

Curriculum Vitae Christopher R. Hanstad, P.E., CFM, MSCE

CONTACT INFORMATION

Chris Hanstad

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Office: 3301 Lakeshore Drive, Champaign, IL 61822

AREAS OF EXPERTISE – CIVIL ENGINEERING

- FEMA Floodway Violations
- Stormwater Analysis
- Flood Loss Avoidance Studies
- Drainage Analysis
- Flood Damage Assessment Modeling

- Letters of Map Revisions (LOMRs)
- Hydrologic and Hydraulic Analysis
- Floodplain Modeling
- Flood Insurance Studies
- Precipitation Analysis

QUALIFICATIONS

Education University of Illinois at Urbana Champaign

Bachelor of Science in General Engineering, 2008 Master of Science in Civil Engineering, 2016

Emergency Management Institute

Managing Floodplain Development Through the NFIP, August 2010

Active Registrations Illinois Licensed Professional Engineer, License No. 062065692

Indiana Licensed Professional Engineer, License No. PE11800582 Kentucky Licensed Professional Engineer, License No. 39979 Wisconsin Licensed Professional Engineer, License No. 46881-6

Certified Floodplain Manager, IL-10-00536

Professional Memberships Illinois Association for Floodplain and Stormwater Management

Champaign Urbana Hydraulic Engineers Luncheon

American Society of Civil Engineers

PROFESSIONAL EXPERIENCE SUMMARY

Senior Hydraulic Engineer

2022 to Present

Associate Research Scientist, Water Resources Engineering University of Illinois, Prairie Research Institute, Illinois State Water Survey, Coordinated Hazard Assessment and Mapping Program (CHAMP)

- Senior Hydraulic Engineer
 - Lead and oversee CHAMP engineering team and a multi-million hydrologic and hydraulic project collection.
 - Lead interdisciplinary team of engineers, GIS professionals, outreach professionals, and undergraduate assistants to complete engineering projects funded by the Federal Emergency Management Agency (FEMA)
 - Lead and direct CHAMP Project Engineers in successful completion of FEMA funded engineering projects
 - Turtle Creek Floodplain Data Development
 - o New hydraulic analysis for Turtle Creek in Illinois and Wisconsin
 - 3 miles of updated Zone AE HEC-RAS modeling
 - Kishwaukee Watershed (Phase 1) Floodplain Data Development
 - New and updated hydrologic and hydraulic analysis for select streams in Kishwaukee Watershed
 - 15 miles of updated Zone A HEC-RAS modeling for Kishwaukee River
 - Bureau County Floodplain Data Development
 - o New and updated hydrologic and hydraulic analysis for Bureau County
 - o 502 miles of new or updated HEC-RAS modeling for Zone A streams
 - o 7 miles of new or updated HEC-RAS modeling for Zone AE streams
 - Macoupin County Floodplain Data Development
 - New and updated hydrologic and hydraulic analysis for Macoupin County
 - 357 miles of new or updated HEC-RAS modeling for Zone A streams
 - 16 miles of new or updated HEC-RAS modeling for Zone AE streams
 - Richland County Floodplain Data Development
 - New hydrologic and hydraulic analysis for northeastern Richland County
 - 104 miles of new or updated HEC-RAS hydraulic modeling for Zone A streams
 - Stark County Floodplain Data Development
 - o New and updated hydrologic and hydraulic analysis for Stark County
 - 199 miles of new and updated HEC-RAS hydraulic modeling for Zone A streams
 - McDonough County Floodplain Data Development
 - New hydrologic and hydraulic analysis for McDonough County, IL
 - 251 miles of new or updated HEC-RAS hydraulic modeling for Zone A streams; 21 miles of new Zone AE HEC-RAS hydraulic modeling
 - White County Floodplain Data Development
 - New hydrologic and hydraulic analysis for Little Wabash River in White County, IL

