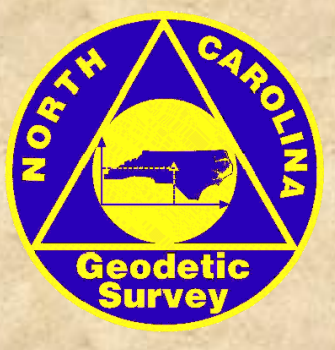
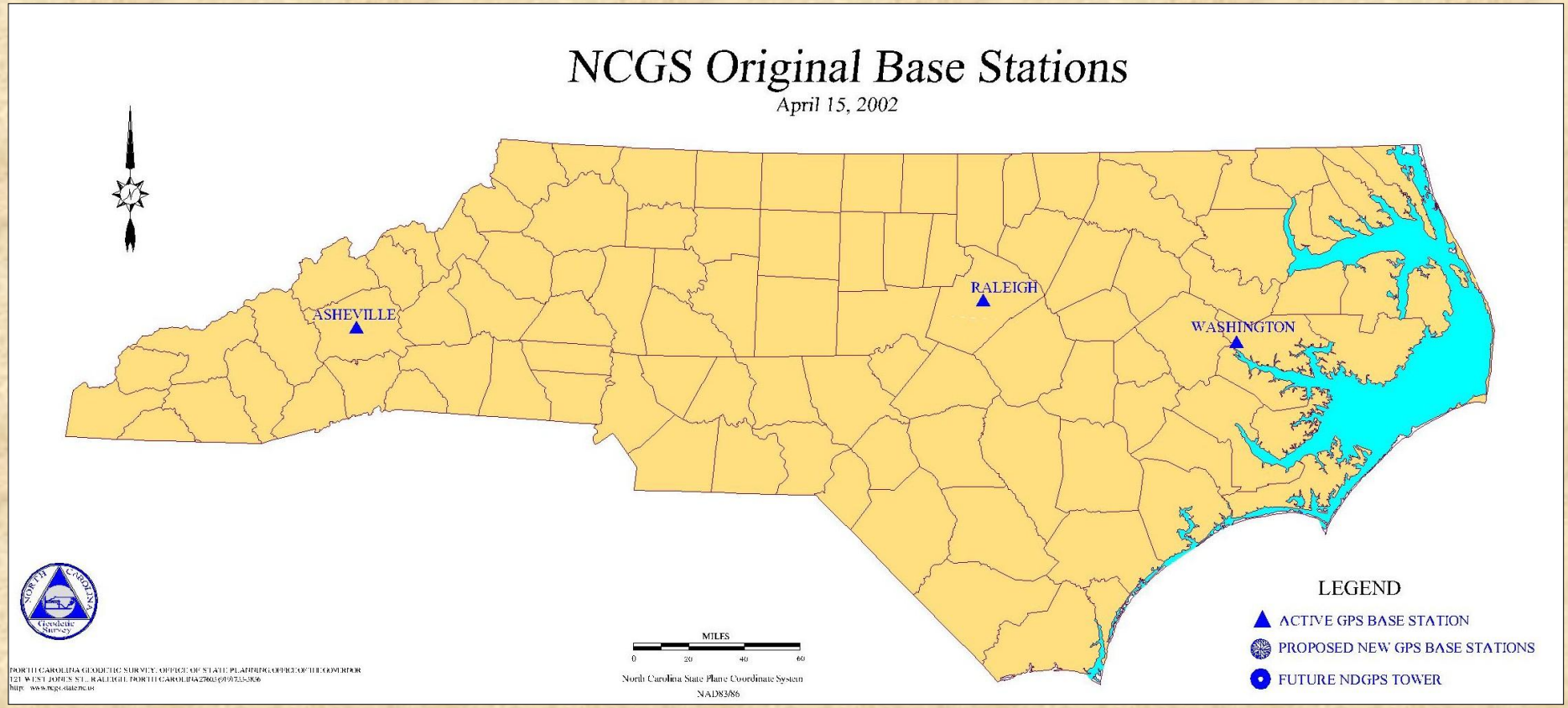


