



NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION  
UNITED STATES DEPARTMENT OF COMMERCE



## NOAA In Your State



**NOAA** is an agency that enriches life through science. Our reach goes from the surface of the sun to the depths of the ocean floor as we work to keep citizens informed of the changing environment around them. From daily weather forecasts, severe storm warnings, and climate monitoring to fisheries management, coastal restoration and supporting marine commerce, NOAA's products and services support economic vitality and affect more than one-third of America's gross domestic product. NOAA's dedicated scientists use cutting-edge research and high-tech instrumentation to provide citizens, planners, emergency managers and other decision makers with reliable information they need when they need it.

The following is a summary of NOAA facilities, staff, programs, or activities based in, or focused on, your state or territory: Starting with highlights, then by [congressional districts and cities or towns](#), [Great Lakes programs](#), and then [statewide programs](#).

### Highlights of NOAA in Illinois

<a href="#">Global Energy and Water Cycle Experiment</a>	Champaign County	IL-13
<a href="#">Great Lakes Bay Watershed Education and Training Program</a>	Great Lakes	IL
<a href="#">Restoration Center</a>	Great Lakes	IL
<a href="#">Bipartisan Infrastructure Law (BIL) / Inflation Reduction Act (IRA) Projects</a>	Project Specific	IL

The state of Illinois also has two Weather Forecasting Offices and two Science on a Sphere® exhibitions.

### Weather Forecast Offices

Chicago IL-14

Lincoln IL-15

**National Weather Service (NWS) Weather Forecast Offices (WFO)** are staffed 24/7/365 and provide weather, water, and climate forecasts and warnings to residents of Illinois. There are 122 [WFOs nationwide](#) of which two are in Illinois. Highly trained forecasters issue warnings and forecasts for weather events, including severe thunderstorms, tornadoes, hurricanes, winter storms, floods, and heat waves to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including wireless emergency alerts, social media, [weather.gov](#), and NOAA Weather Radio All Hazards. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs that strengthen working relationships with local partners in emergency management, government, the media and academic communities. Forecasters provide Impact-based Decision Support Services (IDSS), both remotely and on-site during critical emergencies such as wildfires, floods, chemical spills, and major recovery efforts. To gather data for forecasting and other purposes, NWS WFO staff monitor, maintain and use Automated Surface Observing Stations and Doppler Weather Radar. In addition to the WFOs, NWS operates specialized national prediction [centers](#) and regional headquarters throughout the U.S. for a total of 168 operational units. Over 85% of NWS' workforce is in the field. For current Illinois weather, visit [www.weather.gov](#) and, on the national map, click on the relevant county or district.

### Science On a Sphere®

Chicago IL-7

DeKalb IL-16

**Science On a Sphere (SOS)** is a room-sized global display system that uses computers and video projectors to display planetary data onto a six-foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere, which is used to explain in a way that is simultaneously intuitive and captivating what are sometimes complex environmental processes. They are located at the Museum of Science and Industry in Chicago, the National Museum of Surveying in Springfield, and at Precision Planting in Tremont.

### **[IL- 1, 2, 5, 7,9](#)**

#### **[Chicago](#)**

##### **[Office of Oceanic and Atmospheric Research \(OAR\) - Real-Time Meteorological Observation Network](#)**

The Great Lakes Environmental Research Laboratory's (GLERL) Marine Instrumentation Laboratory has deployed and is maintaining a real-time network of shore-based meteorological instrument packages, including one in Chicago. The meteorological observations obtained from the network are being used in GLERL's Great Lakes Coastal Forecasting System to improve nowcasts and forecasts of wind, waves, water levels, ice cover, and circulation. In addition, the National Weather Service forecast office in Chicago is using the observations to improve marine forecasts and warnings. The Chicago station measures/records wind speed, wind gust, wind direction, and air temperature at two-minute increments that are updated every 15 minutes on the web. In addition, a webcam provides an image of near shore Chicago waters and skyline that is updated every 30 minutes.

