

## ***Select Professional Presentations***

- Ray, AJ** et al. 2024. *The NOAA Testbeds and Proving Grounds: Role in Advancing Hazards Forecasting for Decision Support*. Presentation at the 2024 American Meteorological Society meeting.  
<https://ams.confex.com/ams/104ANNUAL/meetingapp.cgi/Paper/430965>
- Ray A.J. *R2X Collaboration Plans at the Physical Sciences Laboratory*. Presentation at the 2024 American Meteorological Society meeting.  
<https://ams.confex.com/ams/104ANNUAL/meetingapp.cgi/Paper/431094>
- Ray, AJ, Castillo, J, et al. 2022. *Improving Resilience of Fish Passage to Climate Change: NMFS West Coast Guidance (ID#661)*, In session: Linking Aquatic Organism Passage and Climate Resiliency. Presentation at the American Fisheries Society Meeting, August 2022.
- Ray, AJ. 2021. Service to Research and Back Again at the NOAA Physical Sciences Laboratory: Challenges and Lessons Learned. Presentation at the 2021 American Meteorological Society meeting.  
<https://ams.confex.com/ams/101ANNUAL/meetingapp.cgi/Paper/381254>
- Ray, Andrea J.** and Lynn Johnston. 2020. *Fishing for Applications of S2S Forecasting*. In joint session on Challenges in Communication and Decision Support throughout the Research-to-Operations Nexus. Presentation at the 2020 meeting of the American Meteorological Society.  
<https://ams.confex.com/ams/2020Annual/meetingapp.cgi/Paper/366909>
- Ray, AJ**, L Johnson. 2019. *PSD water science for NOAA resource management missions: Opportunities for research to applications*. Invited presentation at the Physical Sciences Division (now Laboratory) Water Workshop, March 7, 2019.
- Ray, AJ**. 2018. Opportunities to connect climate science to marine resources and an example: NMFS climate needs for hydropower licensing. Invited presentation at the PSD Marine Resources Workshop, 4 Dec 2018.
- Ray, AJ**, J Kim, L Johnson. 2018. Informing PSD science to develop stakeholder-usable subseasonal to seasonal (S2S) products. Invited presentation at the PSD S2S/Extremes Workshop, 9 Nov 2018.
- Ray, A.J.**, Barsugli, J.J., and Walker, Susan, Integrating Climate Resiliency into Hydropower Licensing and Design of Fish Passage, Presentation at the 2019 joint American Fisheries Society-The Wildlife Society Annual Meeting, Reno, NV.  
<https://afs.confex.com/afs/2019/poster/papers/index.cgi?username=37627&password=374257> (click “view submission”)
- Barsugli, Joseph J., **Ray, A.J. (presenter)**, Livneh, B. Dewes, C.F., Heldmyer, A., Rangwala, I., Guinotte, J.M., Torbit, S. High-Resolution Projections of Snowpack Persistence in Occupied and Potential Wolverine Habitat in the Rocky Mountains, Presentation at the 2019 joint American Fisheries Society-The Wildlife Society Annual Meeting, Reno, NV.  
<https://afs.confex.com/afs/2019/twscontributed/papers/index.cgi?username=36837&password=597821>
- Ray, A.J.**, Barsugli, J.J., Ojima, D. et al. (2019) Improving Ecological Vulnerability Assessments Through Deliberate Collaboration between Ecologists and Climate

- Scientists. Presentation at AGU 2018 Annual Meeting, Washington, D.C.  
<https://agu.confex.com/agu/fm18/meetingapp.cgi/Paper/436943>
- Yocum, H.M. and **Ray, A.J. (presenter)**. (2018) Closing science information gaps to support wildlife management and natural resource decision making: a case study from the Prairie Potholes Region. Presentation at AGU 2018 Annual Meeting, Washington, D.C. <https://agu.confex.com/agu/fm18/meetingapp.cgi/Paper/466777>
- Ray, Andrea J. and Heather M. Yocum. 2017. **Stakeholder engagement at different stages in the research to applications (R2A) pathway**. Presentation at the 2017 NOAA Climate Prediction Assessment Workshop, May 2017, Anchorage, AK
- Ray, Andrea J, Michelle Stokes, Ashley Nielson, Rob Hartman, Joe Intermill, Heather Yocum, Russell Vose, Michael Kruk, and Dave Miskus. 2017. **The National Water Resources Monitoring and Outlook: a new national scale product for timely water intelligence**, Presentation at the 2017 meeting of the American Meteorological Society, Seattle, WA. Extended Abstract 5A.4, <https://ams.confex.com/ams/97Annual/webprogram/Paper314921.html>
- Hobbins, Michael, Daniel McEvoy, Justin Huntington, Andrea Ray, Heather Yocum, Imtiaz Rangwala, Candida Dewes and Jeff Lukas. **The Evaporative Demand Drought Index (EDDI): a New Drought Monitoring and Early Warning Tool**, Presentation at AMS 2017.