- o 58 miles of new or updated Zone AE HEC-RAS hydraulic modeling
- Nippersink County Floodplain Data Development
 - New hydrologic and hydraulic analysis for Nippersink Creek and select tributaries in McHenry County, IL
 - 25 miles of new or updated Zone AE HEC-RAS hydraulic modeling
- Middle and Lower Wabash Floodplain Data Development
 - New hydrologic and hydraulic analysis for Wabash River mainstem and tributaries
 - 190 miles of new or updated Zone AE HEC-RAS hydraulic modeling for the Wabash River; 462 miles of new or updated Zone A HEC-RAS hydraulic modeling for Wabash River tributaries
- Peoria County Floodplain Data Development
 - New hydrologic and hydraulic analysis for Zone AE streams in Peoria County, IL
 - 71 miles of new or updated Zone AE HEC-RAS hydraulic modeling
- Alexander/Pulaski County Floodplain Data Development
 - New hydrologic and hydraulic analysis for Zone A and Zone A streams in Alexander and Pulaski County, IL
 - 35 miles of new or updated HEC-RAS hydraulic modeling for Zone A and Zone AE streams
- Little Wabash Floodplain Data Development
 - New hydrologic and hydraulic analysis for Zone AE streams in Little Wabash HUC-8 watershed
 - 1,140 miles of new or updated HEC-RAS hydraulic modeling for Zone A streams; 45 miles of new or updated Zone AE HEC-RAS hydraulic modeling
- Rock River Floodway Data Development
 - New and updated hydrologic and hydraulic analysis for Zone AE streams in Lower Rock HUC-8 watershed
 - 192 miles of new or updated HEC-RAS hydraulic modeling for Zone A streams; 83 miles of new or updated Zone AE HEC-RAS hydraulic modeling
- Organize and facilitate bi-weekly hydrologic and hydraulic team meetings
- Organize and facilitate monthly meetings with CHAMP project managers to prepare status update report to FEMA
- Attend monthly meetings with FEMA, Illinois Department of Natural Resources (IDNR), and Regional Service Center (RSC) staff and provide progress report on all CHAMP engineering projects
- Develop workflows and best practices for engineering team, review annual FEMA standards and guidance changes, and oversee CHAMP engineering team adherence to current standards and guidance
- Review reports prepared by engineering team
 - Hydrologic and Hydraulic technical reports for FEMA floodplain mapping projects

- Metropolitan Water Reclamation District of Greater Chicago Watershed-Specific Release Rate Analysis Phase III: Cook County, Illinois. ISWS Contract Report 2022-03 440 pages (Byard et al., 2022)
- Assist CHAMP Section Head with preparation of FEMA project proposals, planning, and staff allocation
- Principal Investigator
 - Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR) Review Partners Program
 - Prepare annual grant application to FEMA (\$160,000 \$277,500 annually)
 - Lead and direct LOMR Review Partners team staff in the review, processing, and postprocessing of LOMR applications
 - Prepare quarterly progress reports for FEMA
 - Attend monthly meetings with FEMA staff to provide status updates
- Project Engineer
 - Federal Emergency Management Agency (FEMA) Floodplain Data Development Projects Direct project management responsibilities to complete hydrologic and hydraulic data development projects in adherence to FEMA standards and guidelines
 - Henry County Green River Extension Floodplain Data Development
 - 9 miles of updated Zone A HEC-RAS modeling (2-dimenssional)
 - Rock Island County Floodplain Data Development
 - 9 miles of new and updated Zone AE hydrologic and hydraulic analysis to support floodplain mapping
 - Johnson County Floodplain Data Development
 - 244 miles of new and updated Zone A and 9 miles of Zone AE hydrologic and hydraulic analysis to support floodplain mapping
 - Massac County Floodplain Data Development
 - 35 miles of new and updated Zone A and 11 miles of Zone AE hydrologic and hydraulic analysis to support floodplain mapping
 - Pope County Floodplain Data Development
 - 282 miles of new and updated Zone A hydrologic and hydraulic analysis to support floodplain mapping
 - Bond County Floodplain Data Development
 - 200 miles of new and updated Zone A and 9 miles of new Zone AE hydrologic and hydrologic analysis to support floodplain mapping
- Hydraulic and Hydrologic Engineer
 - Federal Emergency Management Agency (FEMA) Floodplain Data Development Projects
 - Perform Hydrologic Modeling and Analysis
 - South Branch Kishwaukee River at Fairdale stream gage analysis, Green River at Geneseo stream gage analysis, Green River at Amboy stream gage analysis
 - Madigan Creek HEC-HMS model, Manning Creek HEC-HMS model, Little Cache Creek HEC-HMS model, Kyte and Eckart Creek HEC-HMS model
 - Perform Independent Hydrologic Reviews
 - Kishwaukee River at Belvidere stream gage analysis, Kishwaukee River near Perryville stream gage analysis, Piscasaw Creek stream gage analysis, Coon

