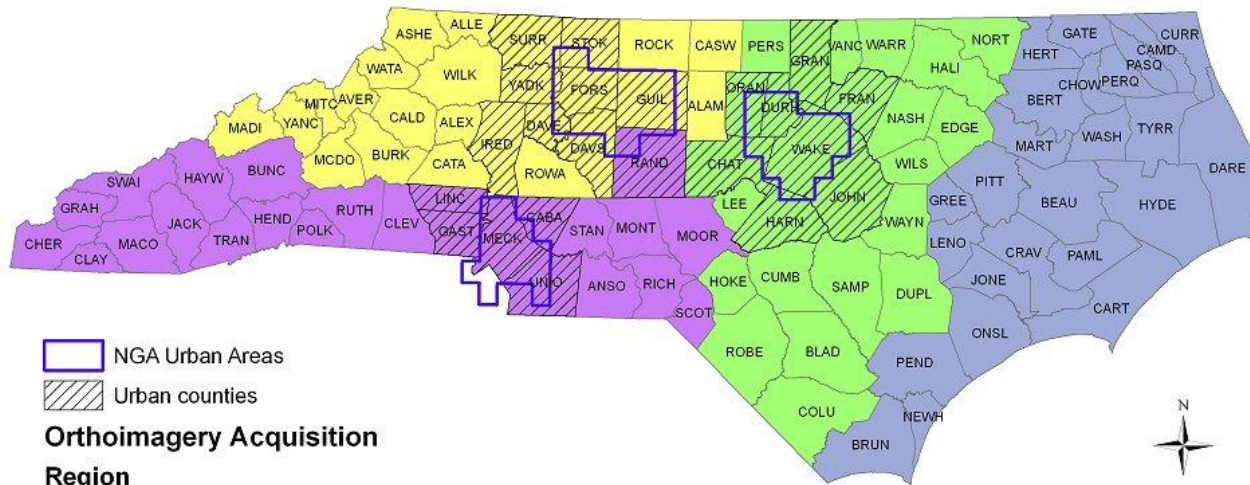


2012 Coastal Imagery Project

North Carolina Statewide Digital Orthoimagery, Business Plan for Four-Year Acquisition and Urban Counties



NGA Urban Areas

Urban counties

Orthoimagery Acquisition

Region

Eastern Piedmont

Coastal

Western-North

Western-South

0 25 50 100 Miles



Sources: NC Center for Geographic Information and Analysis
and the Working Group for Orthophotography Planning,
Statewide Mapping Advisory Committee.

