

THE 11th NATIONAL HYDROLOGIC WARNING COUNCIL  
Training Conference and Exposition **JUNE 15-18, 2015**

Crowne Plaza at Historic Union Station, Indianapolis, Indiana



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CONFERENCE PROGRAM

**Advances in  
Hydrologic Warning—  
The Race to Save Lives**

The conference is being held in cooperation with:

- National Weather Service
- United States Geological Survey



## *Advances in Hydrologic Warning— The Race to Save Lives*

Welcome to the National Hydrologic Warning Council's 2015 Training Conference & Exposition. We have a terrific lineup of training workshops, committee meetings, and technical presentations to keep you abreast of emerging hydrologic warning science and technology as well as "best practices" to help keep your hydrologic warning systems running smoothly.

Our host, the Crown Plaza at Historic Union Station with its dedicated staff, has worked hard to create a terrific environment for the conference. And, kudos to Jean Vieux and the planning committees, whose dedicated tireless efforts were essential in creating a memorable conference experience for you.

Exhibitors and sponsors are key components of the conference. Their service to our industry and participation in the conference is deeply appreciated. When you see them on the conference grounds and in the exhibit area, give them a hearty thank you. Stop by the exhibits and learn about all the innovative new products and services they've prepared for you.

Networking opportunities are always the highlight of our conferences. Take advantage of our session breaks, lunches, dinners, the hospitality suite and the awards banquet to renew acquaintances and make new friends. On Tuesday evening we are especially excited to host a networking event at the Indianapolis Motor Speedway Museum. Don't miss a great chance to experience the history of the Indy 500 and tour the track.

As I write this note, our prayers are with friends and colleagues in Texas and Oklahoma who are yet again facing the twin challenges of flood response and recovery. A massive flood wave rising nearly 20 feet in an hour on the Blanco River in central Texas swept away whole neighborhoods. Communities, small and large, throughout the region were hard hit. Some of our nation's most advanced local flood warning systems were put to the test.

We've all worked hard to advance the state-of-the-art in hydrologic warnings and are deeply gratified by lives and property saved through our collective efforts. Yet the devastation from this weekend's flooding is a grim reminder that we have much work to do.

The NHWC is the largest professional organization exclusively serving the hydrologic warning community. Our members represent the most active elements of flood risk mitigation through hydrologic warning. Jump in and experience this year's conference and training opportunities to the fullest. Learn from the best! Take new ideas and energy back home and put them to work.

Enjoy the conference!



David C. Curtis, Ph.D.  
President, NHWC

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Michael Scheffler  
Kevin Stewart  
George Wilkins

## QUICK VIEW AGENDA – MONDAY JUNE 15, 2015

9:00a–12:00p	REGISTRATION
12:00p–7:00p	EXHIBITOR SETUP
	LUNCH ON YOUR OWN
12:00p	GOLF BEST BALL SCRAMBLE AT THE FORT, meet in Conference hotel lobby at 11:00a for carpooling – additional fee applies
5:00p–7:00p	REGISTRATION
	DINNER ON YOUR OWN
6:00p–9:00p	C&O <b>ALERT2 COMMITTEE MEETING</b>
8:00p–11:00p	HOSPITALITY SUITE (Lincoln)

