

AGENDA

Day 1 (Feb 15th, 2020) Oral Presentations

* denotes speaker

Session 1A: Introduction

**Chair: Joseph Kanney,
NRC/RES**

1A-0	Webinar Logistics	Kenneth Hamburger* , NRC/RES	10:00	10:10
1A-1	Opening Remarks	Ray Furstenau* , Director, NRC Office of Research	10:10	10:25
1A-2	NRC PFHA Research Program Update	Tom Aird* , NRC/RES	10:25	10:40
1A-3	Moving FEMA towards Probabilistic Flood Risk Analysis and Probabilistic Flood Hazard Analysis	David Rosa* , Christina Lindemer, Federal Emergency Management Agency (FEMA)	10:40	11:05
1A-4	Committee on the Safety of Nuclear Installations (CSNI) Working Group on External Events (WGEV)	John Nakoski* , NRC/RES (WGEV Chair)	11:05	11:20

Break 11:20 11:35

Session 1B: Sensors

**Chair: Joseph Kanney,
NRC/RES**

1B-1	(Keynote) Flood & Fire Sensors for Resilient Communities	Jeffrey Booth* , Department of Homeland Security, Science & Technology Directorate	11:35	12:00
1B-2	USACE Instrumentation and Monitoring Program	Georgette Hlepas* , Christopher Schaal* , U.S. Army Corps of Engineers	12:00	12:25
1B-3	USGS Water Mission Area Observing Systems Research and Development Program	R. Russel Lotspeich* , U.S. Geological Survey	12:25	12:50
1B-4	State and Local Experience in Virginia Implementing IoT Sensors and Data Systems	David Ihrie* , Virginia Innovation Partnership Corporation	12:50	13:15
1B-5	Sensor Panel Discussion	<i>All Presenters</i>	13:15	13:35

Lunch 13:35 14:35

Session 1C: Climate

**Chair: Elena Yegorova,
NRC/RES**

1C-1	(KEYNOTE) Big Stories from the Historic Winter of 2020/21	David Novak* , National Oceanic and Atmospheric Administration, National Weather Service (NOAA/NWS)	14:35	15:05
1C-2	Linking Arctic variability and change with extreme winter weather in the US including the Texas Freeze of February 2021	Judah Cohen* ¹ , Laurie Agee ² , Mathew Barlow ² , Chaim Garfinkel ³ , Ian White ³ ; ¹ Atmospheric and Environmental Research, ² University of Massachusetts Lowell, ³ Hebrew University of Jerusalem	15:05	15:30
1C-3	2021 U.S. Billion Dollar Weather and Climate Disasters in Historical Context including New County-Level Exposure, Vulnerability and Projected Damage Mapping	Adam Smith* , National Oceanic and Atmospheric Administration, National Centers for Environmental Information (NOAA/NCEI)	15:30	15:55
1C-4	Climate Panel Discussion	<i>All Presenters</i>	15:55	16:25
1D	Day 1 Wrap-up		16:25	16:30

Day 2 (Feb 16th, 2020) Oral Presentations

<u>Session 2A: Precipitation</u>		Chair: Kevin Quinlan, NRC/NRR	
2A-1	Uncertainty in Precipitation Frequency Estimates Under Current and Future Climate	Azin Al Kajbaf* , Michelle Bensi, Kaye Brubaker; University of Maryland	10:05 10:30
2A-2	(KEYNOTE) Gridded Surface Weather Data with Uncertainty Quantification - Daymet V4	Peter Thornton* , Oak Ridge National Laboratory	10:30 11:00
2A-3	Utility of Weather Types to Improve the Nonstationary Frequency Analysis of Extreme Precipitation	Giuseppe Mascaro* , Arizona State University	11:00 11:25
Break			11:25 11:35
2A-4	Characteristics and Causes of Extreme Snowmelt over the Conterminous United States	Joshua Welty* ¹ , Xubin Zeng ² ; ¹ U.S. Navy Fleet Numerical Meteorology and Oceanography Center, ² University of Arizona	11:35 12:00
2A-5	LIP PFHA Pilot Study	Rajiv Prasad* , Arun Veeramany, Rajesh Singh; Pacific Northwest National Laboratory (PNNL)	12:00 12:25
2A-6	Precip Panel Discussion	<i>All Presenters</i>	12:25 12:55
Lunch			12:55 14:00
<u>Session 2B: Riverine Flooding</u>		Chair: Joseph Kanney, NRC/RES	
2B-1	(KEYNOTE) Flood Typing and Application to Mixed Population Flood Frequency Analysis: An Interagency Collaborative Effort	Nancy Barth* ¹ , Michael Bartles ² , John England ² , Jory Hecht ¹ , Gregory Karlovits ² , William Lehman ² ; ¹ U.S. Geological Survey (USGS), ² U.S. Army Corps of Engineers (USACE)	14:00 14:30

