

Infrastructure and Broadband Update

2017

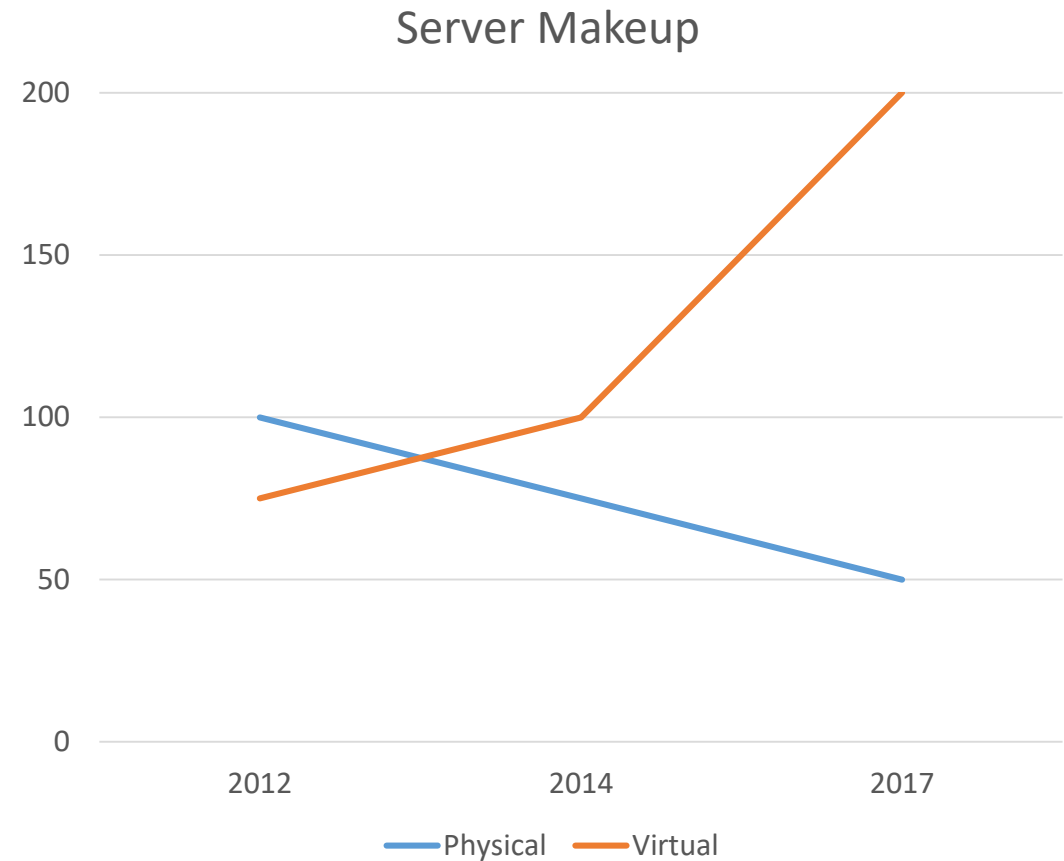
Data Center





Server Farm

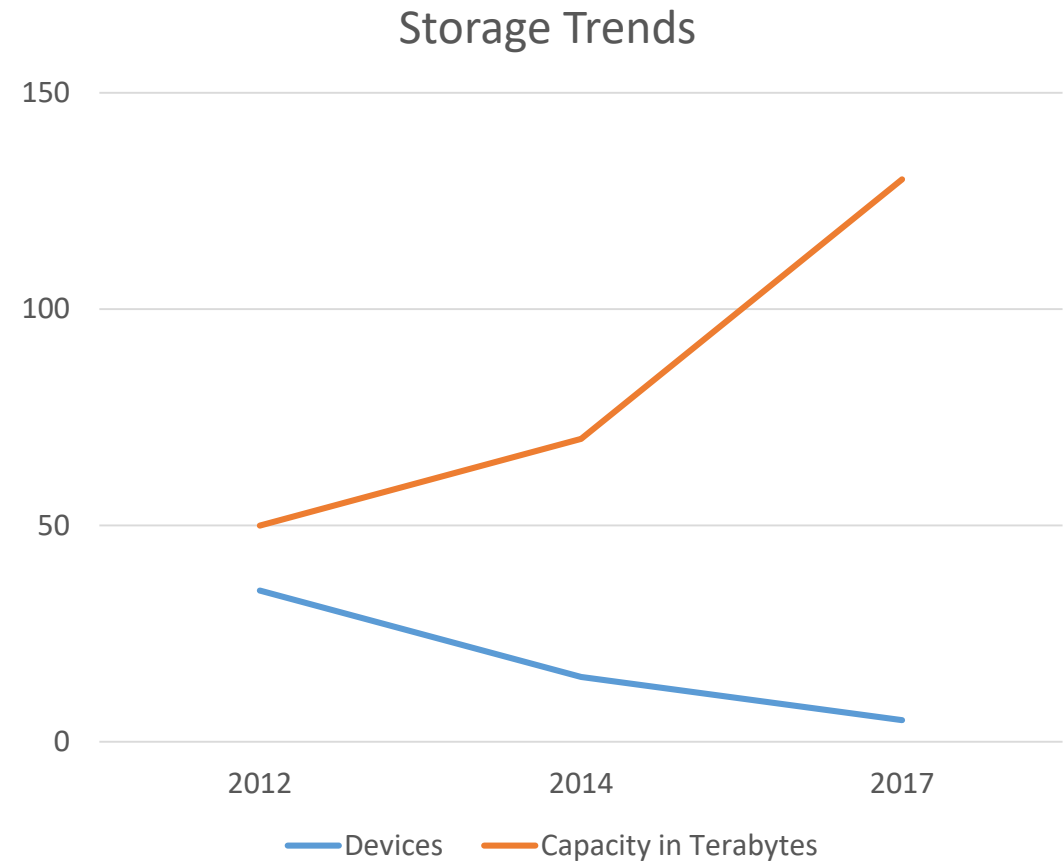
- We currently operate three data centers in the school division
- Effort has been made to reduce the over physical footprint of the Data Center.
- Servers are on a 4-5 year lifecycle
- Funding comes from the Admin CIP