## QUICK VIEW AGENDA – TUESDAY JUNE 16, 2015

7:00a – 5:00p	REGISTRATION			
8:00a – 12:00p	EXHIBITOR SETUP			
1:00p – 5:00p	EXHIBITS OPEN (Grand Hall)			
	C&O <b>TRAINING WORKSHOPS</b>	MILWAUKEE <b>TRAINING WORKSHOPS</b>	ILLINOIS CENTRAL <b>TRAINING WORKSHOPS</b>	NEW YORK CENTRAL <b>TRAINING WORKSHOPS</b>
8:30a – 10:00a	OneRain TDMA Manager and Latest Contrail® Enhancements <i>Mike Zucosky, OneRain, Inc.</i>	Hydrological Data Collection: What You Learn in Over 20 Years of Field Support Experience <i>Dave Gunderson, U.S. Bureau of Reclamation</i>	USGS Fluvial Erosion Hazard (FEH) Mitigation Program and High Water Mark (HWM) Training Workshop <i>Zach Martin, U.S. Geological Survey</i>	
10:00a – 10:30a	BREAK (Foyer)			
10:30a – 12:00p	How to Upgrade Your Flood Warning System to Use the ALERT2 Protocol <i>David Leader, HydroLynx, Inc.</i>	Acoustic Dopplers In Continuous Monitoring—Principles of Operation, Best Practices, and Use of Water Velocity Data for Flood Warning Applications <i>Janice Landsfeld, Xylem Inc.</i>	Why and How You Could Integrate Twitter into Your Flood Warning Platform <i>Jim Moffitt, Twitter</i>	Latest Enhancements for 3306 Product Line <i>Tom Ogden &amp; Bob Eitel, High Sierra Electronics</i>
12:00p – 1:30p	LUNCH – included with registration – followed by OPENING OF EXHIBITS (Grand Hall)			
1:30p – 3:00p	ALERT2 Workshop Session 1 – General Toward More Intelligent Use of a More Intelligent Protocol <i>Don Van Wie, Telos Services; David Haynes, Distinctive Automated Flood Warning System Designs</i>	Technical Training: SDI-12, AL200, and GPS <i>Ken Conner, Campbell Scientific, Inc.</i>	Implementing USACE RTS Flood Forecast System <i>Bill Charley and Fauwaz Hanbali, U.S. Army Corps of Engineers</i>	
3:00p – 3:30p	BREAK and EXHIBITOR FOCUS (Grand Hall)			
3:30p – 5:00p	ALERT2 Workshops Session 2 – Southern California Rollout Advancing Southern California’s Complicated Flood Warning Networks to ALERT2 <i>Ron Marotto, Ventura County Watershed Protection District</i>	Integrated Water Resources Science and Services – Key Activities and Status <i>Mary Mullusky, National Weather Service</i>	High Resolution Flash Flood Modeling <i>Baxter Vieux, Vieux, Inc.</i>	
6:00p – 10:00p	DINNER and NETWORKING EVENT (Indianapolis Motor Speedway Museum) – included with registration (BUSES LOAD 5:00p – 5:30p)			
10:00p – 11:00p	HOSPITALITY SUITE (Lincoln)			




Agenda is provisional and subject to change



## QUICK VIEW AGENDA – WEDNESDAY JUNE 17, 2015

7:00a–5:00p	REGISTRATION	
8:00a–7:00p	EXHIBITS OPEN (Grand Hall)	
8:00a–8:30a	EXHIBITOR FOCUS and REFRESHMENTS (Grand Hall)	
8:30a–10:00a <b>GENERAL SESSION 1</b>	<b>NHWC WELCOME:</b> David Curtis, NHWC President Louis Uccellini, Director, National Weather Service Leon Carl, Regional Director for the Midwest Region, U.S. Geological Survey (Illinois Street Ballroom)	
10:00a–10:45a	BREAK and EXHIBITOR FOCUS (Grand Hall)	
10:45a–12:00p <b>GENERAL SESSION 2</b>	James Angel, State Climatologist, Illinois State Water Survey Don Cline, Director, National Weather Service Water Center (Illinois Street Ballroom)	
12:00p–1:30p	LUNCH – included with registration (Grand Hall) Lunch speakers Mary Moran and Manuela Johnson, Indiana Department of Homeland Security	
	<b>EDISON NORTH</b> <b>HIGH OCTANE: NEW TECHNOLOGY</b>	<b>EDISON SOUTH</b> <b>RACING LORE: STORM STORIES AND LESSONS LEARNED</b> <b>Special Session on the 1913 Flooding in the Ohio River Valley: Devastation, Consequences, Legacies</b>
<b>MODERATORS</b>	Andy Rooke, AMR Consultants	Alan Peebles, Alabama Power Company
1:30p–2:00p	Application of a Distributed Model to Provide Enhanced Decision Support Services for a Flash Flood Prone Canyon in Northern Arizona <i>Michael Schaffner, National Weather Service</i>	The Devastating Ohio River Valley Flood of 1913 – Its Impact on Residents, and the Political Response <i>Trudy E. Bell, author of "The Great Dayton Flood of 1913"</i>
2:00p–2:30p	Flood Warning Before the Rain Hits the Ground – Evaluating a New Precipitation Forecast Product for Increased Situational Awareness for the City of Austin <i>Susan Janek, City of Austin</i>	How This Disaster Shaped Future Flood Preparedness in the Region – What Would Happen if a Similar Storm Struck the Ohio River Valley Again <i>Julia Dian-Reed, National Weather Service</i>
2:30p–3:00p	Building for the Future – Retrofitting Early Warning Systems for the Next Generation <i>Lex Kamstra, U.S. Bureau of Reclamation</i>	
3:00p–3:30p	BREAK and EXHIBITOR FOCUS (Grand Hall)	
	<b>EDISON NORTH</b> <b>HIGH OCTANE: NEW TECHNOLOGY</b>	<b>EDISON SOUTH</b> <b>WHERE THE RUBBER MEETS THE ROAD</b>
<b>MODERATORS</b>	Al Goodman, AWG Consulting	Brad Heilwagen, Amec Foster Wheeler
3:30p–4:00p	ALERT vs. ALERT2 – Performance Comparisons in Sacramento County <i>David Curtis, WEST Consultants, Inc.</i>	Nashville SAFE: Going Public <i>Roger Lindsey, City of Nashville</i>
4:00p–4:30p	Designing Networks for ALERT2 <i>James Logan, OneRain, Inc.</i>	Nashville SAFE: Using HEC-RTS for Flood Forecasting <i>Bradley Heilwagen, Amec Foster Wheeler</i>
4:30p–5:00p	Lessons Learned in Implementing ALERT2 Upgrades <i>David Leader, HydroLynx, Inc.</i>	Nashville SAFE: Situational Awareness for Flooding Events <i>Bradley Heilwagen, Amec Foster Wheeler</i>
5:00p–7:00p	EXHIBITOR RECEPTION – included with registration (Grand Hall)	
	DINNER ON YOUR OWN	
9:00p–11:00p	HOSPITALITY SUITE (Lincoln)	