January 12, 2011



North Carolina Geodetic Survey

512 N. Salisbury Street
Raleigh, North Carolina 27604
919.733.3836
<http://www.ncgs.state.nc.us>



accuracy analyst™ 
<http://www.spatialis.com>

Project Information

Prepared By: Steve Kaufman

Project Name: E911

Sensor Info: na

Sensor Resolution: 0.5

Vendor Name: Floodplain

Date of Aquisition: Start: 3/14/2011 Finish: 3/14/2011

Metadata Information

Index File Name: Greene2010_index.shp

of Polygons: 347

of Matching Images: 347

Polygon ID: location

Units: Feet

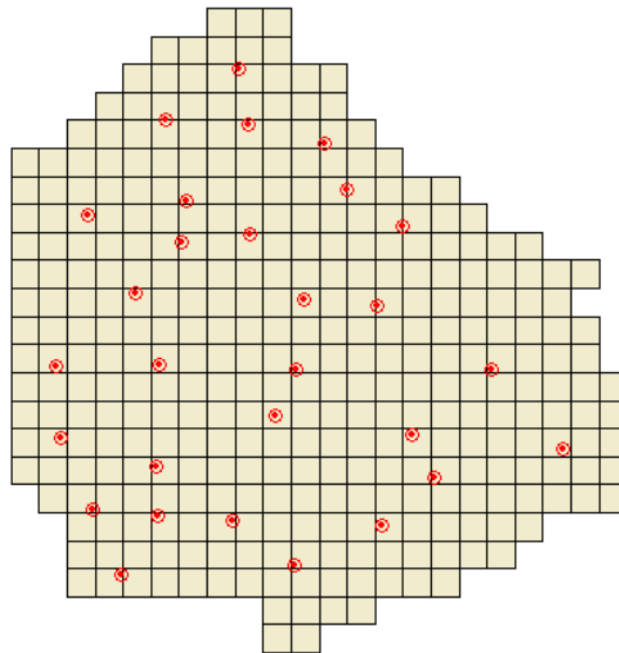
Threshold: CE90: 1.774

Scaling Used: 1:150

Tiled-Image Area

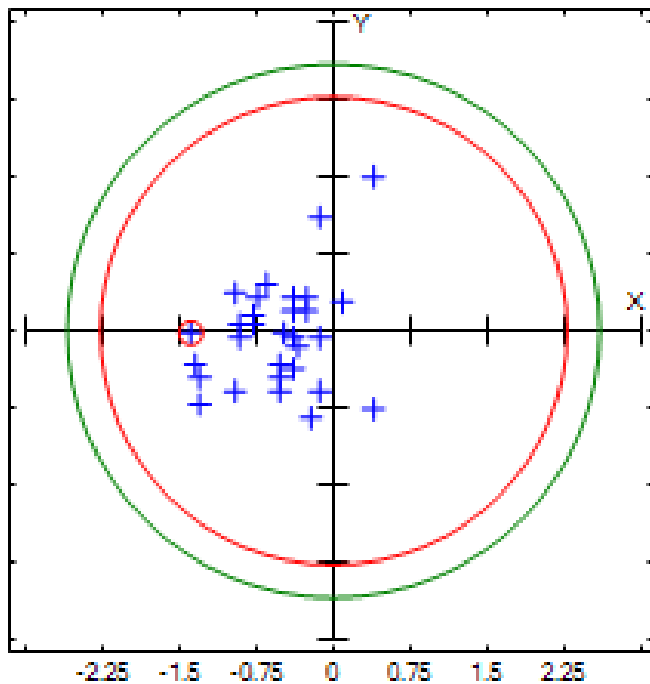
Quality Control Report

Tiled-Image Area



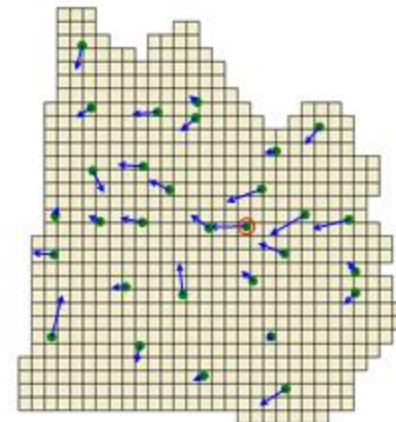
2010 Statewide Imagery Project

Circular Error



- Quality control surveys performed in all counties
 - Reports posted on NCGS web page

Distribution of QC Points



Quality Control Report

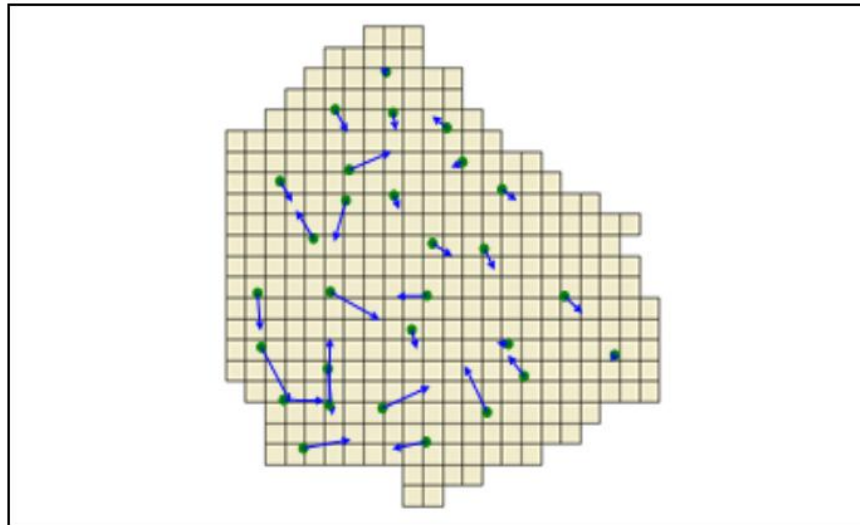
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919.733.3836
<http://www.ncgs.state.nc.us>



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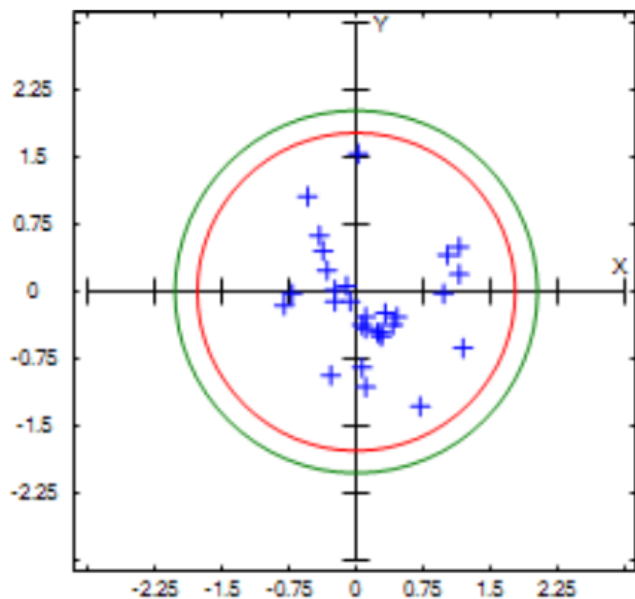
Vector Offset



Scaling Factor: 10000

Quality Control Report

Circular Error




Error Statistics

Min ΔX :	-0.803	Min ΔY :	-1.28	SX:	0.696
Max ΔX :	1.194	Max ΔY :	1.541	SY:	0.957
Mean ΔX :	0.158	Mean ΔY :	-0.117	SH:	0.827
Skew ΔX :	0.421	Skew ΔY :	0.614		
RmseX:	0.569	RmseY:	0.609	RmseH:	0.833
SRMSE H:	0.154				
CE 90:	1.774	CE 95:	2.024	CI:	0.301
No. Observations:	29				
Horiz. Bias:	0.197		NSSDA:	1.442	