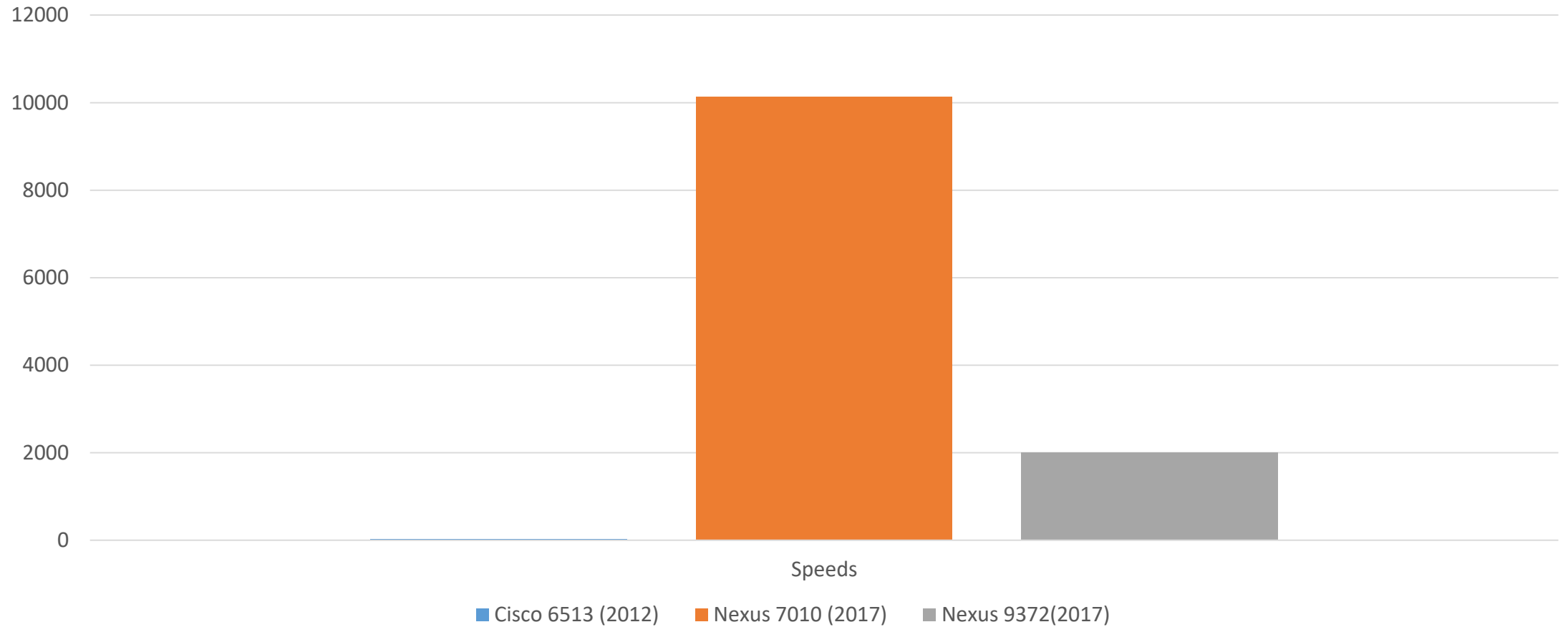
Data Storage

The shift to full electronic records has increased the need for on premise storage. Today we store student records, computer files, email and video surveillance footage.

- The life cycle for the storage array is 5 years and we