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use hashtag: #NHWC2015
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The conference theme reflects the racing heritage of the location; Indianapolis Motor Speedway

## QUICK VIEW AGENDA – THURSDAY JUNE 18, 2015

7:00a–12:00p	REGISTRATION					
8:00a–1:45p	EXHIBITS OPEN (Grand Hall)					
8:00a–8:30p	EXHIBITOR FOCUS and REFRESHMENTS (Grand Hall)					
	<b>EDISON NORTH</b> <b>WHERE THE RUBBER MEETS THE ROAD</b>	<b>EDISON SOUTH</b> <b>RULES OF THE ROAD: POLICIES AND PROCEDURES</b>	<b>C&amp;O</b> <b>FORECASTING THE FINISH</b>	<b>MILWAUKEE</b> <b>HIGH OCTANE: NEW TECHNOLOGY</b>	<b>ILLINOIS CENTRAL</b> <b>RACING LORE: STORM STORIES AND LESSONS LEARNED</b>	<b>NEW YORK CENTRAL</b> <b>DOWN THE ROAD: CLIMATE CHANGE</b>
<b>MODERATORS</b>	David Curtis, WEST Consultants	Chris Crompton, County of Orange	Ben Zoeller, Amec Foster Wheeler	Doug Hultstrand, Applied Weather Associates	Nathan Lefkowitz, Amec Foster Wheeler	Jim Moffitt, Twitter
8:30a–9:00a	Synopsis of the December 12, 2014 Camarillo Springs, CA and Pacific Coast Highway Flash Flood and Debris Flow Event Resulting from the May 2013 Springs Burn Area <i>Jayme Laber, National Weather Service</i>	Water Quality Regulation Impacts on Flood Control in Orange County, California <i>Chris Crompton, County of Orange</i>	Flood Warning for Spring Valley, Wisconsin <i>Ferris Chamberlin, U.S. Army Corps of Engineers</i>	High Water Operation System Modernizes Regional Flood Protection System <i>Barry Puskas, Miami Conservancy District</i>	Recent Flood Event in Houston – Lessons Learned <i>Steve Fitzgerald, Harris County Flood Control District</i>	Long-Range Streamflow and Snowpack Forecasting Using Hydro-Climatic Indices <i>Dimitry Smirnov, Dewberry</i>
9:00a–9:30a	The National Weather Service and the Iowa Flood Center: Working Together to Help Iowans Better Understand, Prepare for and Respond to Floods <i>Jeff Zogg, National Weather Service</i>	Flood Warning and Dissemination: How FEMA's CRS Program Evaluates a Community Flood Warning Program <i>Al Goodman, AWG Consulting</i>	Sacramento Soil Moisture Accounting Model for Urban Drainage and Flood Control District <i>Markus Ritsch, Water &amp; Earth Technologies, Inc.</i>	MetStorm™ Near Real-time Storm Precipitation Analytics <i>Katie Laro, MetStat, Inc.</i>	Rend Lake Dam Case Study, an Evaluation of Vibrating Wire Measurement Techniques <i>Sam Utley, Campbell</i>	Improving Flood-Frequency Analyses with Updated Regional Skews <i>Robert Mason, U.S. Geological Survey</i>
9:30a–10:00a	Smartphones are Changing National Weather Service Flood Safety and Warning Messages <i>Daniel Matusiewicz, National Weather Service</i>	Evolution of Post-Wildfire Services within the National Weather Service <i>Michael Schaffner, National Weather Service</i>	Modeling Flash Floods in Small and Medium Sized Catchments with Distributed Hydrological Model: Case Studies in Southern China <i>Yangbo Chen, Sun Yat-sen University, China</i>	Using High-Resolution Quantitative Precipitation Forecasts for Heavy Rainfall Prediction in Colorado <i>Dimitry Smirnov, Dewberry</i>	The Impact of Hurricane Arthur on the Albemarle-Pamlico Sound of North Carolina <i>David Herlong, North Carolina Department of Public Safety</i>	Status of U.S. National Flood Frequency Guidelines – Transition from Bulletin 17B to Bulletin 17C <i>Robert Mason, U.S. Geological Survey</i>