- Creek stream gage analysis, South Branch Kishwaukee River at Fairdale stream gage analysis, Killbuck Creek stream gage analysis
- Massac Creek HEC-HMS model, Candlewick Lake HEC-HMS model, Bull Run HEC-HMS model
- Perform Hydraulic Modeling and Analysis
 - East Branch Kishwaukee River 2-dimensional HEC-RAS model, Kishwaukee River 1-Dimensional HEC-RAS model, Little Cache Creek 1-Dimensional HEC-RAS model, Cache River 2-Dimensional HEC-RAS model, Kyte and Eckhart Creek 1-and 2-Dimensional HEC-RAS model, Green River 2-Dimensional HEC-RAS model, Walnut Creek and Tributaries 1-Dimensional HEC-RAS model, Dutchman Creek 1-Dimensional HEC-RAS model
- Perform Independent Hydraulic Technical Reviews
 - North and South Spring Creek 1-Dimensional HEC-RAS model, Big Bureau Creek 1-Dimensional HEC-RAS model, East Bureau Creek 1-Dimensional HEC-RAS model, West Bureau Creek 1-Dimensional HEC-RAS model, Big Grand Pierre Creek 1-Dimensional HEC-RAS model, Bay Creek 1-Dimensional HEC-RAS model, Lusk Creek 1-Dimensional HEC-RAS model
- Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR) Review Partners Program
 - Review and Process Letter of Map Revision (LOMR) Applications Ensure technical and regulatory compliance of application submittals
 - 37 applications directly reviewed and processed

LOMR Project Engineer

2019 to 2022

Assistant Research Scientist

University of Illinois, Prairie Research Institute, Illinois State Water Survey, Coordinated Hazard Assessment and Mapping Program (CHAMP)

- Principal Investigator
 - Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR) Review Partners Program
 - Prepare annual grant application to FEMA (\$305,000 \$370,000 annually)
 - Lead and direct LOMR Review Partners team staff in the review, processing, and postprocessing of LOMR applications
 - Prepare quarterly progress reports for FEMA
- Hydrologic and Hydraulic Engineer
 - Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR) Review
 Partners Program
 - Review and Process Letter of Map Revision (LOMR) Applications Ensure technical and regulatory compliance of application submittals
 - 60+ applications directly reviewed and processed
 - Federal Emergency Management Agency (FEMA) Floodplain Data Development Projects
 - Perform Hydrologic Modeling and Analysis
 - Kickapoo Creek at Peoria stream gage analysis, Kickapoo Creek near Kickapoo stream gage analysis, Shoal Creek near Pierron stream gage analysis

- Kickapoo Creek and Tributaries HEC-HMS model, Elliot Creek and Tributaries HEC-HMS model, Beaver Creek and tributaries HEC-HMS model
- Perform Independent Hydrologic Reviews
 - Springdale Creek HEC-HMS model review, Boyds Hollow Creek HEC-HMS model review, Poppet Hollow Creek HEC-HMS model review
- Perform Hydraulic Modeling and Analysis
 - Fargo Run and Tributaries 1-dimensional HEC-RAS model and floodway analysis; Elliot Creek Tributaries 1-dimensional HEC-RAS model and floodway analysis
- Perform Independent Hydraulic Reviews
 - Dry Run Creek 1-dimensional HEC-RAS model review, Shoal Creek 1dimensional HEC-RAS model review
- o Illinois Department of Commerce and Economic Opportunity
 - Village of Shorewood, Illinois Loss Avoidance Study
 - Performed the hydraulic modeling analysis for the DuPage River at Shorewood

Founder and President, Hanstad Engineering Services

2018 to Present

Founded in 2018 to provide consulting and expert services in the field of hydrologic and hydraulic engineering. Provided expert witness and litigation support analysis to both plaintiffs and defendants in civil litigation involving drainage disputes, flood damages, floodplain management, and flood forensics. Services include providing site investigations, written reports, and expert testimony.

