North Carolina Climate and Environment Observing Network (NC ECONet)

With improvement in our understanding of local weather and climate issues, it has become clear that local weather and climate observations are critical for so many applications. In order to improve local weather information and forecasts and to create a database for future research, the State Climate Office, in cooperation with state and federal agencies, has initiated development of the NC ECONet. In its entirety, the NC ECONet will have at least one automated weather station in each county in North Carolina. Data from these stations will be provided to government agencies to improve emergency management, weather forecasts, energy planning, and natural resource management. Data will also be made available in real-time to the general public for a variety of uses. A conservative cost-benefit analysis suggests that such a network of local weather stations could save the people of North Carolina nearly $90 million in a year. The State Climate Office has placed development of the NC ECONet as the top priority for weather and climate services.

In its full capacity, the proposed NC ECONet would be a state-of-the-art network of more than 100 weather and environmental observing stations across North Carolina. The NC ECONet will use the North Carolina Information Highway to provide maximum benefits to the educational institutions of North Carolina as well. This will be achieved by integrating and upgrading the existing observation sites. Current stations operated by the SCO are funded by the Agricultural Research Service, the NC Division of Air Quality, and the NC Division of Emergency Management. To complete the network, NC ECONet plans to establish observation stations in counties that do not currently have a monitoring station. The NC ECONet will assist in agriculture, emergency response, natural resource management, tourism, economic development, education, and many other applications that affect the day to day lives of North Carolina's citizens.

The NC ECONet combines the automated weather network currently operated by the SCO with other stations maintained by the National Weather Service, Federal Aviation Administration, and the US Natural Resource Conservation Service. Monitoring stations are designed to international standards, provide data that is collected, analyzed, and archived by the State Climate Office.

Data are collected from surrounding states to help with numerical modeling and forecast efforts. These data help resolve boundary conditions and improve atmospheric simulations.

Additional stations are planned to help fill gaps in existing data coverage. Ultimately, there will be at least one station for each county in North Carolina.