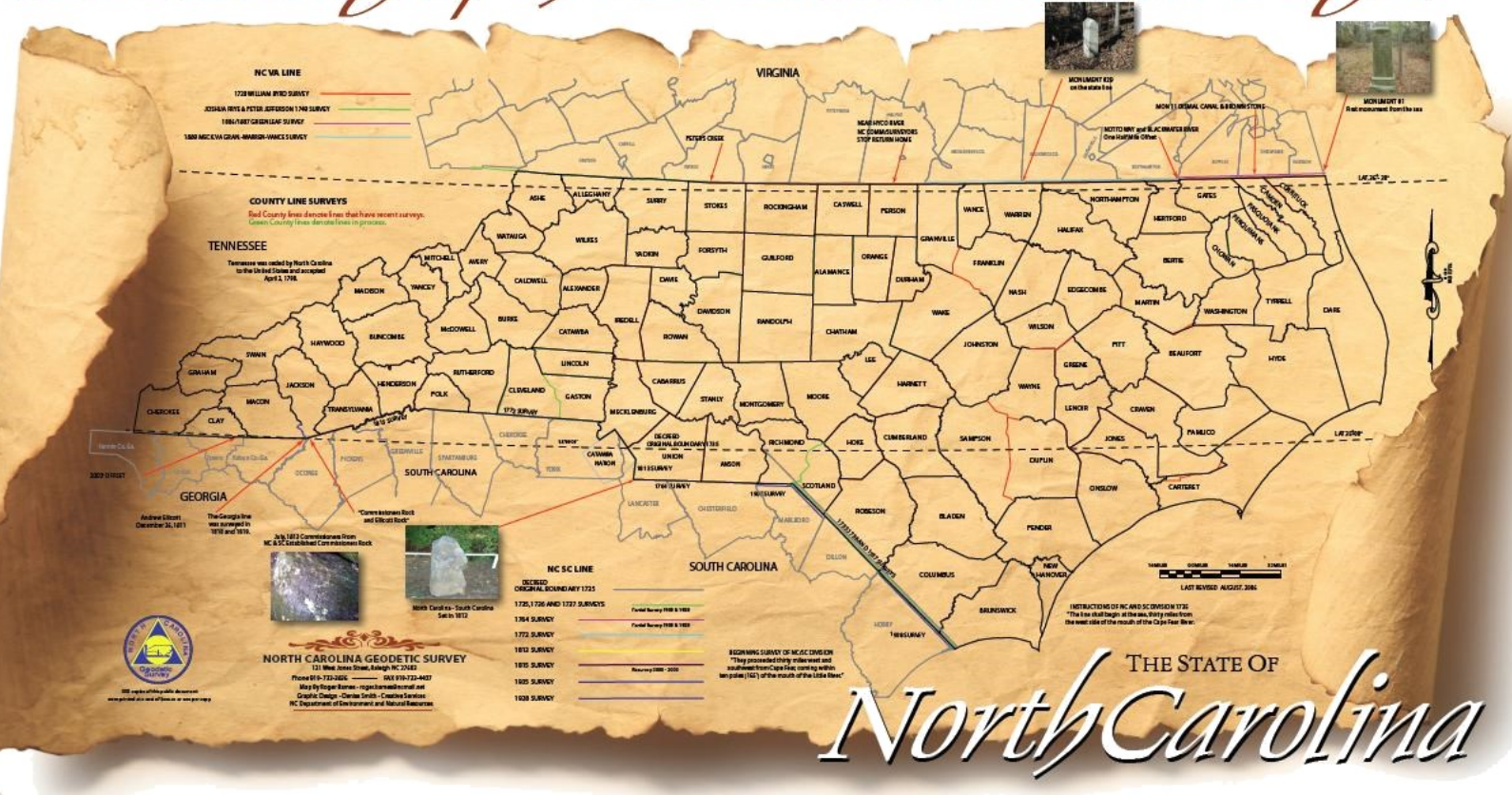


How did North Carolina get its shape?

A History of the Boundaries Surveyed



How did North Carolina get its shape?

- **North Carolina/Virginia boundary**

- **Charter of 1665 by King Charles**

*“All that province, territory, or tract of land, scituate [situate], lying or being within our dominions of America aforesaid; extending north and eastward, as far as the north end of Currituck River, or inlet, upon a strait [straight] westerly line to Wyonoak Creek, which lies within or about the **degrees of thirty-six and thirty minutes, northern latitude**; and so **west in a direct line as far as the South Seas [Pacific Ocean].”***



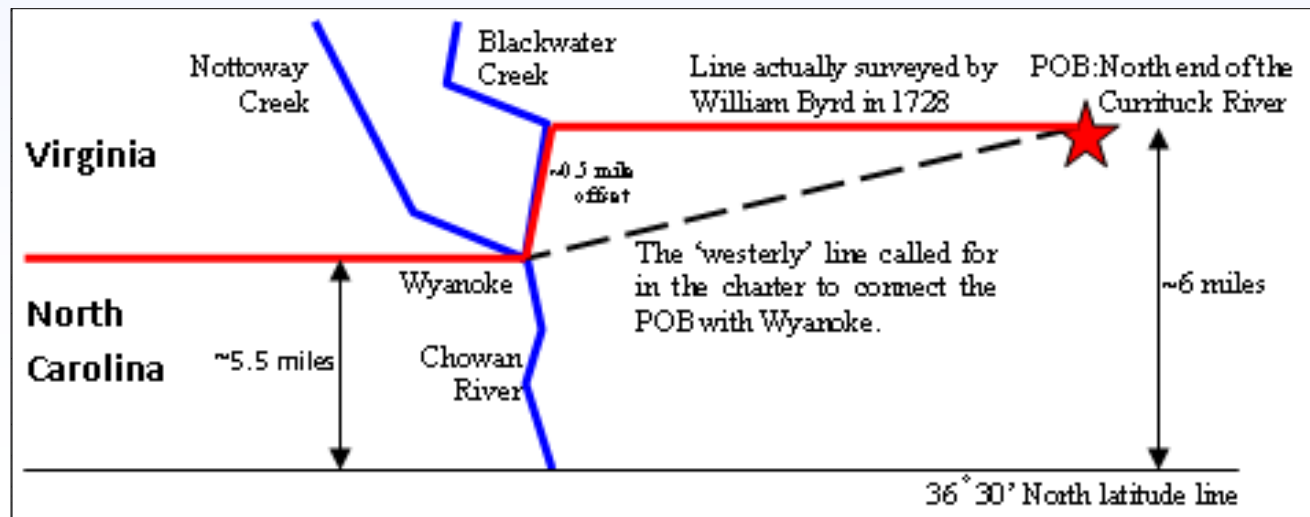
North Carolina Emergency Management



How did North Carolina get its shape?

- **North Carolina/Virginia boundary**

- In 1728 by his Majesty's Order, assented to by the Lords Proprietors [appointed rulers], *"The Dividing Line"* was to be surveyed, *"that neither the King's Grants may hereafter encroach upon the Lords Proprietors, nor theirs on the Right of his Majesty."*
- William Byrd's crew surveyed the line in 1728, but ran into a few issues:



How did North Carolina get its shape?

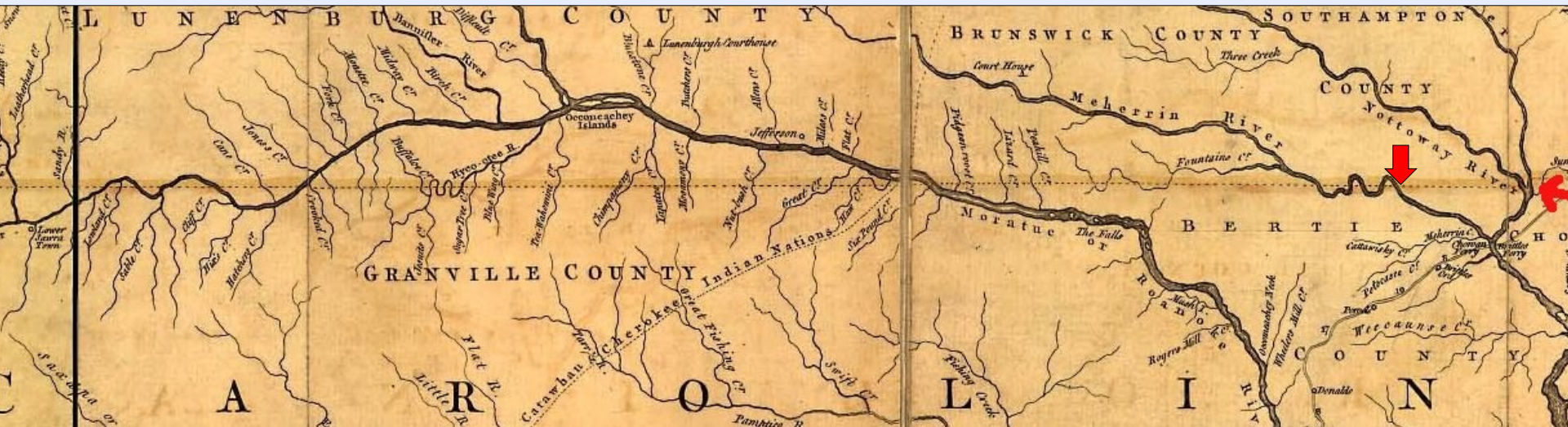
- **North Carolina/Virginia boundary**
 - 1728-29 survey: William Byrd



- Began at Currituck Inlet on the Atlantic Ocean and then surveyed through the Dismal Swamp, which was very difficult.
- Did their “Blackwater Creek to Wyanoke” jog, continued on surveying for a total of 73 miles, and then stopped for a break in April 1728

How did North Carolina get its shape?