are currently investigating replacement options.
- Admin CIP

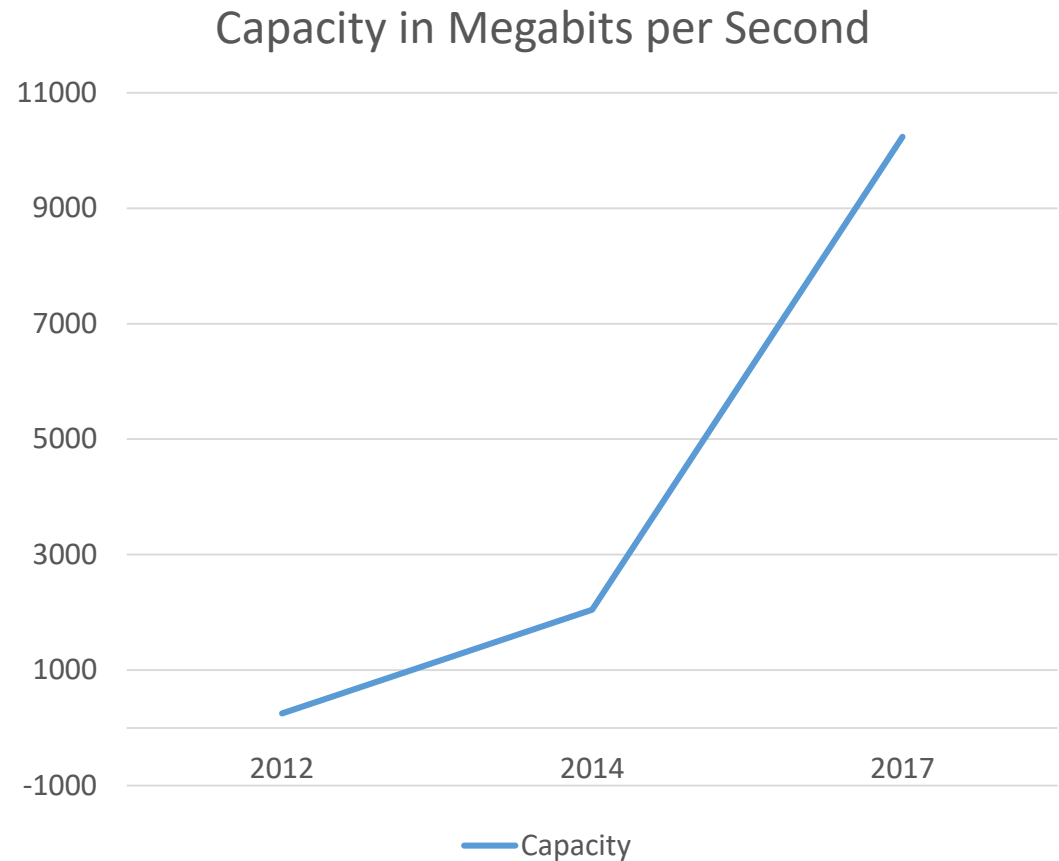


Core Network Capabilities



Internet Capacity

- Two redundant Points of Presence: Data Center and MOHS
- Funding is partially from the E-Rate program and Operating Fund 2115