NC Geodetic Survey

- [Mission Statement](#)
- [Products and Services](#)
- [FAQs Regarding NAD83\(NSRS2007\)](#)
- [Contact Information](#)
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- Geodetic Database and Tools**
- [CORS, RTK and GPS](#)
- [Maps](#)
- [NCGS FTP Site](#)
- [County and State Boundary](#)
- [NGS Resources](#)
- [Other Programs](#)

 **NC Geodetic Survey**
nctrn

The NCKI (Kinston) and NCSP (Spindale) CORS are operating again.
3 hours ago · reply

NCSY (Sylva) CORS is operating again.
4 days ago · reply

The NCKI (Kinston), NCSP (Spindale) and NCSY (Sylva) CORS are currently not

 Join the conversation

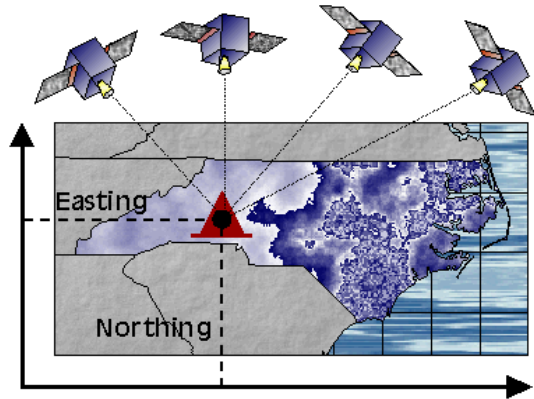
 [Geodetic News \(rss\)](#)

March 24, 2011 30th Annual State

North Carolina Geodetic Survey

[Division of Land Resources](#)

[Department of Environment and Natural Resources](#)



[NGS Statement on NAD 83\(NSRS2007\) Coordinates on Data Sheets](#)

[National Spatial System Readjustment of NAD83](#)

The purpose of the Geodetic Survey section is to establish precisely located monuments on the North Carolina Grid System and Bench Marks referenced to a vertical datum (NGVD 1929 and NAVD 1988).

This internet access has been provided in the hope that all who are interested in the North Carolina Grid System - land surveyors, engineers, planners, instructors and students - will become familiar with the computations and technologies involved.

If you have questions regarding the data content on this page, please contact NCGS by either:

feedback

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Display distances in **Meters** Monument search | My Folder | Inverse Calculator | Data Export | Station Recovery | Contact NCGS

Station name: Search Radius:

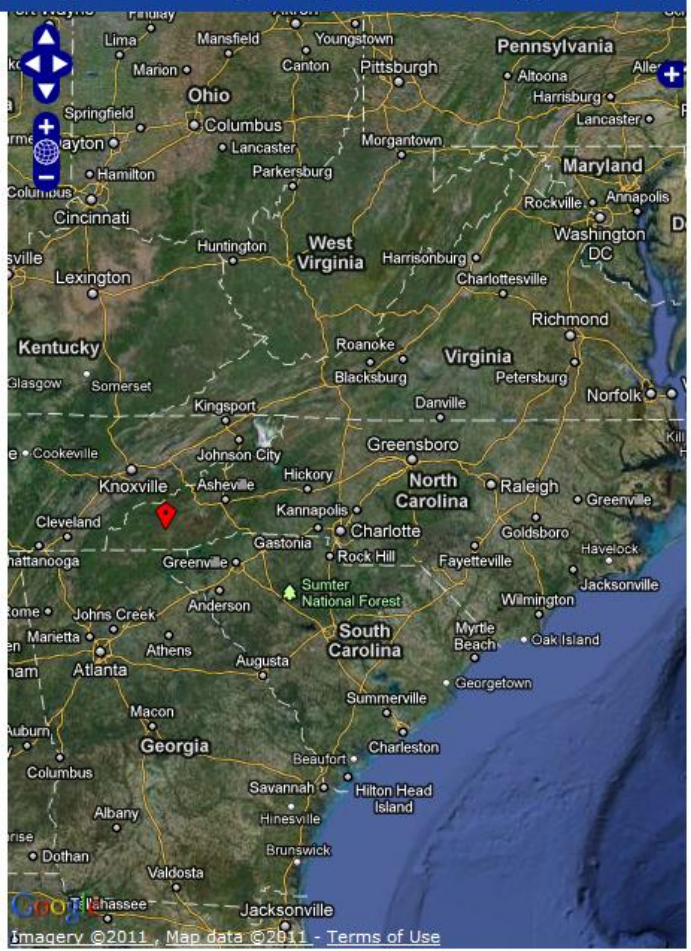
PID: Latitude: ° ' " N

County: Longitude: ° ' " W

Order:

Showing 1 to 6 of 6 monuments << prev next >>

<input type="checkbox"/>	County	Name	PID	Type	Condition
<input type="checkbox"/>	Warren	MACON AZ MK	FY0194	Disk	Not found
<input checked="" type="checkbox"/>	Macon	MACON CBL 000 2	AJ3417	Disk	Good
<input checked="" type="checkbox"/>	Macon	MACON CBL 150 2	AJ3418	Disk	Good
<input type="checkbox"/>	Franklin	MACON NCGS 1969	FY2576	Disk	Good
<input type="checkbox"/>	Warren	MACON RM=A 5	MACON NCGS 1969	Disk	Good
<input type="checkbox"/>	Warren	MACON=Z 4	FY0195	---	---



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Monument

Name	PID	County
MACON CBL 000 2	AJ3417	Macon
Condition	Owner	Type
Good	NCGS	Disk
Disk		
DH-Horizontal control disk		
Setting		
7-Set in top of concrete monument		
Vertical Stability		
C-Commonly subject to surface ground movements.		