**IL-2**

**Chicago**

**NOAA Office of Education - [Science On a Sphere®](#)** at the [Museum of Science and Industry](#). See [Page 2](#) for details.

**IL-7**

**Chicago**

**NOAA Office of Education — [Coastal Ecosystem Learning Centers \(CELC\) network](#)**

In Illinois, NOAA's Office of Education provides support to the [Shedd Aquarium](#) in Cook County as part of the Coastal Ecosystem Learning Centers (CELC) network, which is made up of 25 aquariums and marine science education centers located throughout North America. The CELC network collaborates on a variety of initiatives, ranging from youth summits to multi-institution projects, with the goal of better engaging the public in understanding, appreciating, and protecting marine and freshwater ecosystems. Through the CELC network, the Office of Education provides guidance, resources, and scientific expertise to these institutions, which collectively reach an estimated 20 million people annually across North America. By coordinating with the CELC network, NOAA helps to further its mission of engaging the public in protecting and preserving coastal and marine ecosystems.

**IL-13**

**Bondville**

**Office of Oceanic and Atmospheric Research (OAR) - [Surface Aerosol Monitoring](#); [Ultraviolet \(UV\) Monitoring Network](#); [Surface Radiation Measurement Network](#)**

NOAA's Global Monitoring Laboratory (GML) operates surface-based aerosol monitoring sites in six states and one territory (Puerto Rico). Guiding the location of these instruments is the finding that human activities primarily influence aerosols on regional/continental scales rather than on global scales. Aerosols create a significant perturbation of the Earth's radiative balance on regional scales. The measurements made include aerosol optical properties (how the particles absorb and scatter solar radiation), aerosol number concentration, and chemical composition of the aerosol particles. GML operates additional instruments at this site as part of the ultraviolet (UV) monitoring network (NEUBrew). These measurements are part of GML's research on the Earth's surface radiation budget and are used in studies of variations in long-term radiation and meteorological parameters. Observations of spectral solar radiation can be used to infer the presence and quantities of atmospheric constituents and to investigate the interaction of ozone and solar radiation. GML also provides essential instrument calibration services for national and worldwide partner UV monitoring networks. GML also operates seven stations as part of its surface radiation budget network (SURFRAD). The station measurements support regional and global weather and climate research with accurate, continuous, long-term measurements of the surface radiation budget over the United States. Solar radiation is the driving energy for geophysical and biological processes that control weather and affect planetary life; understanding the global surface energy budget is therefore key to understanding climate and the environmental consequences to agriculture and other statewide concerns. Because it is impractical to cover the whole earth with monitoring stations, the answer to global coverage lies in reliable satellite-based observations. Accurate and precise ground-based measurements across a range of climate regions are essential to refine and verify the satellite observations. These ground-based measurements also support special research projects on radiation and climate processes in the Illinois region and serve as important verification for weather forecasts. The Illinois site is located in rural Champaign County at the Bondville Environmental and Atmospheric Research Site, about 10 miles south-west of Urbana-Champaign. The measurements made include aerosol optical properties (how the particles absorb and scatter solar radiation), aerosol number concentration and chemical composition of the aerosol particles. The site was established in 1994.

**Champaign County**

**Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference

network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manage the USCRN in partnership with NOAA's NESDIS/NCEI.

#### **Office of Oceanic and Atmospheric Research (OAR) - [Surface Energy Budget Network](#)**

NOAA's Air Resources Laboratory Surface Energy Budget Network (SEBN) has several observational sites that support the World Climate Research Programme's Global Energy and Water Cycle Experiment (GEWEX). One of NOAA's SEBN sites is located near Champaign, IL. SEBN sites were established to provide detailed measurements (such as turbulent fluxes of heat, water vapor, momentum, carbon dioxide, air temperature, and relative humidity) and other information about the physical and biological processes that occur at the land/surface interface. Observations from these sites are being used to test and improve the current generation of land surface models which help predict regional and global climate.