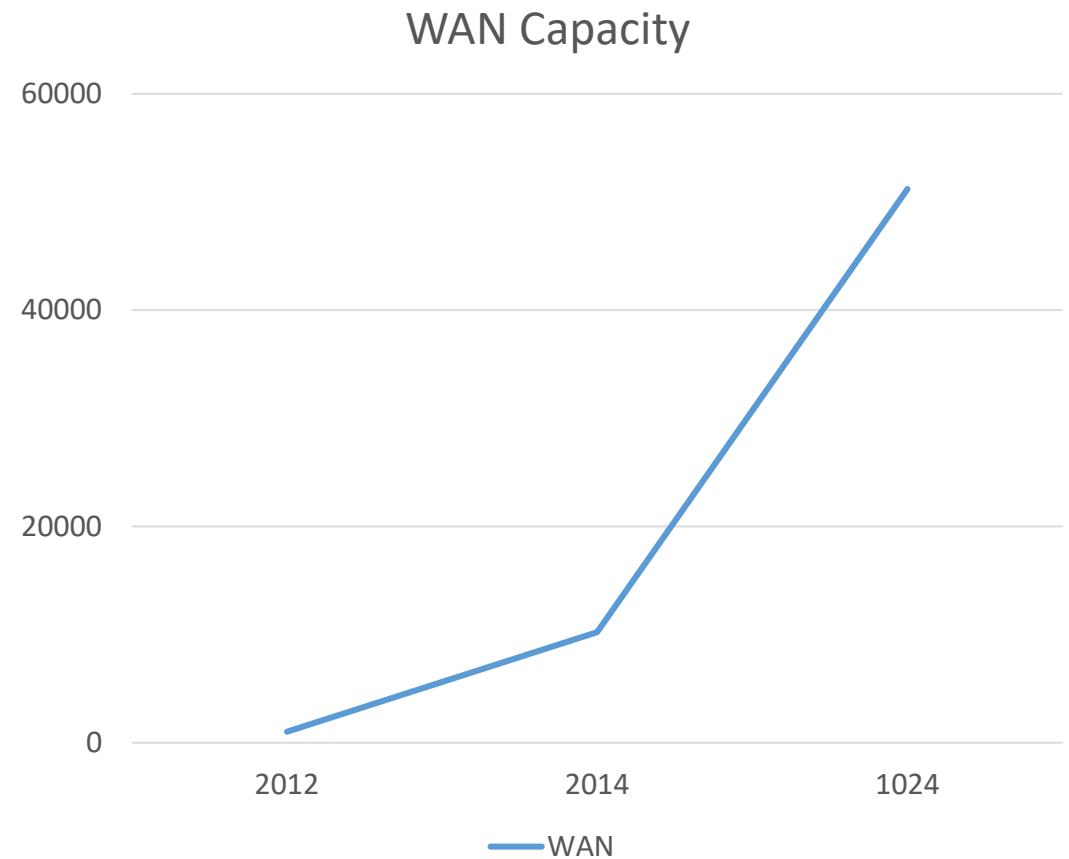
Hybrid Cloud Adoption



Evolution of the Network

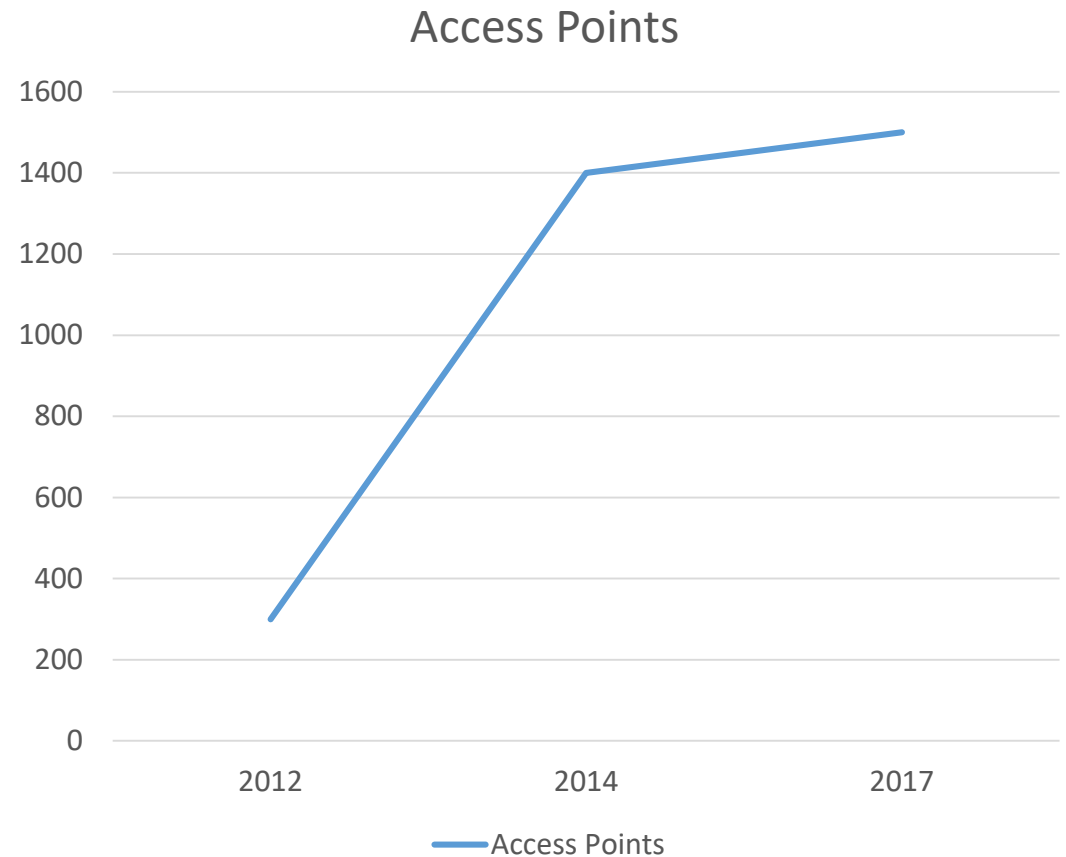
School and Site-Based Networks

- Supports operation of all access points for WiFi, VoIP telephones, hardwired labs, workstations, printers, copiers, building automation, etc.
- Replacement cycle is every 5 years.
- Telecom CIP, E-rate



Wi-Fi Capacity with our Schools