10:00a–10:45a	BREAK and EXHIBITOR FOCUS (Grand Hall)					
	<b>EDISON NORTH</b> <b>WHERE THE RUBBER MEETS THE ROAD</b>	<b>EDISON SOUTH</b> <b>RULES OF THE ROAD: POLICIES AND PROCEDURES</b>	<b>C&amp;O</b> <b>FORECASTING THE FINISH</b>	<b>MILWAUKEE</b> <b>HIGH OCTANE: NEW TECHNOLOGY</b>	<b>ILLINOIS CENTRAL</b> <b>RACING LORE: STORM STORIES AND LESSONS LEARNED</b>	
<b>MODERATORS</b>	Dave Gilbey, Aquatic Informatics	Robert Mason, U.S. Geological Survey	Alan Peebles, Alabama Power Company	Phillip Blonn, CH2M	Marie Peppler, U.S. Geological Survey	
10:45a–11:15a	Visualizing NOAA National Weather Service Forecasts and Services In Southern California Through the Use of ESRI Story Maps <i>Jayme Laber, National Weather Service</i>	Small Basin Flash Flooding in Puerto Rico and its Impact on Communities <i>Althea Austin-Smith, National Weather Service</i>	Near Real-Time Continuous Streamflow Simulation for Small Urban Watersheds in Northeastern Illinois <i>Terry Ortel, U.S. Geological Survey</i>	Innovative River Observations in Alaska <i>Scott Lindsey, National Weather Service</i>	Implementing a Siren System for a Multi-Agency Flood Warning System <i>Mike Dussere, WORD or Comal County, Texas</i>	
11:15a–11:45a	Risk Communication and Cognitive Bias <i>Tony Krause, U.S. Army Corps of Engineers</i>	Indy Rezone: Updating Codes to be More Sustainable, More Livable <i>Heather Williams, Amec Foster Wheeler; Tammara Tracy, City of Indianapolis Division of Planning</i>	Corps Water Management System (CWMS) for the Alabama-Coosa-Tallapoosa (ACT) River System. A Comprehensive and Integrative Tool for the Water Management Toolbox <i>Jeff Harris, WEST Consultants, Inc.</i>	Implementing a Camera System to Aid in Flood Monitoring <i>Bob Eitel, High Sierra Electronics</i>	DEFENS – DEbris and Flood Early warNing System <i>John Fulton, U.S. Geological Survey</i>	
11:45a–12:15p	Forecasting the 2013 Illinois River Record Floods <i>Jonathon Thornburg, National Weather Service</i>	Effective Flood Preparedness and Response: More Than Just Technology <i>Andrew Rooke, AMR Consults</i>	The Latest Advances in the U.S. Army Corps of Engineers' Corps Water Management System (CWMS) and Real-Time System (HEC-RTS) <i>Fauwaz Hanbali, U.S. Army Corps of Engineers</i>	Rationale for Advances in National Hurricane Center Products and Warnings <i>Richard Knabb, National Weather Service</i>	Addressing the Challenges of Distributed Hydrologic Modelling for Operational Forecasting <i>Steve Blake, DHI</i>	
12:15p–1:45p	LUNCH and FINAL EXHIBITOR PRIZES – included with registration (Grand Hall) Lunch speaker Richard Knabb, Director, National Hurricane Center					