#### ***IL-14***

##### **Aurora**

#### **National Weather Service (NWS) - [Center Weather Service Unit](#)**

Housed in the Federal Aviation Administration's Chicago Air Route Traffic Control Center (ARTCC), the NWS Center Weather Service Unit (CWSU) staff provides forecasts and other aviation weather information to ARTCC personnel for use in directing the safe, smooth flow of aviation traffic in northern Illinois, northern Indiana, southwestern Michigan, southern Wisconsin, and eastern Iowa.

#### ***Chicago***

**National Weather Service (NWS) - [Weather Forecast Office](#)**- See [Page 2](#) for details.

#### ***Shabbona***

#### **Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

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#### ***IL-15***

##### **Homer**

#### **Office of Oceanic and Atmospheric Research (OAR) - [Global Greenhouse Gas Reference Network; Halocarbon Measurements](#)**

NOAA's Global Monitoring Laboratory (GML) operates a small aircraft-based North American network of sampling sites to measure vertical profiles of important greenhouse gas concentrations. Air is sampled bi-weekly above the surface up to approximately 25,000 feet above sea level using a relatively small, light, and economical automated system developed by GML researchers. These air samples are delivered to GML in Boulder, Colorado for measurements of CO<sub>2</sub>, CH<sub>4</sub>, other greenhouse gases, and ozone depleting substances. These data improve our understanding of the distribution of greenhouse gases and models of the global carbon cycle. The measurements of ozone depleting substances help determine the effectiveness of efforts to protect and restore the ozone layer, which protects the surface from the sun's ultraviolet radiation.

#### ***Lincoln***

**National Weather Service (NWS) - [Weather Forecast Office](#)**- See [Page 2](#) for details.

NOAA Office of Education - [Science On a Sphere®](#) at Northern Illinois University. See [Page 2](#) for details.

## Great Lakes

### National Marine Fisheries Service (NMFS) - [Restoration Center](#)

The [NOAA Restoration Center](#), within the [Office of Habitat Conservation](#), works with partners across the nation to restore habitat to sustain fisheries, recover protected species, and maintain resilient coastal ecosystems and communities. We have over 30 years conducting habitat restoration through competitive funding opportunities and technical assistance. We also work to reverse habitat damage from disasters like oil spills, ship groundings, and severe storms. In the Great Lakes, the NOAA Restoration Center focuses on restoring the most degraded environments--designated Areas of Concern. Our projects address loss of habitat and diminished fish and wildlife populations. NOAA is also working with the Great Lakes Restoration Initiative to implement habitat restoration projects that will help improve Areas of Concern. See the interactive [Restoration Atlas](#) to find habitat restoration projects near you. Site visits to see habitat projects may be available in your state, please inquire if interested.

In addition, the Office of Habitat Conservation is responsible for executing an unprecedented \$1.4 billion in funding under [Bipartisan Infrastructure Law and Inflation Reduction Act for habitat restoration and fish passage](#). We are working with our partners to do this through our expert technical assistance and four funding competitions: Fish Passage, Tribal Fish Passage, Transformational Habitat Restoration, and Habitat Restoration for Tribes and Underserved Communities. We have funded 214 awards totaling \$985M in rounds one and two with more to come in round 3. We are funding work all over the country, [explore them on our interactive map](#).

### National Ocean Service (NOS) – [Bipartisan Infrastructure Law](#)

The Bipartisan Infrastructure Law is helping coastal communities build the future they want to see. The legislation provides a historic investment in coastal protection and restoration that will increase community resilience to climate change and extreme weather events, and improve how we manage our ocean resources. Projects funded under this law protect and restore ecologically significant habitats, including conserving lands that play a critical role in helping communities become more resilient to natural hazards. Illinois received funding for one project in FY23, as well as funds in FY22 and FY23 to build the state's capacity to protect its coastal communities and resources.

### National Ocean Service (NOS) – [Office for Coastal Management](#)

The NOAA Office for Coastal Management practices a partner-based, boots on the ground approach to coastal management. The organization currently has staff in the eight regions who provide assistance to local, state, and regional coastal resource management efforts and facilitate customer feedback and assessments. Great Lakes regional staff are located in Chanhassen and Duluth, MN, Chicago, IL, Traverse City, MI, Madison, WI, and Albany, NY. In addition to providing NOAA products and services, these staff represent NOAA on multiple regional governance structures and coordinating bodies, including but not limited to, the Great Lakes Restoration Initiative and the Great Lakes Regional Collaboration to improve the management of natural resources.