[View NGS Datasheet](#)



Position

Date	Latitude	Longitude	Northing	Easting
07/01/2008	35° 13' 18.84136"	083° 25' 14.40236"	172,236.334 m	207,323.277 m
Order	Convergence	Scale Factor	Elevation Factor	Combined Factor
No order	-2° 33' 5.31967"	0.99987273	0.99990799	0.99978073
Datum	Source	Technique	Local Accuracy	Network Accuracy
NAD83/2007	---	---	---	---

Position History [show full history](#)

Elevation

Date	Model	Height measure	Datum	Order	Type	Method	Class	Local Accuracy	Network Accuracy
07/01/2008	Orthometric	614.565 m	NAVD88	Second order	Normal differential leveling	Adj. Level	Class 2		
07/01/2008	Ellipsoid	586.224 m		---			---	---	---
	GEOID09	-28.34 m							

Elevation History [show full history](#)

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Display distances in **Meters** Monument search My Folder Inverse Calculator Data Export Station Recovery Contact NCGS

Station name:
 Search Radius:
 PID:
 Latitude: ° ' " N
 Longitude: ° ' " W
 County:
 Order:

Showing 1 to 6 of 6 monuments << prev next >>

<input type="checkbox"/> County	Name	PID	Type	Condition
<input checked="" type="checkbox"/> Macon	AIRPORT	FB3509	Disk	Not found
<input type="checkbox"/> Macon	FRANKLIN CBL 000	FB4103	---	---
<input type="checkbox"/> Macon	FRANKLIN CBL 150	FB4105	---	---
<input checked="" type="checkbox"/> Macon	FRANKLIN CBL 410	FB4106	Disk	Good
<input checked="" type="checkbox"/> Macon	MACON CBL 000 2	AJ3417	Disk	Good
<input checked="" type="checkbox"/> Macon	MACON CBL 150 2	AJ3418	Disk	Good



feedback

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http://portal.ncdenr.org/web/lr/geodetic/database

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NCDENR Division of Land Resources

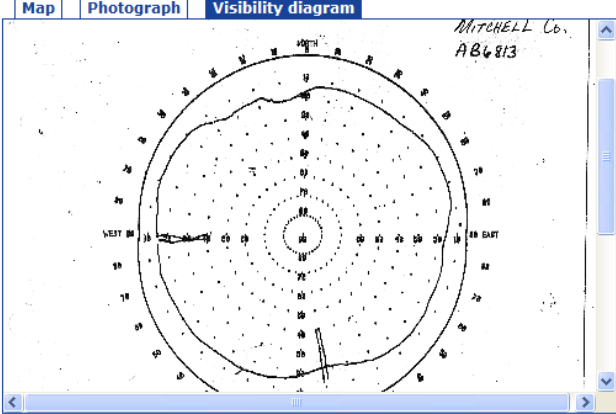
HOME LAND QUALITY GEOLOGICAL SURVEY GEODETIC SURVEY

Search DENR ... - Text +

Display distances in **Meters** | Monument search | My Folder | Inverse Calculator | Data Export | Station Recovery | Contact NCGS

Monument		
Name	PID	County
HUNTDAL	AB6813	Mitchell
Condition	Owner	Type
Good	NCGS	Disk
Disk		
DH-Horizontal control disk		
Setting		
34-Footings of small/medium structures		
Vertical Stability		
C-Commonly subject to surface ground movements.		
<input type="button" value="Add to My Folder"/> <input type="button" value="Search Near Here"/>		
View NGS Datasheet		

Map
Photograph
Visibility diagram



Position				
Date	Latitude	Longitude	Northing	Easting
07/01/2008	36° 01' 34.88493"	082° 19' 4.31420"	257,522.032 m	310,616.325 m
Order	Convergence	Scale Factor	Elevation Factor	Combined Factor
No order	-1° 54' 53.90288"	0.99996386	0.99990627	0.99987013
Datum	Source	Technique	Local Accuracy	Network Accuracy
NAD83/2007	---	---	---	---

Position History [show full history](#)

Elevation									
Date	Model	Height measure	Datum	Order	Type	Method	Class	Local Accuracy	Network Accuracy
07/01/2008	Orthometric	627.787 m	NAVD88	Second order	Normal differential leveling	Adj. Level	Class 2		
07/01/2008	Ellipsoid	597.267 m		---			---	---	---
	GEOID09	-30.52 m							

Elevation History [show full history](#)

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Display distances in **Meters** | Monument search | My Folder | **Inverse Calculator** | Data Export | Station Recovery | Contact NCGS