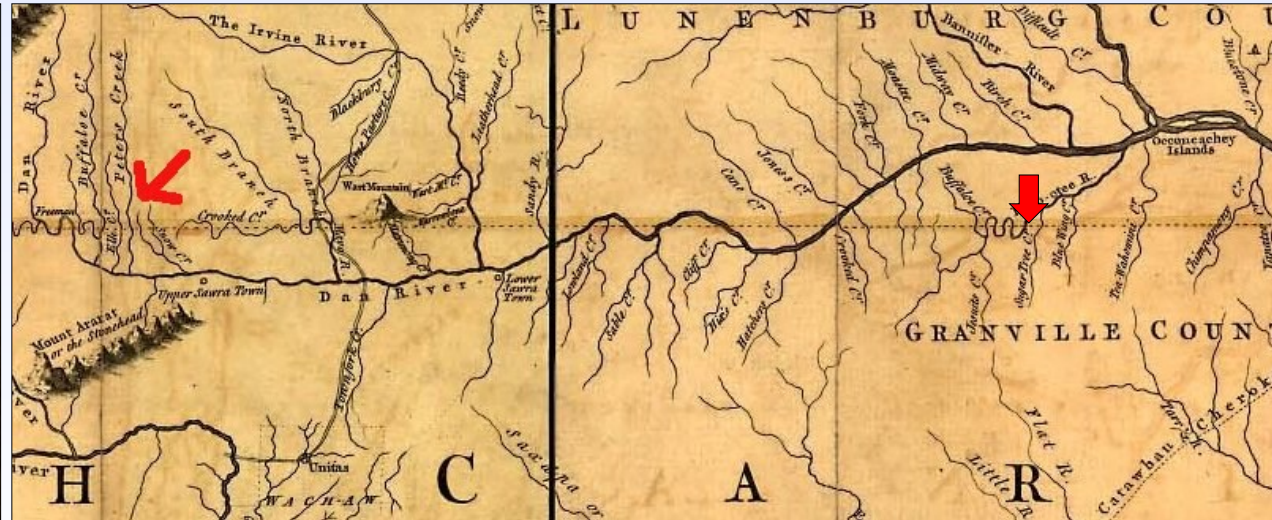
- **North Carolina/Virginia boundary**
 - 1728-29 survey: William Byrd



- Returned to the boundary survey in the fall of 1728, surveyed through stream after stream for a total of 100 miles, and then the North Carolina commissioners and surveyors quit along with one of the Virginia commissioners.

How did North Carolina get its shape?

- **North Carolina/Virginia boundary**
 - 1728-29 survey: William Byrd



- After half the party left, they continued to survey for another 64 miles and stopped at Peters Creek, because winter was approaching and they were running out of food.
- However, they lamented at stopping, because they could see a place about 30 miles westward (Fisher Peak) where two ledges of mountains closed that the “Hand of Nature” had made so very remarkable.

How did North Carolina get its shape?

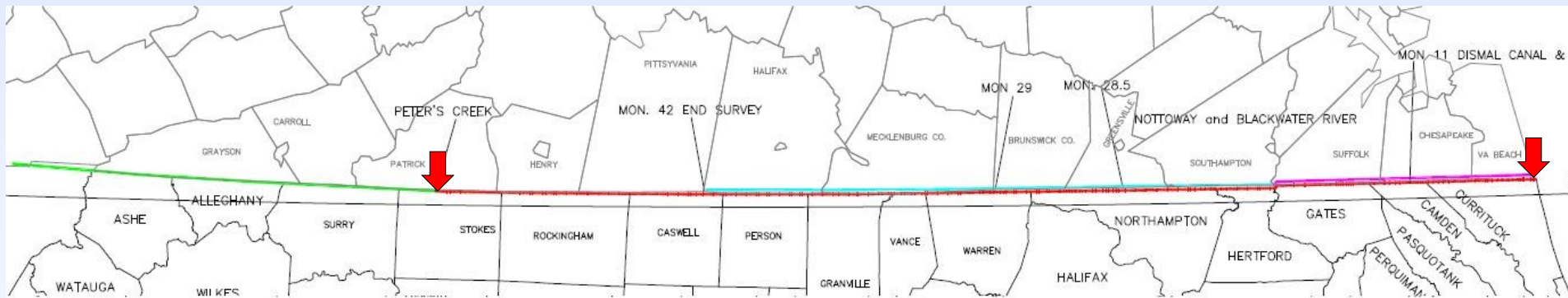
- **North Carolina/Virginia boundary**
 - 1749 survey: Joshua Frye and Peter Jefferson



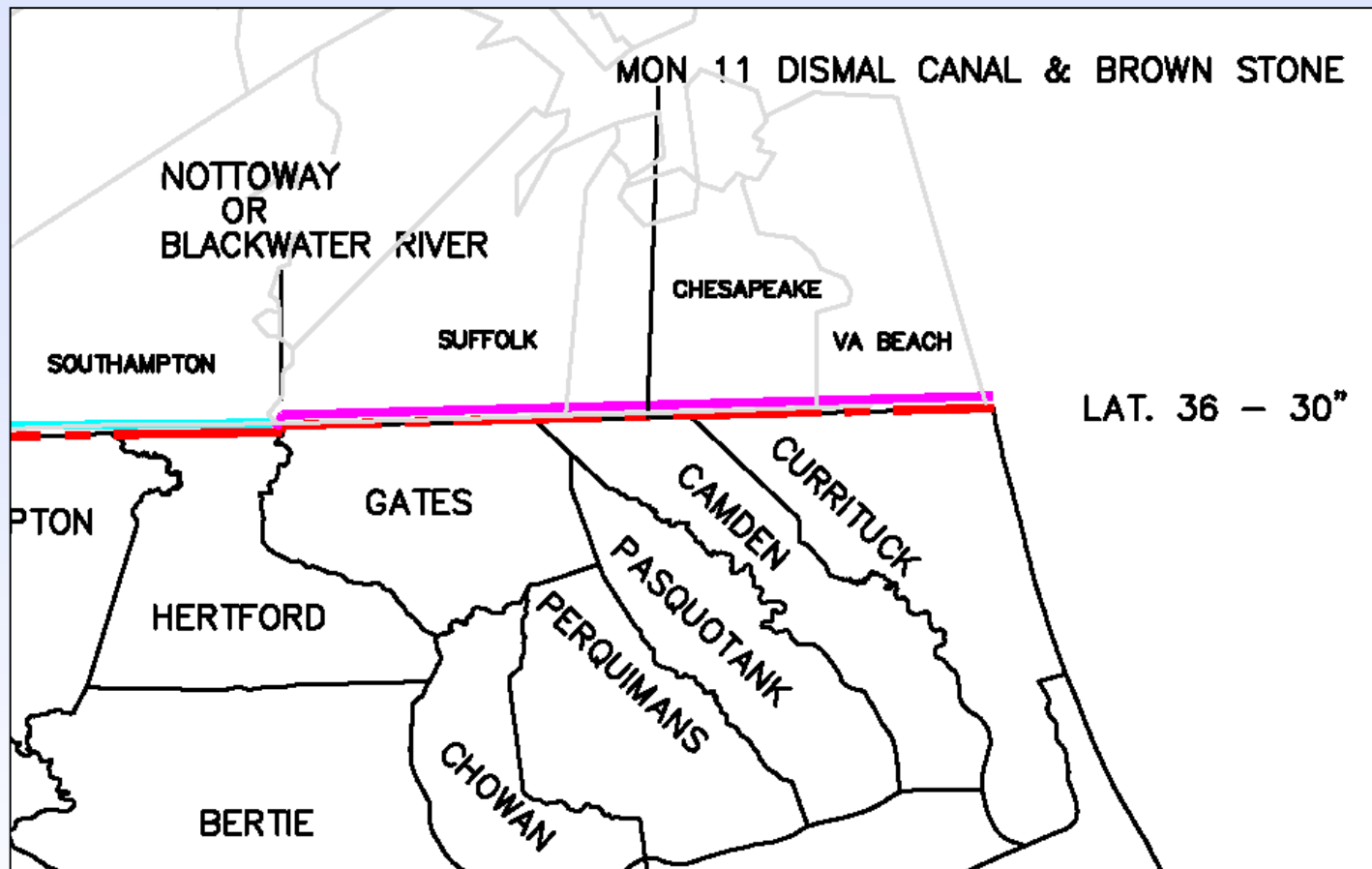
- Began at the terminus of the 1728 survey (Peters Creek)
- Surveyed to the Allegheny Ridge and crossed over at Fisher Peak
- Surveyed to the Stone Mountain Range and ended at Steep Rock Creek, which is at the base of White Top Mountain

How did North Carolina get its shape?

- **North Carolina/Virginia boundary**



- 1728-29 survey: William Byrd (commissioner)
- 1749 survey: Joshua Frye and Peter Jefferson



