



The Current

Fall 2025/Winter 2026



It Takes All of Us

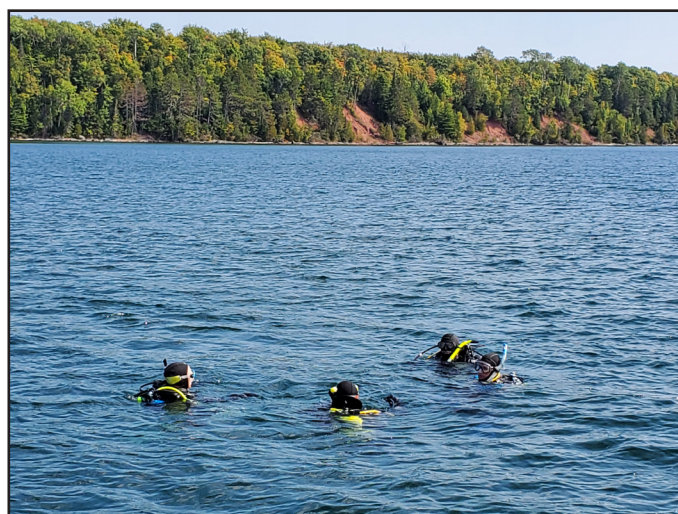
By Ted Gostomski, Network Science Writer

We mentioned in the spring issue of *The Current* how the year started with a lot of uncertainty, especially as the field season drew closer. The reports in this issue show that, despite the challenges, we were able to fully complete almost all of our routine monitoring programs while also lending support to other projects. You might also notice that there are more stories *about* the field work—not necessarily the work itself, but things that happened along the way. This was interesting serendipity among the field season summaries.

Another commonality you may notice among the field season summaries are mentions of gratitude to park staff for their assistance or that network and park staff worked together to complete this season's monitoring. This is not unique to 2025. The network's long-term monitoring efforts are built on cooperation between us and the parks we serve. Whether it's logistical support, data gathering, data entry, or analysis and reporting, park staff are a big part of our collective success. This year, when retirements and other departures left some parks overwhelmed, we reciprocated that support by accepting requests for help with data management, speaking engagements, administrative support, and field assistance. "Teamwork makes the dream work," someone once said, and this was a year of outstanding teamwork.



Voyageurs NP staff set up a remote recorder for amphibian monitoring. NPS PHOTO



Divers from the Great Lakes Network, St. Croix Riverway, and Mississippi National River conduct a dry suit cross-training exercise for cold water environments. NPS/T. GOSTOMSKI

Working Together, Learning Together

Every year, Great Lakes Network staff work with partners on projects of mutual interest that benefit our parks. One of the longest running projects is a zebra mussel survey on docks and shoals in the Apostle Islands. That work now includes docks at Isle Royale. We also help with recertification and training dives for members of the NPS Great Lakes-Big Rivers Dive Team. But most years bring other unique opportunities, and this year was no different. Here are a few of the projects we helped carry out.

Native Mussel Survey

Working with colleagues from the University of Minnesota and the St. Croix NSR, network staff provided both canoe paddlers and divers to help conduct a baseline inventory of native mussel beds on all 100 miles of the Namekagon River this spring. A mild winter left water levels lower than usual, so both canoeing and snorkeling were sometimes difficult, but the crew was successful in locating more than 9,000 beds, most of which (80%) were low density (fewer than four mussels per square meter, or 11 square feet); 20% of the beds were classified as high density (more than four mussels per square meter).

Midge Identification

This past spring, aquatic ecologist and midge expert Alex Egan was asked by the USGS Southwest Region office to identify chironomids (midges) from the Colorado River in Grand Canyon NP, which he did in collaboration with a colleague from the Minnesota Pollution Control Agency. Their identifications will serve as a taxonomic comparison to eDNA samples taken from the river in an effort to calibrate the eDNA model and increase efficiency of future sampling efforts. It looks like this work is going to be expanded this coming summer to include further collections at Grand Canyon NP, which should help strengthen the eDNA model.