### National Ocean Service (NOS) – [National Coastal Zone Management Program](#)

Through a unique Federal-state partnership, NOAA's Office for Coastal Management works with the Illinois Department of Natural Resources to implement the National Coastal Management Program in Illinois. NOAA provides the state coastal management program with financial and technical assistance to further the goals of the Coastal Zone Management Act and ensure coastal waters and lands are used in a balanced way to support jobs, reduce use conflicts, and sustain natural resources.

### **National Ocean Service (NOS) – [National Coastal Resilience Fund](#)**

The National Coastal Resilience Fund restores, increases, and strengthens natural infrastructure to protect coastal communities while also enhancing habitats for fish and wildlife. The National Fish and Wildlife Foundation (NFWF) executes this program in partnership with NOAA to invest in conservation projects that restore or expand natural features, such as coastal marshes and wetlands, dune and beach systems, oyster and coral reefs, forests, coastal rivers and floodplains, and barrier islands, which minimize the impacts of storms and other naturally occurring events on nearby communities. In Illinois, five projects have been funded: two projects in FY21, one in FY22, and two in FY23.

### **National Ocean Service (NOS) – [Digital Coast](#)**

The Digital Coast is a focused information resource developed to meet the unique needs of coastal communities. Developed and maintained by NOAA's Office for Coastal Management, content comes from hundreds of organizations, including federal, state, and local agencies, plus private sector and non-profit contributors. The Digital Coast website provides not only site-specific coastal data, but also related tools, training, and information needed to make these data useful for coastal decision makers. The Digital Coast Act authorizes the Digital Coast as a standing national program and supports NOAA's efforts to increase access to authoritative data, tools, and training that enable coastal communities to plan for long-term resilience, manage water resources, and respond to emergencies.

### **National Ocean Service (NOS) - [OR&R Preparedness, Response, and Restoration Coordinators](#)**

NOAA's Office of Response and Restoration (OR&R) is a center of expertise in preparing for, evaluating, and responding to threats to coastal environments, including oil and chemical spills, releases from hazardous waste sites, disasters, and marine debris. To fulfill its mission of protecting and restoring NOAA trust resources, OR&R provides scientific and technical support to prepare for and respond to environmental threats that coastal communities face; determines damage to natural resources from those releases; protects and restores marine and coastal ecosystems; and works with coastal communities to address critical local and regional coastal challenges.

Eleven regionally based **Scientific Support Coordinators (SSC)** harness the input of a multi-disciplinary team to address issues such as oil slick trajectory forecasting, environmental tradeoffs, best practices, resources at risk, and chemical hazard assessment to reduce risks to coastal habitats and resources. The SSCs for Illinois are based in Mobile, Alabama at NOAA's Gulf of Mexico Disaster Response Center and Ann Arbor, Michigan at the NOAA Great Lakes Environmental Research Laboratory.

OR&R identifies and quantifies environmental injury caused by releases of oil and hazardous materials. Our network of **Regional Resource Coordinators** work with multidisciplinary scientific, economic, and legal teams with the goal of securing the appropriate amount and type of restoration required to restore injured NOAA trust resources and compensate the public for their lost use. We collaborate with NMFS Restoration Center and NOAA General Council through the Damage Assessment, Remediation, and Restoration Program (DARRP) to ensure the process is efficient, legally defensible and restoration focused. The RRCs serving the Great Lakes region are based in New York, New York.