- Ray, A.J. and Joseph Barsugli, Sue Walker, Josh Gange, Sean McDermott, Sage Lagron. Hydropower Licensing as a Bridge between Climate Science and Applications: **Creating Actionable Science for Regulatory Decisionmaking**, # PA33D-04: AGU 2016, San Francisco, CA.  
<https://agu.confex.com/agu/fm16/meetingapp.cgi/Paper/189401>
- Lagron, Camille Sage, Andrea J. Ray, and Joseph J. Barsugli. 2016. **Anticipating impacts of climate change on fish habitat to support decisionmaking in hydropower licensing: a climate risk study for the Hiram Dam, Saco River, ME**. # PA43B-2195: AGU Annual Meeting, San Francisco, CA.  
<https://agu.confex.com/agu/fm16/meetingapp.cgi/Paper/166729>
- Ray, Andrea J. Invited panelist, Panel on **Needs for and Scientific Feasibility of Local & Regional Seasonal Precipitation Predictions**. 2016 NOAA Climate Prediction Assessment Workshop, March 2016, Burlington, VT.
- Ray, AJ. 2016. **Research to Applications in Action: Some examples from PSD-ESRL**. Presentation at the 2016 NOAA Climate Prediction Assessment Workshop, March 2016, Burlington, VT.
- Ray, AJ, Amy Symstad, Brian Miller, Nicholas Fisicheli, Gregor Schuurman, Jonathan Friedman, Erika Rowland. 2015. **Scaling Climate Change Adaptation in the Northern Great Plains through Regional Climate Summaries and Local Qualitative-quantitative Scenario Planning Workshops**, in session: Global Change Scenarios for the United States: Current Activities and Future Directions in Content and Methods For Research, Assessment, and Decision Support I. AGU 2015 Annual Meeting, ePoster GC21E-05.  
<https://agu.confex.com/agu/fm15/meetingapp.cgi/Paper/83670>
- Ray, AJ, and Gregg M. Garfin. 2016. **Assessing the continuum of applications and societal benefits of US CLIVAR science**. AGU 2015 Annual Meeting, ePoster GC11A-1017. <https://agu.confex.com/agu/fm15/meetingapp.cgi/Paper/67262>

- Metivier, Deanna, H.M. Yocum, and AJ Ray. 2016. **State Wildlife Action Plans as Tools for Adapting to a Continuously Changing Climate**. AGU Annual meeting 2015. GC11A-1017  
<https://agu.confex.com/agu/fm15/meetingapp.cgi/Paper/63760>
- Ray, A.J. 2015. **User studies: Integrating social science to create usable weather knowledge**. Presentation at the Association of American Geographers (AAG) Annual meeting, April 2015, Chicago, IL
- Ray, AJ, Walker, Susan, Trainor, Sarah, and Cherry, Jessica. 2014. **Hydropower licensing and evolving climate: climate knowledge to support risk assessment for long-term infrastructure decisions**. AGU 2014 Annual Meeting, ePoster GC53A-0497. <https://agu.confex.com/agu/fm14/meetingapp.cgi - Paper/25113>
- Ray, AJ, McNie, E, Averyt, KB, Morisette, J, Derner, Justin, Ojima, Dennis, Dilling, L, and Barsugli, J. 2014. **Interagency collaboration in the Rocky Mountains and Great Plains: Federal-university climate service networks for producing actionable information for climate change adaptation**. AGU 2014 Annual Meeting, ePoster PA41A- 4026. <https://agu.confex.com/agu/fm14/meetingapp.cgi - Paper/23747>
- Ray, AJ, Bob Means, B Liebmann, N Carr, 2013. **Management and Wyoming Basin Rapid Ecoregional Assessment: A Science--Management Partnership to Inform Public Land Management under Changing Climate Conditions**, in Public Affairs session “The Policy-Science Interface for Land Management in a Changing Climate,”  
[http://www.esrl.noaa.gov/psd/people/andrea.ray/Ray\\_AGU2013\\_poster\\_GC11B\\_0984\\_final](http://www.esrl.noaa.gov/psd/people/andrea.ray/Ray_AGU2013_poster_GC11B_0984_final)
- Dilling et al, 2013. **The Dynamics of Vulnerability and Implications for Climate Change Adaptation: Lessons from Urban Water Management**, Poster at 2013 AGU, in session on “Climate change effects on natural hazards: science, communication and policy.