- Capable of dual band 802.11n speeds
- Anticipated replacement in 3 years
- Telcom CIP and hopefully direct E-Rate for the next replacement



Outer limits

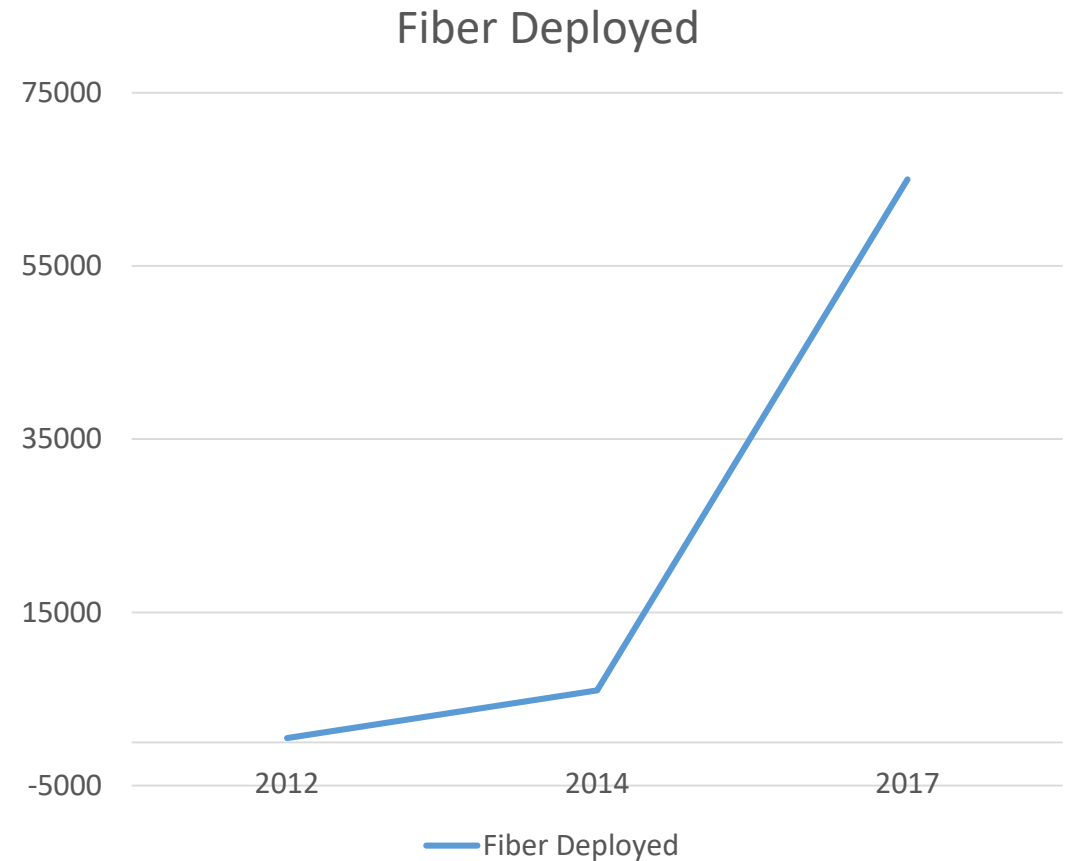
- Content Filtering
 - Lightspeed Systems
- VOIP
 - 2400 endpoints
 - 10 year replacement cycle, approximately 600 new deployed in the last two years
- Cellular Phones
 - Approximately 200
- Security Cameras
- Television and Streaming Service