**National Ocean Service (NOS) – OR&R [Great Lakes Environmental Response Management Application](#) and [Response Tools for Oil and Chemical Spills](#)** Assessing important spatial information and designing successful restoration projects rely upon interpreting and mapping geographic information, including the location, duration, and impacts from oil spills, other hazardous materials, or debris released into the environment. Great Lakes Environmental Response Management Application (ERMA®) is an online mapping tool that integrates both static and real-time data, such as ship locations, weather, and ocean currents providing an easy-to-use common operating picture for environmental responders and decision makers. In addition to ERMA, the Office of Response and Restoration (OR&R) offers a suite of [tools](#) to support emergency responders dealing with oil and chemical spills. From Environmental Sensitivity Index (ESI) maps and data which provide concise summaries of coastal resources including biological resources and sensitive shorelines to GNOME, a trajectory and fate model that predicts the route and weathering of pollutants spilled on water, and so much more, these tools provide easy-access to critical data that support a wide range of needs for emergency responders, ultimately supporting our coastal communities.

### **National Ocean Service (NOS) - [Marine Debris Projects and Partnerships in Illinois](#)**

The NOAA Marine Debris Program (MDP) in the Office of Response and Restoration (OR&R) leads national and international efforts to reduce the impacts of marine debris. The program supports marine debris removal, prevention, and research projects in partnership with state and local agencies, tribes, non-governmental organizations, academia, and industry. The MDP Great Lakes Regional Coordinator supports coordination efforts with regional stakeholders, provides support to grant-funded projects, tracks progress of projects, and conducts regional marine debris outreach to local audiences. The MDP also works with local communities and organizations to prevent marine debris. The MDP is working with Illinois-Indiana Sea Grant to develop a region-wide prevention and messaging campaign ("Bring It From HOMES") to use reusable water bottles and reduce single-use plastic consumption. The Great Lakes Marine Debris Action Plan was published in 2020. This plan, which is facilitated by the MDP and supported by local stakeholders, provides a road map for strategic progress in making the Great Lakes, its coasts, people, and wildlife free from the impacts of marine debris.

### **National Ocean Service (NOS) - [U.S. Integrated Ocean Observing System \(Great Lakes Observing System\)](#)**

The U.S. Integrated Ocean Observing System, or IOOS®, is a federally and regionally coordinated observing system with 17 interagency and 11 regional partners. The System addresses regional and national needs for coastal, ocean, and Great Lakes data and information. Working with government agencies, academic researchers, tribes, first nations and the private sector, the Great Lakes Observing System (GLOS) provides end-to-end services that support science, policy, management and industry in the U.S. and Canada. GLOS provides public access to critical, real-time and historical data and information about the Great Lakes, St. Lawrence River and interconnecting waterways for use in managing, safeguarding and understanding these immensely valuable freshwater resources.

### **National Ocean Service (NOS) - [Navigation Manager](#)**

Office of Coast Survey navigation managers are strategically located in U.S. coastal areas to provide regional support to federal and state agencies in order to assist with navigational challenges. NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in Illinois to help identify the navigational challenges facing marine transportation in Illinois and provide NOAA's resources and services that promote safe and efficient navigation. Navigation managers are on call to provide expertise and NOAA navigation response coordination in case of severe weather events or other marine emergencies. The Great Lakes Navigation Manager position is located in Cleveland, Ohio.

### **National Ocean Service (NOS) - [Navigation Response Team](#)**

The Office of Coast Survey (OCS) maintains the nation's nautical charts and publications for U.S. coasts and the Great Lakes. The Office of Coast Survey's Navigation Response Branch (NRB) conducts routine and emergency hydrographic surveys; and working with the regional Navigation Managers, navigation response teams (NRT) work around-the-clock after storms and other navigation emergencies to speed the reopening of ports and waterways. During emergency response, the NRTs provide time-sensitive information to the U.S. Coast Guard or port officials, and transmit data to NOAA cartographers for updating Coast Survey's suite of navigational charts. The mobile integrated response team (MIST) kits are available to the Great Lakes that can be used on a vessel of opportunity and staffed by NRT members.