A snorkeler searches for native mussels in a shallow rapids on the Namekagon River, while their spotters guide a canoe over the rocks.
NPS/T. GOSTOMSKI



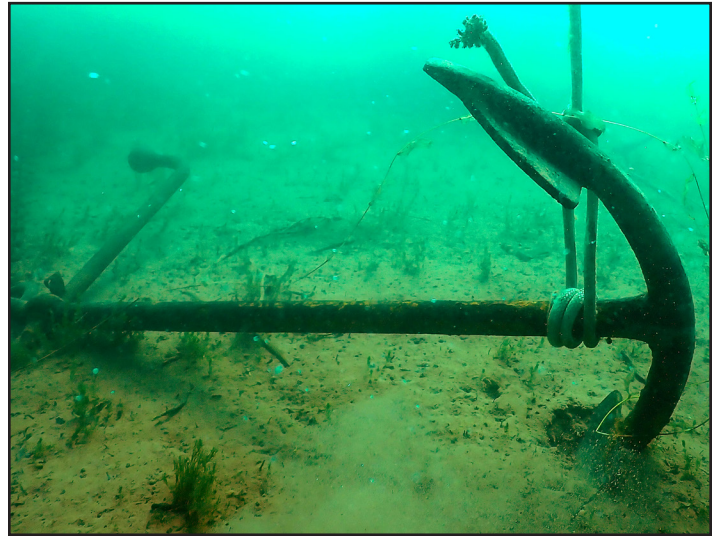
Network program manager Brenda Lafrancois (right) and fish biologist Ellary Marano make lures with a group of young anglers. USGS/J. MYERS

Girls Fishing Clinic

In July, our office mates at the U.S. Fish and Wildlife Service invited network program manager Brenda Lafrancois and wildlife biologist Jessica Joganic to help out with their second annual Girls Fishing Clinic, an event for 3rd- to 8th-grade girls to build knowledge about, skills in, and confidence to begin fishing, or expand upon what fishing experience they already have. In addition to skills such as casting, knot tying, and lure making, the participants learned about the local lakes and rivers through fish and macroinvertebrate identification.

Mystery Anchor Investigation

Rangers at Apostle Islands NL received a report from visitors that their boat anchor had hooked onto a much larger boat anchor sitting on the bottom of Lake Superior. It was reported that the anchor “looked antique-y” and was too large and heavy for the visitors to retrieve. A small buoy was attached so it could be relocated and rangers contacted the network to ask if divers could investigate further. Great Lakes-Big Rivers Dive Team members including Jessica Joganic, Brenda Lafrancois, and Toben Lafrancois conducted dives in up to 25 feet of water, measuring and photographing diagnostic features of the anchor. Their findings are being reviewed by archaeologists from the NPS and the Wisconsin State Historical Society.



A deep mystery in the Apostle Islands. PHOTO © T. LAFRANCOIS.

Coldwater Seep Survey

Working with a physical scientist from the USGS New England Water Science Center, retired NPS fisheries biologist, Jay Glase, and Dr. Patrick Shirey from the University of Pittsburgh, network staff returned to the upper Namekagon River in September to assist with a study that will inform brook trout habitat suitability and restoration potential on the uppermost 20 miles of the Namekagon River (SACN). With funding from the NPS-USGS Natural Resource Preservation Program (NRPP), this project is using thermal imagery to identify existing and potential habitat for brook trout and other cold-water fish species by locating where coldwater seeps enter the river. During our visit in September, forward-looking infrared radar (FLIR) was used to locate and map the locations of coldwater seeps. Using this information, a return is planned in 2026 to refine the data using an uncrewed aircraft system (UAS) to fly over selected one-mile reaches of the river and collect both thermal and natural color imagery.