LOMR Project Manager

2010 to 2019

University of Illinois, Prairie Research Institute, Illinois State Water Survey, Coordinated Hazard Assessment and Mapping Program (CHAMP)

- Principal Investigator and Co-Principal Investigator
 - Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR) Review Partners Program
 - Prepare annual grant application to FEMA (\$270,000 \$305,000 annually)
 - Lead and direct LOMR Review Partners team staff in the review, processing, and postprocessing of LOMR applications
 - Prepare quarterly progress reports for FEMA
- Hydrologic and Hydraulic Engineer
 - Federal Emergency Management Agency (FEMA) Letter of Map Revision (LOMR) Review Partners Program
 - Review and Process Letter of Map Revision (LOMR) Applications Ensure technical and regulatory compliance of application submittals
 - 125+ applications directly reviewed and processed
 - o Federal Emergency Management Agency (FEMA) Floodplain Data Development Projects
 - Perform Hydrologic Modeling and Analysis
 - Little Wabash River near Effingham stream gage analysis, Little Wabash River below Clay City stream gage analysis, Little Wabash River at Carmi stream gage analysis, Little Wabash River at Louisville stream gage analysis

- Little Wabash River HEC-HMS model, Big Creek Tributary A HEC-HMS model, Salt Creek and tributaries HEC-HMS model, Elm Creek Tributary A HEC-HMS model, Seminary Creek HEC-HMS model; Poplar Creek HEC-HMS modeling
- Perform Independent Hydrologic Reviews
 - Main Ditch HEC-HMS model review, Big Creek HEC-HMS model review
- Perform Hydraulic Modeling and Analysis
 - Mill Creek 1-dimensional modeling updates and floodway analysis, Tinley
 Creek 1-dimensional modeling updates and floodway analysis
- Perform Independent Hydraulic Reviews
 - Joliet, IL 2-dimensional overflow HEC-RAS model review, Keith Creek 1dimensional HEC-RAS model review
- Federal Emergency Management Agency (FEMA) Community Engagement and Risk Communication (CERC) Project
 - Hydrologic and Hydraulic analysis for 6th Avenue Basin in City of Fulton, Whiteside County CERC project. Drainage assessment and mitigation evaluation
- Metropolitan Water Reclamation District of Greater Chicago Watershed Specific Release Rate Phase II Project
 - Performed 1-Dimensional unsteady HEC-RAS modeling review and enhancements for the Des Plaines River and tributaries to determine watershed specific release rates for Cook County, IL
- Illinois Department of Commerce and Economic Opportunity
 - Structure Specific Flood Risk Assessment Studies
 - Hydraulic modeling of Illinois and Fox Rivers for risk assessment for Ottawa,
 IL
 - Hydraulic modeling in Peoria County for risk assessment
- o Illinois Emergency Management Agency Loss Avoidance Study
 - Hydraulic assessment of Mississippi River for Keithsburg, IL Loss Avoidance Study

Mapping Engineering

2008-2010

University of Illinois, Prairie Research Institute, Illinois State Water Survey, Map Modernization Program (MAPMOD)

- Mapping Engineer
 - Federal Emergency Management Agency (FEMA) Map Modernization Projects
 - Performed research, data collection, engineering support to develop Digital Flood
 Insurance Rate Maps for the following counties:
 - Boone, Cook, Douglas, DuPage, Grundy, Henry, Kane, Kankakee, Lake, LaSalle, Lee, Macon, Ogle, Stephenson, and Will Counties

AutoCAD Intern 2006-2008

Illinois Department of Natural Resources, University of Illinois, Illinois State Water Survey, Map Modernization Program (MAPMOD)

- AutoCAD Intern
 - o Federal Emergency Management Agency (FEMA) Map Modernization Projects

 Prepare report quality flood profiles for countywide Flood Insurance Study reports published on behalf of FEMA.