Showing 1 to 10 of 10 monuments << prev next >>

<input type="checkbox"/> County	Name	PID	Type	Condition
<input type="checkbox"/> Dare	BIGHT	AF8839	Disk	Good
<input type="checkbox"/> Johnston	FLOWERS	EZ4622	Disk	Good
<input type="checkbox"/> Macon	FRANKLIN CBL 150	FB4105	---	---
<input type="checkbox"/> Dare	K 193	EX0242	Disk	Good
<input type="checkbox"/> Macon	MACON CBL 000 2	AJ3417	Disk	Good
<input type="checkbox"/> Macon	MACON CBL 150 2	AJ3418	Disk	Good
<input type="checkbox"/> Avery	NEWLAND	FZ0875	Disk	Not found
<input type="checkbox"/> Pasquotank	NEWLAND	FX2681	Disk	Original setting
<input type="checkbox"/> Avery	NEWLAND N=MAGNETIC STA	FZ0876	Disk	Good
<input type="checkbox"/> Johnston	PIPE	AH4965	Disk	Good

NC State Plane Coordinate (GRID) Inverse					
Station A	Station B	Distance	Azimuth	Reverse (from B to A)	Datum
MACON CBL 000 2	MACON CBL 150 2	ERROR: Datums not consistent			

Geodetic Inverse					
Station A	Station B	Distance	Azimuth	Reverse (from B to A)	Datum
MACON CBL 000 2	MACON CBL 150 2	ERROR: Datums not consistent			

Compute Inverse Reverse Report
Clear Report

feedback

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Display distances in **Meters** | Monument search | My Folder | Inverse Calculator | **Data Export** | Station Recovery | Contact NCGS

Showing 1 to 20 of 38 monuments

<input type="checkbox"/>	County	Name	PID	Type	Condition
<input type="checkbox"/>	Greene	ANTIQUE	EY1169	Disk	Good
<input type="checkbox"/>	Greene	BAPTIST	DH8784	Disk	Good
<input type="checkbox"/>	Greene	BARNES	DH8801	Disk	Original setting
<input type="checkbox"/>	Greene	BARROW	DH8762	Disk	Original setting
<input type="checkbox"/>	Greene	BEAN	DH8733	Disk	Original setting
<input type="checkbox"/>	Greene	CARR	EY2952	Disk	Good
<input type="checkbox"/>	Greene	CEMETERY	EY1073	Disk	Good
<input type="checkbox"/>	Greene	DONALD	DH8727	Disk	Original setting
<input type="checkbox"/>	Greene	DOOR	DH8766	Disk	Original setting
<input type="checkbox"/>	Greene	DUCK	DH8728	Disk	Original setting
<input type="checkbox"/>	Greene	FLAKES	DH8763	Disk	Original setting
<input type="checkbox"/>	Greene	FLANIGAN RM 6	AB6786	Disk	Good
<input type="checkbox"/>	Greene	FRED	DH8759	Disk	Original setting
<input type="checkbox"/>	Greene	HAIR	DH8777	Disk	Original setting
<input type="checkbox"/>	Greene	HARRISON	EY2564	Disk	Good
<input type="checkbox"/>	Greene	HARRY	DH8734	Disk	Original setting
<input type="checkbox"/>	Greene	HOBBY	DH8778	Disk	Original setting
<input type="checkbox"/>	Greene	HORSE	DH8779	Disk	Original setting
<input type="checkbox"/>	Greene	JASON	EY2763	Disk	Not found
<input type="checkbox"/>	Greene	LUTHER	DH8761	Disk	Original setting

County name

Station name

Pid

Condition description

Disk description

Type description

Datum description

Geoid height

Ellipsoid Height

Orthometric Height

Orthometric Height datum

Horizontal order

Latitude DD (35.12345)

Longitude DD (-78.12345)

Latitude DMS (35 07 24.42)

Longitude DMS (078 07 24.42)

Latitude DDM (35 7.407)

Longitude DDM (078 7.407)

SPC North

SPC East

SPC Scale Factor

SPC Elevation Factor

SPC Combined Factor

SPC Convergence DD

Satellite visibility

Note: Hold down the control key (Ctrl) while clicking the mouse to select multiple fields.

[Export Monument Data](#)

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About you...

Name *

Telephone

Email

Organization

Role *
Please select your role... ▾

About the monument...