## QUICK VIEW AGENDA – THURSDAY JUNE 18, 2015 (cont.)

	EDISON NORTH <b>WHERE THE RUBBER MEETS THE ROAD</b>	EDISON SOUTH <b>RULES OF THE ROAD: POLICIES AND PROCEDURES</b>	C&O <b>FORECASTING THE FINISH</b>	MILWAUKEE <b>HIGH OCTANE: NEW TECHNOLOGY</b>	ILLINOIS CENTRAL <b>PIT CREWS: FRAMEWORK FOR SUCCESS IN THE FIELD</b>
<b>MODERATORS</b>	Steve Fitzgerald, Harris County Flood Control District	Jayme Laber, National Weather Service	Brad Heilwagen, Amec Foster Wheeler	Rick Knabb, National Weather Service	Lex Kamstra, U.S. Bureau of Reclamation
1:45p–2:15p	Forecasts and Warnings vs. Monitoring: Which is Best for Your Organization? <i>Andrew Rooke, AMR Consults</i>	Certification Now Available for Flood Barriers <i>Charles Mahall, FM Approval</i>	Real-Time Flow/Stage Forecasting, Inundation Mapping and Decision Support for the Russian River Basin with CWMS 3.0 / HEC-RTS 3.0 <i>Bill Charley, U.S. Army Corps of Engineers</i>	Flood Warning Systems of the Future <i>Mike Zucosky, OneRain, Inc.</i>	Areal Reduction Factors for the Colorado Front Range and Analysis of the September 2013 Colorado Storm <i>Doug Hultstrand, Applied Weather Associates</i>
2:15p–2:45p	FloodWise: A Flash Flooding Emergency Management Tool <i>David Gilbey, Aquatic Informatics</i>	Show Me Your Validation – An Eye Towards Improving Flood Forecasting <i>Stuart Geiger, Dewberry</i>	Corps Water Management System (CWMS) National Implementation Plan <i>George Modini, U.S. Army Corps of Engineers</i>	Australian Bureau of Meteorology – Next Generation Hydrological & Flood Forecasting System – Ready For Operations <i>Robert Thompson, Bureau of Meteorology, AU</i>	Upgrade of Flood Early Warning System in Slovenia for Efficient Forecasting, Flood Mapping and Dissemination <i>Steve Blake, DHI</i>
2:45p–3:15p	Public Alerts and Warnings for Dam and Levee Safety Emergencies: What Really Matters? <i>William Lehman, U.S. Army Corps of Engineers</i>	Flood Forecast System in Santa Clara County <i>Nahm Lee, Santa Clara Valley Water District</i>	Roseville, CA, Flood Forecast and Emergency Response <i>Jeff Harris, WEST Consultants, Inc.</i>	Modernization of TVA's Forecasting Framework <i>Gabe Miller, Riverside Technology</i>	Introduction to the USGS HWM and Flood Event Database and Tools <i>Marie Peppler, U.S. Geological Survey</i>
3:15p–3:30p	<b>BREAK (Foyer)</b>				
	EDISON NORTH <b>HIGH SPEED: THE RISE OF SOCIAL MEDIA</b>	EDISON SOUTH <b>DOWN THE ROAD: CLIMATE CHANGE</b>	C&O <b>FORECASTING THE FINISH</b>	MILWAUKEE <b>HIGH OCTANE: NEW TECHNOLOGY</b>	ILLINOIS CENTRAL <b>PIT CREWS: FRAMEWORK FOR SUCCESS IN THE FIELD</b>
<b>MODERATORS</b>	Mike Zucosky, OneRain	Dimitry Smirnov, Dewberry	Chan Modini, U.S. Army Corps of Engineers	Jeff Harris, WEST Consultants	Moon Kim, U.S. Geological Survey
3:30p–4:00p	Should This Condition Worsen, the Following Areas Should Prepare to Evacuate... <i>Siavash Beik, Christopher B. Burke Engineering, LLC</i>	Those Rare, Heavy Rainfall Events Are Not So Rare Anymore: The Impacts of Increasingly Common Heavy Rainfall Events in Iowa <i>Jeff Zogg, National Weather Service</i>	Implementing a Real-Time Flood Forecast System with Inundation Mapping on the San Diego River <i>David Curtis, WEST Consultants</i>	Technologies for Next-Generation Real-Time Forecasting Systems <i>Karel Heynert, Deltas</i>	USGS Flood Inundation Mapping Program Updates <i>Marie Peppler, U.S. Geological Survey</i>
4:00p–4:30p	How the Colorado Flood Unfolded on Twitter <i>Jim Moffitt, Twitter</i>	Regional Precipitation Frequency Analysis for Four Storm Types in Tennessee Valley Watershed <i>Deborah Martin, Metstat</i>	The Road to a Successful CWMS Deployment <i>Benjamin Zoeller and Nathan Lefkowitz, Amec Foster Wheeler</i>	Overhauling the Hot Springs Flood Warning Information System <i>Joseph Fleming, U.S. Geological Survey</i>	Ensuring Operational Readiness <i>David Haynes, Distinctive Automated Flood Warning System Designs</i>
4:30p–5:00p	Early Warning of Toxic Spills for Drinking Water Suppliers in the Susquehanna River Basin <i>Kimberly Dagen, Susquehanna River Basin Commission</i>	A Case Study in Radar-Based Hydrology: The September Flood of 2013 <i>Kevin Stewart, Urban Drainage and Flood Control District; Baxter Vieux, Vieux, Inc.</i>	New Approaches in Flood Forecasting and Warning – Effective Flood Hazard Communication with Uncertain Forecasts <i>Murray Dale, CH2M Hill</i>	Results from the NWS Flash Flood Summit: Building a Community-Based Initiative for Modernized Operational Flash Flood Modeling and Forecasting <i>Kate Abshire, National Weather Service</i>	Water Risk in Drought: Being Proactive in a Reactive Situation <i>Alan Peebles, Alabama Power Company</i>
5:00p–5:30p	<b>NHWC ANNUAL BUSINESS MEETING (C&amp;O)</b>				
6:00p–9:00p	<b>NHWC AWARDS BANQUET with door prizes – included with registration (Illinois Street Ballroom)</b>				
9:00p–11:00p	<b>HOSPITALITY SUITE (Lincoln)</b>				