NC VA LINE

WILLIAM BYRD SURVEY



JOSHUA FRYE & PETER JEFFERSON 1749 SURVEY

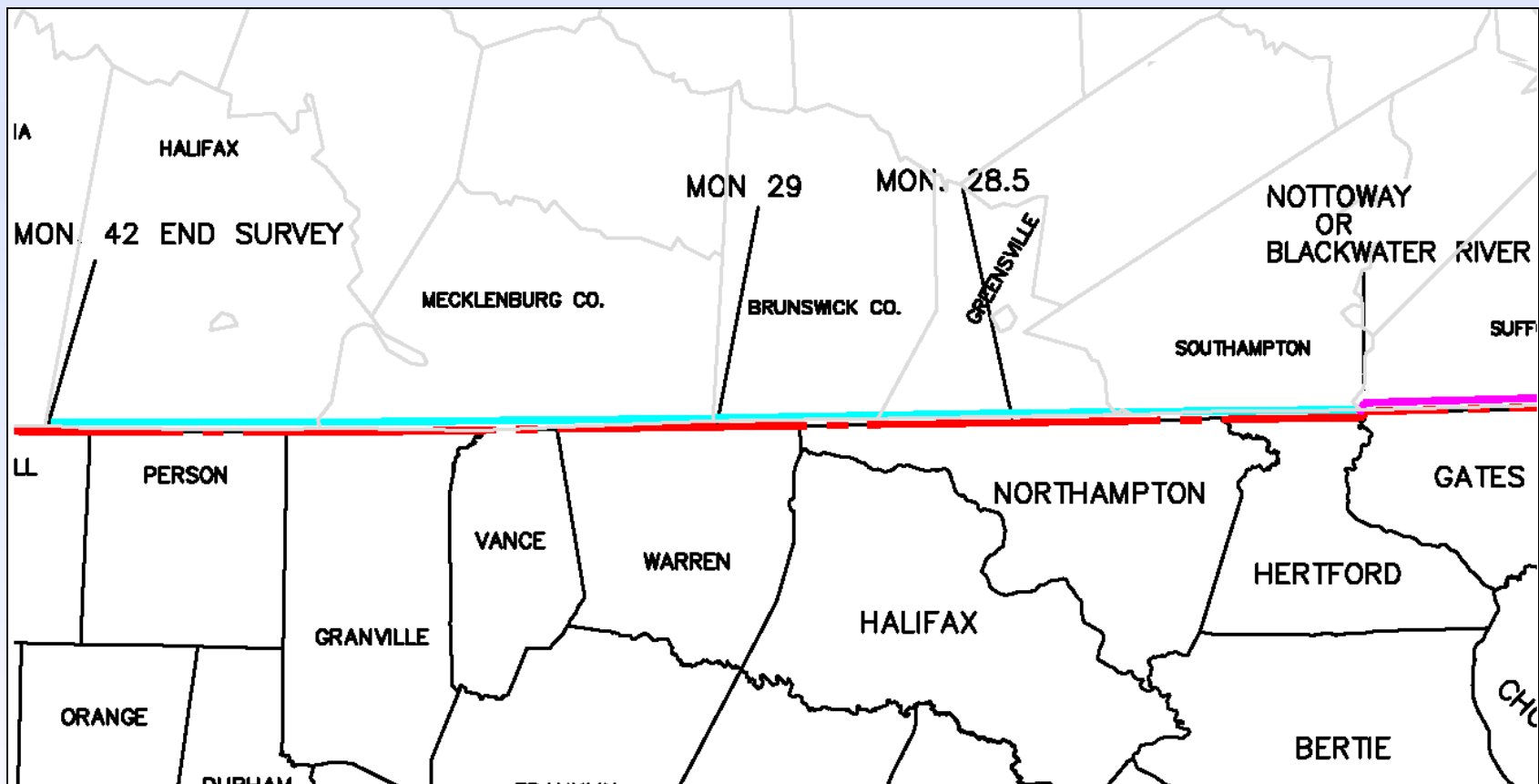


1886/1887 GREENLEAF SURVEY



MECK. VA GRAN.-WARREN-VANCE SURVEY





NC VA LINE

WILLIAM BYRD SURVEY



JOSHUA FRYE & PETER JEFFERSON 1749 SURVEY

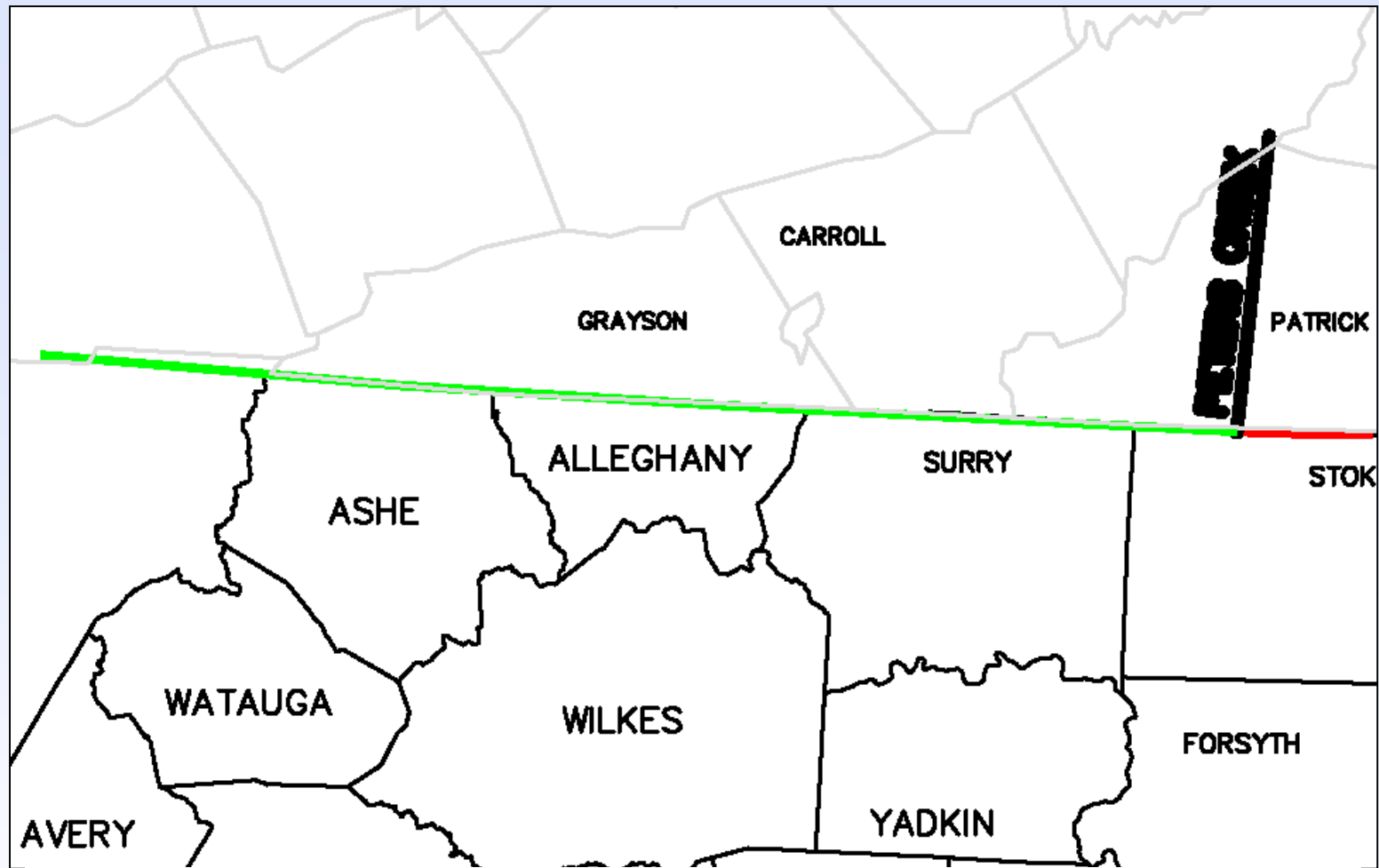


1886/1887 GREENLEAF SURVEY



MECK. VA GRAN.-WARREN-VANCE SURVEY





NC VA LINE

WILLIAM BYRD SURVEY



JOSHUA FRYE & PETER JEFFERSON 1749 SURVEY



1886/1887 GREENLEAF SURVEY



MECK. VA GRAN.-WARREN-VANCE SURVEY



MAP OF THE NORTH CAROLINA & VIRGINIA BOUNDARY

FROM THE ATLANTIC OCEAN TO THE NOTTAWAY RIVER

From a Survey for the establishing the Boundary Line of 1723

made under the direction of

GOV. ALFRED M. SCALES, N. C. and GOV. FITZHUGH LEE, Va.

by the

BOUNDARY COMMISSION:

W. D. PRUDEN, Edenton, N. C., Commissioner for N. CAROLINA

H. T. GREENLEAF, CE., Elizabeth City, N. C., Engineer for N. CAROLINA

Maj. C. R. HOWARD, CE., Richmond, Va., Commissioner and Engineer for VIRGINIA

Began November 13th 1836 & completed March 5th 1837

Scale 1 in. to 1200 ft.

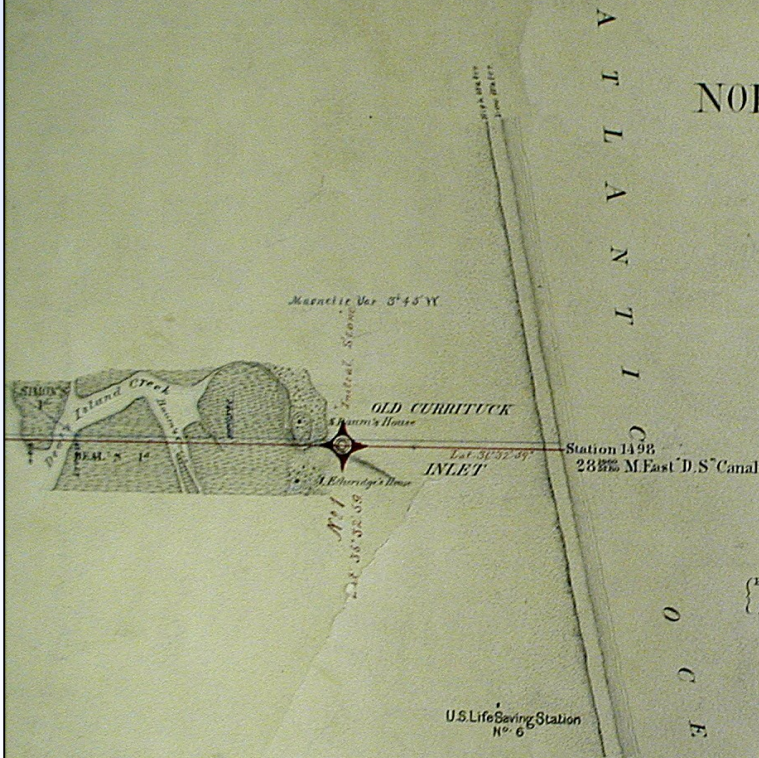
Base Line ———
State Line ———

Approved *Erwin K. Howard*
Commissioner for Va.

Approved *W. D. Pruden*
Commissioner for N. C.

H. T. Greenleaf, CE.
Elizabeth City, N. C.
October 1st 1837

Drawn by H. T. Greenleaf, CE.



Report of H.T. Greenleaf

1889.]

DOCUMENT No. 31.

7

REPORT OF H. T. GREENLEAF, C. E., ENGINEER OF THE STATE OF NORTH CAROLINA.

ELIZABETH CITY, N. C., October 1st, 1888.

HON. W. D. PRUDEN,

Commissioner State of North Carolina, Edenton, N. C.:

SIR: I have the honor to submit the following report of my services as engineer to represent the State of North Carolina in re-establishing the boundary line of A. D. 1728, as established by the Hon. Christopher Gale, Hon. Edward Mosely and others, representing the State of North Carolina, and the Hon. Wm. Byrd and Wm. Dandridge, representing the State of Virginia.

The cost for which each State was equally bound amounts to \$5,191.50, one-half of which, \$2,595.75, was borne by North Carolina by said agreement	\$ 2,595 75
Engineer Greenleaf's pay, at \$5 per day, amounts to	485 00
My pay as Commissioner, &c	520 00
Total cost to North Carolina.....	\$ 3,600 75

The stone monuments were provided by the North Carolina Penitentiary authorities at a cost of \$15 each on board train in Raleigh. There are twenty-eight of these, all numbered from one to twenty-eight, and varying in size, the largest being No. 1, on the ocean.

It is safe to say that these difficulties added at least one-third to the time required to complete the work, and equally as much to the cost. One of the heaviest expenses connected with the work was the transportation and setting of the stone monuments, caused by their immense weight, the remote points to which many of them had to be carried across sand banks and swamps and without the aid of public conveyances.