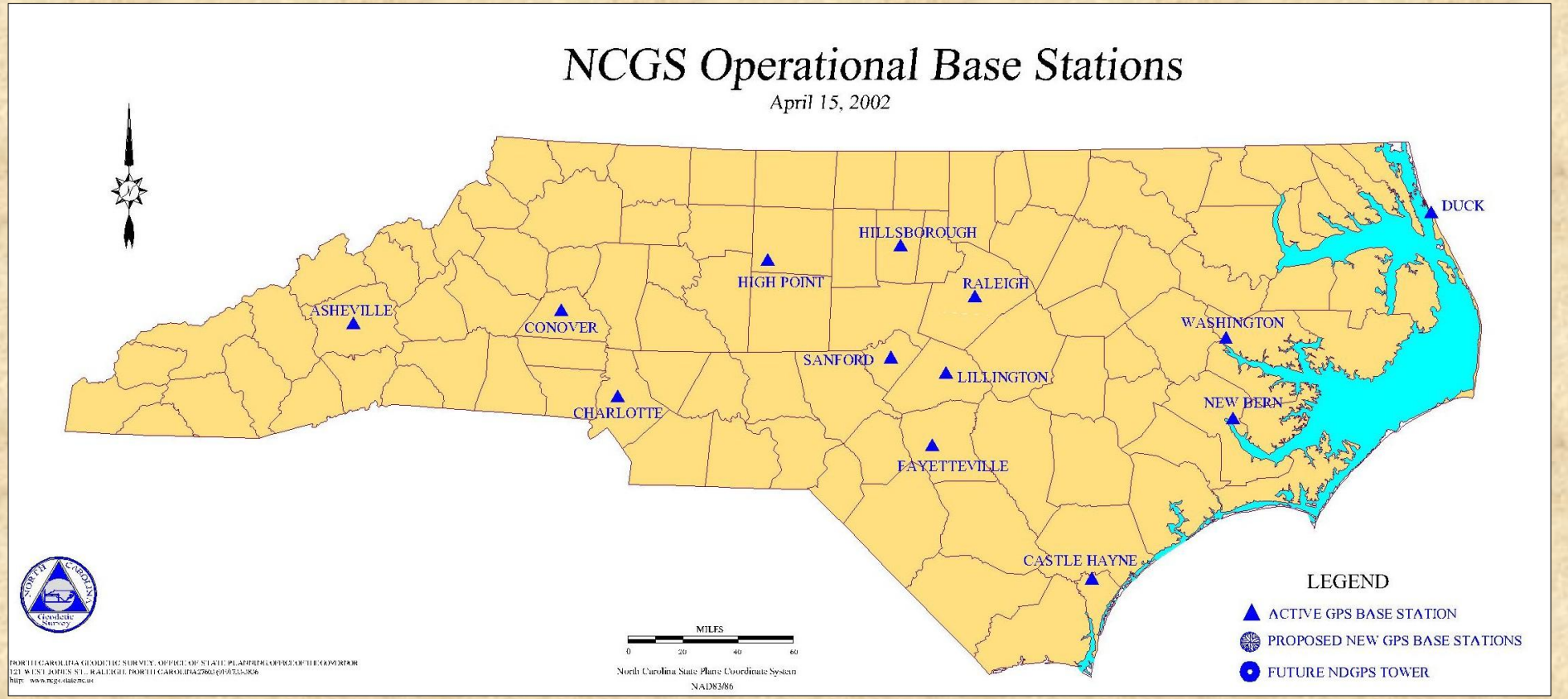
North Carolina CORS Network

April 2002

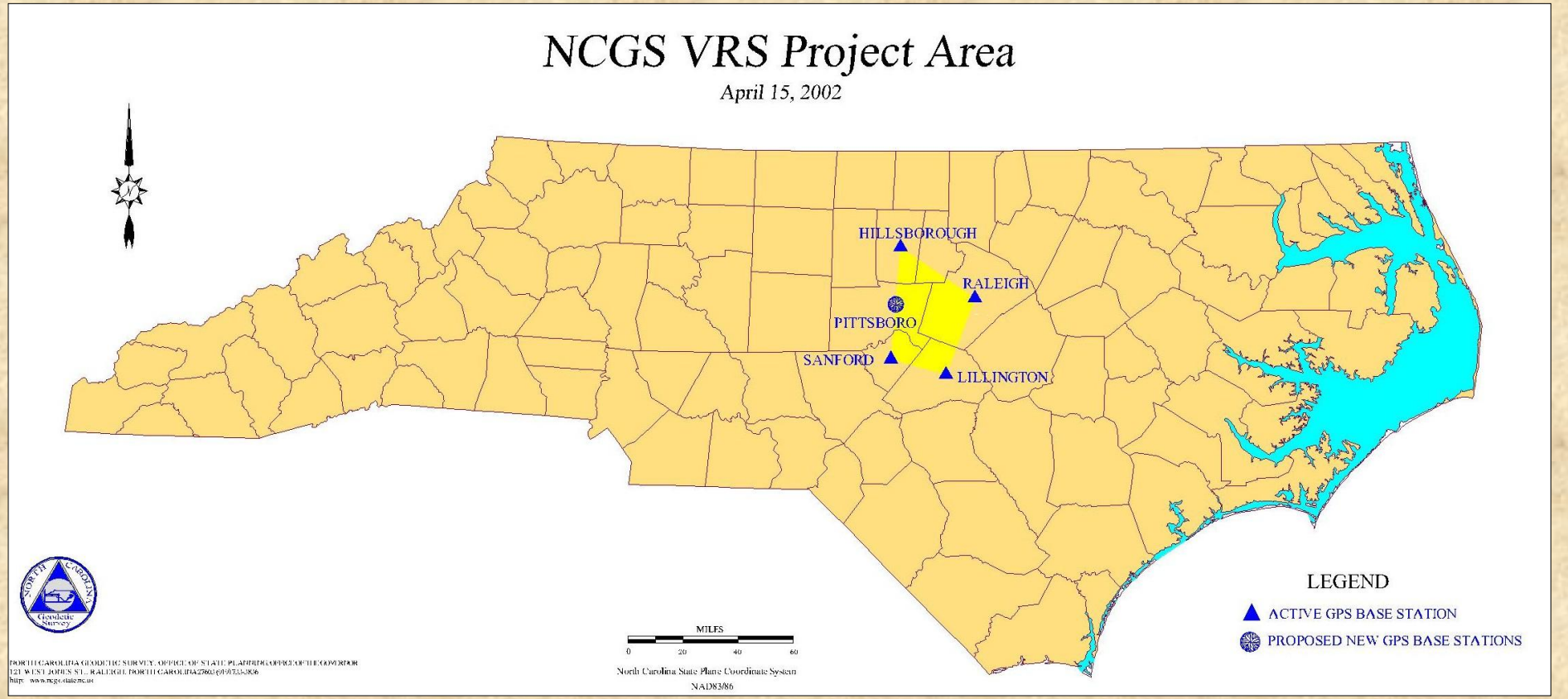
Original Base Stations



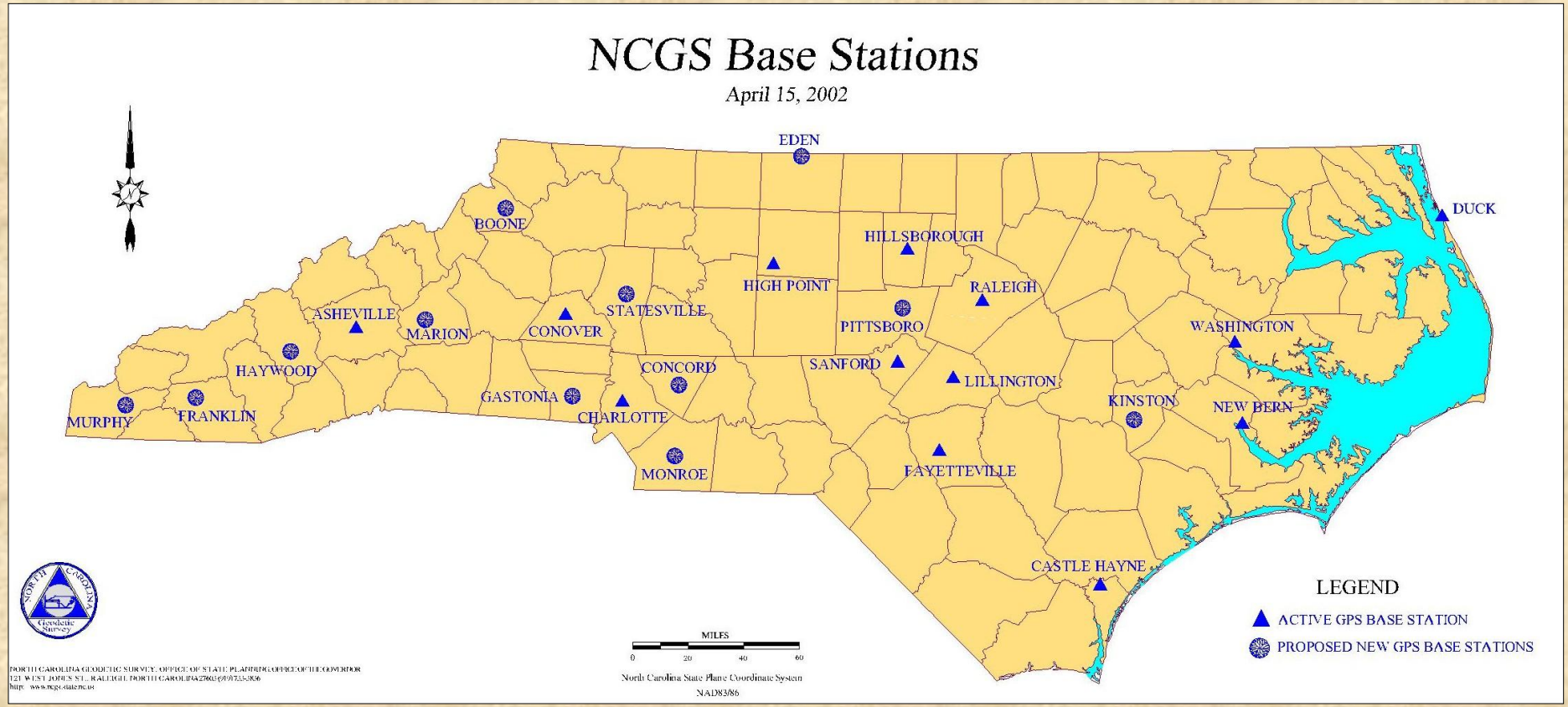
Operational Base Stations



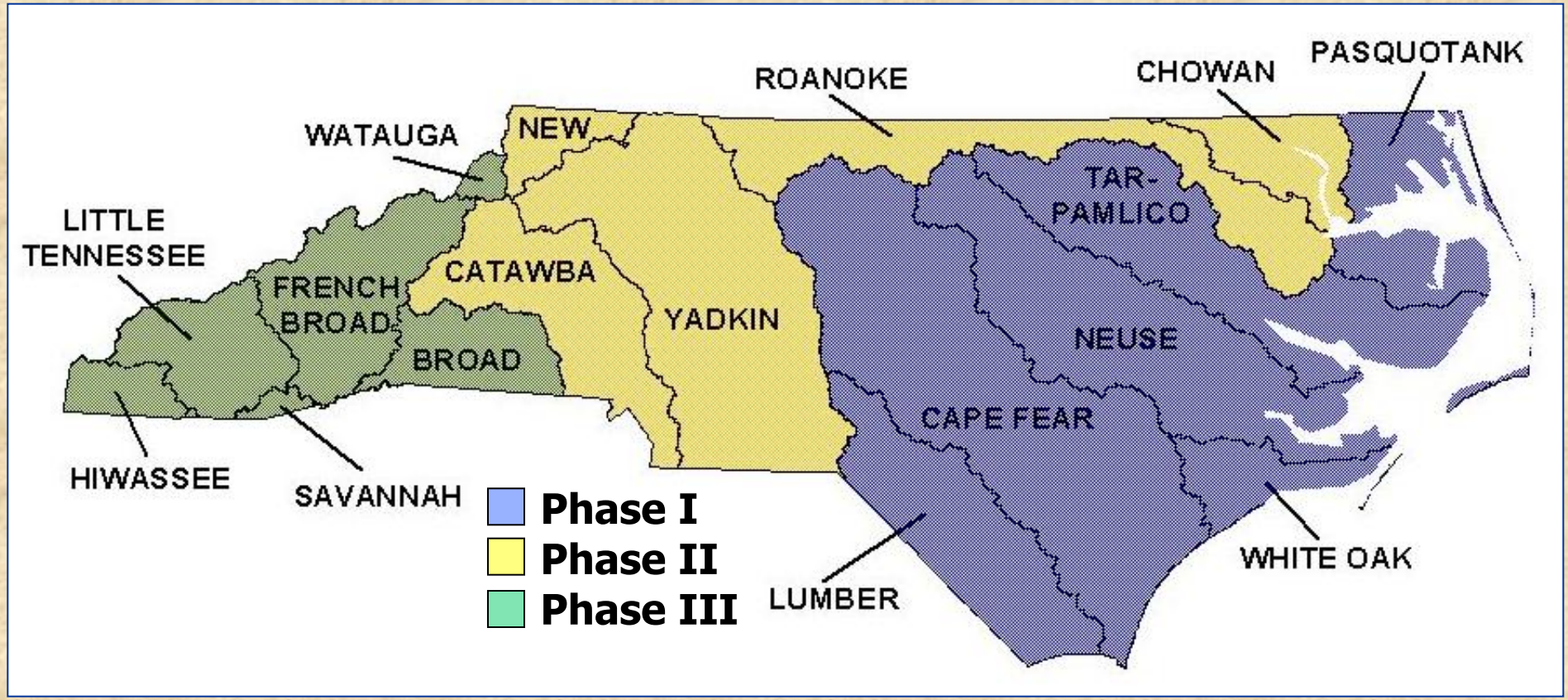
VRS Pilot Project



Operational & Proposed GPS Base Stations



