

REGIONAL INTEGRATED SCIENCES & ASSESSMENTS (RISA)

Helping regions and communities better prepare and plan for hazards and extreme events for more than 20 years.

In 2016 alone, the United States experienced 15 billion-dollar weather and climate disasters, which resulted in 138 fatalities and cost \$46 billion.

For more than 20 years, the NOAA **Regional Integrated Sciences and Assessments (RISA)** Program has been producing actionable climate research, helping to reduce economic damages that Americans face every year due to droughts, floods, forest fires, vector-borne diseases, and a host of other climate and extreme weather impacts. The **network of eleven RISA teams across the country** work hand-in-hand with stakeholders and decision makers in regions across the United States to ensure that research and information is responsive to their needs.



The sustained regional presence of RISA enables teams to effectively support responses to extreme events. In 2012, CCRUN's expertise in coastal inundation informed New York City planning efforts after Hurricane Sandy, WWA researchers aided Colorado after 2013's record flooding, and RISA teams in the Western United States have supported the region during its recent intense drought.



Photo Courtesy: WWA

Research produced by the RISA program has educated, informed, and closely interacted with thousands of decision makers across the nation, helping them build the expertise to better plan and prepare for climate variability and extreme weather events. RISA products are making a difference today, helping communities and individuals improve resilience, enhance growth, and reduce costs in a variety of sectors. RISA is supported by the National Oceanic and Atmospheric Administration's (NOAA) Climate Program Office.



Photo Courtesy: Pacific RISA

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Learn more: CPO.NOAA.gov/RISA



HOW IS RISA HELPING COMMUNITIES NEAR ME?

Bound by the Lakes that shape both their cultural and natural resources, Great Lakes communities have faced dramatic changes in the past five decades—including deep economic downturn, population shifts, and negative environmental impacts. While climate change impacts are projected to exacerbate some of these challenges, leaders in the region are increasingly committed to a sustainable future by leveraging opportunities to mitigate climate impacts and adaptively respond to them. The **Great Lakes Integrated Sciences & Assessments (GLISA)** supports the Great Lakes region across the United States and Canada, building the capacity to manage risks from climate change and vulnerability.

GREAT LAKES INTEGRATED SCIENCES & ASSESSMENTS (GLISA)



glisa.umich.edu

PROTECTING ECOSYSTEMS IN A NATIONAL PARK IN MICHIGAN

Climate change and other stressors are altering ecosystems and biota within the National Parks, impacting park management and operations. GLISA partnered with the National Park Service (NPS) from 2012 to 2014 to integrate climate information into NPS's scenario planning approach in an effort to evaluate potential impacts on the delicate wolf and moose ecosystem on Isle Royale. Through the development of four future climate scenarios ranging from minimal change to extreme weather disturbances, the team created an easy-to-read table that outlines how each species would fare under each scenario relative to its current state. The scenarios and participatory approach informed management strategies for facilities, visitor experience, and natural and culture resource management. A key lesson



Photo credit: Rolf Peterson, John Vucetich/Michigan Tech

learned was the need to plan for a future that looks different than the past, as opposed to trying to restore a past state.

GLISA and the NPS partnered again to replicate this process at the Apostle Islands National Lakeshore in Wisconsin to determine if the process and climate information used for Isle Royale was transferrable to a new location. This partnership continues today focusing on ice prediction at Apostle Islands to inform management decisions for their ice caves.