Station name

PID

Date recovered *

Station year

County
Please select a county... ▾

Condition *
Please select a condition... ▾

Station Owner
Please select an owner... ▾

Monument is visible to GPS

Remarks

feedback

http://xapps.ncdenr.org/lr/geodeticMonument/recoverySubmit.do?method=display

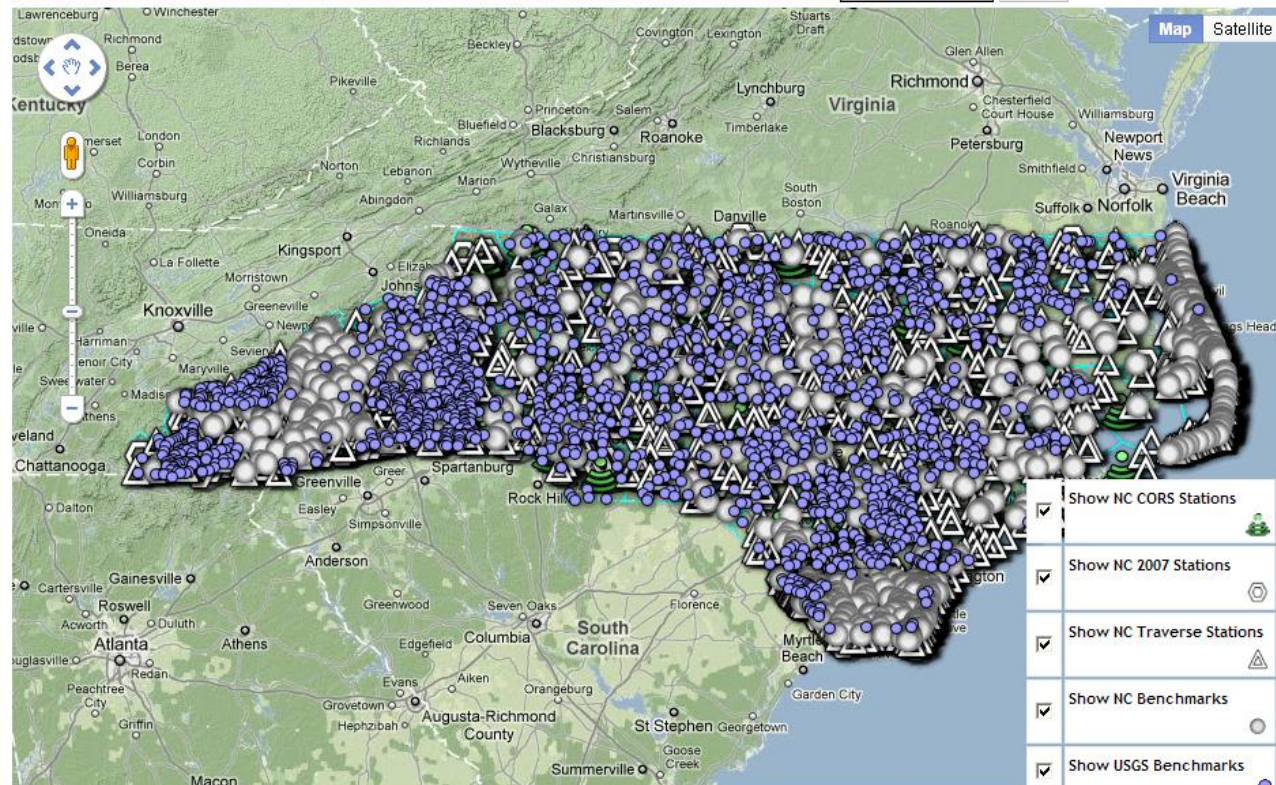
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NC Geodetic Stations Map

Enter an address to locate on the map:

Locate Address Reset



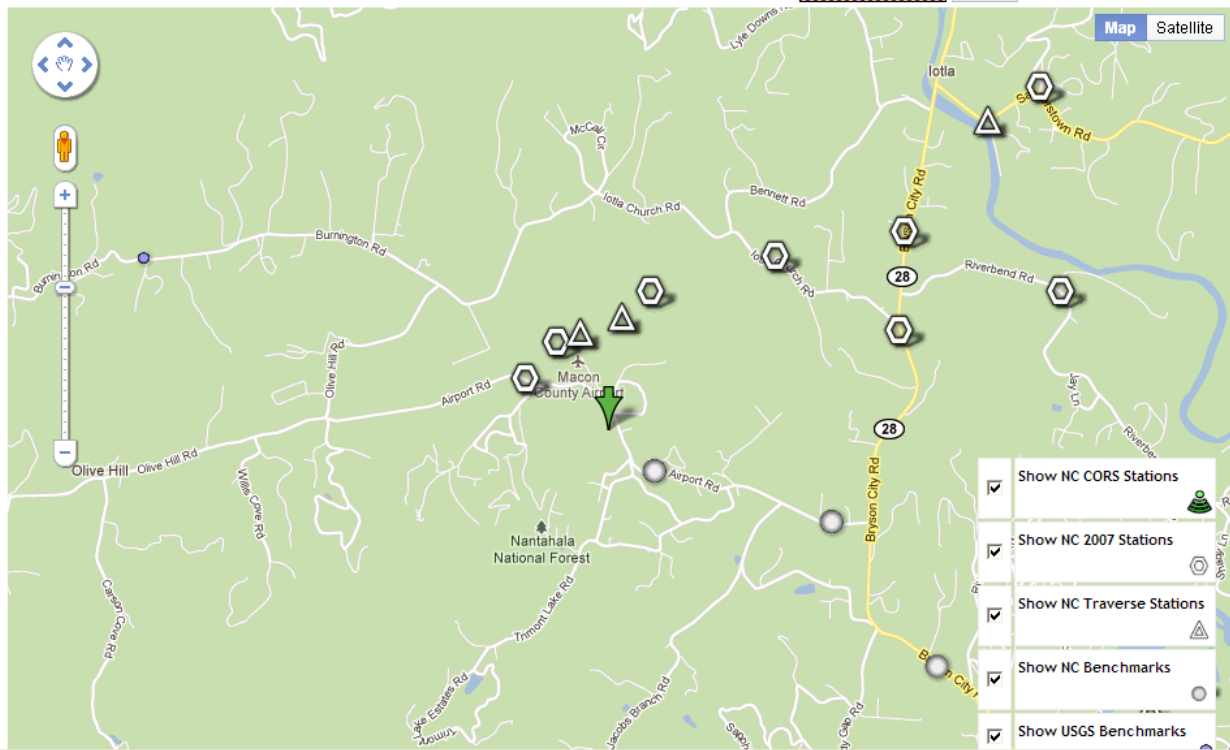
feedback

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NC Geodetic Stations Map

Enter an address to locate on the map:

