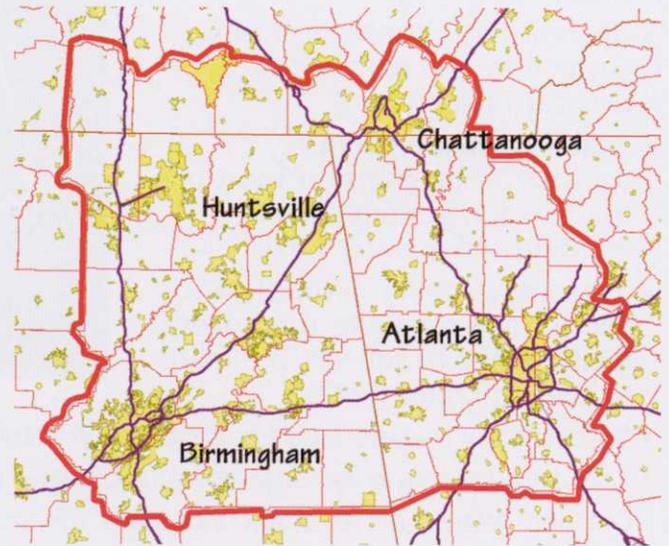




## ***ASSESSING REGIONAL IMPACTS....***

The National Consortium on Remote Sensing in Transportation - Environmental Assessments (NCRST-E) is one of four consortia established by the US Department of Transportation and NASA to lead in the application of remote sensing and geospatial technologies in the transportation industry. The primary mission of the consortium for Environmental Assessment is to develop and promote the use of remote sensing and geospatial technologies and requisite analysis products by transportation decision-makers and environmental assessment specialists to measure, monitor, and assess environmental conditions in relation to transportation infrastructure.



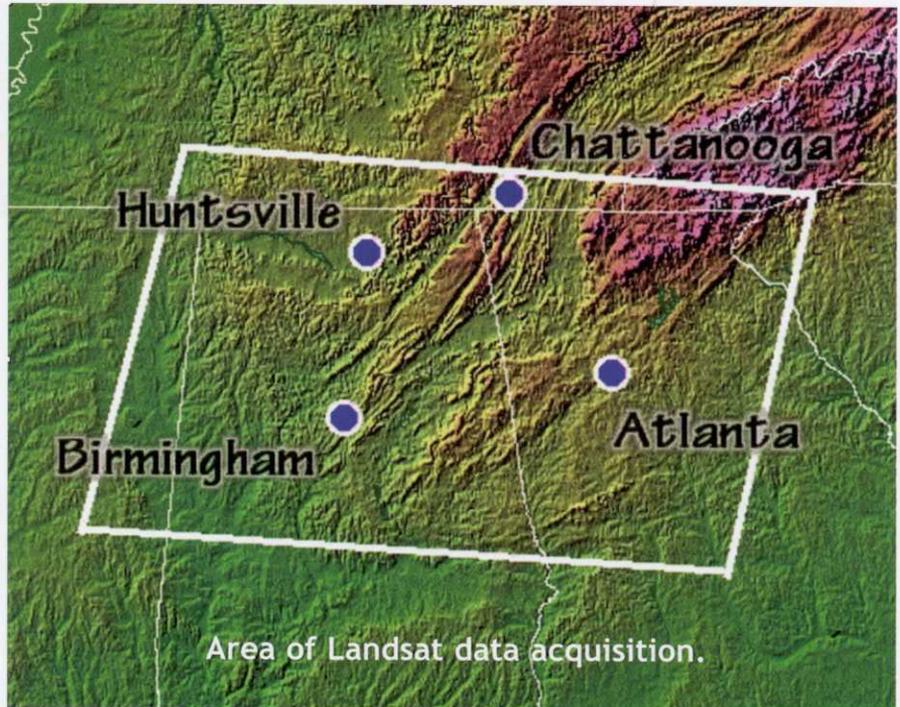
Within the Appalachian region, 55 counties of northeastern Alabama, northwestern Georgia, and south-central Tennessee are included in a regional environmental assessment. This region includes the metropolitan regions of Atlanta, Birmingham, Chattanooga, and Huntsville. The objective of this study is to determine the effect transportation development over the past 25 years has had on the regional-scale environment, including land cover/land use change, runoff, streamflow, and socio-economic variables. The consortium expects to gain valuable insight into the relationship between transportation development and long-term environmental changes and possibly even rates of change from this study.

The assessment of regional impacts as part of the NCRST-E overall effort, is a project being conducted by the Global Hydrology and Climate Center (GHCC), a partnership among organizational elements from NASA's Marshall Space Flight Center, the University of Alabama in Huntsville, and Universities Space Research Association. The GHCC component of the NCRST-E is comprised of scientists from Universities Space Research Association (USRA), NASA, the University of Alabama in Huntsville (UAH), Auburn University, and East-West Enterprises, Inc. representing government, academic, non-profit and for-profit commercial businesses.



***During the first year of the study the GHCC team accomplished the follow milestones:***

- Defined a 55-county study area in the southern Appalachian region.
- Conducted a search for cloud-free Landsat images of the study area.
- Acquired 31 Landsat Multispectral Scanner, Thematic Mapper, and Enhanced Thematic Mapper Plus images for complete coverage of the 55-county study area at four times since 1973.
- Georectified, atmospherically corrected, and normalized Landsat images.
- Acquired digital county transportation maps for most of the 55-county study area at multiple times since 1970.
- Began developing a workflow to extract and attribute roads from digital maps to convert the maps to thematic information.
- Selected six watersheds for general hydrologic study.
- Acquired stream gage data from USGS stream gages throughout the study area.
- Defined relevant hydrologic variables for analysis.
- Initiated development of a database with selected socio-economic variables.



***Major milestones for the second project year include the following:***

- An analysis of the transportation development history of the region.
- An analysis of the hydrologic data and identification of trends.
- An analysis of socio-economic data and identification of trends.
- An analysis of data relationships to determine relationship between transportation development and long-term environmental changes.



**Contact Information:**