



## NOAA In Your State

# Illinois

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***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. The entries are listed by statewide, region, and then by congressional districts and cities or towns.***

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### ***IL***

#### ***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. Since 2001, \$48.2 million has been awarded to 552 grantees who raised over \$15.9 million in matching funds.

#### **National Marine Fisheries Service (NMFS) and National Ocean Service (NOS) - [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 \$10.4 billion 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.

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

The NOAA Bay-Watershed Education and Training (B-WET) Program is an environmental education program that promotes locally relevant, experiential learning in the K-12 environment. The primary delivery of B-WET is through competitive funding that promotes Meaningful Watershed Educational Experiences (MWEEs). B-WET currently serves seven areas of the country: California, Chesapeake Bay, Great Lakes, Gulf of Mexico, Hawai'i, New England, and the Pacific Northwest. 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 responds to regional education and environmental priorities through local implementation of competitive grant funds. Please see regional funding opportunity for priorities and eligibility details.

**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 Black River Falls, Wisconsin serving the Great Lakes region – Wisconsin, Illinois, Indiana, and Michigan. 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 (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 263 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](#)**

NOAA's National Sea Grant College Program is a federal-university partnership that integrates research, education and outreach. Sea Grant forms a network of 33 programs in all U.S. coastal and Great Lakes states, Puerto Rico, 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 office is located at the University of Illinois at Urbana-Champaign.

**[Great Lakes](#)**

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

The NOAA Restoration Center, within the Office of Habitat Conservation, works with private and public partners locally and nationwide to increase fisheries productivity by restoring coastal habitat. Projects support sustainable fisheries, help recover threatened and endangered species, and reverse 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. Since 2008, we have targeted roughly \$40 million to restore more than 5200 acres of habitat for fish and wildlife and opened more than 780 miles of river for fish passage. NOAA is also working with the Great Lakes Restoration Initiative to implement habitat restoration projects that will help improve Areas of Concern.

**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) - [Coastal Management Fellowship](#)**

The NOAA Coastal Management Fellowship matches postgraduate students with state and territory coastal zone programs to work on two-year projects proposed by the state or territory. The Illinois Coastal Management Program is hosting a fellow from 2017-2019 who will work to enhance coastal tourism and regional-identity branding in the three northernmost Illinois coastal communities by strengthening outreach and communications about Illinois Beach State Park.

### **National Ocean Service (NOS) - [Scientific Support Coordinator and Regional Resource Coordinator](#)**

NOAA's Office of Response and Restoration (OR&R) brings decades of experience, technical expertise and scientific analysis in response to oil and hazardous chemical spills. In addition to events that draw the national eye like the Enbridge pipeline spill, OR&R also supports response to local emergencies. Nine regionally based Scientific Support Coordinators (SSCs) harness the input of a multi-disciplinary team to address issues such as oil slick trajectory forecasting, environmental tradeoffs, best practices, resources at risk, oil science and properties, and chemical hazard assessment to reduce risks to coastal habitats and resources. The SSC works directly with U.S. Coast Guard and the U.S. Environmental Protection Agency to provide critical scientific support to the Federal On-Scene Coordinator. OR&R also helps develop preparedness plans that identify spill response actions with the greatest environmental benefit and trains hundreds of members of the response community each year on the scientific and technical aspects of spills.

OR&R's Regional Resource Coordinators (RRCs) provide scientific and technical expertise and timely response to oil spills or hazardous materials releases to collect information, samples, and evidence that are time dependent and critical to support natural resource damage assessments throughout the coastal US. RRCs work on multi-disciplinary scientific, economic, and legal teams and are responsible for determining and quantifying injuries to NOAA trust natural resources through determination of injuries and pathway, and demonstration of causal mechanisms. The goal of the RRCs efforts is to determine, often through the Damage Assessment, Remediation, and Restoration Program, the appropriate amount and type of restoration required to restore injured NOAA trust resources and compensate the public for their lost use. Illinois' RRC is based in Chicago.