NC-VA #1

A.D. 1728

N. CAROLINA

BOUNDARY

RE 1887 RUN

W.D. PRUDEN. NC

C.R. HOWARD. VA.

COMMITTEE

H. GREENE

ENGINEER

A.M. SCALES

Gov. N. CAR.

FITZ HUGH LEE

Gov. VA.

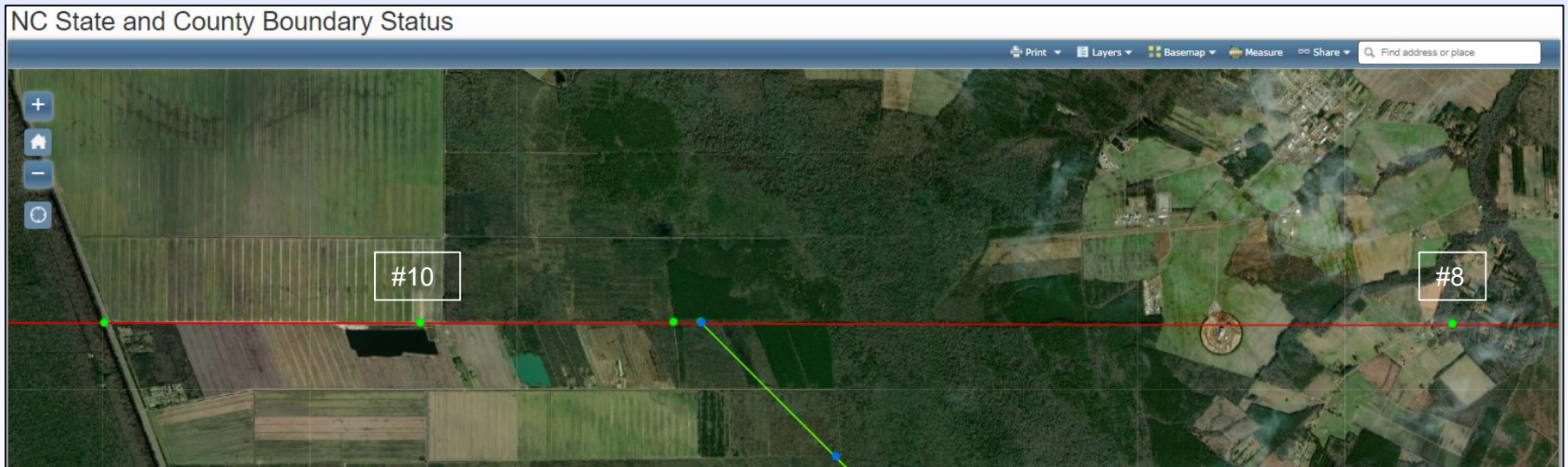
NC-VA fence



NC-VA #10



Monument #9 Not Found



North Carolina Emergency Management



NC-VA #11

LATITUDE
36 33' 02"
No II

NC-VA #12



NC-VA #13



NC-VA #13

LETTER

3030

1919

NC-VA #15

17015



NC-VA #17



1887

NC-VA #18



NC-VA #19



No 19

NC-VA #20



NC-VA #23



No 23

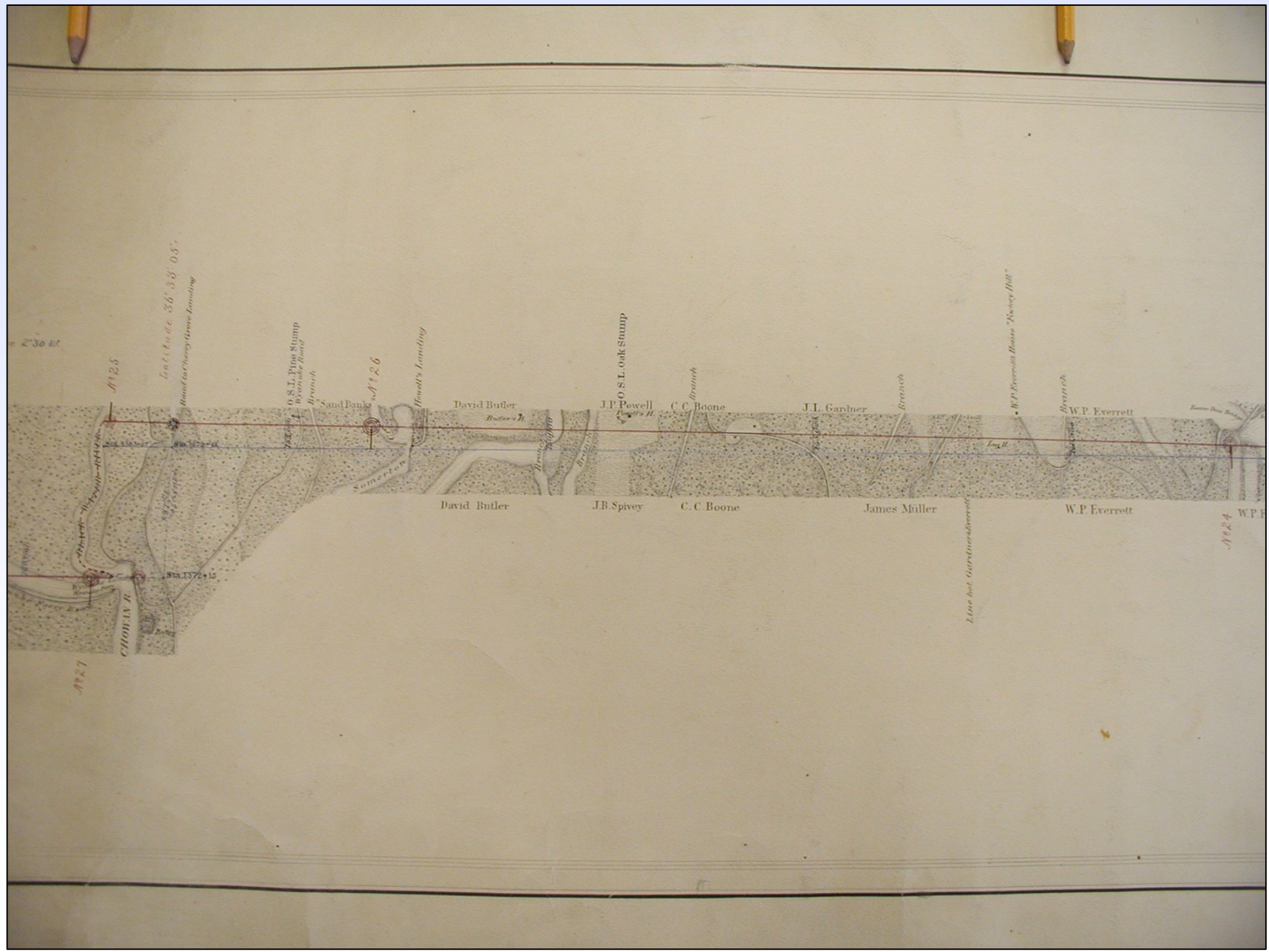
C
355
3

NC-VA #25



NC-VA #26





2 3/4 in

A125

Lat. 46° 38' 05"
Bound on Cherry Grove Landing

O.S.L. Pine Stump
Woods Hole Branch

A126

Sand Bank
Hendy's Landing

David Butler
Butler's H.

O.S.L. oak Stump
Peters H.

J.P. Powell
C.C. Boone
Branch

J.L. Gardner
Branch

W.P. Everett's House "Newey Hill"

Branch

W.P. Everett

David Butler

J.B. Spivey

C.C. Boone

James Müller

W.P. Everett

A124 W.P.

A127

CHODAN R.

Sta. 1372 L

Line bet. Cherry Grove Landing

NC-VA #27



NC-VA #28.5



NC-VA #29



North Carolina-Virginia Boundary Commission 1964

**REPORT
OF THE COMMISSION TO STUDY
THE TRUE AND CORRECT BOUNDARY
between
CARROLL AND GRAYSON COUNTIES, VIRGINIA
and
SURRY AND ALLEGHANY COUNTIES, NORTH CAROLINA
to
THE GOVERNOR
and
THE GENERAL ASSEMBLY OF VIRGINIA**



COMMONWEALTH OF VIRGINIA
Department of Purchases and Supply
Richmond
1965

**THE TRUE AND CORRECT BOUNDARY
between
CARROLL AND GRAYSON COUNTIES, VIRGINIA
and
SURRY AND ALLEGHANY COUNTIES, NORTH CAROLINA
REPORT OF THE COMMISSION
TO
THE GOVERNOR AND THE GENERAL ASSEMBLY
OF VIRGINIA**

Richmond, Virginia, October 21, 1965

To:
HONORABLE A. S. HARRISON, JR., *Governor of Virginia*
and
THE GENERAL ASSEMBLY OF VIRGINIA

The General Assembly of Virginia in 1964 created a Commission to study and report on the true and correct boundary between Carroll and Grayson Counties, Virginia, and Surry and Alleghany Counties, North Carolina.

The act creating the Commission was as follows:

CHAPTER 229

An Act to create a Commission to study and report on the boundary line between Carroll and Grayson Counties, Virginia, and Surry and Alleghany Counties, North Carolina; and to appropriate funds for the use of the Commission.

Approved March 31, 1964

Be it enacted by the General Assembly of Virginia:

1. § 1. There is hereby created a Commission to study and make a report on the true and correct boundary between Carroll and Grayson Counties, Virginia, and Surry and Alleghany Counties, North Carolina. All agencies of the State shall assist the Commission and the Commission shall cooperate with any Commission established for a like purpose by the State of North Carolina. The Commission shall complete its study and make its report to the Governor and General Assembly not later than October one, nineteen hundred sixty-five.