FMP Phases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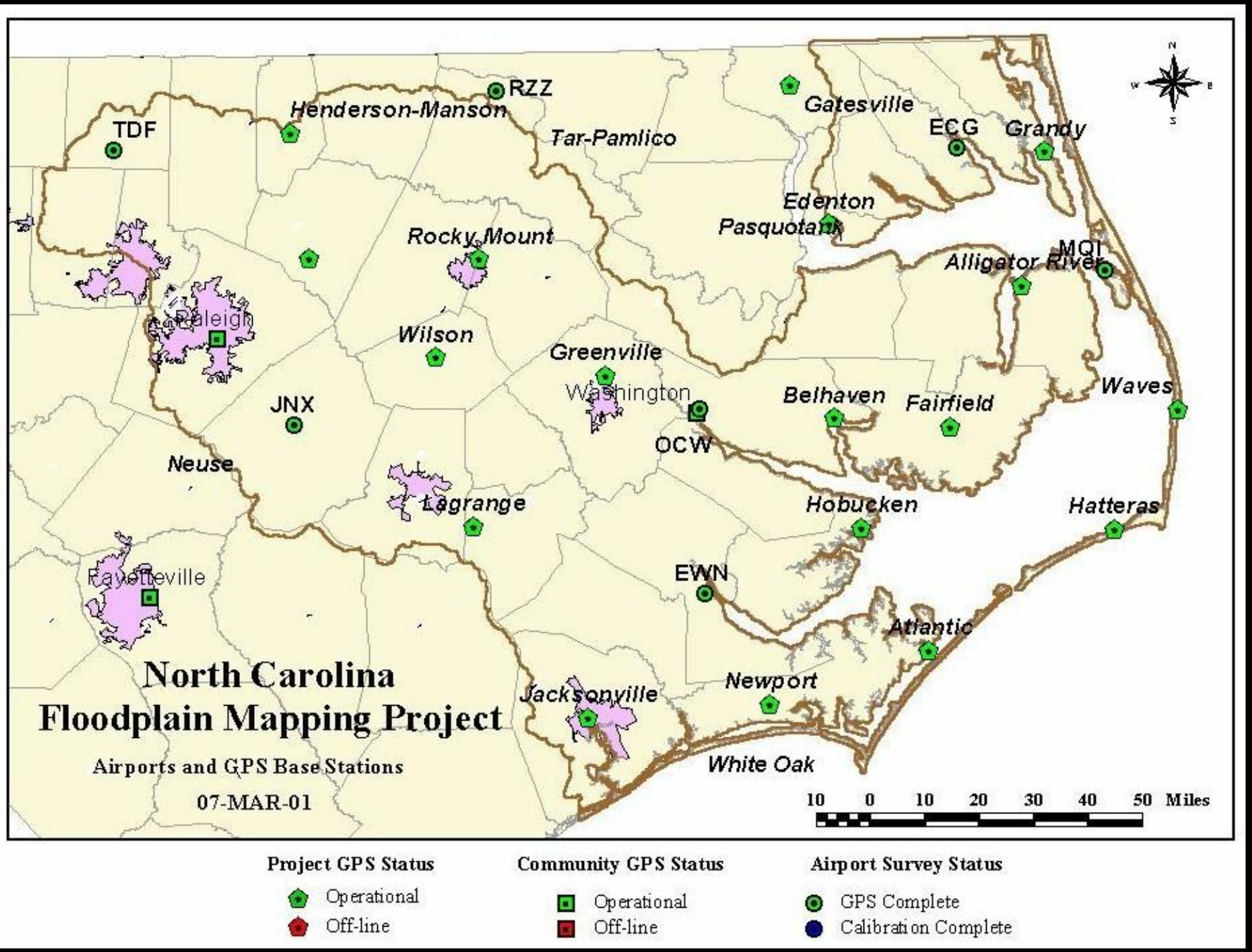
Phase I
Phase II
Phase III
LUMBER
WHITE OAK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Rocky Mount
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Wilson
Greenville
Washington
JNX
Belhaven
Fairfield
Waves
OCW
Neuse
Lagrange
Hobucken
Hatteras
Fayetteville
EWN
