

# OWP IS AT AGU

## 2021 FALL MEETING

### Science *is* Society

Sharing research and knowledge that our community is building with the world so we can foster a sustainable environment for the future.



December 13–17



New Orleans, LA  
& Everywhere Online



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### SESSIONS & TOWN HALLS

December 13, 2021 6:15–7:15 PM CST

#### NOAA's National Water Center: Programmatic Update and Opportunities for Collaboration

Trey Flowers

<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/119618>

December 16, 2021 6:15–7:15 PM CST

#### Improving Water Prediction in the Coastal Zone Through the NOAA Water Initiative Coastal Coupling Community of Practice

Cayla Dean

<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/124970>



Website: <https://water.noaa.gov>

Email: [nws.nwc@noaa.gov](mailto:nws.nwc@noaa.gov)

Locations: Tuscaloosa, AL - Silver Spring, MD - Chanhassen, MN



## DECEMBER 13, 2021

**AGU Technical Committee Meeting**  
Sudhir Shrestha

**IN14B Advances in Earth and Space Science Informatics II eLightning**  
Sudhir Shrestha • 2:30–3:45 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/132628>

## DECEMBER 16, 2021

**H43D Next-Generation Water Resources Modeling: Innovation at the Intersection of Domain, Computer, and Data Sciences I Oral**  
Trey Flowers • 12:45–2:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/137262>

**H44D Next-Generation Water Resources Modeling: Innovation at the Intersection of Domain, Computer, and Data Sciences II Oral**  
Trey Flowers • 2:30–3:45 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/137271>

**IN44A Advances in Earth and Space Science Informatics I Oral**  
Sudhir Shrestha • 2:30–3:45 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/132615>

**IN45C Advances in Earth and Space Science Informatics III Poster**  
Sudhir Shrestha • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/124523>

## SESSION PRESENTERS

### DECEMBER 14, 2021

**H25F-1104 Developing Essential Water Variables (EWVs) to Support Water Cycle Research and Water Sustainability Applications**  
Angelica Gutierrez • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/997707>

**H25F-1099 Enabling Access to Essential Water Data through GEOGloWS Toolbox**  
Angelica Gutierrez • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/914016>

### DECEMBER 15, 2021

**H33D-06 Implementation of NOAA's Operational National Water Model for Flood Impact-Based Forecasting**  
Peggy Lee • 1:10–1:15 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/947127>

### DECEMBER 16, 2021

**H43D-01 Next Generation Water Resources Modeling Framework: Open Source, Standards Based, Community Accessible, Model Interoperability for Large Scale Water Prediction**  
Fred Ogden • 12:45–12:50 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/862991>

**H43D-03 Tools for Processing the National Hydrography Dataset into a Hydrofabric Suitable for Use in the Next Generation National Water Model**  
Mike Johnson • 12:55–1:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/980259>

**H43D-03 Tools for Processing the National Hydrography Dataset into a Hydrofabric Suitable for Use in the Next Generation National Water Model**  
Mike Johnson • 12:55–1:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/980259>

**H43D-06 Next Generation Water Resources Modeling: Modern, Open Source Development Strategies for Building an Extensible Research to Operations Framework**  
Matthew Williamson • 1:10–1:15 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/891943>

**H44D-04 Extensions to the Basic Model Interface to Support Serialization of a Model's State Variables for Load Balancing and Checkpointing**  
Scott Peckham • 2:45–2:50 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/986408>

**H44D-05 Linking Arbitrary Hydrologic and Hydraulic Models and Process Modules into a Single Prediction Runtime Using the Basic Model Interface: A Domain Science Perspective**  
Jessica Garrett • 2:50–2:55 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/873832>

**H44D-06 Heterogeneous Modeling Using Basic Model Interface: Linking Arbitrary Model Formulations Into A Single Prediction Runtime**  
Robert Bartel • 2:55–3:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/896588>

**H450-1351 Active Water Management within the National Water Model V3.0: Assimilation of Reservoir Outflow and Glacier Dammed Lake Releases**  
Mehdi Rezaeianzadeh • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/857795>