- Ray, AJ, JT Morisette, DS Ojima. 2012. **Joint Applications Pilot of the National Climate Predictions & Projections Platform and the North Central Climate Science Center: Delivering climate projections on regional scales to support adaptation planning**, Fall 2012 AGU, see  
<http://fallmeeting.agu.org/2012/e posters/eposter/b33e-0566/>
- Ray, Andrea J., D. Anderson, R. B. Rood, and J. J. Barsugli. 2011. **Delivering climate projections at regional scales to support adaptation planning: a new NOAA effort**. AMS [Practical Solutions for a Warming World: AMS Conference on Climate Adaptation](http://ams.confex.com/ams/19Applied/webprogram/Paper190496.html), July 2011, Asheville, NC  
[https://ams.confex.com/ams/19Applied/webprogram/Paper190496.html](http://ams.confex.com/ams/19Applied/webprogram/Paper190496.html)
- Ray, Andrea. J., Joseph J. Barsugli, Klaus E. Wolter, Jon K. Eischeid. 2010. **NOAA Rapid-Response Climate Assessment to Inform the FWS Status Review of the American Pika**. Fall 2010 AGU,  
<http://abstractsearch.agu.org/meetings/2010/FM/GC51D-0790.html>
- Barsugli, Joseph J. Andrea J. Ray, Klaus E. Wolter, Jon Eischeid 2010. **Climate Projections for Ecological Applications: The Case of the American Pika**. Presentation at The Wildlife Society annual meeting, Snowbird UT.

- Ray, A.J., 2008. **Climate Change in Colorado: Creating a Synthesis to Support Water Resources Management and Adaptation.** Climate Prediction Assessment workshop (CPASW), Norman, OK, March 2009
- Ray, A.J. 2008. [Lessons learned from the 2000s Western drought: Evolving linkages between research and services.](#) Invited presentation at the NOAA Climate Diagnostics & Prediction Workshop/CLIVAR drought meeting in Oct 2008 in Lincoln, NE.
- Ray, AJ. *Challenges for managing water resources in mountainous regions*, Invited presentation at the Mountain Hydroclimate & Water Resources Workshop, NASA, NOAA, Boulder, CO, Oct. 17-19, 2007.
- Ray, AJ. 2007. [IPCC Fourth Assessment Report: Physical Basis of Climate Change and Adaptation, Impacts and Vulnerability](#) invited presentations to the Colorado River Water Conservation District: State of the River meeting, May 16, 2007, Frisco, CO; and to the Utah Water Users Association, Salt Lake City, UT, December 3, 2007.
- Ray, AJ. 2007. **Integrated and Adaptive Reservoir Management in the Context of Hydroclimatic Variability: a Case Study of the Gunnison Basin, Colorado**, Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract H24A-02.
- Barsugli, JJ, AJ Ray, Thomas Hamill. 2007. **Integrating Assessments of User Needs With Intraseasonal Forecast Research: Developing User-centric Tools for Reservoir Management**, Oral presentation at the CPASW, Seattle, WA, 2007. [http://www.esrl.noaa.gov/psd/people/andrea.ray/Barsugli\\_CPASW\\_2007\\_final](http://www.esrl.noaa.gov/psd/people/andrea.ray/Barsugli_CPASW_2007_final)
- Ray, A.J. and D. Kenney. 2007. **Critical challenges in incorporating climate into management of the Colorado River.** Presentation at the AMS Second Symposium on Policy and Socio-economic Research, 2007 AMS Annual Meeting, San Antonio, TX, January 2007.
- Ray, A.J., D.L. Lettenmaier, and R. Lobato Sanchez. 2007. **Intraseasonal to Interannual hydrologic forecasting for Mexico: new products and forecasts and their potential uses.** Proceedings of the 2006 North American Drought Monitor Meeting, Mexico City, MX, NOAA National Climatic Data Center.