Atlantic
Newport
Jacksonville
White Oak
North Carolina
Floodplain Mapping Project
Airports and GPS Base Stations
07-MAR-01
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Off-line
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Operational
Off-line
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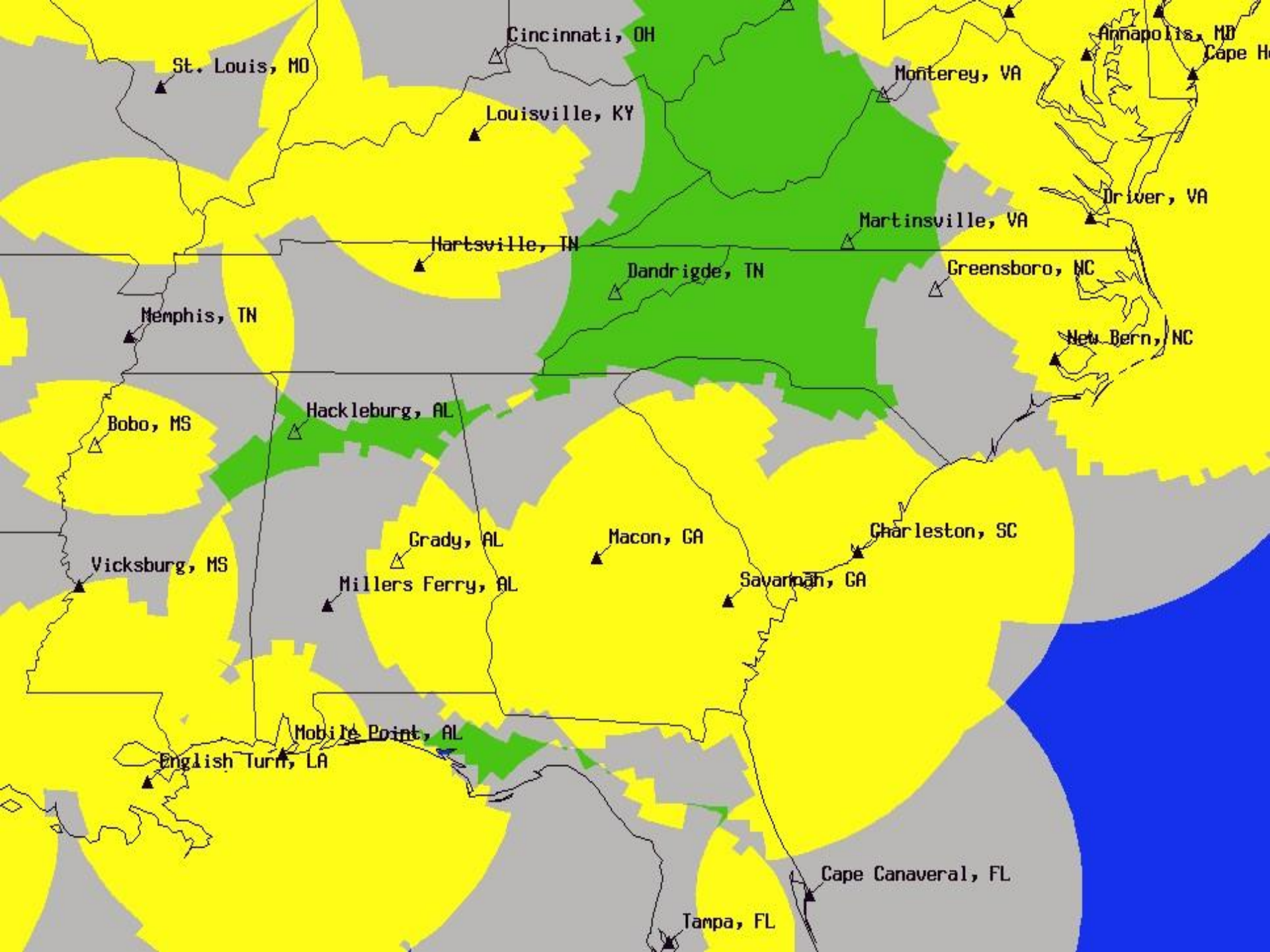