Fiber Optic Construction

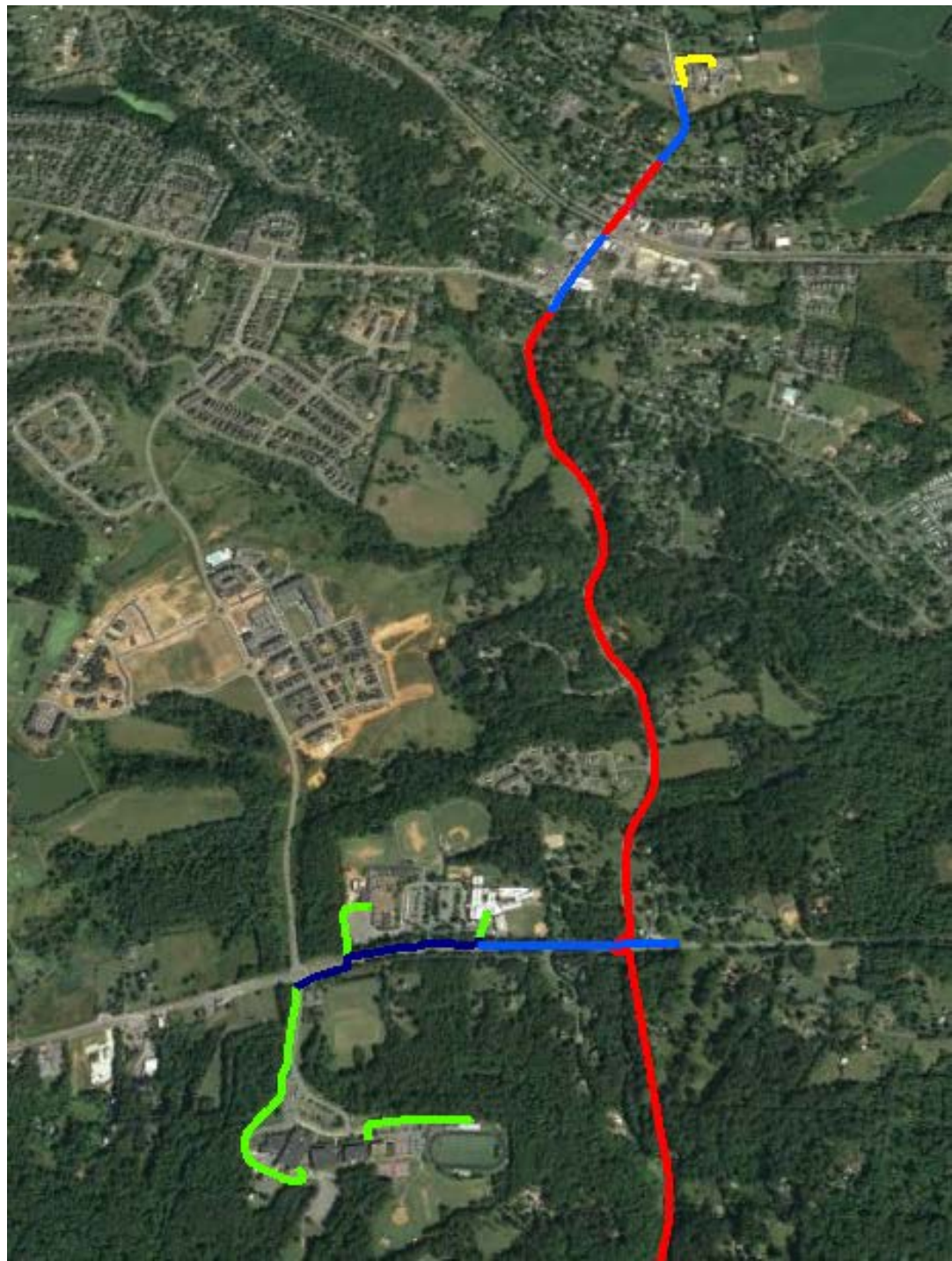


Fiber Build Timeline

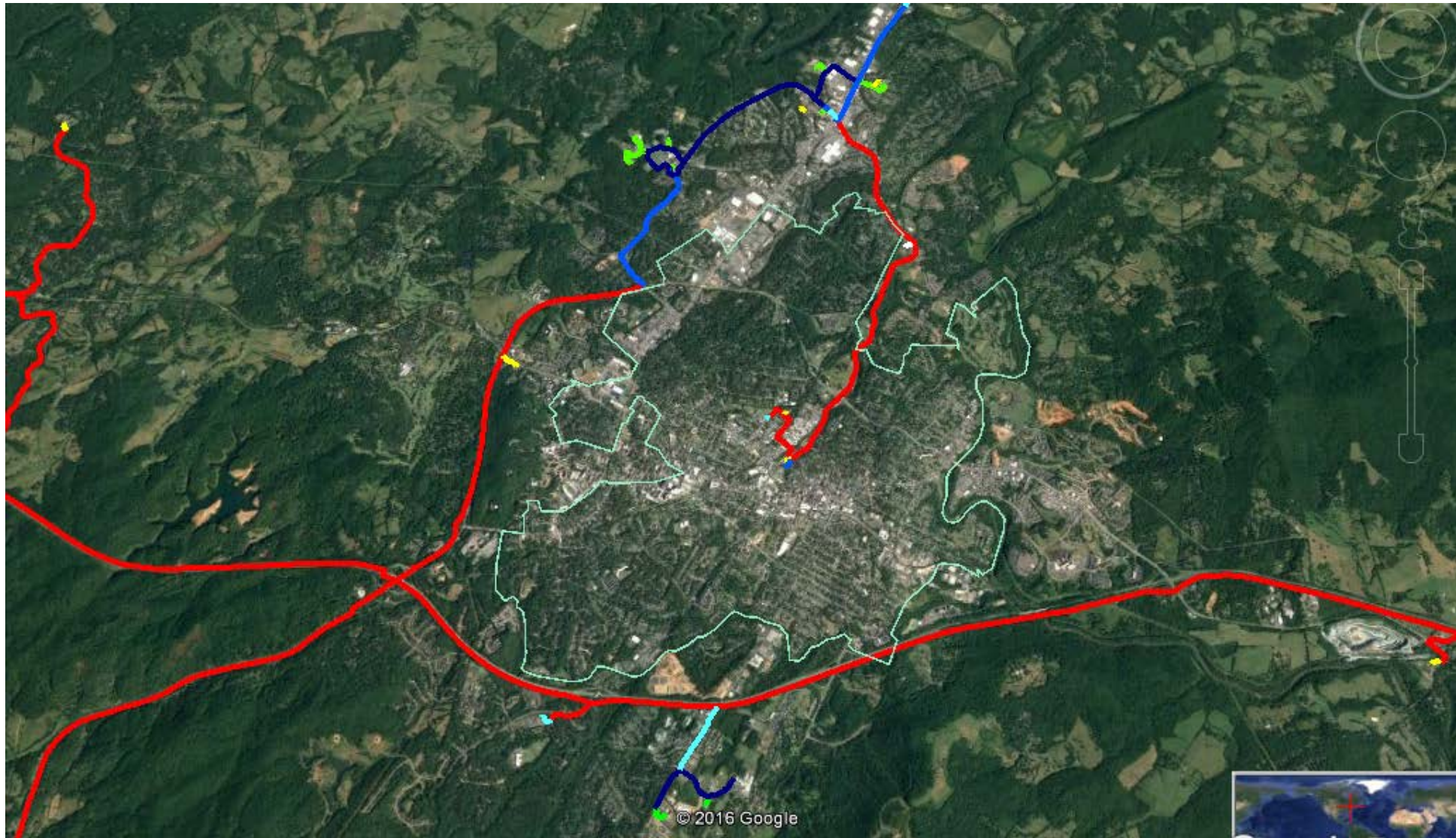
- 2012
 - Data Center to Albemarle HS
 - Jouett MS to Ivy Creek
- 2014
 - All campuses consolidated
 - AHS, MOHS, SMS/HES
- 2017
 - Connected AHS to WES, AHES, progress up 29 to SMS
 - Crozet
- 2018 (Adds an additional 65,000 ft)
 - Complete 29 connection
 - 64 Build