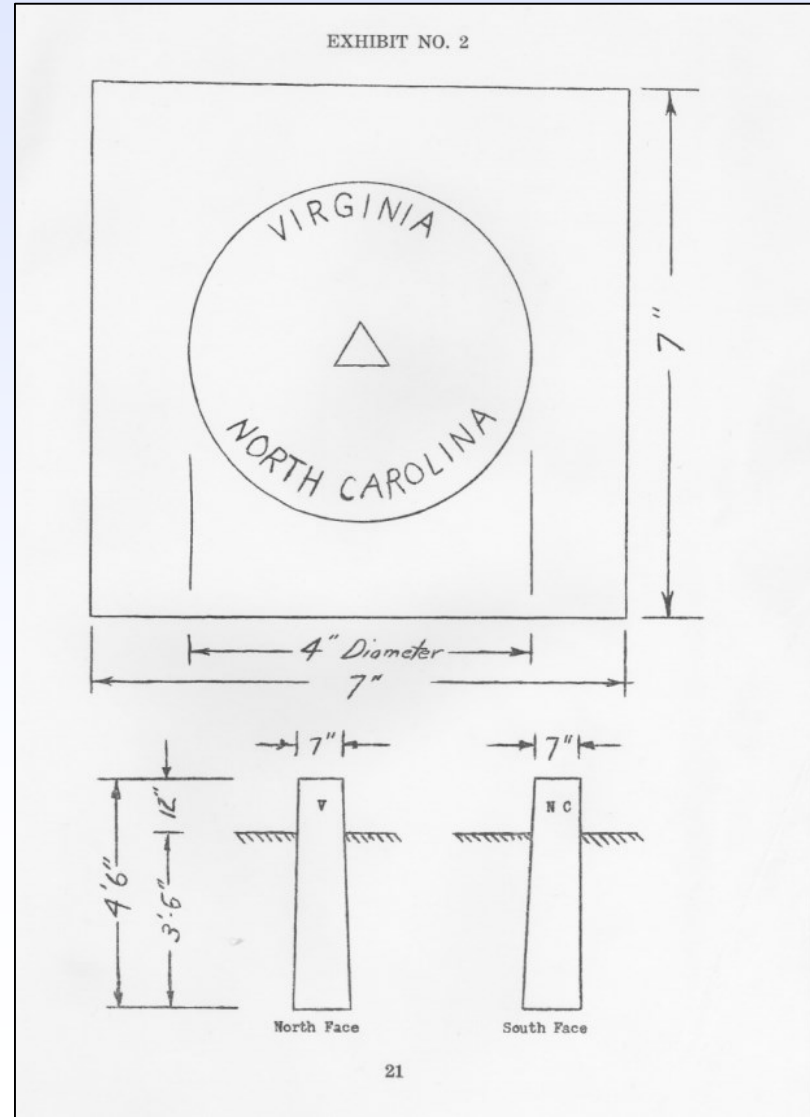
5



North Carolina Emergency Management



North Carolina-Virginia Boundary Commission 1964



Chapter 141

State Boundaries

§ 141-6. Eastern boundary of State; jurisdiction over territory within littoral waters and lands under same.

(a) The Constitution of the State of North Carolina, adopted in 1868, having provided in Article I, Sec. 34, that the "limits and boundaries of the State shall be and remain as they now are," and the eastern limit and boundary of the State of North Carolina on the Atlantic seaboard having always been, since the Treaty of Peace with Great Britain in 1783 and the Declaration of Independence of July 4, 1776, one marine league eastward from the Atlantic seashore, measured from the extreme low-water mark, the eastern boundary of the State of North Carolina is hereby declared to be fixed as it has always been at one marine league eastward from the seashore of the Atlantic Ocean bordering the State of North Carolina, measured from the extreme low-water mark of the Atlantic Ocean seashore aforesaid.

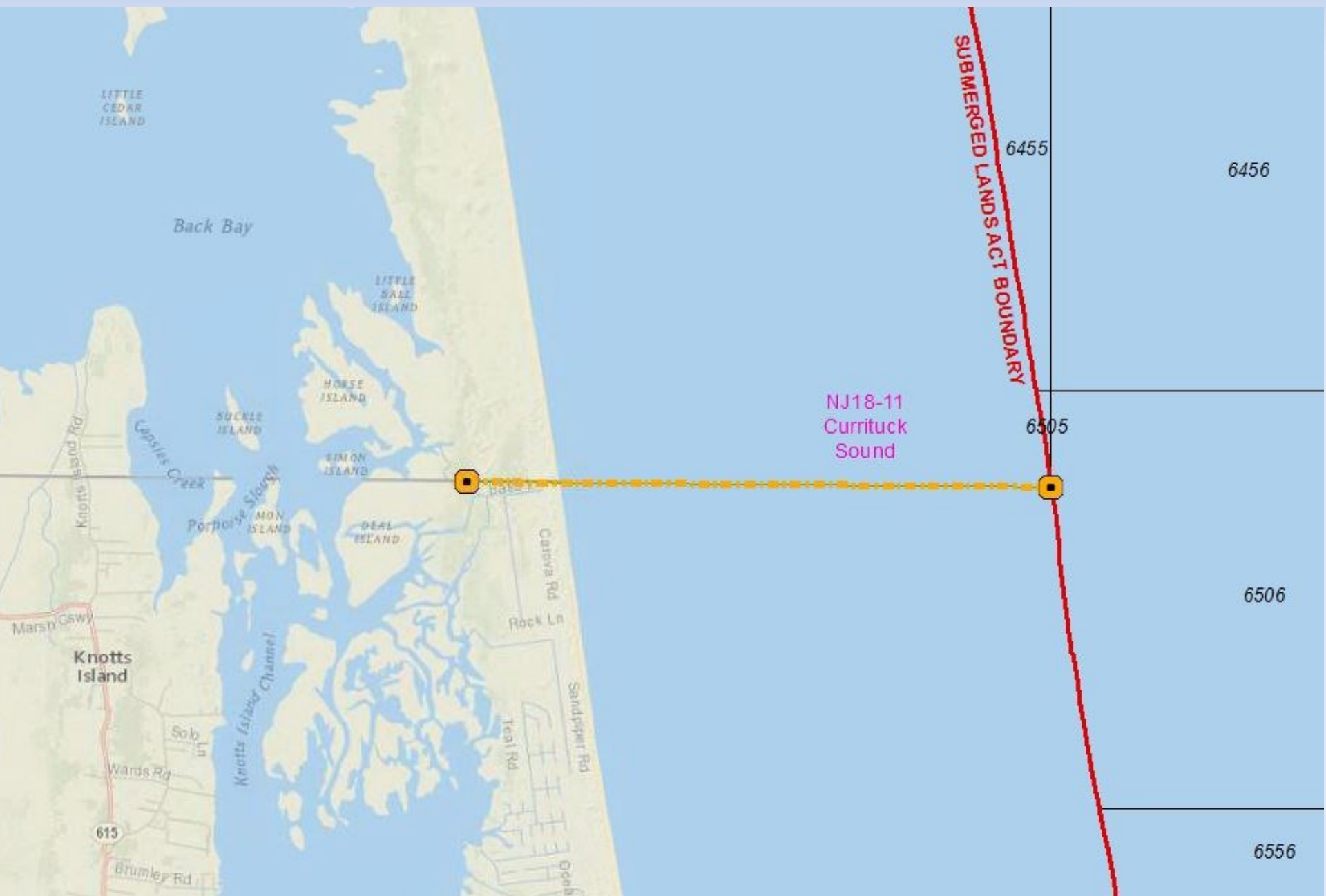
(b) The State of North Carolina shall continue as it always has to exercise jurisdiction over the territory within the littoral waters and ownership of the lands under the same within the boundaries of the State, subject only to the jurisdiction of the federal government over navigation within such territorial waters.

(c) The Governor and the Attorney General are hereby directed to take all such action as may be found appropriate to defend the jurisdiction of the State over its littoral waters and the ownership of the lands beneath the same. (1947, c. 1031, ss. 1-3; 1969, c. 541, s. 1.)



North Carolina Emergency Management





LITTLE CEDAR ISLAND

Back Bay

LITTLE SALT ISLAND

HORSE ISLAND

SUCKLE ISLAND

SIMON ISLAND

DEAL ISLAND

Knotts Island Channel

Currituck Creek

Knotts Island

615

Brumley Rd

Wards Rd

Goswami Ln

Gswy

Marsh

Knotts Island Rd

Carver Rd

Rock Ln

Sandspit Rd

Teal Rd

Gosh Rd

SUBMERGED LANDS ACT BOUNDARY

NJ18-11 Currituck Sound

6455

6456

6505

6506

6556



Submerged Lands Claims

The General Assembly in 1965 enacted legislation (G.S. § 113-205 and G.S. § 113-206) requiring registration of private claims to lands beneath navigable waters in 25 coastal counties. These maps contain recognized claims i.e. where a final claim resolution has been issued.

Original Claimant is a person claiming an interest to any part of the bed, or right of fishery, in navigable waters superior to that of the general public, who registered a claim pursuant to N.C. General Statute 113-205 on or before January 1, 1970. Claimants whose claims were recognized and mapped may have transferred their interest and no longer have an interest in the property. Land records in the county where the claim is located should be consulted to determine the present owner.

[Download the Submerged Lands Geographic Data KMZ file](#) →

Claims by County

+ Beaufort

“It’s too much work!”

“What we have is good enough for government work.”

NO - NOT ACCEPTABLE when better accuracy is required and possible.

- **Addressing;** Addressing Data Points, Situs and in many instances, Mailing Addresses
- **Census Count**
- **Emergency Response & NG911**
- **Fire Protection**
- **Flood Elevation Analysis** (including for insurance purposes)
- **NCDMV; Registration and NC Tag & Tax programs**
- **Planning and Permitting**
- **Property Tax; Jurisdictions for Real & Personal** (individual & business) **Property**
- **Public School Assignments**
- **Sales Tax** (and Occupancy Tax); **Collections & Distributions**
- **Soils for Agriculture, Horticulture, & Forestry**
- **Title Issues and Document Recordation for Public Notice**
- **Voter Registration & Precinct Assignments**
- **Others ?**

The Statutory Role of County Tax & Land Records Programs

General Charge:

N.C.G.S. § 105-303 requires each county to install a “*permanent listing system*” whereby information regarding the conveyance of real property is to be made known between the county registry and the assessor’s office. This is accomplished through the land records program in such a manner as to create an inventory of real property parcels; setting forth ownership and parcel location, configuration, size and other unique information specific to the property being conveyed.