EXPERT WITNESS QUALIFICATIONS

As the leader for LOMR Review Partner program in Illinois for 10 years, I have personally made determination decisions for hundreds of LOMR applications. These applications were approved or denied based on whether they met rigorous floodplain modeling technical standards and whether floodplain projects comply with National Flood Insurance Program (NFIP) regulations. My approval of a LOMR application would result in a revision to FEMA floodplain maps.

My strength as an investigator is my ability to critique technical analyses from a wide array of engineers and formally communicate technical deficiencies in a clear and professional manner.

I have in-depth knowledge of the NFIP regulations that pertain to non-compliant development or construction in the floodway and have practical experience evaluating the flood risk impacts of non-compliant floodway construction. I have personally made 7 floodway violation recommendations to FEMA. My work has often involved the simulation of historic flood events to verify the adequacy of models to predict flooding and evaluate the human impacts on flooding.

I rely on time-tested engineering methods while also incorporating the latest advances in both data and technology to perform my technical analyses. In addition to making LOMR application determinations, I regularly perform floodplain modeling analysis, often recreating observed flood conditions to validate an analysis or estimate flood losses.

EXPERT WITNESS EXPERIENCE

Flooding Due to Private Floodway Violation, Salem, IN – 2018

Private Property Drainage Issue in Cary, IL - 2019

Floodway Permitting Dispute in Goshen, IN – 2020

Jordan Lake Flooding for Bagurdes v. Town of Jackson, WI – 2021

Riparian access dispute on Little Fork Lake, WI – 2021

Private Property Drainage Dispute in Western Springs, IL – 2021 (testified)

Private Property Drainage Dispute in Wheaton, IL - 2021

Flooding Resulting from Construction Project in Hinsdale, IL - 2021

Personal Injury Resulting from Private Drainage Dispute in Anderson, IN - 2024

Floodplain Management Dispute in Bossier Parish, LA - 2024

PUBLICATIONS/SCHOLARSHIP

SERVICE-PROGRAM Reports and publications authored, co-authored, and/or contributed to which were independently reviewed by other Illinois State Water

Survey engineers or researchers.

Hydrologic and Hydraulic Modeling and Floodplain Mapping for Streams in Johnson, Massac, and Pope Counties.

ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, lead author, June 2024.

- Hydrologic and Hydraulic Modeling and Floodplain Mapping for the Cache Valley.

 ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed,

 Christopher Hanstad, lead author, June 2024.
- Hydrologic and Hydraulic Modeling and Floodplain Mapping for Streams in Bureau, Henry, Whiteside, and Lee Counties, Illinois.
 - ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, contributor July 2024.
- Hydrologic Modeling for HUC 8 Streams in the Kishwaukee Watershed Winnebago, Ogle, DeKalb, Boone, Kane, & McHenry County, Illinois Phase 1
 ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed,
 Christopher Hanstad, second author, November 2024.
- Hydraulic Modeling of Kishwaukee River for Winnebago, Boone, and McHenry Counties
 ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed,
 Christopher Hanstad, lead author, November 2024.
- Hydrologic and Hydraulic Modeling and Floodplain Mapping for Peoria County, Illinois. ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, second author. April 2023 (Revised January 2024).
- Hydraulic Modeling and Floodplain Mapping for Wabash River. ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, lead author, April 2023.
- Hydrologic and Hydraulic Modeling and Floodplain Mapping for Bond County, Illinois. ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, lead author. August 2021.
- Hydrologic and Hydraulic Modeling and Floodplain Mapping for Salt Creek and Tributaries, Little Wabash River, Tributary N and Tributaries, Little Wabash River Tributary O, and Big Creek Tributary A, Effingham County, Illinois. ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, lead author. May 2021.
- Hydrologic and Hydraulic Modeling and Floodplain Mapping for Little Wabash River, Elm Creek Tributary A and Tributaries, and Seminary Creek, Clay County, Illinois. ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, second author. February 2021.
- <u>Village of Shorewood, Illinois. Loss Avoidance Study</u>. Lisa Graff, Rebecca Leitschuh, Brad McVay, Chris Hanstad, Mary Richardson. ISWS Contract Report 2020-02. 96 pages. September 2020.
- Hydrologic and Hydraulic Modeling and Floodplain Mapping for Elliot Creek, Center Tributary, and North Tributary, Village of Crossville, White County, Illinois. ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, lead author. August 2020.
- Flood Insurance Study. DuPage County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. August 2019.
- Hydrologic Analysis for the Little Wabash River. ISWS Technical Report to the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, lead author. May 2019.
- Watershed-Specific Release Rate Analysis: Cook County, Illinois. Amanda Flegel, Gregory Byard, Sally McConkey, **Christopher Hanstad**, Nicole Gaynor, Zoe Zaloudek. ISWS Contract Report 2019-06. 396 pages. March 2019.