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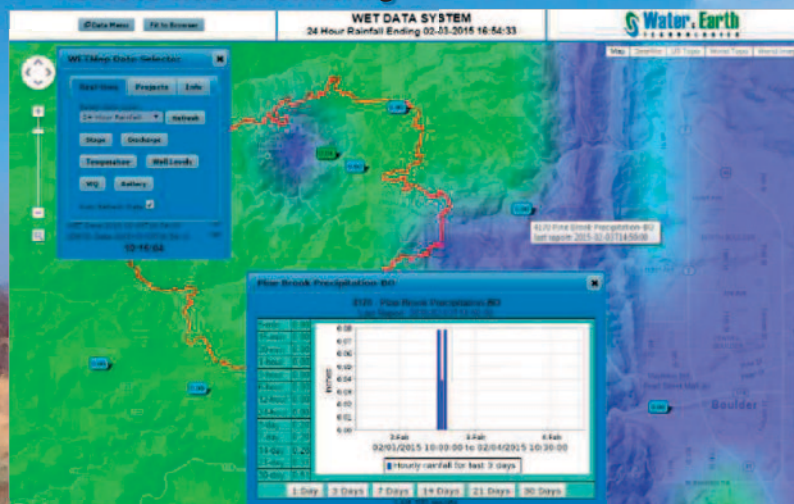
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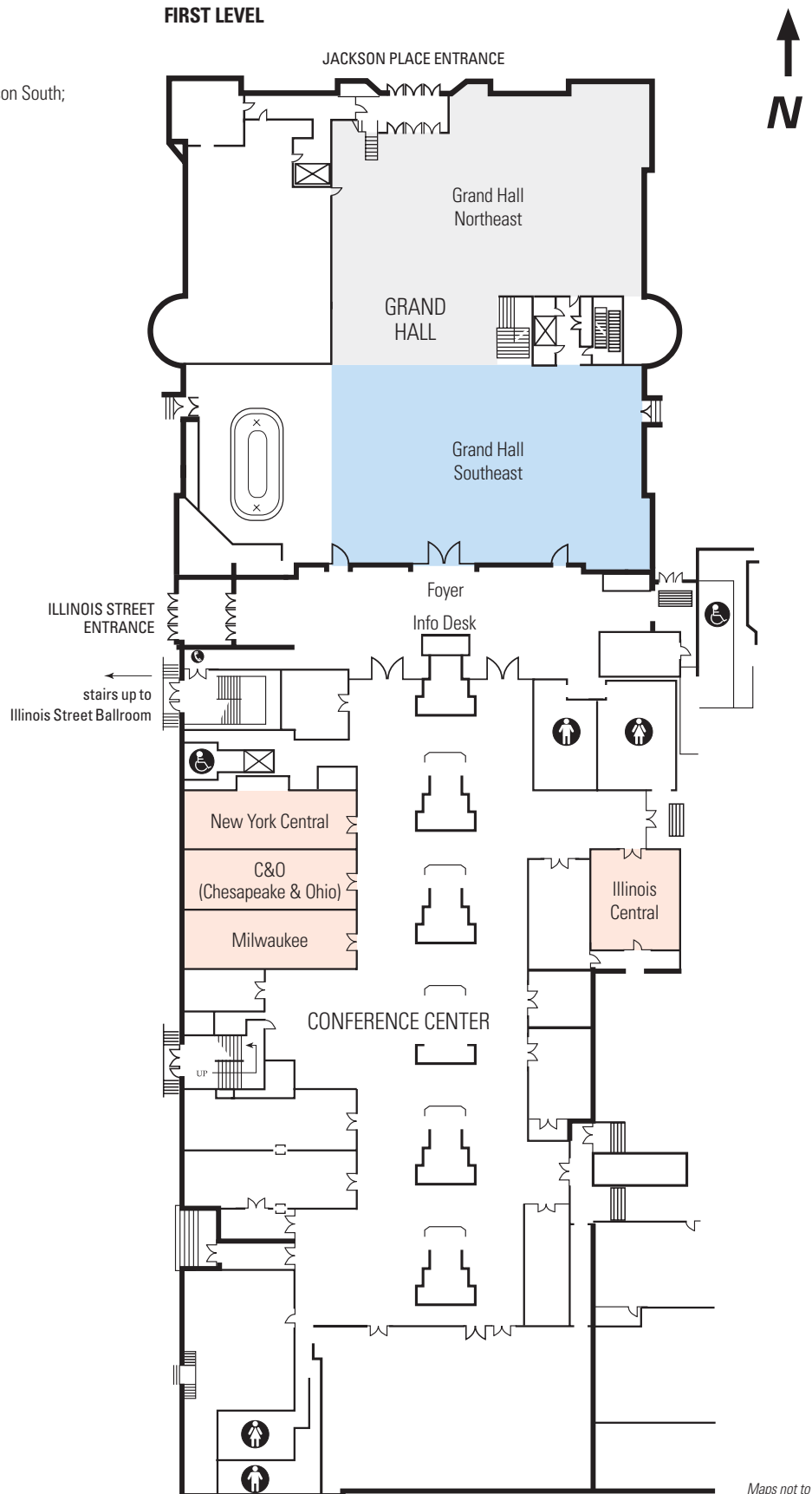