**H45N-1332 Development of a Continental Coastal Scale Coastal Flooding Model Using a Sub-Setting Approach**  
Henok Kefelegn • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/891943>

**H45N-1340 Reservoir Integration into Tree-based Inland Hydraulic Routing**  
David Mattern • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/864513>

**H450-1341 Impact of Groundwater Loss Calibration on the National Water Model Streamflow Prediction**  
Zhengtao Cui • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/896262>

**H45N-1333 Enhancing NWM Parameter Regionalization to Improve Physical Similarity Representation While Accounting for Uncertainties**  
Yueqiong Liu • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/899500>

## SESSION CONVENERS

**H45N Next-Generation Water Resources Modeling: Innovation at the Intersection of Domain, Computer, and Data Sciences VI Poster**  
Trey Flowers • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/137298>

**H450 Next-Generation Water Resources Modeling: Innovation at the Intersection of Domain, Computer, and Data Sciences VII Poster**  
Trey Flowers • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/137307>

### DECEMBER 17, 2021

**H53F Next-Generation Water Resources Modeling: Innovation at the Intersection of Domain, Computer, and Data Sciences III Oral**  
Trey Flowers • 12:45–2:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/137280>

**H45N-1335 Efficient Diffusive Routing Computation for the National Water Model Version 3.0 Using a Topological Relationship Map**  
Dong Ha Kim • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/976090>

**H450-1343 OWP HydroTools: Python-based Tools for Retrieving and Evaluating National Water Model Streamflow Simulations**  
Jason Regina • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/900702>

**H450-1344 Methods for Evaluating Arbitrary Hydrologic Models and Process Modules in the Next Generation Water Resources Modeling Framework**  
Chris Tubbs • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/908924>

### DECEMBER 17, 2021

**H53F-02 Deep learning models in the Next Generation National Water Model**  
Jonathan Frame • 12:50–12:55 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/859605>

**H53F-04 The First Implementation of the NWM's Total Water Forecasting Capability**  
Qi Shi • 1:00–1:05 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/831225>

**H54G-04 Next Generation National Water Model: Strategy and preliminary performance of Initial Model Formulations**  
Luciana Kind da Cunha • 2:45–2:50 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/831537>

**H54G-07 Improving NWM Streamflow Performance Through Parameter Calibration**  
Xia Feng • 3:00–3:05 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/895606>

**H55U-0975 Estimating Floodplain Width and Roughness Parameters Based on EPA EnviroAtlas Floodplain Data in Support of Continental-scale Hydrologic Simulations in the NOAA National Water Model Version 3.0**  
Matthew Casali • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/981585>

**H54G Next-Generation Water Resources Modeling: Innovation at the Intersection of Domain, Computer, and Data Sciences IV Oral**  
Trey Flowers • 2:30–3:45 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/137289>

**H55U Next-Generation Water Resources Modeling: Innovation at the Intersection of Domain, Computer, and Data Sciences V Poster**  
Trey Flowers • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Session/118673>

**H55U-0979 Improving the Representation of Gridded Hydrographic Features Using Advanced Hydrologic Pre-processing in the NOAA National Water Model Version 3.0**  
Kevin Sampson • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/976421>

**H55U-0977 An Enhanced NOAA-MP for NextGen: Modularization and Implementation of the Basic Model Interface**  
Keith Jennings • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/885757>

**H55U-0980 Reducing a Stream Network's Horton-Strahler Stream Order Improves the Skill of Flood Inundation Maps from Height Above Nearest Drainage Method (DSupp FIM)**  
Fernando Aristizabal • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/977412>

**H55U-0971 Operational Hydrologic Modeling: Current Status of NOAA's National Water Model and Plans for the Future**  
Brian Cosgrove • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/895129>

**H55U-0978 A New Generation of Decision Support Visualizations for Water Prediction Services**  
Katherine Moore Powell • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/961171>

**H55U-0976 Scalability of the Next Generation National Water Model Framework**  
Donald Johnson • 4:00–6:00 PM CST  
<https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/860862>