USGS scientist Shannon Fisher takes notes on the location of a coldwater seep on the Namekagon River. NPS/T. GOSTOMSKI

2025 Field Season Summary

Amphibians

Thank you to all of the park and network staff that have contributed to the amphibian monitoring project over the past decade. You've helped build a wonderful program that we hope to expand and enhance in the coming years.

As the new program lead for amphibian bioacoustics monitoring, wildlife biologist, Jess Joganic spent a lot of time reading protocols, learning how to program song meters, meeting with staff at the participating parks, reviewing many terabytes of legacy audio recordings, troubleshooting faulty equipment, and deploying recorders for the next field season. Her favorite part has been getting to see and hear frogs in the beautiful wild places of the Great Lakes region that we all help protect.

Song meters automatically turned on and started recording on 1 March this year; most had already been deployed last fall or were subsequently placed in the field by the end of April. Capturing these earlier weeks will help us track any shifts in breeding period start dates coincident with regional changes in weather patterns. Memory cards and temperature loggers were removed from the field in late August to late September. However, the government shutdown during October and November has delayed shipping them back to the network office, so only about half of them have been received so far. The new year brings the tasks of archiving, checking, and analyzing the data.

One exciting development was the successful redeployment of song meters at Grand Portage NM this year due to the efforts of staff at the Grand Portage Band of Lake Superior Chippewa (Gichi-Onigaming) Trust Lands Agency and GLKN's data manager. The park was unable to maintain monitoring for a few years, so we are very excited to have restarted the program. We will work with Trust Lands staff in the coming year to identify alternative



Only the tree nose. These two spring peepers were discovered in an unusual spot near one of the amphibian monitors at Pictured Rocks National Lakeshore. NPS/J. JOGANIC

monitoring sites of interest to both the park and the Band.

In August, GLKN's data manager and wildlife biologist visited Sleeping Bear Dunes NL to conduct annual maintenance of the weather station on North Manitou Island and to retrieve the 2025 amphibian monitoring data.

The process of finally arriving at the song meter on the southwest margin of Lake Manitou was a real planes-trains-and-automobiles experience. We first took a park ferry from Leland, Michigan, to The Village on North Manitou and located the correct staff member in charge of “The Keys.” We then hiked about 2.5 miles through the forest, which experienced massive blowdowns during an ice storm earlier in the year. None of the blowdown of 2025 had been cleared from that trail yet, so “hiking” was often more “scrambling-over-massive-tree-trunks.” Once we reached the lake, we unlocked the old aluminum park canoe (after carefully liberating its spider inhabitants) and paddled across the southern expanse of the lake to finally arrive at the amphibian monitoring site. After servicing the unit and deploying memory cards and temperature loggers for the 2026 field season, we reversed the journey. It was challenging but rewarding to see the park from the ground, to experience what park staff manage to accomplish on a daily basis, and to spend some time in beautiful, remote nature. I can’t wait to do it again!

Contaminants—Dragonfly Larvae and Fish

Thanks to the amazing dedication of park staff, volunteers, and partners, we were able to collect larval dragonflies at 30 sites across all nine parks in 2025. Due to the government shutdown, collections did not occur at a couple of parks where sampling typically continues into October. Water samples were also collected at select sites for analysis of dissolved organic carbon, an important variable that aids in understanding how mercury accumulates in biota. All larval dragonflies and water samples were sent to our U.S. Geological Survey (USGS) collaborators in Corvallis, Oregon, for analysis.

Northland College staff and students have led sampling efforts at APIS, ISRO, GRPO, and SACN for nearly a decade. With the college closing in

2025, we pivoted to obtaining the same assistance from the newly formed Burke Center for Ecosystem Research (www.burkectr.org), where many of the same staff formerly employed at the college are now working.