## CONFERENCE FLOORPLAN – UNION STATION

### FIRST LEVEL

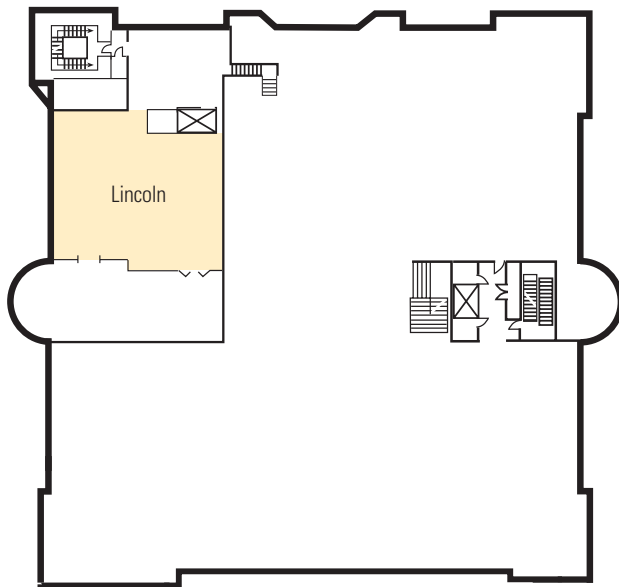
- Conference Sessions in C&O; Edison North; Edison South; Illinois Central; Milwaukee; New York Central
- Exhibits in Grand Hall Southeast
- Lunches in Grand Hall Northeast
- General Sessions and Thursday Night Banquet in Illinois Street Ballroom
- Hospitality Suite in Lincoln

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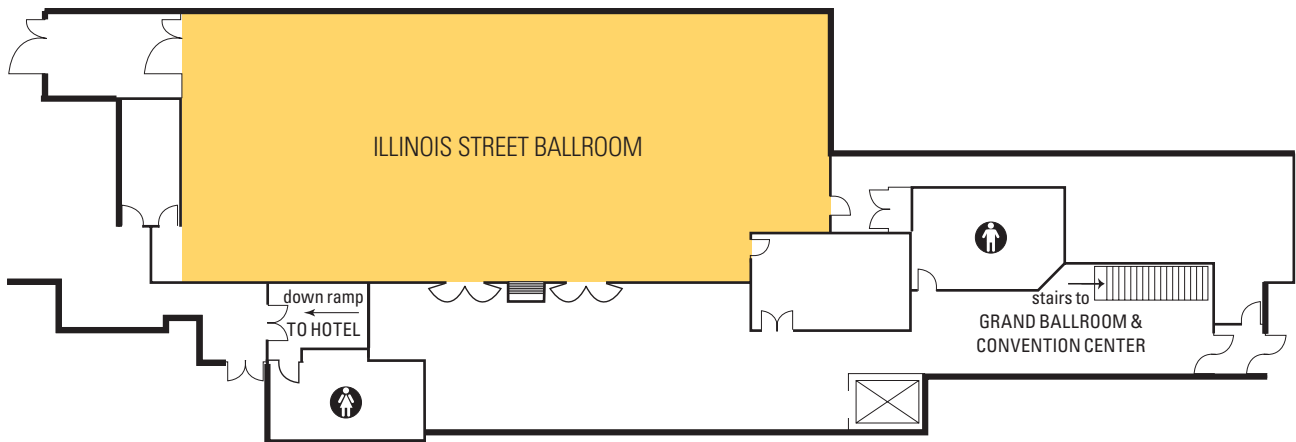
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GRAND HALL SECOND LEVEL