- Ray, A.J., and J.L. Lowrey, 2006. *Uses and needs for climate information by municipal water providers on the Front Range of Colorado.* Presentation at the NOAA Climate Prediction Assessment Workshop, March 21-24, 2006, Tucson, AZ.
- Ray, AJ. 2006. [Climate Products and Forecasts: Resources for Understanding Climate and How They Can be Utilized.](#) Presentation at the "Water, Drought, and Wyoming's Climate Workshop," October 5, 2006, Laramie, WY.
- Ray, A.J. **The North American Monsoon: an opportunity for regional science to serve society**, in session on "Drought, Water Supply, Fire: How Does Regional Science Serve society?" Oral presentation at the 2004 Annual Meeting of the [Association of American Geographers](#), Philadelphia, PA, March 14-19, 2004. [abstract](#)
- Ray, A.J. 2004. **What the 2002 drought revealed about user needs for Western regional climate services**, 2004 Annual Meeting of the American Meteorological Society, Seattle, WA, January 2004. [abstract](#)

- Ray, A.J. 2003. **Climate information and multipurpose water management in the Gunnison Basin, Colorado: A user study approach.** Seminar presented to the NCAR Environment and Societal Impacts Group, April, 2002.
- Ray, A.J. 2002. What the 2002 drought revealed about user needs for Western regional climate services, Poster Presentation at the 2004 Annual Meeting of the American Meteorological Society, Seattle, WA, January 2004.
- Ray, A.J., R.S. Webb, and R.S. Pulwarty 2003. **A user study approach for identifying needs for regional climate services.** 2003 AMS Annual Meeting, Long Beach, CA. [abstract](#)
- Ray, A.J. and R.S. Pulwarty 2002. **Incorporating climate information in water resources management: What do we know and what do we need to know?** In session on "Incorporating Climate Variability information in Water Resources Decision making," chaired by Rajagopalan and Bradley at the Annual Meeting of the American Geophysical Union, San Francisco, CA. [abstract](#)
- Ray, A.J., and R.S. Pulwarty. 2002. **Incorporating climate information in water resources management: What do we know and what do we need to know?"** NOAA Climate Prediction Assessment Workshop, Oct 2002, Alexandria, VA.
- Ray, A.J. 2001. **Geographical concepts in a regional case study: Climate variability and water management in western Colorado.** Session on 'Asserting Geography in the "New" Place-based science,' session organizers, Barbara Morehouse and Melinda Laiturito. 2001 Annual Meeting of the [Association of American Geographers](#), New York, NY, 27 Feb-3 March, 2001.>[abstract](#)
- Ray, A.J., and R.S. Webb. 2000. **Demand-side perspective on climate services for reservoir management.** Climate Diagnostics and Prediction Workshop, Palisades, NY, 23-27 October 2000. [abstract](#).
- Ray, A.J. Robin S. Webb, and John Wiener, 2001. **Analysis current uses and user needs for water management in the Interior West.** a poster for the [AMS annual meeting](#), January 2001, Albuquerque, NM [abstract](#).
- Ray, A.J., and R.S. Webb, 2000. **CDC Experimental Climate Services: some perspectives from current activities,** presentation at the NOAA [Applied Research Centers meeting](#), March 20-23, 2000, Palisades, NY [abstract](#).
- Ray, A.J., 2000. **Seasonal forecasts and water management in the Upper Colorado Basin: using climate information to assist ecosystem management** an oral presentation for the [AMS annual meeting](#), January 2000, Long Beach, CA [abstract](#).
- Ray, A.J. and K.T. Redmond. 1999. **1999-2000 winter season outlook and interpretation.** Poster presentation at the U.S. Bureau of Reclamation River Systems Management Workshop, October 19-21, 1999, Reno, NV
- Ray, A.J. 1999. **Climate and Water Management in the Interior West: a critical water problems approach,** presented at the 16th Annual Pacific Climate Workshop on Climate Variability of the Eastern North Pacific and Western North America ([PACLIM](#)) [abstract](#).
- Ray, A.J. 1999. **Colorado Basin Water Management: Relating Responses to Critical Water Problems and Climate,** presented at the 1999 Annual Meeting of the Association of American Geographers, Honolulu, HI, 23-27 March, 1999.[abstract](#)