Calibration Complete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Martinsville, VA
Hartsville, TN
Dandridge, TN
Greensboro, NC
Memphis, TN
New Bern, NC
Hackleburg, AL
Bobo, MS
Grady, AL
Macon, GA
Charleston, SC
Vicksburg, MS
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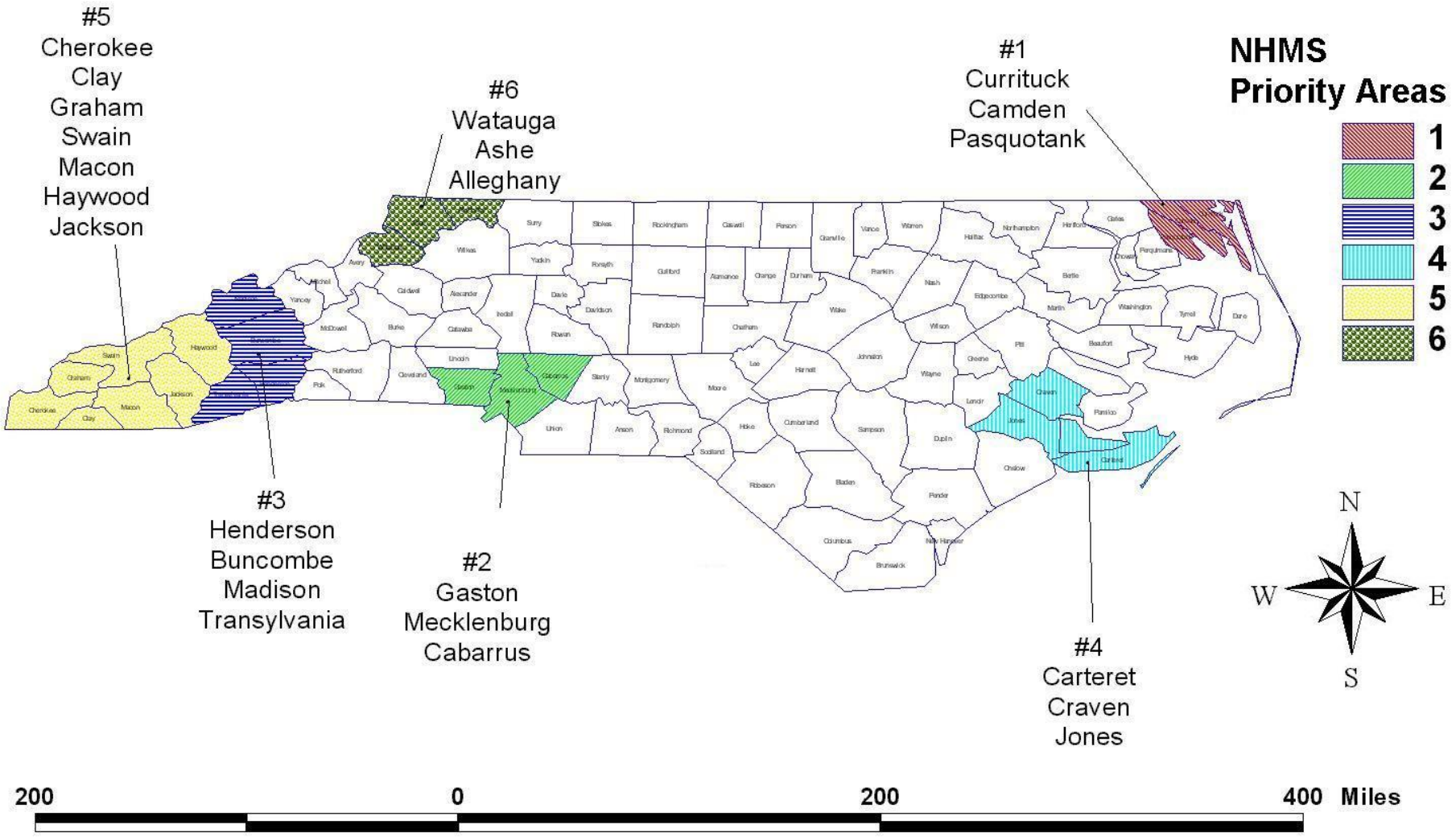
Cape Canaveral, FL
Tampa, FL