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2B-2	Applying Stochastic Weather Generation and Continuous Hydrologic Simulation for Probabilistic Flood Hazard Assessments	Joe Bellini^{*1} , Bill Kappel² , Dennis Johnson² , Doug Hultstrand² ; ¹ <i>Aterra Solutions</i> , ² <i>Applied Weather Associates</i>	14:30	14:55
2B-3	IWRSS Flood Inundation Mapping for Flood Response	Robert Mason^{*1} , Julia Prokopec^{*1} , Adam Barker^{*2} , Cory Winders^{*3} , Darone Jones^{*4} ; ¹ <i>U.S. Geological Survey</i> , ² <i>Federal Emergency Management Agency</i> , ³ <i>U.S. Army Corps of Engineers</i> , ⁴ <i>National Weather Service</i>	14:55	15:20
2B-4	Using HEC-WAT for NRC's PFHA Process	William Lehman[*] , Gregory Karlovits , David Ho , Leila Ostadrahimi , Brennan Beam , Sara O'Connell , Julia Slaughter ; <i>U.S. Army Corps of Engineers Hydrologic Engineering Center (USACE/HEC)</i>	15:20	15:45
2B-5	Riverine Panel Discussion	<i>All Presenters</i>	15:45	16:15
2C	Day 2 Wrap-up		16:15	16:25

Day 3 (Feb 17th, 2020) Poster Presentations

Session 3A: Posters

Chair: Thomas Aird, NRC/RES

3A-1	Flood Fragility Function Methodology for a Conceptual Nuclear Power Plant	Joy Shen* , Michelle Bensi, Mohammad Modarres; University of Maryland Click here to join the meeting	10:00	11:00
3A-2	Quantifying Uncertainty in Hurricane Warning Times to Inform Coastal Hazard PRA	Somayeh Mohammadi* , Michelle Bensi; University of Maryland Click here to join the meeting	10:00	11:00
3A-3	HEC-WAT Interface and Set Up for the Trinity River PFHA Pilot Project	David Ho* , William Lehman, Brennan Beam, Sara O'Connell, Leila Ostadrahimi; U.S. Army Corps of Engineers, Hydrologic Engineering Center Click here to join the meeting	10:00	11:00
3A-4	Riverine Flooding HEC-WAT Pilot Project Dam Break Modeling	Brennan Beam* , William Lehman, Sara O'Connell, David Ho, Leila Ostadrahimi; U.S. Army Corps of Engineers, Hydrologic Engineering Center Click here to join the meeting	10:00	11:00
3A-5	Flooding from Below – The Groundwater Emergence Hazard	Kevin M. Befus* ¹ , Patrick L. Barnard ² , Peter W. Swarzenski ² , Clifford Voss ² ; ¹ University of Arkansas, ² U.S. Geological Survey Click here to join the meeting	10:00	11:00
3A-6	External Flooding PRA Guidance	Marko Randelovic* ¹ , Raymond Schneider* ² ; ¹ Electric Power Research Institute (EPRI), ² Westinghouse Company Click here to join the meeting	10:00	11:00
Break			11:00	11:10