Airport Road, Franklin, Nc Locate Address Reset



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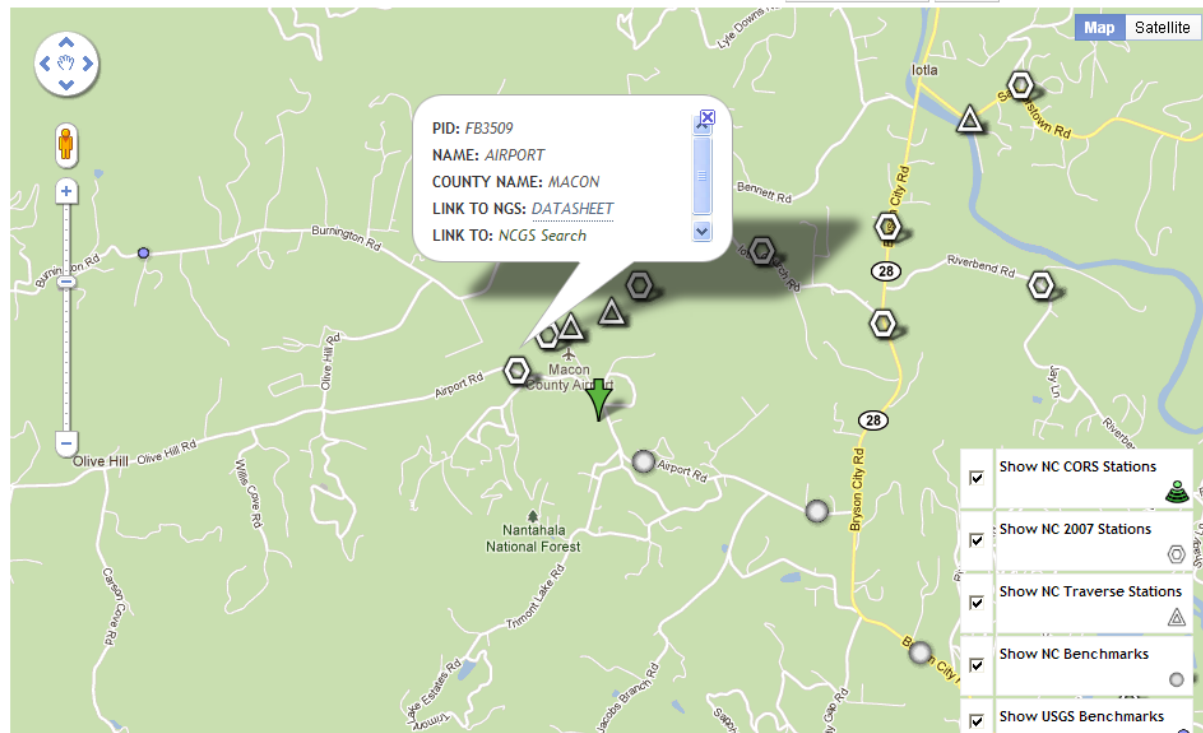
NC Geodetic Stations Map

Enter an address to locate on the map:

Airport Road, Franklin, Nc

Locate Address

Reset



North Carolina Floodplain Mapping Program Contractor Benchmarks

NC DENR - Preliminary Contractor Benchmarks - Windows Internet Explorer

http://portal.ncdenr.org/web/lf/geodetic/maps/contractor

Macon County Airport Franklin NC

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Preliminary Benchmarks Map

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Map Satellite

Show Preliminary Benchmarks

Show Counties

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North Carolina Floodplain Mapping Program Contractor Benchmarks

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Preliminary Benchmarks Map

Enter an address to locate on the map:

Locate Address Reset

Map Satellite

Name: ERM_C_RRT1_06
Northing (ft): 723641.32
Easting (ft): 1866013.88
Elev (ft): 565.95
Description: Chiseled square on headwall at NE corner of culvert
Datasheet Link: [DATASHEET](#) (if available)

W-11th St 64 W-11th St 64 E-11th St 64 E-11th St 64 E-5th St 64
N Chatham Ave Greenboro Ave N 2nd Ave Siler City
Piney Grove Church Rd Old U.S. Hwy 421 N Pine View Rd Greenboro Ave
Harold Andrews Rd Siler City Rd Smith Hudson Rd
Loves Creek
Driftwood Ct Swood Dr N Green Ave Stone St

Show Preliminary Benchmarks
 Show Counties

Done Internet 100%

USGS Benchmarks

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http://portal.ncdenr.org/web/nc/geodetic/maps/usgs

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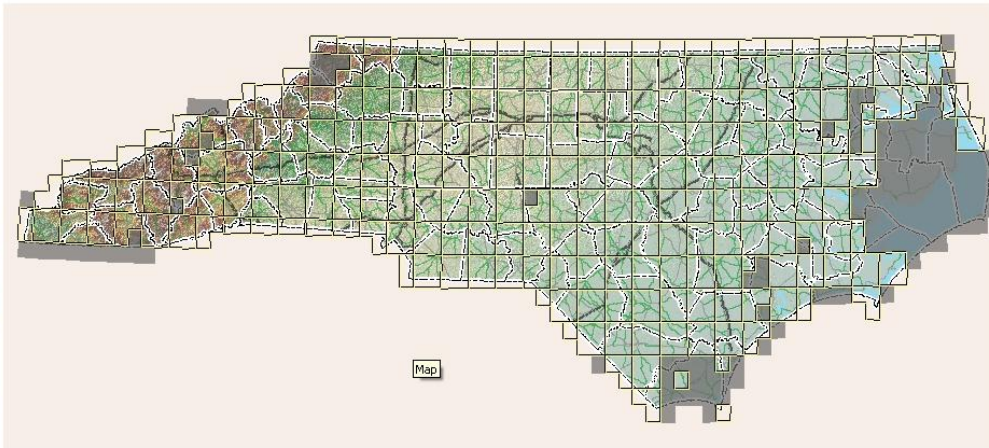
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USGS Benchmarks by 15' Quad