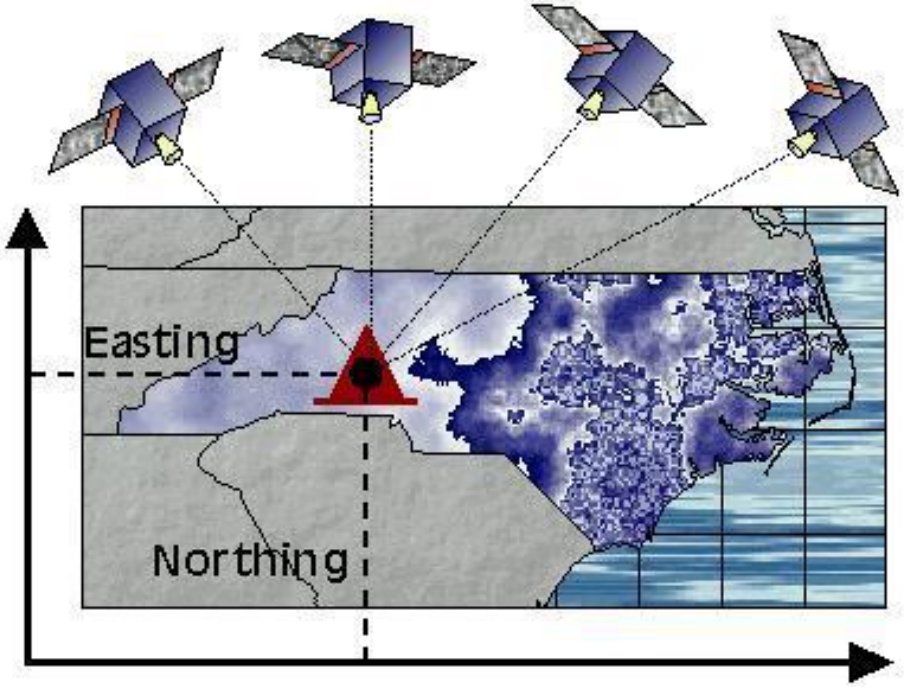
National Height Modernization System
February 12, 2002



North Carolina Geodetic Survey

Division of Land Resources

Department of Environment and Natural Resources



- Mission, Vision and Strategic Goals
- Products and Services
- NCGS Database
- Digital County Maps
- GPS Base Stations
- GPS Projects Map
- HARN Stations Map
- EDM Calibration Baselines
- NCGS FTP Site
- GPS Info Links
- Station Recovery Form NEW