In 2025, we also began collaborating with the USGS on two exciting projects related to monitoring contaminants. The first is an effort to predict risks to fish, wildlife, and human health by mercury contamination at both monitored and unmonitored lakes using data from larval dragonflies, paired water quality data, and geospatial information. The second is to conduct a baseline assessment of microplastics measured at the nanometer scale in select surface waters and in larval dragonflies. With this project, we hope to get a sense of how prevalent extremely small plastics are in the water and if they accumulate in organisms at higher trophic levels.

For mercury in larval dragonflies, you can explore the data for your or any park involved in the Dragonfly Mercury Project on the NPS website, www.nps.gov/articles/dragonfly-mercury-data.htm.

Landbirds

Bird surveys were once again completed at all nine parks this year. A few parks had preliminary results or good stories to share.

Isle Royale NP

Sixty-one unique species were documented in 2025, giving this year’s survey the highest observed species diversity since 1996. Several species were represented by just one individual (Blue-headed Vireo, Olive-sided Flycatcher, Purple Finch, Red-winged Blackbird, Sedge Wren, and Tennessee Warbler). Five species were documented on all nine routes (Red-eyed Vireo, Winter Wren, Red-breasted Nuthatch, Nashville Warbler, and Magnolia Warbler).

Species of highest abundance were the Red-eyed



Jared Wolfe listens for birds at the top of Mt. Ojibway on Isle Royale. NPS/L. POTVIN

Vireo, Ovenbird, Nashville Warbler, and Black-throated Green Warbler. The greatest number of individuals, as well as the greatest diversity of species, were on the Mt. Ojibway loop, with 224 individuals among 45 species.

Pictured Rocks NL

PIRO surveys were started and finished later this year, but our observer there, who conducts surveys at other sites in Michigan's Upper Peninsula in addition to PIRO, is finding that shifting bird surveys into the second half of June tends to lower individual counts (because of fewer late migrants) but slightly raises species numbers (because of better vocal activity). Such was the case this year, as 714 total birds among 78 species were recorded. Past averages (nine years of data) are 76 species and 825.2 individual birds. Two new species were recorded this year: American Woodcock and Caspian Tern, bringing the cumulative PIRO total to 114 species.

Most species counts were very close to long-term averages. However, the past 10 years have shown decreases of open-land species (some no longer

present) and boreal specialists such as finches. North American Breeding Bird Survey routes in the U.P. are showing the same trend, but also exhibiting an even greater increase of more southerly breeders.

Sleeping Bear Dunes NL

Two new species for SLBE's surveys were documented this year: the Northern Parula and the Orchard Oriole. Interestingly, one normally breeds farther north (the parula) and the other mostly breeds farther south (the oriole)! A Henslow's Sparrow was also documented, which is not new for the surveys but is a state-endangered species in Michigan and always noteworthy.

St. Croix NSR

Our observer at SACN reports that Golden-winged Warbler hotspots are starting to show themselves with clarity, and parts of the St. Croix and Namekagon Rivers are proving themselves to be critical strongholds of habitat for this species. So, too, with Canada Warbler and Prothonotary Warbler. Perhaps most exciting, though, was his non-bird observation.

It took a while, but I think it was about 430 river miles along these six years before I finally had a riverside wolf encounter! I was paddling down through a rapid on the upper Saint Croix with the early rising sun at my back and fog rising delicately off the water. As I was navigating the rapids, I happened to look at the far shore line. There, as if presented in a shaft of light, a large, mature wolf stood in the water, fog rising around his legs. I was fast approaching, but I was also avoiding rocks and moving silently through the rapid. The big wolf's ears were cupped toward me, and he was standing and looking, head on. As I approached to within 75 meters, he turned, revealing a beautiful tricolored coat, tall white legs, cream-colored and cinnamon sides, and a black guard-haired back. He moved his face to the water and began lapping up a drink. I could see his pink tongue lapping, but any sound was drowned by the rush of the rapids.

Now, as the rapids pulled me to within 20 meters, the wolf got nervous and moved off into the alders, disappearing from view. At one point, as I passed the alders, following the bend in the river, I could see his shoulder, less than 10 meters away! I had once reached for my camera, but the rapids demanded my hands and constant attention on the paddle.