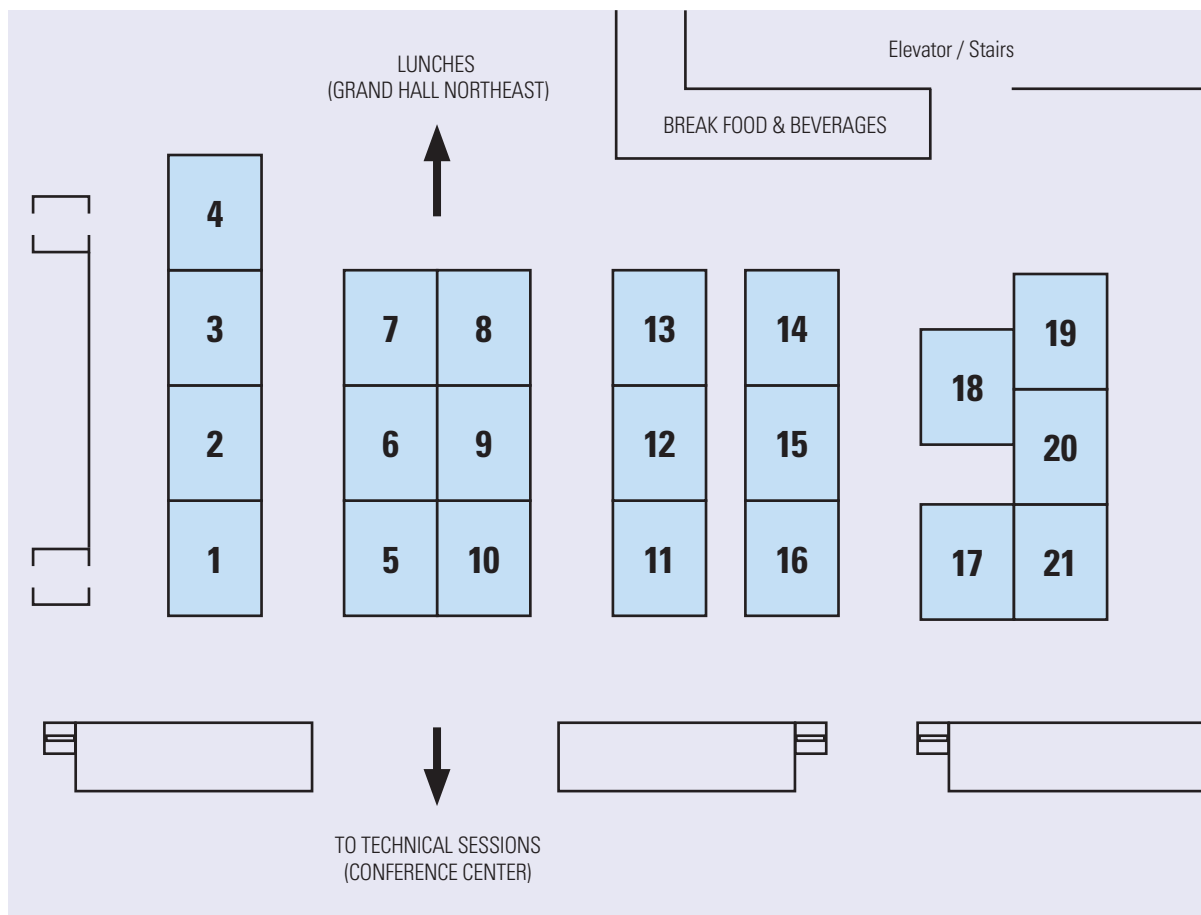


SECOND LEVEL





## EXHIBITOR FLOORPLAN – GRAND HALL SOUTHEAST



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FTS	12
GEONOR, Inc.	1
High Sierra Electronics	16
HydroLynx Systems, Inc.	5
NOAA National Weather Service	15
OneRain	10

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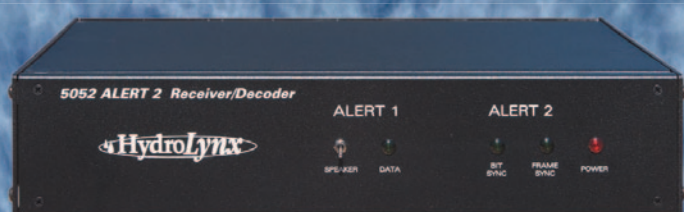
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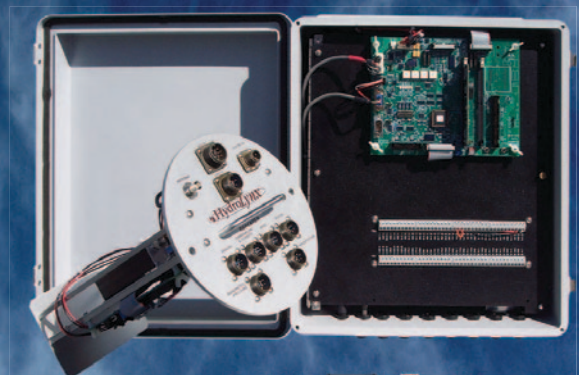
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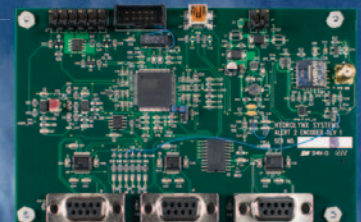
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