### **National Ocean Service (NOS) – [Great Lakes Environmental Response Management Application](#)**

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 Environmental Sensitivity Index maps, ship locations, weather, and ocean currents in a centralized, easy-to-use format for environmental responders and decision makers.

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

The NOAA Marine Debris Program (MDP) leads national and international efforts to research, prevent, and reduce the impacts of marine debris. The program supports marine debris removal, education and outreach, and research projects in partnership with state and local agencies, tribes, non-governmental organizations, academia, and industry. The MDP has worked with state and local governments, and stakeholders, to develop the Great Lakes Land-Based Marine Debris Action Plan.

### **National Ocean Service (NOS) - [Great Lakes Observing System](#)**

The U.S. Integrated Ocean Observing System (IOOS®) is an operational system and a network of regional partners responsible for regional observations, data management, modeling and analysis, education and outreach, and research and development. The overarching purpose of U.S. IOOS is to address regional and national needs for ocean, coast, and Great Lakes data and information. The Great Lakes Observing System (GLOS), one of the 11 IOOS regional coastal ocean observing systems, 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. GLOS is intended to gather and integrate chemical, biologic and hydrologic data, and monitor lake conditions and trends over time.

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

NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in Louisiana to help identify the navigational challenges facing marine transportation in Louisiana 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 coastal weather events or other marine emergencies. The Office of Coast Survey has a Navigation Manager located in Silver Spring, MD to support mariners and stakeholders in Great Lakes waters.

### **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.

#### ***IL- 1, 5, 7***

##### ***Chicago***

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

The Great Lakes Environmental Research Laboratory's 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 five-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 60 minutes.

#### ***IL- 2***

##### ***Chicago***

### **Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at The Museum of Science and Industry](#)**

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 complex environmental processes, in a way that is simultaneously intuitive and captivating.

### **NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to build the capacity of institutions and networks to advance NOAA's mission through formal (K-12) and informal education at national, regional, and local levels. In Illinois, ELP supports the Museum of Science and Industry (Chicago) which has a permanent exhibit featuring NOAA's Science On a Sphere and is a member of NOAA's SOS Users Collaborative Network. The SOS Network has more than 100 institutions worldwide, reaching over 60 million people, and shares best practices in using the sphere to bring the latest global forecasts and models to the public. ELP also supports the Shedd Aquarium (Chicago), a member of the Coastal Ecosystem Learning Center (CELC) Network, a consortium of 25 aquariums and marine science education centers with a reach of over 20 million people. The CELC Network works with NOAA and each member institution to engage the public in protecting coastal and marine ecosystems. Museum of Science and Industry (MSI) is supported by an Environmental Literacy Grant focused on resilience to extreme weather events and environmental hazards. MSI utilizes its Science On a Sphere and develops museum-based education resources to engage high school age youth in the exploration of climate literacy and Earth systems science through its Teen ACES (Teen Advocates for Community and Environmental Sustainability) project in which youth participants will be positioned to act as advocates for establishing resilient communities in the Midwest. ELP also supports the AMS DataStreme courses for K-12 educators through a grant and in-kind support. Local implementation teams in the state offer DataStreme courses that use weather, climate, and the ocean as contexts for teaching science and improving understanding about the Earth system.

### ***IL-13***

#### ***Chicago***

### **National Weather Service (NWS) - [Weather Forecast Office](#)**

Located at Lewis University Airport in Romeoville, this NWS Weather Forecast Office (WFO) is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of 18 counties in northeast Illinois and five counties in northwest Indiana; serving a population of more than 9,666,000. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided 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 through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards. Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts such as those following the Joplin and Moore tornadoes, Hurricanes Katrina and Sandy, and the Sept. 11, 2001, terrorist attacks in New York City and Washington D.C.