Day 3 (Feb 17th, 2020) Oral Presentations

<u>Session 3B: Coastal Flooding</u>		Chair: Joseph Kanney, NRC/RES	
3B-1	(KeyNote) An Overview of CSTORM Model Development and Results for the South Atlantic Coastal Study (SACS)	Margaret Owensby^{*1} , Thomas Massey ¹ , Tyler Hesser ¹ , Mary Bryant ¹ , Andrew Condon ² ; ¹ U.S. Army Corps of Engineers (USACE), Engineer Research and Development Center, Coastal and Hydraulics Laboratory, ² USACE Jacksonville District	11:10 11:40
3B-2	Compound Flood Hazard Assessment using a Bayesian Framework	Somayeh Mohammadi^{*1} , Michelle Bensi ¹ , Shih-Chieh Kao ² , Scott DeNeale ² , Joseph Kanney ³ , Elena Yegorova ³ , Meredith Carr ⁴ ; ¹ University of Maryland, ² Oak Ridge National Laboratory, ³ U.S. Nuclear Regulatory Commission, ⁴ U.S. Army Corps of Engineers, Engineer Research and Development Center, Coastal and Hydraulics Laboratory	11:40 12:05
3B-3	Coastal Flooding PFHA Pilot Study	Victor M. Gonzalez[*] , Meredith L. Carr, Karlie Wells, Norberto C. Nadal Caraballo; U.S. Army Corps of Engineers, Engineer Research and Development Center, Coastal and Hydraulics Laboratory	12:05 12:30
3B-4	Probabilistic Wave Height Hazard Assessment Method at the NPP Site Considering Storm Surge	Beom-Jin Kim[*] , Daegi Hahm, Minkyu Kim; Korea Atomic Energy Research Institute	12:30 12:55
3B-5	Comparative Assessment of Joint Distribution Models for Tropical Cyclone Atmospheric Parameters in Probabilistic Coastal Hazard Analysis	Ziyue Liu^{*1} , Michelle Bensi ¹ , Meredith Carr ² , Norberto Nadal-Caraballo ² ; ¹ University of Maryland, ² U.S. Army Corps of Engineers Engineer Research and Development Center Coastal and Hydraulics Laboratory	12:55 13:20
3B-6	Coastal Panel Discussion	<i>All Presenters</i>	13:20 13:50
3C	Day 3 Wrap-up		13:50 14:00

Day 4 (Feb 18th, 2020) Oral Presentations

<u>Session 4A: Duane Arnold Derecho Operational Experience</u>		Chair: Joseph Kanney, NCR/RES	
4A-1	Duane Arnold Energy Center (DAEC) Loss of Offsite Power (LOOP) Due to Derecho	Terry Brandt* , Nextera Energy	10:00 10:25
4A-2	The NRC's Regional Response to the Duane Arnold Derecho	John Hanna* , U.S. Nuclear Regulatory Commission, Region 3 (NRC/R3)	10:25 10:50
4A-3	Why the Risk of the Extended Loss of Offsite Power Was Almost a Significant Precursor?	Christopher Hunter* , U.S. Nuclear Regulatory Commission, Office of Research (NRC/RES)	10:50 11:15
4A-4	The NRC's Response to the Duane Arnold Derecho Event using the LIC-504 Process	Matthew Leech* , U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation (NRC/NRR)	11:15 11:40
4A-5	Duane Arnold OpE Panel Discussion	<i>All Presenters</i>	11:40 11:40
Break			11:40 11:55
<u>Session 4B: ASCE-7 Tornado Wind Loads</u>		Chair: Elena Yegorova, NRC/RES	
4B-1	Introduction to Tornado Loads in the New ASCE 7-22 Standard - Including Long Return Period Tornado Hazards Maps with Applications to Nuclear Facilities	Marc Levitan* , National Institute of Standards and Technology	11:55 12:25
Lunch			12:25 13:25
<u>Session 4C: USACE Dam and Levee Database Updates</u>		Chair: Joseph Kanney, NRC/RES	
4C-1	National Inventory of Dams	Becky Ragon* , U.S. Army Corps of Engineers	13:25 13:55
4C-2	National Levee Database	Brian Vanbockern* , U.S. Army Corps of Engineers	13:55 14:25
4D	Workshop Wrap-up Discussion		14:25 14:45



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