### **National Ocean Service (NOS) - [National Water Level Observation Network](#)**

The National Ocean Service (NOS) operates one long-term, continuously operating tide station in the state of Illinois that provides data and information for maritime navigation and is capable of producing real-time data for storm surge warning. This station is located at Calumet Harbor, IL. This station also includes meteorological sensors. Each station is associated with a set of tidal benchmarks installed in the ground that is used to reference the height of the water levels to help connect the water level to land. Station data feeds into many CO-OPS products that are used to support safe navigation, mitigate coastal hazards, and protect communities. Such products include:

- Coastal Inundation Dashboard - view water levels in real-time and during storms
- High Tide Flooding Outlooks
- Sea level trends and maps

- Real-time current measurements
- Hydrodynamic models
- Tidal and water level datums

#### **National Ocean Service (NOS) - [Great Lakes Bay Watershed Education and Training Program](#)**

The NOAA Bay Watershed Education and Training (B-WET) program is a competitive grants program that provides funding for locally relevant environmental education projects for K-12 audiences. The Great Lakes B-WET program is managed by NOAA's Thunder Bay National Marine Sanctuary on behalf of NOAA's Office of Education. The Great Lakes B-WET program recognizes that knowledge and commitment built from firsthand experience, especially in the context of one's community and culture, is essential for achieving environmental stewardship. Great Lakes B-WET regional grant competitions are responsive to local education and environmental priorities. Please see the funding opportunities for specifics.

#### **Statewide**

##### **National Marine Fisheries Service (NMFS) - [National Marine Mammal Stranding Network](#) and [John H. Prescott Marine Mammal Rescue Assistance Grant Program](#)**

The National Marine Mammal Stranding Network and its trained professionals respond to dead or live marine mammals in distress that are stranded, entangled, out of habitat or otherwise in peril. Our long-standing partnership with the Network provides valuable environmental intelligence, helping NOAA establish links among the health of marine mammals, coastal ecosystems, and coastal communities as well as develop effective conservation programs for marine mammal populations in the wild. NOAA Fisheries funds eligible members of the Stranding Network and associated researchers through the competitive John H. Prescott Marine Mammal Rescue Assistance Grant Program. In FY20, 43 competitive grants were awarded nationwide totalling \$3.7 million, with one for \$99,873 going to Chicago Zoological Society in Illinois.

##### **National Marine Fisheries Service (NMFS), National Ocean Service (NOS), and NOAA General Counsel - [Damage Assessment, Remediation, and Restoration Program](#)**

NOAA's Damage Assessment, Remediation, and Restoration Program (DARRP) assesses and restores habitat, fisheries, protected species and recreational uses that have been harmed by oil spills, chemical releases, and ship groundings. Working with federal, state, and tribal entities, and responsible parties, we have recovered funding from responsible parties for restoration of critical habitats, fisheries, protected species and recreational uses nationwide. These projects promote recovery of the ecosystem and provide economic benefits from tourism, recreation, green jobs, coastal resiliency, property values and quality of life. Illinois is a co-trustee with NOAA for assessment and restoration after pollution incidents in Illinois. For more information about our work in Illinois, visit: [DARRP in Your State](#) (and use the top menu to navigate to "Illinois & Indiana") and this [interactive map](#).

#### **National Ocean Service (NOS) – [Regional Geodetic Advisor](#)**

The Regional Geodetic Advisor is a National Ocean Service (NOS) employee that resides in a region and serves as a liaison between the National Geodetic Survey (NGS) and its public, academic and private sector constituents within their assigned region. NGS has a Regional Geodetic Advisor stationed in Ann Arbor, MI serving the Great Lakes region including Illinois. The Geodetic Advisor provides training, guidance and assistance to constituents managing geospatial activities that are tied to the National Spatial Reference System (NSRS), the framework and coordinate system for all positioning activities in the Nation. The Geodetic Advisor serves as a subject matter expert in geodesy and regional geodetic issues, collaborating internally across NOS and NOAA to ensure that all regional geospatial activities are properly referenced to the NSRS.

