



## ■ As a Center for Climate Data and Decision Tools, Asheville Is Hot!

As people everywhere focus on climate change and what it means for our communities and our planet, Western North Carolina is a leader in climate data and decisionmaking tools. Asheville, NC, is home to the National Climatic Data Center (NCDC), the National Environmental Modeling and Analysis Center at the University of North Carolina Asheville, the Renaissance Computing Institute at UNC Asheville, the U.S. Forest Service's Southern Research Station, and the Air Force Combat Climatology Center.

### Asheville's Climate Assets Are Key to Solving Global Problems

Scientists and entrepreneurs in our region are experts in environmental threat assessment, visualization, data management, high performance computing and new energy technologies. Asheville's hand is strengthened by:

- Access to the nation's high-resolution environmental databases and live satellite data feeds flowing into the NCDC. Because mining the massive databases takes immense amounts of bandwidth, it pays to be physically close to the archives.
- NCDC's interest in collaborating with those in Asheville who have complementary expertise. For example, NCDC and the former City of Asheville planning director are partnering to develop "Planning for Climate Change, a Handbook for City, Town and Rural Area Planners." University of North Carolina Asheville is a partner in the effort.
- A high-capacity fiber optic network providing advanced telecommunications infrastructure throughout Western North Carolina, made possible by ERC Broadband and a number of public/private partnerships. ERC also provides high performance computing and secure data storage ([www.ercbroadband.org](http://www.ercbroadband.org)).
- A strong digital arts community that includes visualization experts experienced at working with climate data.

- Proximity to the Oak Ridge National Laboratory in Tennessee, which is developing technologies to help sustain the Earth's natural resources.
- Excellent educational institutions with respected programs in atmospheric, environmental and data sciences, and visualization.
- Our position in one of the world's most biodiverse regions and long history as a destination for health and healing. The Western Office of the North Carolina Biotechnology Center, the Bent Creek Institute, and the Mission Hospitals are partners in the research and discovery of medical treatments utilizing the matchless array of WNC's native species. Protecting these species is critical.
- The Technology Commercialization Center and other entrepreneurial support services, as well as a lively, growing community of knowledge-based technology companies.

In addition, *Climate Alive*, a future science and entertainment attraction that will teach the public about climatic and environmental interactions and public safety, is in the planning stages and will further Asheville's climate expertise and reputation.

### National Climatic Data Center

The National Climatic Data Center ([ncdc.noaa.gov](http://ncdc.noaa.gov)) is a world leader in the climate community. Part of the National Oceanic and Atmospheric Administration, or NOAA, it holds the world's largest collection of

environmental data. NCDC provides the historical overview of weather for regions, offering vital clues about global warming, the effect of air quality and other climate-related developments. Its experts are the stewards of data that will enable society to deal with climate change and make sound decisions. With virtually every sector of the economy and the environment either directly or indirectly climate-sensitive, NCDC plays a critical global role.

## NEMAC

Making sense of NCDC's data and turning it into decisions is the role of the National Environmental Modeling and Analysis Center ([orgs.unca.edu/nemac](https://orgs.unca.edu/nemac)). NEMAC addresses complex problems involving interrelationships of air, land, water, health and safety, and visualization is its specialty. The organization draws on Asheville's longstanding excellence in the arts and combines scientific data with digital art so policymakers can better comprehend problems and make effective decisions. NEMAC's many partners include NCDC, ERC Broadband, Education and Research Services, Inc., the U.S. Forest Service and Baron Advanced Meteorological Systems ([www.baronams.com](http://www.baronams.com)).

## RENCI

A partnership between the University of North Carolina and Renaissance Computing Institute ([www.renci.org](http://www.renci.org)), the initial project of RENCI at UNC Asheville is to turn massive amounts of data into visual 3-D weather models for disaster planning and response in Western North Carolina. When completed, the models will be used widely by government planners, emergency responders, educators and others to make effective decisions. The project combines GIS data and digital elevation models from Asheville and Buncombe County planners, the National Climatic Data Center's historic and real-time weather and climate data, and FEMA's historical flood data.

## U.S. Forest Service

The Southern Research Station of the United States Forest Service ([www.srs.fs.usda.gov](http://www.srs.fs.usda.gov)) is the leading organization for research on natural resource management and sustainability in the southern United States. Its 130 scientists create the science and technology needed to sustain and enhance forest ecosystems and the benefits they provide.

## Climate-Tested Workforce

Global information systems experts, meteorologists, air-quality technicians, botanists, mathematicians, statisticians, digital media specialists and talented professionals in other IT segments are key players in Asheville's growing science and technology community. UNC Asheville has outstanding undergraduate atmospheric science, multimedia and engineering programs. Offering North Carolina's first associate's degree in digital media, Asheville/Buncombe Technical Community College is training future digital media professionals who will turn raw radar data into information the public can understand and use.

## For Climate Services Companies, the Outlook for Asheville is Sunny

For businesses and research organizations that rely on climate and other environmental data and whose employees desire a superior quality of life, Asheville is the ideal location. NCDC has the data and the experts to help private companies understand the information that is in its archives -- data that these companies can convert into commercial services at a time when decisionmakers around the world desperately need actionable information.

Asheville consistently tops Best Places to Live lists, and it has also been recognized by *Forbes* and others as one of the top metros for business, careers, and being an entrepreneur.

## About the Asheville HUB

Through the Asheville HUB, a collaborative effort of public, educational and private organizations, Asheville and Buncombe County, NC, are pursuing specific strategies that will strengthen economic vitality in six clusters by building on the region's unique assets. The many organizations and individuals that make up the HUB's Technology Cluster are working to bring more government and private meteorological organizations to Western North Carolina, to establish a digital media center that will spur growth of the region's lively multimedia industry, and to fully realize the promise of the Technology Commercialization Center at A-B Tech.

For more information about the Asheville HUB, contact Dave Brown at [brown@wfu.edu](mailto:brown@wfu.edu), or visit [www.ashevillehub.com](http://www.ashevillehub.com).