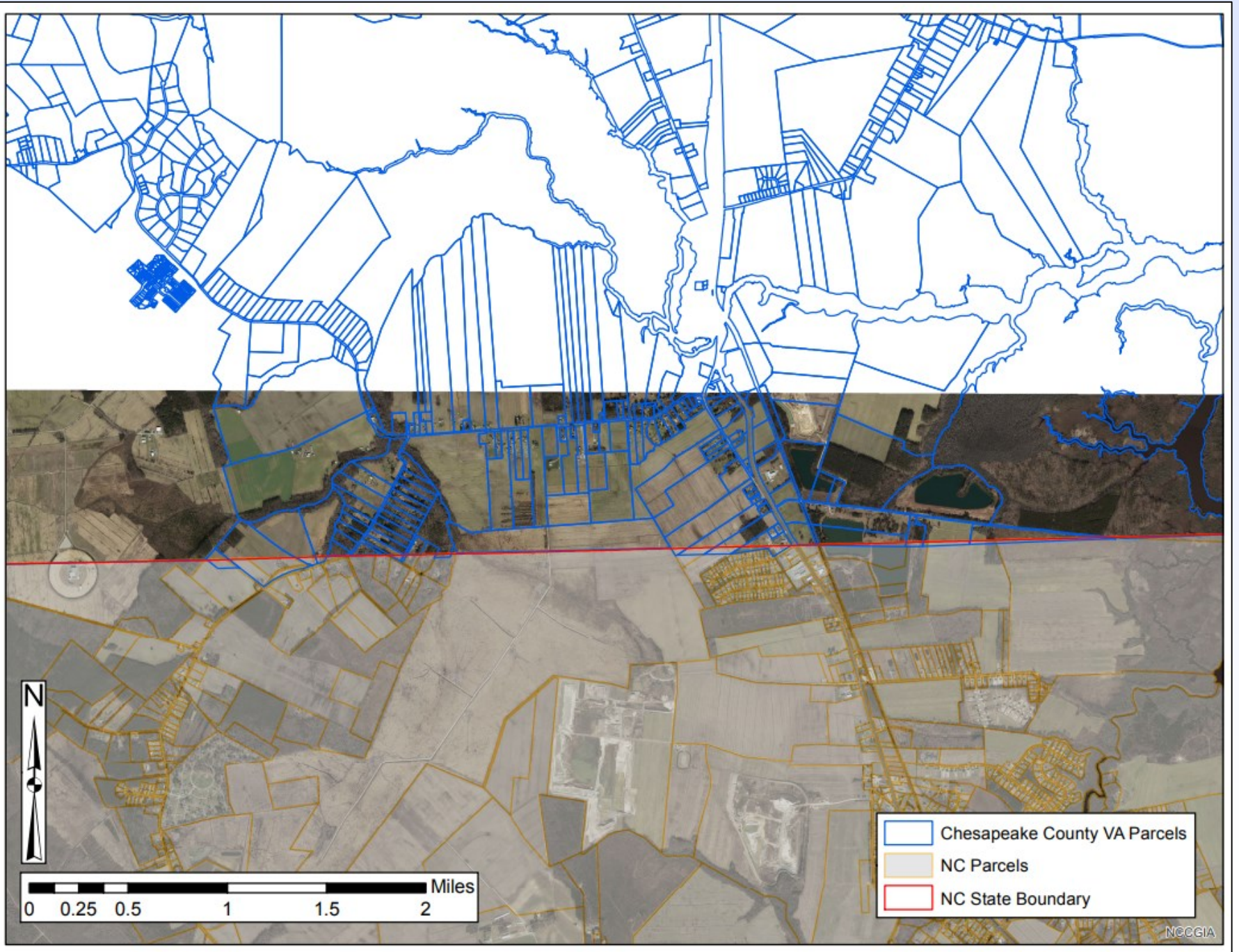
“The county assessor shall have general charge of the listing, appraisal, and assessment of all property in the county in accordance with the provisions of law.”

N.C.G.S. § 105-296(a)

The specific implication being that boundary locations are important; to wit,

- county assessors have a statutory charge or *responsibility* to list, appraise, and assess all property - real and personal - having a taxable situs within the borders of the county they serve, and
- county assessors has NO authority to list, appraise, or assess any property having a taxable situs outside the borders of the county they serve.

N.C.G.S. § 105-301



Chapter 141

State Boundaries

§ 141-1. Governor to cause boundaries to be established and protected.

The Governor of North Carolina is hereby authorized to appoint two competent commissioners and a surveyor and a sufficient number of chainbearers, on the part of the State of North Carolina, to act with the commissioners or surveyors appointed or to be appointed by any of the contiguous states of Virginia, Tennessee, South Carolina, and Georgia, to return and remark, by some permanent monuments at convenient intervals, not greater than five miles, the boundary lines between this State and any of the said states.

The Governor is also authorized, whenever in his judgment it shall be deemed necessary to protect or establish the boundary lines between this State and any other state, to institute and prosecute in the name of the State of North Carolina any and all such actions, suits, or proceedings at law or in equity, and to direct the Attorney General or such other person as he may designate to conduct and prosecute such actions, suits, or proceedings. (1881, c. 347, s. 1; Code, s. 2289; 1889, c. 475, s. 1; Rev., s. 5315; 1909, c. 51, s. 1; C.S., s. 7396.)

§ 141-2. Payment of expenses of establishing boundaries.

When the line has been rerun and remarked as above provided between this State and any of the contiguous states, or such portion of said lines as shall be mutually agreed by the commissioners, the Governor is authorized to issue his warrant upon the State Treasurer for such portion of the expenses as shall fall to the share of this State. (1881, c. 347, s. 2; Code, s. 2290; 1889, c. 475, s. 2; Rev., s. 5316; C.S., s. 7397.)

§ 141-3. Appointment of arbitrators.

If any disagreement shall arise between the commissioners, the Governor of this State is hereby authorized to appoint arbitrators to act with similar officers to be appointed by the other states in the settlement of the exact boundary. (1881, c. 347, s. 3; Code, s. 2291; 1889, c. 475, s. 3; Rev., s. 5317; C.S., s. 7398.)

§ 141-4. Disagreement of arbitrators reported to General Assembly.

In case of any serious disagreement and inability on the part of the said arbitrators to agree upon said boundary, such fact shall be reported by the Governor to the next General Assembly for their action. (1881, c. 347, s. 4; Code, s. 2292; 1889, c. 475, s. 4; Rev., s. 5318; C.S., s. 7399.)

§ 141-5. Approval of survey.

When the commissioners shall have completed the survey, or so much as shall be necessary, they shall report the same to the Governor, who shall lay the same before the Council of State; and when the Governor and the Council of State shall have approved the same the Governor shall issue his proclamation, declaring said lines to be the true boundary line or lines, and the same shall be the true boundary line or lines between this and the states above referred to. (1881, c. 347, s. 5; Code, s. 2293; 1889, c. 475, s. 5; Rev., s. 5319; C.S., s. 7400.)

§ 141-6. Eastern boundary of State; jurisdiction over territory within littoral waters and lands under same.

- (a) The Constitution of the State of North Carolina, adopted in 1868, having provided in Article I, Sec. 34, that the "limits and boundaries of the State shall be and remain as they now are," and the eastern limit and boundary of the State of North Carolina on the Atlantic seaboard having always been, since the Treaty of Peace with Great Britain in 1783 and the Declaration of Independence of July 4, 1776, one marine league eastward from the Atlantic seashore, measured from the extreme low-water mark, the eastern boundary of the State of North Carolina is hereby declared to be fixed as it has always been at one marine league eastward from the seashore of the Atlantic Ocean bordering the State of North Carolina, measured from the extreme low-water mark of the Atlantic Ocean seashore aforesaid.
- (b) The State of North Carolina shall continue as it always has to exercise jurisdiction over the territory within the littoral waters and ownership of the lands under the same within the boundaries of the State, subject only to the jurisdiction of the federal government over navigation within such territorial waters.
- (c) The Governor and the Attorney General are hereby directed to take all such action as may be found appropriate to defend the jurisdiction of the State over its littoral waters and the ownership of the lands beneath the same. (1947, c. 1031, ss. 1-3; 1969, c. 541, s. 1.)



North Carolina Emergency Management



How did North Carolina get its shape?

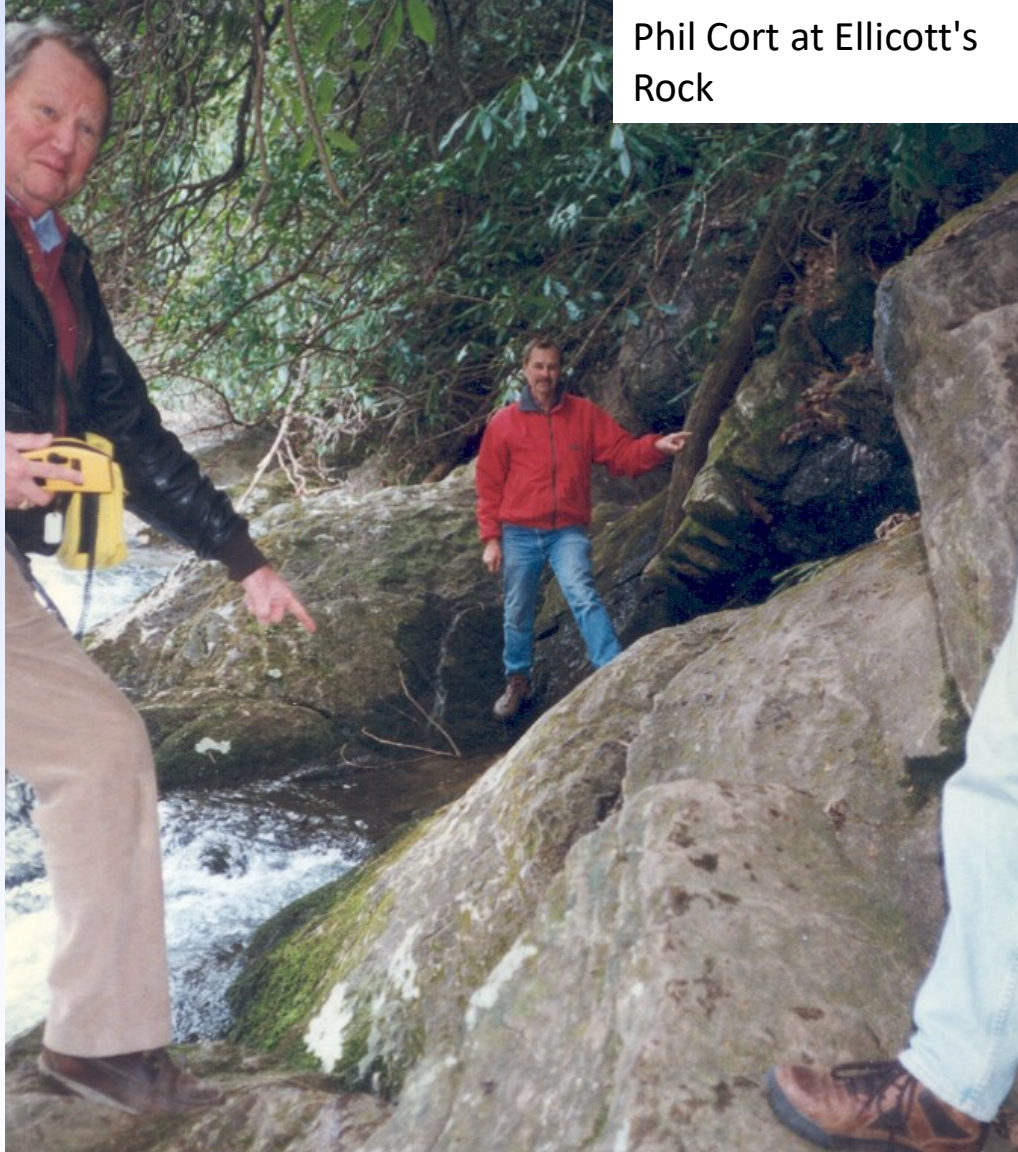
- **North Carolina/Georgia boundary** (a line defined by 2 survey teams that didn't meet)
 - **1818 survey led by Mr. Hugh Montgomery**
 - Proceeded east from Georgia's NW corner for 40 miles along what he thought was the 35th parallel until a point near Pine Knob where he set the "Montgomery's Corner" monument, but was 4,813 ft south of the 35th parallel
 - **1819 survey led by Mr. Love of North Carolina and Mr. Terrell of Georgia**
 - Proceeded west from the terminus of the 1815 survey (i.e. Commissioners Rock) for 30 miles where they set the 30 mile stone, which was 1,983 ft north of Montgomery's Corner.