The WFO collects and disseminates precipitation, river, and rainfall data, and prepares local climatological data. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs, which helps build strong working relationships with local partners in emergency management, government, the media and academic communities. The WFO operates Automated Surface Observing Stations (ASOS), as well as the local Doppler Weather Radar, which provides critical information about current weather conditions. The radar data enables forecasters to issue warnings for tornadoes, severe thunderstorms, and flash floods.

## **Bondville**

### **Office of Oceanic and Atmospheric Research (OAR) - [Surface Aerosol Monitoring](#)**

NOAA's Earth System Research Laboratory Global Monitoring Division (ESRL/GMD) operates surface-based aerosol monitoring sites in seven states and one territory (Puerto Rico). ESRL/GMD's aerosol monitoring capabilities include continental sites in response to 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 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.

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

The Earth System Research Laboratory Global Monitoring Division operates seven stations as part of its surface radiation measurement 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. One of these stations is located near Bondville. 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.

### **Office of Oceanic and Atmospheric Research (OAR) - [Total Column Ozone Measurements](#)**

NOAA's Earth System Research Laboratory Global Monitoring Division (ESRL/GMD) makes measurements of the column amounts of ozone between the earth's surface and the top of the atmosphere at a number of locations around the United States, including Bondville, IL. The observations are obtained with ground-based spectrometers that measure the attenuation by ozone of ultraviolet light. This integrated ozone amount is critical in determining the amount of ultraviolet radiation reaching the earth's surface. Excess ultraviolet radiation is responsible for human skin cancer and is also harmful to other biogenic organisms. Column ozone measurements monitor changes in the stratospheric ozone layer resulting from human-produced chlorine and bromine compounds that destroy ozone. With controls now in place on the manufacture and use of these ozone-destroying compounds, it will be important to monitor the ozone layer for the expected recovery and determine whether other factors such as long-term climate change are influencing this recovery.

### **Office of Oceanic and Atmospheric Research (OAR) - [Ultraviolet Radiation Monitoring Network](#)**

NOAA's Earth System Research Laboratory Global Monitoring Division (ESRL/GMD) operates an ultraviolet radiation (UV) monitoring network site in Bondville. These measurements are done as part of ESRL/GMD's research on the Earth's surface radiation budget. Research efforts are devoted to the extent and cause of observed variations in long-term radiation and meteorological measurements, using satellite observations and climate model calculations. In addition, observations of spectral solar radiation are made for remote sensing of certain atmospheric constituents and spectral solar UV is measured for the investigation of the interaction of ozone and solar radiation. ESRL/GMD also provides essential instrument calibration services for national and worldwide partner UV monitoring networks.

### **Springfield**

#### **Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at National Museum of Surveying](#)**

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 complex environmental processes, in a way that is simultaneously intuitive and captivating.

### **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.

### **IL-15**

#### **Champaign County**

#### **National Environmental Satellite, Data, and Information Service (NESDIS) and Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The U.S. Climate Reference Network (USCRN) is an operationally viable research network of 135 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).

#### **National Environmental Satellite, Data, and Information Service (NESDIS) - [Regional Climate Centers](#)**

NOAA NCEI's six Regional Climate Centers (RCCs) support the development and delivery of a wide range of place-based climate science and information products and services to assist decision makers in making informed decisions. The RCCs are a federal-university cooperative effort that supports the operational production and delivery of climate data and information to decision-makers at regional levels. The RCCs also participate in basic and applied climate research as well as user engagement and outreach activities. The service provided by the RCCs has evolved through time to become an efficient, user-driven program that exemplifies many of the components that have been cited for effective regional climate services.

#### **Office of Oceanic and Atmospheric Research (OAR) - [Atmospheric Integrated Research Monitoring Network](#)**

A NOAA Air Resources Laboratory Atmospheric Integrated Research Monitoring Network (AIRMoN) site is located in Bondville (Champaign County), IL. The site has been in operation since 1992 collecting data on major ions in precipitation (rain, snow) on a daily event basis, and previously since 1976 on an event basis. The major ions collected include: sulfate, nitrate, phosphorus, pH, ammonium, sodium, chloride, and soil cations. AIRMoN is a sub-network of the National Atmospheric Deposition Program.