Click the area of interest to load a pdf of the USGS Benchmarks
Grayed out areas contain no data




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ftp://geodetic.ncdenr.org/maps/usgs/90_quad.pdf Macon County Airport Franklin NC

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ftp://geodetic.ncdenr.org/maps/usgs/90_quad.pdf Page Tools >>

1 / 5 133% Find

90

S-1078-A

QUAD. CULLASAJA STATE NORTH CAROLINA By R.P. WILLINGHAM 1936

ORDER THIRD AD Approx. 1929 General ALTITUDE ABOVE MEAN SEA LEVEL (Feet)

Bl. B6908

RECOPY

12-13-50 ERG

NORTH CAROLINA
CULLASAJA QUADRANGLE
(Latitude 35°00'35"15" Longitude 83°15'-83°30')
MACON AND JACKSON COUNTIES

NGVD 29 Elevations

-1-

Third-Order Leveling:

FROM FRANKLIN SOUTHWEST AND WEST ALONG HIGHWAY 64 AND ANDREWS ROAD INTO WAYAH BALD QUADRANGLE (By R. P. Willingham in 1936)

Franklin, on opposite side of street from new post office, in concrete post in edge of sidewalk; standard U.S.C. & G.S. disk stamped "E 47 1932 2112.293" 2,113.293

Franklin, about midway between court house and jail in small park 20 ft. N. of monument, in concrete post; standard USCGS disk stamped "F 47 1932 2113.096" 2,113.096

Franklin, 0.44 mi. W. of court house, on Highway 64, 30 ft. N.W. of crossroads intersection, on N.W. corner of N. end of concrete highway culvert; chiseled square, painted "U E"

Done Unknown Zone

County and State Boundaries

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http://portal.ncdenr.org/web/lr/geodetic/boundary-status-map

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http://www.geometius.nl/upl... NCDENR - Boundary Stat...

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NC Boundary Status Map

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Map Satellite

- Show Boundary Control
- Show Boundary Reference
- Show Counties

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County and State Boundaries

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NC Boundary Status Map

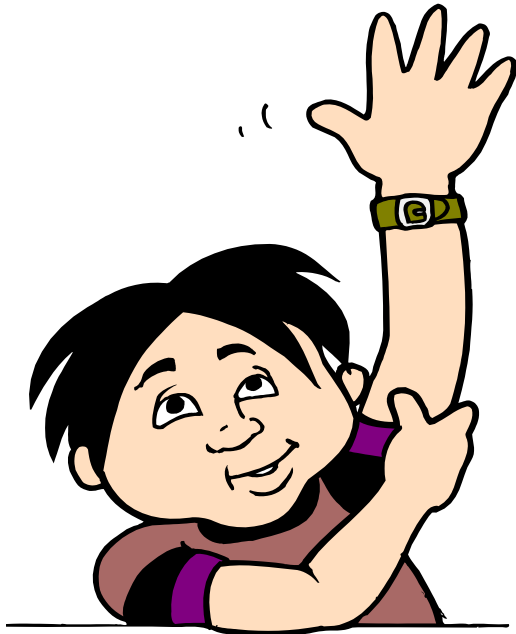
Enter an address to locate on the map:

Locate Address Reset

MONUMENT NAME: CMS
NORTHING (FEET): 549481.32
EASTING (FEET): 1513892.61
NORTHING (METERS): 167482.241
EASTING (METERS): 461435.389
COUNTY/STATE LINE: MECKLENBURG/CABARRUS
DATUM: NAD 1983/1986
REFERENCE POINT?: No
DESCRIPTION: Arbitrary point
COMBINED FACTOR:
PHOTO REF:
FILE/SURVEY DATE: Mecklenburg: March 10, 2003; Cabarrus: March 4, 2003
MAP/PLAT: CABARRUS COUNTY: Map Book 41 - page 82-83; MECKLENBURG COUNTY: Map Book 39 - pages 199 and 201
WEBSITES: MECKLENBURG COUNTY: <http://www.charmeck.org/services/category/Pages/PropertyandTaxes.aspx>
CABARRUS COUNTY: <http://www.cabarrusncrod.org/Opening.asp>
MINUTE BOOK AND PAGE: Mecklenburg County: Minute Book 39 - pages 199 & 201; Cabarrus County: Minute Book 41 - pages 82 & 88
PICTURE:

Show Boundary Control
 Show Boundary Reference
 Show Counties

Questions?



Gary Thompson, PLS
NC Geodetic Survey
512 North Salisbury Street
Raleigh, NC 27604
919-707-9230 phone
Gary.thompson@ncdenr.gov