- Flood Insurance Study. Will County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. February 2019.
- Flood Insurance Study. Lake County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. September 2013.
- Flood Insurance Study. Grundy County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. August 2012.
- Flood Insurance Study. LaSalle County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. July 2011.
- Flood Insurance Study. Henry County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. June 2011.
- Flood Insurance Study. Macon County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. June 2011.
- Flood Insurance Study. Douglas County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. May 2011.
- Flood Insurance Study. Stephenson County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. March 2011.
- Flood Insurance Study. Boone County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. February 2011.
- Flood Insurance Study. Ogle County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. December 2010.
- Flood Insurance Study. Lee County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. April 2010.
- Flood Insurance Study. Kankakee County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. January 2010.
- Flood Insurance Study. Kane County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, Mapping Engineer. August 2009.
- Flood Insurance Study. Cook County, Illinois. ISWS prepared report on behalf of the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, AutoCAD intern. August 2008.

EXTERNAL-PROGRAM Technical papers and publications authored, co- REPORTS authored, and/or contributed to which were independently reviewed.

Regulatory Framework Analysis for 2D Modeling: Evaluation of Key CFR Sections and their Implications for Product Development. 2D IPT Regulating Subgroup Committee

Prepared for the Federal Emergency Management Agency. Authors not listed, **Christopher Hanstad**, contributor, 2024.

ACADEMIC PRESENTATIONS

Illinois State Water Survey Seminar Series

November 2023

Cache River: Complexity and 2-Dimensional Hydrodynamic Modeling.

Chris Hanstad and Laura Keefer

Illinois Association for Floodplain and Stormwater Management

March 2023

Common LOMR Application Issues. 2023 State Conference.

Association of State Floodplain Managers

May 2021

Cache River Valley 2D Floodplain Analysis. 2021 National Conference.

Illinois Association for Floodplain and Stormwater Management

March 2021

Cache River Valley 2D Floodplain Analysis. 2021 State Conference (awarded best presentation)

Illinois Association for Floodplain and Stormwater Management

June 2020

LOMRs and RAS Mapper. **Chris Hanstad** and Brian Chaille. Young Professional Committee Webinar.

Federal Emergency Management Agency Region 5 State Partners

Meeting November 2019

Illinois LOMR Review Partners Program. Fall 2019 Conference. Chicago, IL

Illinois Association of County Engineers

October 2019

Floodplain Mapping for County Engineers. East Peoria, IL

Illinois Association for Floodplain and Stormwater Management

March 2019

Community Rights and Responsibilities for Floodplain Mapping. 2019 State Conference. East Peoria,

Illinois Association for Floodplain and Stormwater Management

March 2016

Revising Your Maps: Insights for Communities on the CLOMR/LOMR Process. Chris Hanstad and

Brian Chaille. 2016 State Conference. Tinley Park, IL.

Illinois Association for Floodplain and Stormwater Management

March 2013

Flood Insurance Map Revisions. Chris Hanstad and Brian Chaille. 2013 State Conference. Normal,

WORKSHOPS

IL.

Illinois Association for Floodplain and Stormwater Management

March 2022

NFIP 101 Online Workshop. Assistant Presenter.

Illinois Association for Floodplain and Stormwater Management

September 2021

NFIP 101 Online Workship. Assistant Presenter.

Illinois Association for Floodplain and Stormwater Management

September 2019

Floodplain 101. Assistant Presenter. Wheaton, IL

Illinois Association for Floodplain and Stormwater Management

March 2019

Floodplain 101. Assistant Presenter. East Peoria, IL.

Updated: February 16, 2025