I wanted to see more. As joyful as I was that I had just enjoyed a rare and scenic moment, a gift from the river, I also felt excitement. ... I had to resign the feeling of “capture” and look for the joy in that beauty. But ahead, at the end of the rapids, there was a broad, flat rock. I grew mischievous. I deliberately high centered on the rock and arrested my travel. The current slowly swung my canoe’s bow back upstream. I was now facing the last place I had seen the wolf. I opened my Pelican case, and I got my camera ready. In the midst of work flow, I set my stopwatch for 10 minutes. It would be a short wait, but maybe worth the delay. With less than two promised minutes left, I had a strange feeling and turned to look over my shoulder, downstream. There, in the shadows and fog, a much younger wolf was watching me. I turned and took a quick burst of images before the young wolf slipped back into the alders. With a big grin on my face, I pried free of the flat rock and headed to the next bird survey.



Watching the bird watcher. Brian Collins caught sight of this wolf and one other while conducting songbird surveys on the St. Croix River. © Brian Collins

Landscape Dynamics

Due to recruitment obstacles, a planned GIS technician position to be hired through a partner

was not filled this year, so we were unable to carry out the normal landscape dynamics monitoring, which involves validating thousands of possible disturbance polygons.

Instead, we kept ourselves busy offering GIS and remote sensing support to parks including acquiring and processing high resolution satellite imagery to monitor sediment movement and dune dynamics, track floating vegetation mats, monitor for dying trees, monitor prescribed fire outcomes, and track oak phenology. We also submitted a proposal to the NASA DEVELOP program to assist with monitoring floating bogs using radar imagery, and we packaged years of aerial imagery for six parks and made it accessible online (see “New Reports, Publications, and Data Packages”).

We plan to be back on track in 2026 with a 30-year analysis of landscape disturbances at Pictured Rocks.

Vegetation

The vegetation monitoring crew spent the summer at Grand Portage, resampling the 23 long-term monitoring plots at the park that were last visited in 2014. This long-term vegetation monitoring program will help us understand overall trends in forest health at Grand Portage NM.

Across all the monitoring plots, we identified 19 tree species, 33 species of shrubs, and 140 herbaceous species. Our data shows that Grand Portage NM continues to be free of the invasive common buckthorn and invasive honeysuckles, which are problematic in other parts of the Great Lakes region. The non-native species we encountered are weedy species that grow near the trail and are not considered problematic invasive species.

While we haven’t worked with the data yet to look at specific changes, the initial look shows a decrease in the frequency of deer browse observed on woody species and robust growth in herbaceous species that are traditionally eaten by deer. The field crew was impressed by the height of the nodding



A knee-high nodding trillium at Grand Portage. NPS PHOTO

trillium—some of the tallest we’ve observed while collecting data! Minimal deer impacts in the forest can be a benefit to the overall forest health, including better recruitment of seedlings and saplings in the understory, in turn creating better habitat for wildlife species and better resistance to invasive species in the future.

Though the invasive emerald ash borer (EAB) was detected in and around Thunder Bay, Ontario, in 2016, it has not yet been documented in Cook County, Minnesota, where the park is located. In our data collected over the summer, we found no evidence of damage or stress on the ash trees measured, further support that indicates EAB has not invaded the park and its surrounding county.

Water Quality—Inland Lakes

Inland lake water quality monitoring proceeded without any major interruptions, but two parks reported novel events.

Pictured Rocks NL

The 2025 season started off a bit rough for the Pictured Rocks team. In early spring, a heavy rainfall coupled with snowmelt turned park streams into furious torrents. Miner’s River, usually a calm and unassuming river, overflowed its banks and developed a second waterfall. Munising

Falls unleashed a bedlam of rushing water and scouring debris, destroying sections of boardwalk and steps. The bad news is that one of the park’s first and most easily accessible attractions has been closed to the public all season and likely will remain so for several years. The good news is that PIRO’s aquatics team developed a new monitoring protocol to keep an eye on erosion and water quality parameters while they plan for and begin to rebuild the Munising Falls Trail.