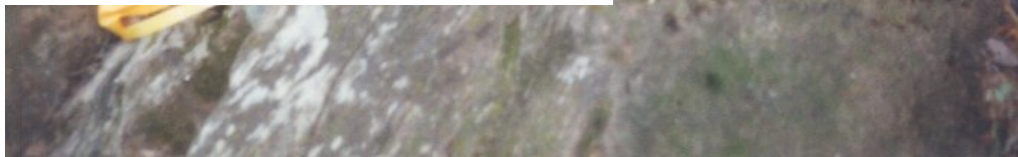
North Carolina Emergency Management



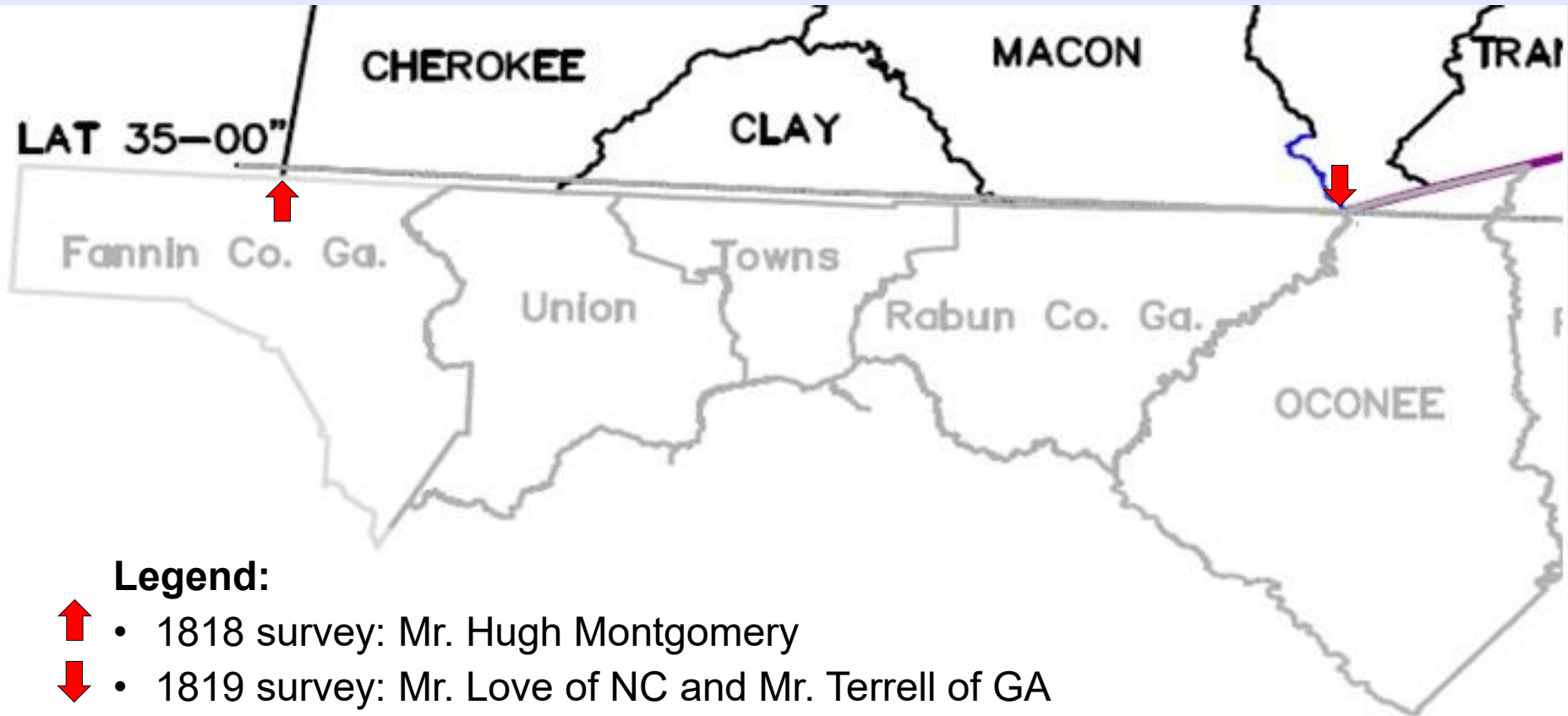
Phil Cort at Ellicott's Rock



Sid Miller at Commissioner's Rock



How did North Carolina get its shape?



Round Top
Mt

Pine
Knob

35th parallel

Monument set by Love & Terrell

Montgomery's Corner

© 2011 Google

Hightower
Bald

34°59'31.02" N 83°37'10.13" W elev 3524 ft



Imagery Date: Jun 18, 2008

©2010 Google

Eye alt



Montgomery Corner

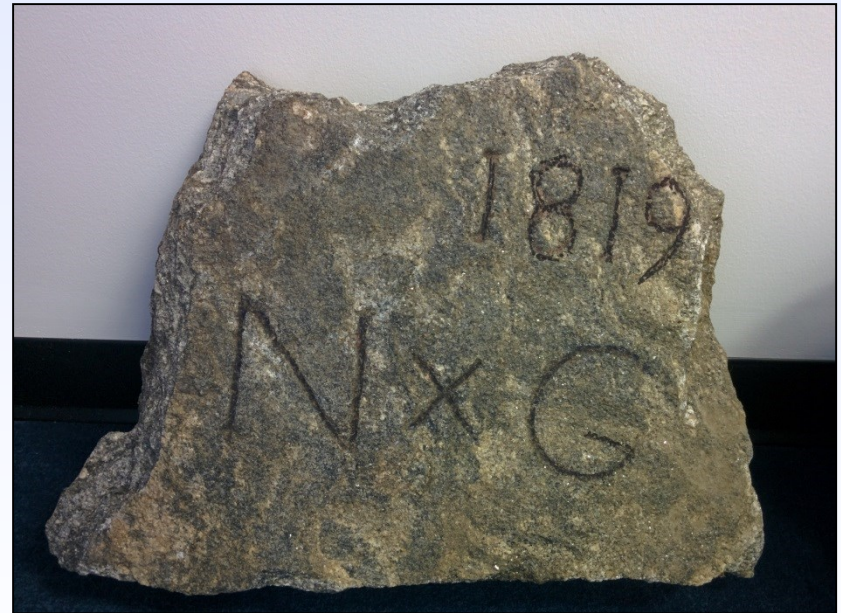




NC-GA reference mark

NC-GA

North Carolina- Georgia





How did North Carolina get its shape?

- **North Carolina/Tennessee boundary**
 - NC ceded her western territory to the US in 1789
 - 1799 survey led by McDowell, Matthews, & Vance of NC
 - Began at the terminus of the NC-VA survey of 1749
 - Follows the ridge lines of 3 different mountain chains
 - Changes from one mountain ridge to the other by straight lines along Avery, Yancey, & Haywood counties.
 - Although the original intent of this line was to run along these ridgelines to the 35th latitude, the surveying team came off the ridge line for some unknown reason at a point boarding present-day Cherokee County and then proceeded south to the Georgia line.



