, IIASA alumnus

[H11J-1615 - Water cycle modifications and Earth System resilience: roadmap to a new water planetary boundary](#)

[Yoshihide Wada](#), Water Program

[Johan Rockström](#), Stockholm Resilience Centre, IIASA collaborator

Martina Floerke, University of Kassel, IIASA alumna

[H11O-1729 - Hyper-resolution hydrological modeling of a managed watershed: The application of CWatM at 30 arc-seconds resolution in the Upper Bhima basin](#)

[Mikhail Smilovic](#), [Peter Burek](#), [Taher Kahil](#), Yoshihide Wada, Water Program

[Guillaumot Luca](#), Rennes University, IIASA Guest Research Scholar

[H13G-02 - Recent global decline in endorheic basin water storage and its implications for the water cycle](#)

Yoshihide Wada, Water Program

[PA14A-05 - Committed Emissions from Existing Energy Infrastructure Jeopardize 1.5 °C Climate Target](#)

Zhang Qiang, Tsinghua University, IIASA alumnus

Yue Qin, University of California Irvine, YSSP 2016

**Tuesday, 10 December**

**PAPERS**

[GC23A-05 - Economic impacts of future glacier decline in the Indus River Basin](#)

[Simon Parkinson](#), [Adriano Vinca](#), [Edward Byers](#), [Keywan Riahi](#), Energy Program

[Ansir Ilyas](#), Lahore University of Management Science, YSSP 2018

[GC23B-04 - Land-Use Harmonization 2: New Features and New Scenarios](#)

[Peter Havlik](#), [Tamas Krisztin](#), ESM Program

Keywan Riahi, Energy Program

Shinichiro Fujimori, National Institute for Environmental Studies, IIASA Guest Research Scholar, YSSP 2006

Katherine V Calvin, Pacific Northwest National Laboratory, IIASA alumna

Tomoko Hasegawa, National Institute for Environmental Studies, IIASA alumna

[Detlef van Vuuren](#), Netherlands Environmental Assessment Agency, IIASA collaborator

[GH21C-1220 - PM2.5 pollution induced morbidity burdens and the associated economic costs in Asian countries](#)

[Gregor Kieseewetter](#), [Fabian Wagner](#), AIR Program

Muye Ru, Duke University, YSSP 2019

[GC21H-1400 - Global Spatial Urban Expansion Scenarios Consistent with the Shared Socioeconomic Pathways \(SSPs\)](#)

Brian O'Neill, The University of Denver, YSSP 1998

[H21O-1958 - Co-design of a Water Cycle Diagram to Discover Similarities and Differences among Global Water Impact Models](#)

Yoshihide Wada, Peter Burek, Water Program

Yusuke Satoh, National Institute for Environmental Studies, IIASA Guest Research Scholar

[H21G-08 - Food-water-energy for Urban Sustainable Environments \(FUSE\): Integrated Analyses Focused on Pune, India and Amman, Jordan](#)

Yoshihide Wada, Peter Burek, Taher Kahil, Mikhail Smilovic, Water Program

**Wednesday, 11 December**

**SESSIONS**

[PA31B - Flood Risk and Resilience: Integrating Models, Methods, and Data to Inform Resilience-Building at Risk Management Scales I, II Posters](#)

Primary Convener and Chair: [Reinhard Mechler](#), Risk & Resilience (RISK) Program

**EXHIBITS**

[Google Booth: Modeling wildfire dynamics using FLAM coupled with deep learning methods on the Google Earth Engine platform](#)

Florian Hofhansl, ESM Program

**PAPERS**

[A31I-2680 - Co-benefits of low carbon pathways for local air pollution in India](#)

[Peter Rafaj](#), Gergor Kiesewetter, [Wolfgang Schoepp](#), AIR Program

[Volker Krey](#), Energy Program

Saritha Sudharmma Vishwanathan, Indian Institute of Management Ahmedabad, IIASA alumna

[A33I-3060 - Development of a Comprehensive Regional Emissions Inventory in Support of Air Quality Modeling and Aircraft Field Campaign over East Asia](#)

[Markus Amann](#), [Zbigniew Klimont](#), Fabian Wagner, Wolfgang Schoepp, [Robert Sander](#), AIR Program

Younha Kim, Konkuk University, YSSP 2014

[B34D-03 - The magnitude, trend and drivers of the global nitrous oxide budget: a new assessment](#)

Wilfried Winiwarter, AIR Program

[B34D-04 - Global cropland-N<sub>2</sub>O emission dataset](#)

Wilfried Winiwarter, AIR Program

Francesco Tubiello, Food & Agriculture Organization, IIASA alumnus

[GC31O-1285 - Income-driven and policy-intervened energy transitions in rural residential energy sector in India, and their roles to the achievement of its NAAQS](#)

Pallav Purohit, Peter Rafaj, AIR Program

Muye Ru, Duke University, YSSP 2019

Saritha Sudharmma Vishwanathan, Indian Institute of Management Ahmedabad, IIASA alumna

[GC31O-1293 - The distribution of health co-benefits and its impact on optimal climate policy](#)