Miners Falls (PIRO) in a normal year (left) and in spring 2025 (right). Note the tree stump in the lower right corner for context. NPS/T. VITALE

Voyageurs NP

Routine water quality monitoring was pretty routine this year. Aquatic ecologist James Smith reports some pretty bad smoke from wildfires in August and says, while “this won’t be new for people who were around during COVID, it was my first time hiking into our index lakes wearing a mask.”

Aside from water quality, James also found out the hard way that one of the regular amphibian monitoring sites at VOYA had been slated for cattail removal by the Voyageurs Wetland Restoration project. He writes, “climbing through the mud slop and cattail piles to get to our song meter was a miserable but novel experience.”

Water Quality—Large Rivers

We measured a core and extended suite of water quality parameters at eight sites along the St. Croix and Namekagon Rivers each month from April through October, with some exceptions. In previous years, eleven sites were visited each round. In 2025, we suspended sampling at the three lower-most sites on the St. Croix River located at Bayport, Hudson, and Prescott. We did this to reduce the cost of laboratory analysis and because the sites are already monitored by another agency.

In April, sampling was delayed by approximately two weeks due to uncertainty over travel rules for fieldwork. When fieldwork commenced in mid-April, only seven sites were sampled. As a result, we could not sample the Highway 70 site. In May, all river water quality work was canceled, as continuity planning work took precedence. Sampling proceeded as expected from June through October. The November round was missed due to the extended government shutdown. Invertebrate samplers were deployed at eight sites in July and collected in September.

Weather and Climate

With assistance from park staff, annual maintenance was conducted on the NPS weather stations located at Apostle Islands, Pictured Rocks, and Sleeping Bear Dunes. Thanks to Leah at Pictured Rocks for lending us a hand and Vince at Sleeping Bear for helping us arrange travel to North Manitou Island!

These stations provide real-time observations of weather conditions at island locations in the Great Lakes—places where forecasts derived from land-based and more inland monitoring stations have historically proven unreliable.

Unfortunately, the satellite communication technology that our stations rely upon to transmit data is being discontinued in 2026. We've been in communication with the meso-climate monitoring networks of Wisconsin (Wisconet) and Michigan (Enviroweather) to discuss integrating our stations into their networks. This would allow both parties

to share data, logistical support, and expertise, while also integrating our locations into their various data dashboards (e.g., the hazardous weather visualizer from Wisconet) and models (e.g., the pest emergence forecasts from Enviroweather). Talks with both networks are ongoing but so far everyone is enthusiastic about the potential collaboration.



Scientists-In-Parks ecologist, Kate Roberts, assists with the maintenance of the weather station at Oak Island, Apostle Islands NL. NPS/C. HESTER.

Finally, we've been thinking of ways to make Great Lakes weather data even more useful for park operations. For example, we've begun to conduct exploratory analyses using NOAA's Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) model. Among other things, HYSPLIT allows us to run backward trajectory analyses to identify the probable source(s) of pollutants or weather events. For example, Figure 1 shows the results of a backward trajectory analysis for the ice storm that caused extensive damage at SLBE and across northern Michigan in March of this year (over 120,000 people without power and three million acres of forest damaged). The model indicates that the storm was derived from the interaction of air masses originating in two distinct regions: warm, moist air from the south and cold

New Reports, Publications, and Data Packages

Damstra, R., and D.D. VanderMeulen.

2025. Standard Operating Procedure #14: Monitoring macroinvertebrates in large rivers (version 1.0). <https://irma.nps.gov/DataStore/DownloadFile/721847>.