### **National Weather Service - [NEXRAD \(WSR-88D\) Systems](#)**

NEXRAD is used to warn the people of the United States about dangerous weather and its location. This radar technology allows meteorologists to warn the public to take shelter with more notice than ever before. The NEXRAD network provides significant improvements in severe weather and flash flood warnings, air traffic safety, flow control for air traffic, resource protection at military bases, and management of water, agriculture, forest, and snow removal. NEXRAD radar has a range of up to 250 nautical miles, and can provide information about wind speed and direction, as well as the location, size, and shape of precipitation. There are 159 operational NEXRAD radar systems deployed throughout the United States and overseas, of which two are in Illinois.

### **National Weather Service (NWS) - [Automated Surface Observing Systems Stations](#)**

The Automated Surface Observing Systems (ASOS) program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). ASOS serves as the Nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year observing basic weather elements, such as cloud cover, precipitation, wind, sea level pressure, and conditions, such as rain, snow, freezing rain, thunderstorms, and fog. There are 17 ASOS stations in Illinois.

### **National Weather Service (NWS) - [Cooperative Observer Program Sites](#)**

The National Weather Service (NWS) Cooperative Observer Program (COOP) is truly the Nation's weather and climate observing network of, by and for the people. More than 10,000 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are representative of where people live, work and play. The COOP was formally created in 1890 under the NWS Organic Act to provide observational meteorological data, usually consisting of daily maximum and minimum temperatures, snowfall, and 24-hour precipitation totals, required to define the climate of the United States and to help measure long-term climate changes, and to provide observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS.

The data are also used by other federal (including the Department of Homeland Security), state and local entities, as well as private companies (such as the energy and insurance industries). In some cases, the data are used to make billions of dollars' worth of decisions. For example, the energy sector uses COOP data to calculate the Heating and Cooling Degree Days which are used to determine individuals' energy bills monthly. There are 190 COOP sites in Illinois.

### **National Weather Service (NWS) - [NOAA Weather Radio All Hazards Transmitters](#)**

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service (NWS) forecast office. NWR broadcasts official NWS warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it the single source for comprehensive weather and emergency information. In conjunction with federal, state, and local emergency managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages). Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the NWS. NWR includes 1,100 transmitters covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. There are 29 NWR transmitters in Illinois.

### **Office of Oceanic and Atmospheric Research (OAR) – [Illinois-Indiana Sea Grant College Program](#)**

The National Sea Grant College Program (Sea Grant) is a federal-university partnership administered by NOAA that integrates research, extension education and outreach. Sea Grant forms a network of 34 programs in all U.S. coastal and Great Lakes states, Puerto Rico, Lake Champlain, and Guam. The Illinois-Indiana Sea Grant College Program fosters the

creation and stewardship of an enhanced and sustainable environment and economy along southern Lake Michigan and the Great Lakes region through research, education, and outreach. Illinois-Indiana Sea Grant research addresses the spread, introduction, and economic impact of aquatic invasive species, monitors emerging contaminants in Lake Michigan, informs ecologically sound and sustainable coastal economic development and land use, and helps foster a viable aquaculture industry for the region. The administrative offices are located in Champaign and West LaFayette. Get involved with Sea Grant through state and national opportunities like the John A. Knauss Marine Policy Fellowship program at [seagrant.noaa.gov](http://seagrant.noaa.gov).

#### **National Ocean Service (NOS) - Students for Zero Waste Week**

Students are inviting their local communities to "Go Green and Think Blue" by joining them in the annual *Students for Zero Waste Week campaign*. During this campaign led by the Office of National Marine Sanctuaries, students focus on reducing land-based waste in order to protect the health of local marine environments. These young leaders are raising awareness of how single-use plastic and other types of litter affect the health of local watersheds, national marine sanctuaries, and the ocean. In addition, some schools are looking at ways to reduce their energy use on campus with hopes of raising awareness of how the burning of fossil fuels also impacts the health of the ocean.

