

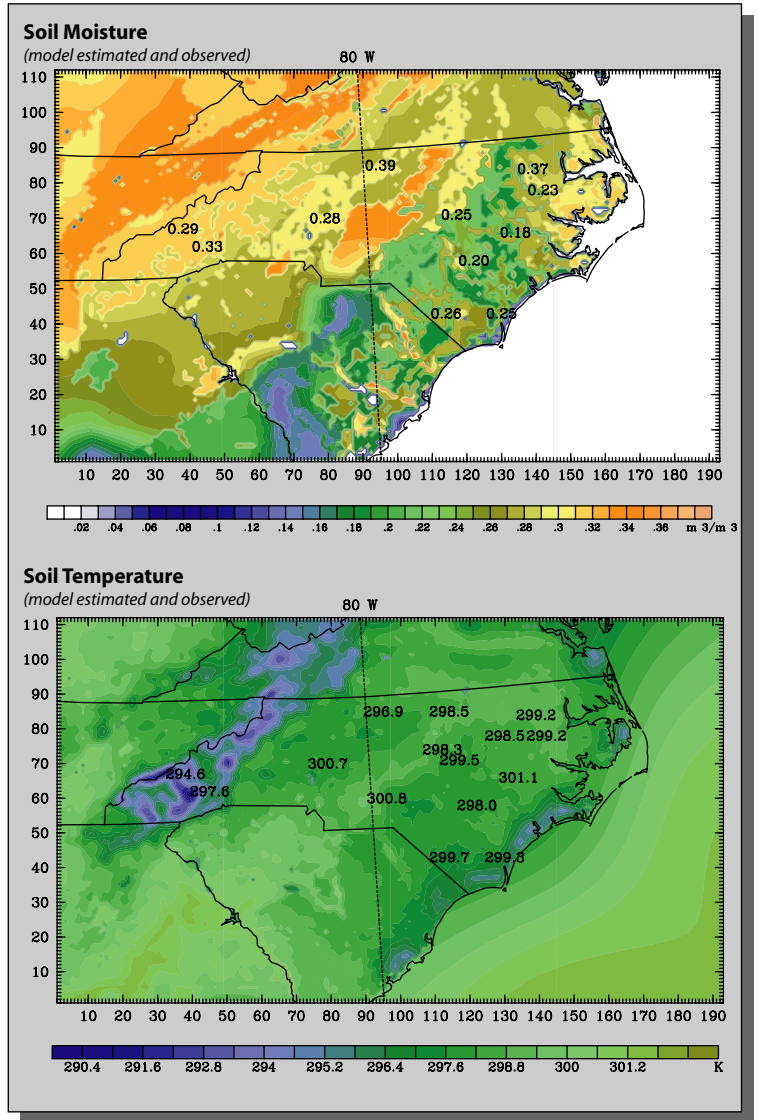
Agricultural Meteorology

Agriculture is a multi-billion dollar industry in North Carolina, and its success often depends on the weather and climate. Since its inception, the SCO has had agricultural services as a critical component of its efforts. The State Climate Office has a focus on assisting the agriculture industry with information and scientific advances. Agricultural Research Stations host many of the NC ECONet stations, and use the real-time and historical data from these stations for their research.

Current efforts are focusing on the estimation and impacts of soil temperature and soil moisture on local weather and environmental conditions.



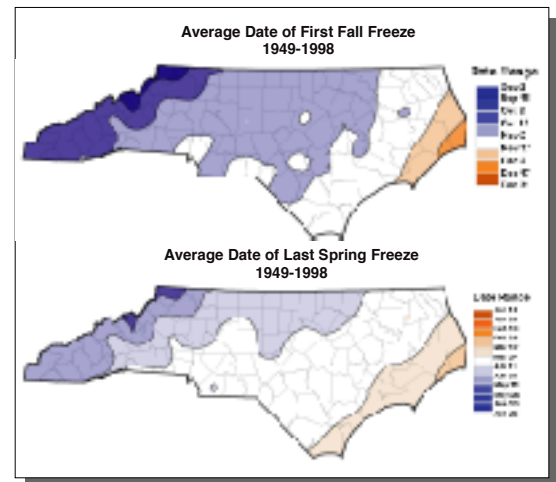
NC ECONet stations monitor soil moisture and soil temperature at each of the 24 SCO sites, as well as other parameters critical for agriculture.



The State Climate Office is developing models to estimate soil moisture and soil temperature - 2 critical variables for agricultural needs. The SCO is also deploying soil moisture and soil temperature sensors for regional monitoring and model verification.

Recent research has documented that the warm season was significantly longer in the 1990s as compared to the previous 4 decades. As part of a study to investigate the changes of the first and last freezes, analysis showed that over the last 10 years, the number of days between the last spring freeze and first fall freeze has increased significantly as compared with the previous 40 years.

The SCO is actively working with the NC Agricultural Research Service to improve our understanding of the relationships between weather and climate and the needs of agricultural industries.



Over the past 50 years, the dates of the first and last freeze have shifted. In the 1990s, the length of the warm season, measured as the difference between the last spring freeze and first fall freeze, was longer than in the previous 40 years. The SCO is developing a variety of products that focus on agricultural needs.