Egan, A. 2025. *Lopescladius* (Chironomidae) from the Nearctic, including keys and new pupal exuviae descriptions. CHIRONOMUS Journal of Chironomidae Research. (40):27–36. <https://doi.org/10.5324/cjcr.v0i40.6330>.

Elliott, S.M., K.A. King, A.L. Krall, and D.D. VanderMeulen. 2024. Trace organic contaminants in U.S. national park surface waters: Prevalence and ecological context. Environmental Pollution 362. <https://doi.org/10.1016/j.envpol.2024.125006> and in *Park Science* 39 (1), winter 2024–25.

Kirschbaum, A.A. 2025. Landsat-based monitoring of landscape dynamics at Sleeping Bear Dunes National Lakeshore: 1990–2021. Science Report NPS/SR—2025/320. National Park Service, Fort Collins, Colorado. <https://doi.org/10.36967/2313944>.

Kirschbaum, J.A., and J.R. Brown. 2025. Vegetation monitoring in the Great Lakes Network, 2007–2024—Data package. National Park Service, Fort Collins, Colorado. <https://doi.org/10.57830/2309428>.

Sandborn, D.E., J.A. Austin, and B.M. Lafrancois. 2025. Demonstrating a Lake Superior particle tracking model for research and management applications. Science Report NPS/SR—2025/364. National Park Service, Fort Collins, Colorado. <https://doi.org/10.36967/2316131>.

Imagery Packages (citations shortened for space)

Apostle Islands

Aerial imagery 1938. <https://irma.nps.gov/DataStore/Reference/Profile/2313584>.

Aerial imagery 2004 (Color Infrared, CIR).

<https://irma.nps.gov/DataStore/Reference/Profile/2313091>.

Aerial imagery 2005. <https://irma.nps.gov/DataStore/Reference/Profile/2313156>.

Aerial imagery 2008. <https://irma.nps.gov/DataStore/Reference/Profile/2313157>.

Aerial imagery 2009 (Bayfield County). <https://irma.nps.gov/DataStore/Reference/Profile/2313094>.

Grand Portage

Aerial imagery 1940. <https://irma.nps.gov/DataStore/Reference/Profile/2313585>.

Aerial imagery 2003. <https://irma.nps.gov/DataStore/Reference/Profile/2313158>.

Aerial imagery 2006. <https://irma.nps.gov/DataStore/Reference/Profile/2313159>.

Aerial imagery 2009. <https://irma.nps.gov/DataStore/Reference/Profile/2313531>.

Indiana Dunes

Aerial imagery 1938. <https://irma.nps.gov/DataStore/Reference/Profile/2313583>.

Aerial imagery 2004. <https://irma.nps.gov/DataStore/Reference/Profile/2313579>.

Aerial imagery 2005. <https://irma.nps.gov/DataStore/Reference/Profile/2313580>.

Aerial imagery 2013:

(CIR). <https://irma.nps.gov/DataStore/Reference/Profile/2313581>.

(True Color, RGB). <https://irma.nps.gov/DataStore/Reference/Profile/2313582>.

Isle Royale

Aerial imagery 2009:

(CIR). <https://irma.nps.gov/DataStore/Reference/Profile/2313703>.

Field Season Summary (continued from page 9)

air from northern Canada (northern Alberta and Hudson Bay, specifically).

The field of *synoptic climatology* (the assessment of atmospheric conditions over a specific location or region, typically achieved through the classification of weather patterns into discrete categories) has had success using analyses like this to identify storm-producing regions that regularly produce hazardous weather. We aim to do the same and will continue to explore models, like HYSPLIT, to see what they can teach us about Great Lakes weather.