- County & State Boundary Info
- NC Floodplain Mapping Info

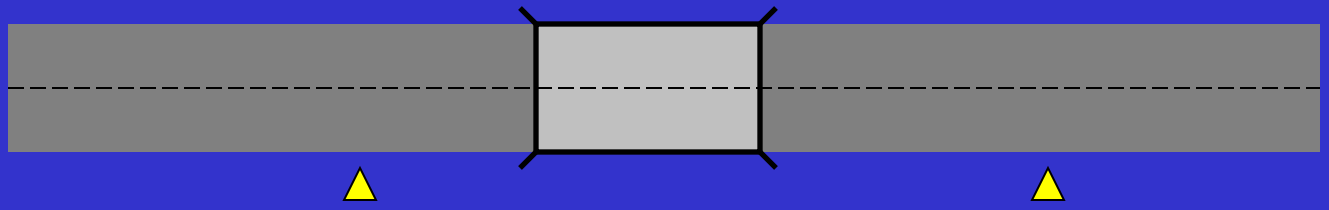
National Height Modernization

- NGS Database
- NGS Geodetic Tool Kit
- NGS Software

- ACSM References & Resources
- Federal Geographic Data Committee

http://www.ncgs.state.nc.us/

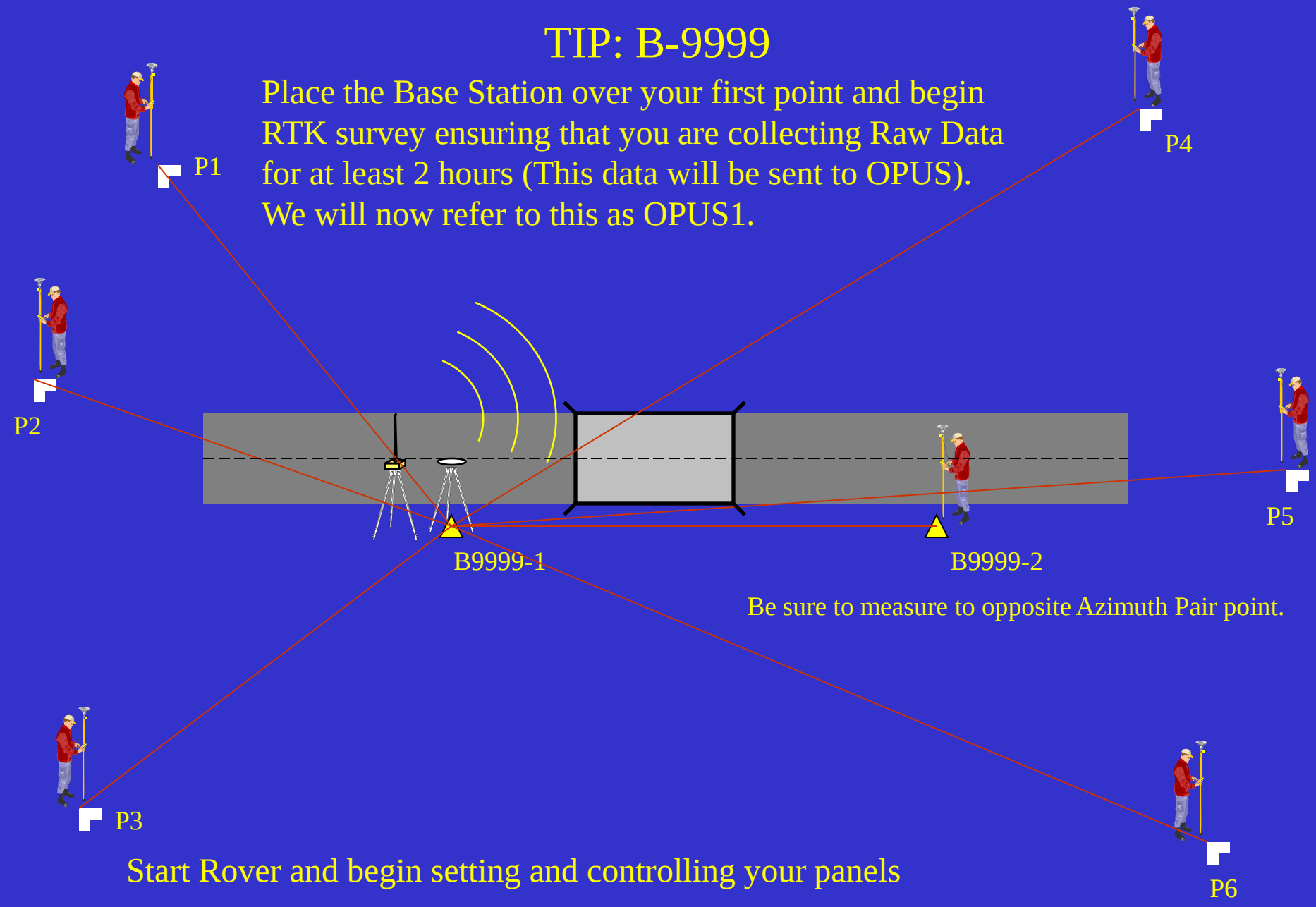
Using OPUS to control Bridges



- On a typical bridge job, NCDOT
  - Sets an azimuth pair (▲ ▲)
  - Uses approximately 6-7 control panels (⌜)
  - Controls the site with 2 receivers

TIP: B-9999

Place the Base Station over your first point and begin RTK survey ensuring that you are collecting Raw Data for at least 2 hours (This data will be sent to OPUS). We will now refer to this as OPUS1.