**Office of Oceanic and Atmospheric Research (OAR) - [Global Energy and Water Cycle Experiment](#)**

NOAA's Air Resources Laboratory has several observational sites that support the World Climate Research Programme's Global Energy and Water Cycle Experiment (GEWEX). One of NOAA's GEWEX sites is located near Champaign, IL. GEWEX 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.

***Homer***

**Office of Oceanic and Atmospheric Research (OAR) - [Carbon Cycle Gases and Halocarbons](#)**

NOAA's Earth System Research Laboratory Global Monitoring Division (ESRL/GMD) operates a small aircraft-based North American network of sampling sites to measure vertical profiles of important greenhouse gas concentrations. Air is sampled above the surface up to approximately 25,000 feet above sea level using a relatively small, light, and economical automated system developed by ESRL/GMD researchers. These air samples are delivered to ESRL/GMD in Boulder, Colorado for measurements of CO<sub>2</sub>, CH<sub>4</sub>, and other greenhouse gasses.

**Office of Oceanic and Atmospheric Research (OAR) - [Ozone Measurements](#)**

NOAA's Earth System Research Laboratory Global Monitoring Division (ESRL/GMD) conducts long-term monitoring of ozone at the surface, with aircraft, and with balloons, through cooperative relationships with local partners. The ESRL/GMD tropospheric ozone aircraft measurement program is being done in conjunction with the Carbon Cycle and Greenhouse Gas (CCGG) group's existing aircraft sampling network. Aircraft based in-situ tropospheric ozone measurements provide data relevant to: pollution events, lower atmosphere mixing dynamics, boundary layer stability, ozone trend studies, and the validity of other samples collected in-flight. Near ground level ozone is currently monitored using ultraviolet absorption photometers at eight sites that are generally representative of background conditions. These sites, four of which have records exceeding 25 years in length, provide information on possible long-term changes in tropospheric ozone near the surface and support air quality research.

***IL-16***

***Peru***

**Office of Oceanic and Atmospheric Research (OAR) - [Carbon America](#)**

NOAA's Earth System Research Laboratory Global Monitoring Division (ESRL/GMD) operates a new and growing small aircraft-based North American network of sampling sites (Carbon America) to measure vertical profiles of important greenhouse gas concentrations. Air is sampled above the surface up to approximately 25,000 feet above sea level using a reasonably small, light, and economical automated system developed by ESRL/GMD researchers. These air samples are delivered to ESRL/GMD in Boulder, Colorado for measurements of CO<sub>2</sub>, CH<sub>4</sub>, and other greenhouse gasses. This data will improve global carbon cycle models. Weekly sampling is conducted from Peru, IL. The Peru site is operated in coordination with the National Aeronautics and Space Administration's Measurement of Pollution in the Troposphere experiment.

***Shabbona***

**National Environmental Satellite, Data, and Information Service (NESDIS) and Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The U.S. Climate Reference Network (USCRN) is an operationally viable research network of 135 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).

**IL-18**  
**Lincoln**

**National Weather Service (NWS) - [Weather Forecast Office](#)**

Located at the Logan County Airport in Lincoln, this NWS Weather Forecast Office (WFO) is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of 35 counties in central and east-central Illinois, serving a population of more than 1,639,000. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided 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 through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards. Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs, which helps build strong working relationships with local partners in emergency management, government, the media and academic communities. The WFO operates Automated Surface Observing Stations (ASOS), as well as the local Doppler Weather Radar, which provides critical information about current weather conditions. The radar data enables forecasters to issue warnings for tornadoes, severe thunderstorms, and flash floods.

**IL-18**  
**Tremont**

**Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at Precision Planting](#)**

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 complex environmental processes in a way that is simultaneously intuitive and captivating.

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## **NOAA In Your State**



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**NOAA** NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION  
UNITED STATES DEPARTMENT OF COMMERCE