North Carolina Emergency Management



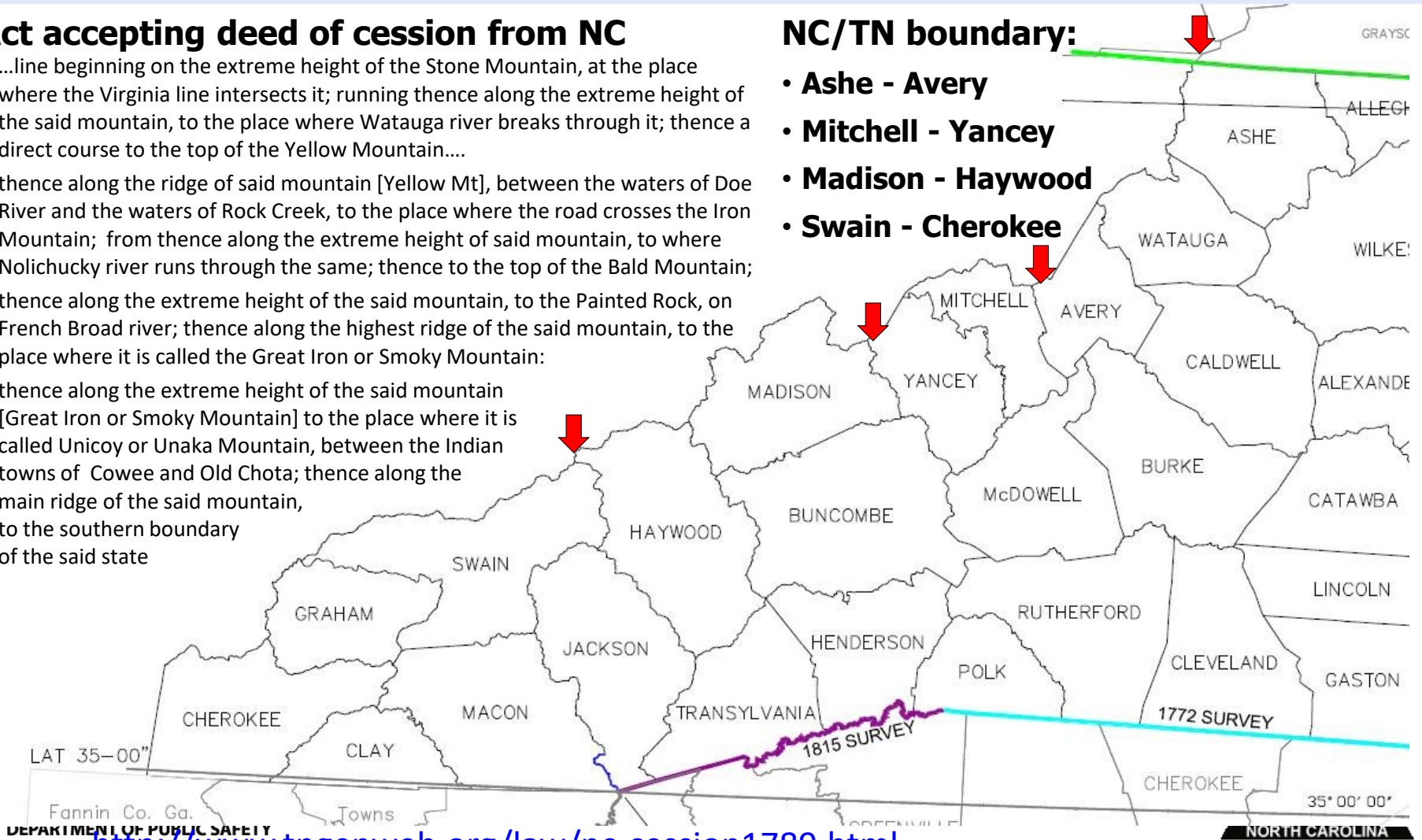
How did North Carolina get its shape?

Act accepting deed of cession from NC

- ...line beginning on the extreme height of the Stone Mountain, at the place where the Virginia line intersects it; running thence along the extreme height of the said mountain, to the place where Watauga river breaks through it; thence a direct course to the top of the Yellow Mountain...
- thence along the ridge of said mountain [Yellow Mt], between the waters of Doe River and the waters of Rock Creek, to the place where the road crosses the Iron Mountain; from thence along the extreme height of said mountain, to where Nolichucky river runs through the same; thence to the top of the Bald Mountain;
- thence along the extreme height of the said mountain, to the Painted Rock, on French Broad river; thence along the highest ridge of the said mountain, to the place where it is called the Great Iron or Smoky Mountain:
- thence along the extreme height of the said mountain [Great Iron or Smoky Mountain] to the place where it is called Unicoy or Unaka Mountain, between the Indian towns of Cowee and Old Chota; thence along the main ridge of the said mountain, to the southern boundary of the said state

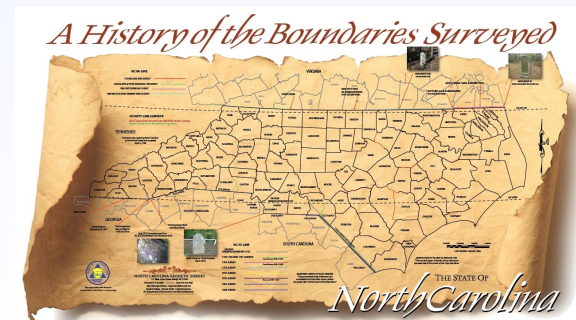
NC/TN boundary:

- **Ashe - Avery**
- **Mitchell - Yancey**
- **Madison - Haywood**
- **Swain - Cherokee**



How did North Carolina get its shape?

- **Our state's unique shape is a combination of:**
 - Royal charter
 - Adverse field conditions
 - Reasons that may forever be unknown
- **Yet, its beauty comes from being defined by:**
 - Atlantic Ocean
 - Appalachian Mountains
 - Two elusive latitudes



North Carolina Emergency Management





FEDERAL REGISTER

The Daily Journal of the United States Government



Notice

Deprecation of the United States (U.S.) Survey Foot

A Notice by the National Institute of Standards and Technology on 10/17/2019



AGENCY:

The National Institute of Standards and Technology and the National Geodetic Survey (NGS), National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce (DOC).

ACTION:

Notice; request for comment.

SUMMARY:

The National Institute of Standards and Technology (NIST) and the National Geodetic Survey (NGS), National Ocean Service (NOS), National Oceanic and Atmospheric Administration (NOAA), are taking collaborative action to provide national uniformity in the measurement of length. This notice announces a decision to deprecate the use of the "U.S. survey foot" on December 31, 2022. After that date, the "U.S. survey foot" will be superseded by the "foot" (formerly known as the "international foot"), which is already in use throughout the U.S. This notice describes the plan, resources, training, and other activities of NIST and NOAA that will assist those affected by this transition, and invites comments and other information from land surveyors, engineers, Federal, State and local government officials, businesses, and any other member of the public engaged in or affected by surveying and mapping operations.



North Carolina Emergency Management



A tale of two feet

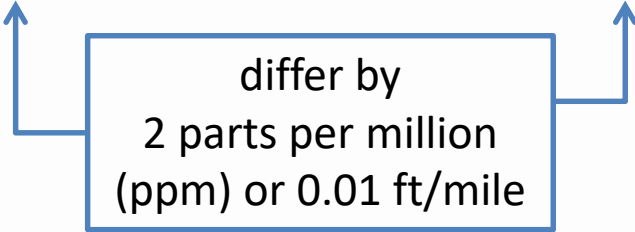


Two versions of “foot” in current use:

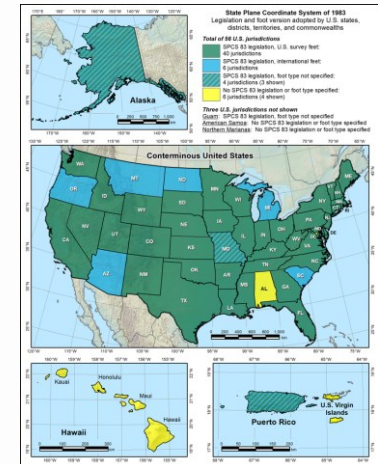
“Old” U.S. survey foot ➔ “New” international foot

1 ft = 0.3048006096... m

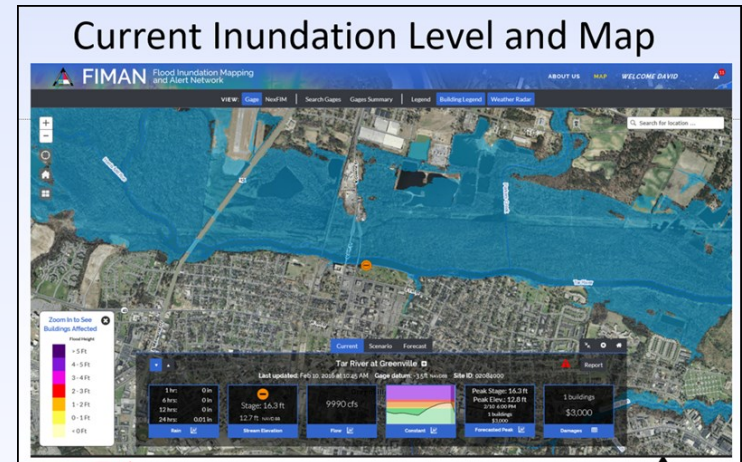
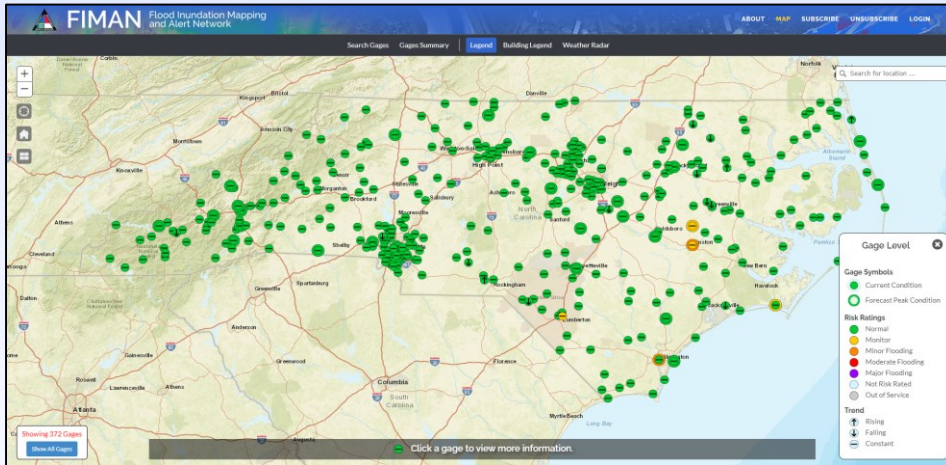
1 ft = 0.3048 m *exactly*



A *real* problem with *real* costs



Flood Inundation Mapping and Alert Network (FIMAN)



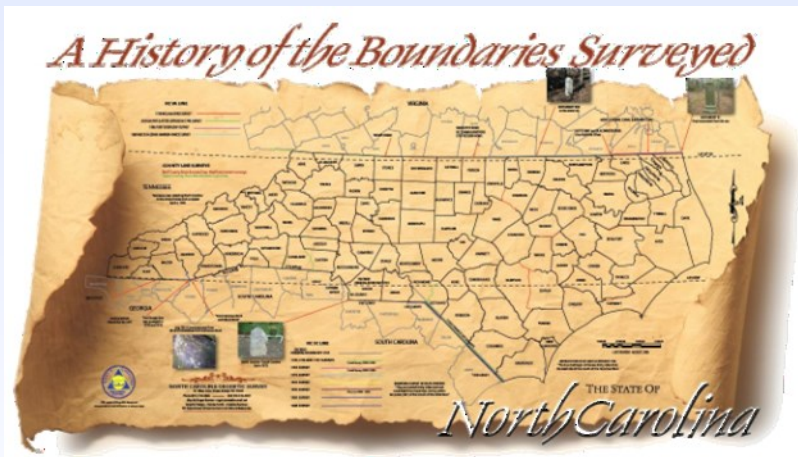
<https://fiman.nc.gov/>

Questions?

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North Carolina Emergency Management