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#### **Bipartisan Infrastructure Law (BIL) / Inflation Reduction Act (IRA) Projects**

The National Oceanic and Atmospheric Administration (NOAA) was entrusted with billions of supplemental federal funding dollars with passage of the Bipartisan Infrastructure Law on November 15, 2021 and the Inflation Reduction Act on August 16, 2022. This historic infrastructure funding has been invested in communities across the nation to build resilience in the face of climate change. NOAA distributed funding to communities, tribal, state and local governments, higher education programs, businesses, non-profit organizations, and facilities in need. NOAA funded billions of dollars in grants and cooperative agreements across the country to fund projects that enhance climate resilience, restore coastal and marine habitats, improve safety, and create jobs. For an interactive map of NOAA BIL and IRA investments in your state, visit <https://www.noaa.gov/bil-ira-awards-explorer>.

#### **BIL**

##### **IIJA Capacity Building for IL Coastal Management Program, \$450,000**

This funding will build the capacity of the state of IL's federally-approved coastal management program within the IL Department of Natural Resources to plan for and implement habitat restoration and conservation projects proposed through funding opportunities connected to the Bipartisan Infrastructure Law. Specifically, the IL Coastal Management Program (CMP) will utilize funds from the Infrastructure Investment and Jobs Act to further our work in habitat planning, partner coordination, and project development through technical assistance and coordination provided by CMP staff. The goal is to have a suite of projects ready to apply for subsequent IIJA competitive opportunities and to support any funded projects.

##### **AeroLite Sense: Atmospheric Aerosols and Particulates Observations from the Stratosphere, \$22,922**

The long endurance StratoSonde lighter-than-air, uncrewed system combines a low-cost, (2.7kg, self-navigating High-Altitude Balloon (HAB) with a micro-dropsonde dispensing system, enabling meteorological observations over remote areas of the globe. This disruptive capability is being used to obtain very high vertical resolution data from stratosphere down to sea-level and targeting specific regions and priority use cases. This project will assess the feasibility of integrating a disposable miniature aerosol and particulates sensor.

##### **Combined Hydrology, Water Quality, and Botanical Characterization to Guide Coastal Wetland Restoration and Management, \$2,311,672**

The intent of this proposal is to conduct a unit-wide assessment of hydrology, water quality, and plant-community quality at Illinois Beach State Park's North Unit, identify problem areas, and develop a plan of implementation projects to improve

the hydrologic system. The goal of this work will support meaningful management decisions that lead to the long-term preservation of coastal habitat resources at the North Unit of Illinois Beach State Park (IBSP).

**Artificial Intelligence (AI)-Assisted Characterization and Capture of Aquatic Nano/microplastic Debris, \$2,481,160**

Tourism is vital for U.S. coastal economies but strains infrastructure, increasing water use and microplastic waste. To address these issues, this project will: 1) install filters in hotels (washing machines, dishwashers, dryers) to reduce microplastic loads; 2) identify challenges for hotel staff; 3) assess benefits to marine organisms like Chinook salmon; 4) include educational components for teachers and tourists; and 5) engage stakeholders for regional scaling. Innovations include an in-line dishwasher filter, with outcomes aimed at quantifying efficacy, sharing results, and educating local youth to inform policies that protect coastal ecosystems.

**IRA**

**Confronting climate model trends with observations: Extratropical storm tracks and their associated extreme events, \$573,328**

Signals of climate change have now begun to emerge from the noise in observations and reanalysis data. The research community is now in a position to address the following questions: are the trends in observations, reanalysis data and climate model projections consistent? If inconsistencies exist, can we relate this to deficiencies in the representation of forced trends or of internal variability? The proposed research will leverage the wealth of existing observation, reanalysis and climate model data to answer the questions above as they relate to extratropical storm tracks and their associated extreme events.

**Illinois CMP - IRA Capacity Funding, \$525,000**

This funding will build the ability of the state's federally-approved coastal management program within the Illinois Department of Natural Resources (DNR) to implement projects, initiatives, and programs that increase the climate resilience of coastal communities within coastal counties. Specifically, the DNR will use these funds to further the Illinois Coastal Management Program's work in resiliency planning, partner coordination, and project development through technical assistance and support of engineering and design for projects. The goal is to move the needle forward on having shovel-ready projects to apply for subsequent competitive opportunities.

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