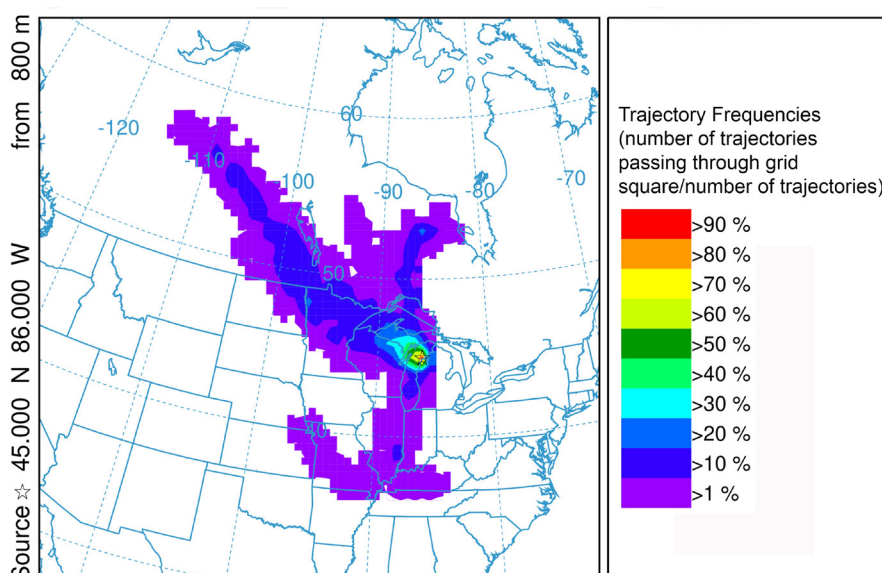


Figure 1. The results of a backward trajectory analysis using the NOAA HYSPLIT model for the 28 March 2025 ice storm event that caused widespread damage across northern Michigan, including at SLBE. GRAPHIC FROM NOAA AIR RESOURCE LABORATORY (www.ready.noaa.gov/HYSPLIT_traj.php).

New Reports, Publications, and Data Packages (continued)

(RGB). <https://irma.nps.gov/DataStore/Reference/Profile/2313921>.

Aerial imagery 2018:

(CIR). <https://irma.nps.gov/DataStore/Reference/Profile/2313909>.

(RGB). <https://irma.nps.gov/DataStore/Reference/Profile/2313906>.

Pictured Rocks

Imagery 1939. <https://irma.nps.gov/DataStore/Reference/Profile/2313932>.

Imagery 2004. <https://irma.nps.gov/DataStore/Reference/Profile/2313933>.

Imagery 2005. <https://irma.nps.gov/DataStore/Reference/Profile/2313938>.

Imagery 2008. <https://irma.nps.gov/DataStore/Reference/Profile/2314074>.

Imagery 2011 (RGB). <https://irma.nps.gov/DataStore/Reference/Profile/2314100>.

Imagery 2021:

(CIR). <https://irma.nps.gov/DataStore/Reference/Profile/2314196>.

(RGB). <https://irma.nps.gov/DataStore/Reference/Profile/2314154>.

Sleeping Bear Dunes

Imagery 1938. <https://irma.nps.gov/DataStore/Reference/Profile/2314218>.

Imagery 2007:

(CIR). <https://irma.nps.gov/DataStore/Reference/Profile/2314219>.

(RGB). <https://irma.nps.gov/DataStore/Reference/Profile/2314221>.

Imagery 2012:

(CIR). <https://irma.nps.gov/DataStore/Reference/Profile/2314415>.

(RGB). <https://irma.nps.gov/DataStore/Reference/Profile/2314298>.



Apostle Islands National Lakeshore
Grand Portage National Monument
Indiana Dunes National Park
Isle Royale National Park
Mississippi National River and Recreation Area
Pictured Rocks National Lakeshore
Sleeping Bear Dunes National Lakeshore
St. Croix National Scenic Riverway
Voyageurs National Park

The Current is published twice a year for Great Lakes Network park staff, our partners, and others interested in resource management at Great Lakes region national parks.

Editor and Web Manager

Ted Gostomski

Network Program Manager

Brenda Lafrancois

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Vince Cavalieri (SLBE)
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David VanderMeulen
Tony Vitale (PIRO)