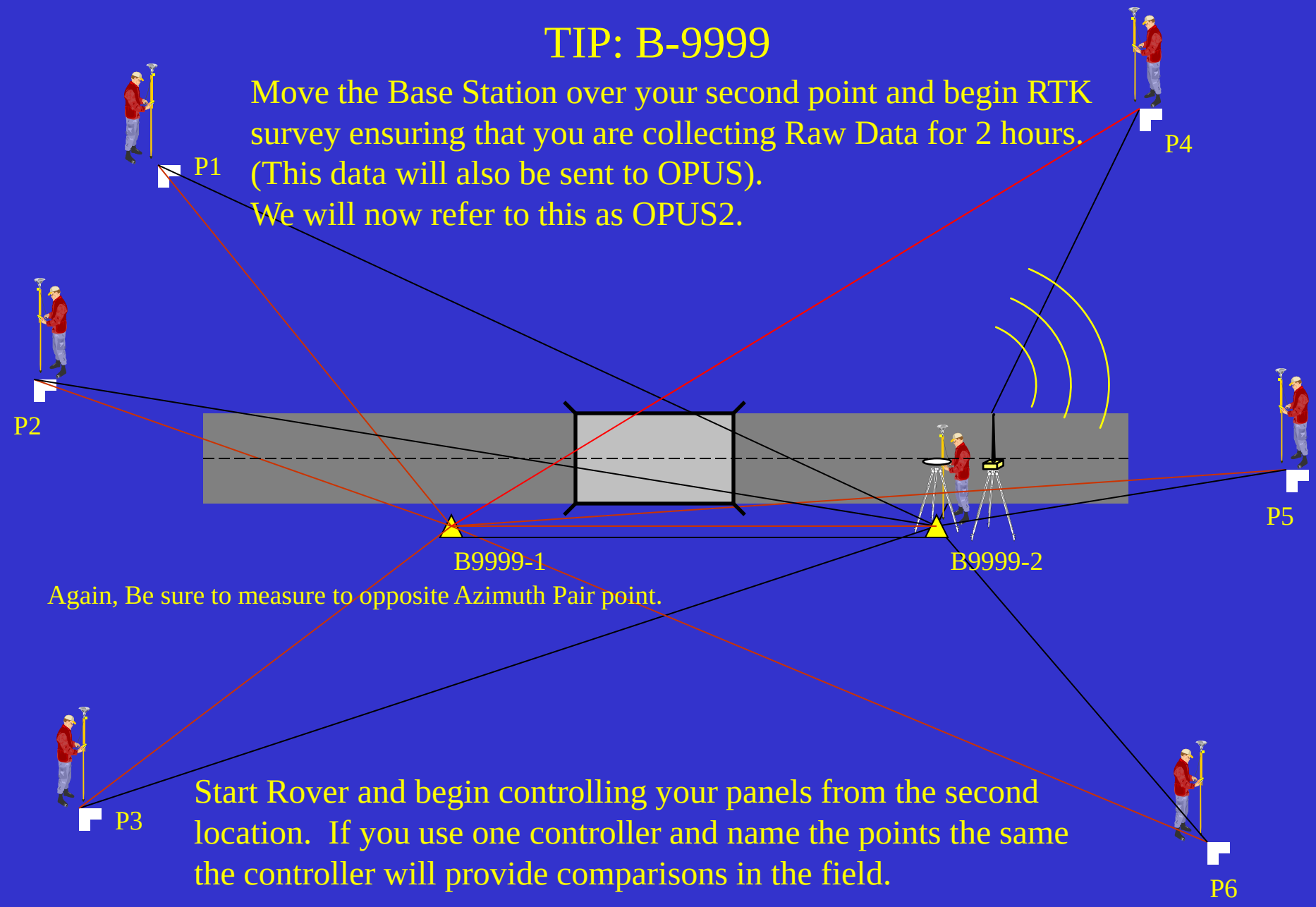


Be sure to measure to opposite Azimuth Pair point.

Start Rover and begin setting and controlling your panels

TIP: B-9999

Move the Base Station over your second point and begin RTK survey ensuring that you are collecting Raw Data for 2 hours. (This data will also be sent to OPUS).
We will now refer to this as OPUS2.



Again, Be sure to measure to opposite Azimuth Pair point.

Start Rover and begin controlling your panels from the second location. If you use one controller and name the points the same the controller will provide comparisons in the field.

Field Work is now complete.

The following steps need to be taken to finish the process:

Office Process

- Download the Raw Data and RTK dc files
- Convert both blocks of raw data to RINEX format using Trimble's utility
- Upload the files to: http://www.ngs.noaa.gov/OPUS/
- Receive the results from OPUS via email in minutes

Continued…

- Import the dc file into Trimble Geomatics Office
- Update the initial base position for the first base to the coordinates provided by OPUS1
- After a recompute, everything in the dc file should be corrected relative to the first base location (OPUS1)

Continued ...

- The position for OPUS2 is only used for comparison to what was derived from OPUS1
- Coordinates can now be utilized as needed

OPUS & RTK Savings to NCDOT

	Staff Hours	Vehicles	GPS Receivers	Cell Phones
Static	24 - 48	3	3	3
OPUS & RTK	6 - 12	1	1	*1
Savings	18 - 36	2	2	2

* The cell phone listed in the OPUS & RTK surveying comparison was not used in the survey work, but was available for contacting the office.

Standards Adopted

Standards endorsed by the GICC and have become part of the Information Resource Management Commission's (IRMC) Technical Architecture for State Government.

Version 2.2; Geographic Data Content Standard for Water Distribution and Sanitary Sewer Systems; State of North Carolina, Geographic Information Coordinating Council; April 1997. Adopted by the NC GICC on December 4, 1997.

North Carolina - Statewide Global Positioning System (GPS) Data Collection and Documentation Standards, Version 2. Adopted by the NC GICC, December 14, 1999.

Content Standards for Digital Geospatial Metadata, Federal Geographic Data Committee, June 8, 1994. Adopted by the NC GICC on February 21, 1996.

The FGDC Metadata Standard - An Image Map

Metadata background, updates and tools info.

We recommend using the FGDC's Content Standards for Digital Geospatial Metadata Workbook, Version 1.0. This can be ordered from the FGDC (FREE) by contacting them at P:(703) 648-5514; F: (703) 648-5755; or email gdc@usgs.gov

http://cgia.cgia.state.nc.us:80/cgia/