Fabian Wagner, AIR Program

[Wei Peng](#), Penn State University, IIASA alumna

[GC31J-1336 - Groundwater depletion embedded in domestic transfers and international exports of the United States](#)

Yoshihide Wada, Water Program

[GC32B-04 - A Sustainable Agriculture Matrix of environmental and socioeconomic indicators for protecting Earth's climate](#)

[Christian Folberth](#), ESM Program

[GC33D-04 - Agricultural vulnerability to changing snowmelt](#)

Yue Qin, Ohio State University, YSSP 2016

[GC33F-1436 - Early retirement of power plants in climate mitigation scenarios](#)

[Oliver Fricko](#), [Joeri Rogelj](#), Energy Program

Shinichiro Fujimori, National Institute for Environmental Studies, IIASA Guest Research Scholar, YSSP 2006

Katherine V Calvin, Pacific Northwest National Laboratory, IIASA alumna

[PA33D-1124 - How can disaster forensics inform climate risk scenarios? A multi-method case study on flood risk and resilience in Peru](#)

Reinhard Mechler, [Adam French](#), RISK Program

## **Thursday, 12 December**

### **SESSIONS**

[GC42A - Multiscale Modeling of Human-Natural Earth System Interactions for Sustainable and Resilient Planning at the Nexus of Water-Energy-Food Security, Health, and Conflict Session I, II Posters](#)

Convener and Chair: Simon Parkinson, Energy Program and University of Victoria

[Yue Qin](#), Ohio State University, YSSP 2016

[NH42A - The Landslide Life Cycle: From Process Understanding to Hazard and Risk Assessment I, II, III](#)

Convener and Chair:

Dalia Kirschbaum, Research Physical Scientist, NASA Goddard Space Flight Center, IIASA alumna

[U43C - Career Panels and Networking Throughout the Engagement Area](#)

Primary Convener and Chair:

Dalia Kirschbaum, Research Physical Scientist, NASA Goddard Space Flight Center, IIASA alumna

### **PAPERS**

[A42A-08 - Carbon Emissions Reduction and Health Co-Benefits in the Electric Power Generation Sector under Shared Socioeconomic Pathways in China](#)

[Shaohui Zhang](#), AIR Program

[B42D-02 - The Pivotal Role of Heterogeneity in the Persistence of Soil Organic Matter](#)

[Christina Kaiser](#), EEP Program

[C22C-06 - Reduced winter off-road tundra travel under climate change](#)

[Jinfeng Chang](#), ESM Program

[GC43F-1339 - A hybrid model-observation analysis of changes in global flood hazard](#)

Yoshihide Wada, Water Program

Jinfeng Chang, ESM Program

[GC43H-1403 - Impacts of ozone and climate change on California perennial crops](#)

Yue Qin, Ohio State University, YSSP 2016

[H41S-2010 - The role of groundwater in modulating the global mean sea level variations during ENSO events](#)

Yoshihide Wada, Water Program

[H41S-2016 - 1.5 and 2-degree Warming Jeopardize Millions of People with Severe Water stress in South Asia](#)

Yoshihide Wada, Water Program

[H42F-02 - High-resolution global water temperature modelling](#)

Yoshihide Wada, Water Program

Michelle van Vliet, Wageningen University & Research Center, IIASA alumna

[H42C-04 - Human dimensions of changing global freshwater availability](#)

Yoshihide Wada, Water Program

[H42F-07 - Beyond Frontiers in Hydrologic Science](#)

Yoshihide Wada, Water Program

**Friday, 13 December**

**SESSIONS**

[B53C Plant Traits, Adaptation, and Biogeochemical Cycles: From Measurements to Models Session I, Session II, III Posters](#)

Convener and Chair: Oskar Franklin, ESM Program

**PAPERS**

[A53B-04 - Coordinating air pollution and clean power strategies in India for health and climate objectives](#)

Pallav Purohit, Fabian Wagner, AIR Program

Wei Peng, Penn State University, IIASA alumna

[A53T-2926 - Declined Decrease of Tropospheric NO<sub>2</sub> in the Past Decade](#)

Zbigniew Klimont, AIR Program

[GC52A-06 - Compound Temperature and Precipitation Shifts in Historical and Historical Natural-Only Model Simulations](#)

[Peter Greve](#), Yoshihide Wada, Water Program

Omid Mazdidasni, University of California Irvine, YSSP 2016

Ted Veldkamp, Vrije University Amsterdam, IIASA alumna

[H52F-02 - How Much Do Lowlands Depend on Mountain Water Resources? Global Development from Mid-20th to Mid-21st Century](#)

Yoshihide Wada, Water Program

[H53A-02 - Exploring water management options under changing climate, land cover and socio-economic drivers for the extended Lake Victoria Basin](#)

Peter Burek, [Sylvia Tramberend](#), Mohamed Kahil, [Robert Burtscher](#), Yoshihide Wada, Water Program

[H54E-01 - A Global Near-Real-Time Soil Moisture Monitor](#)

Yoshihide Wada, Water Program

[Eric Wood](#), Princeton University, IIASA alumnus