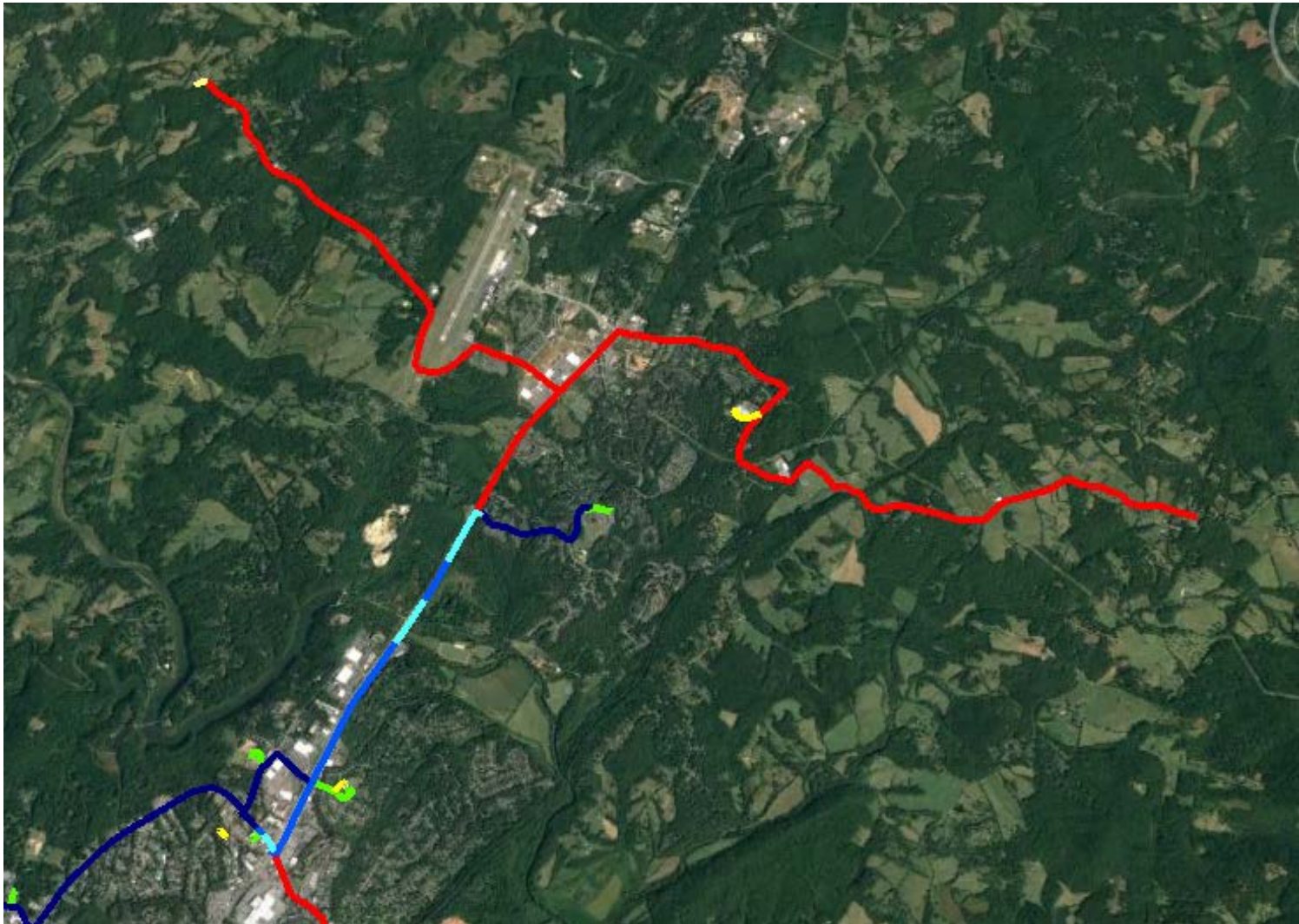
Western Albemarle Campus



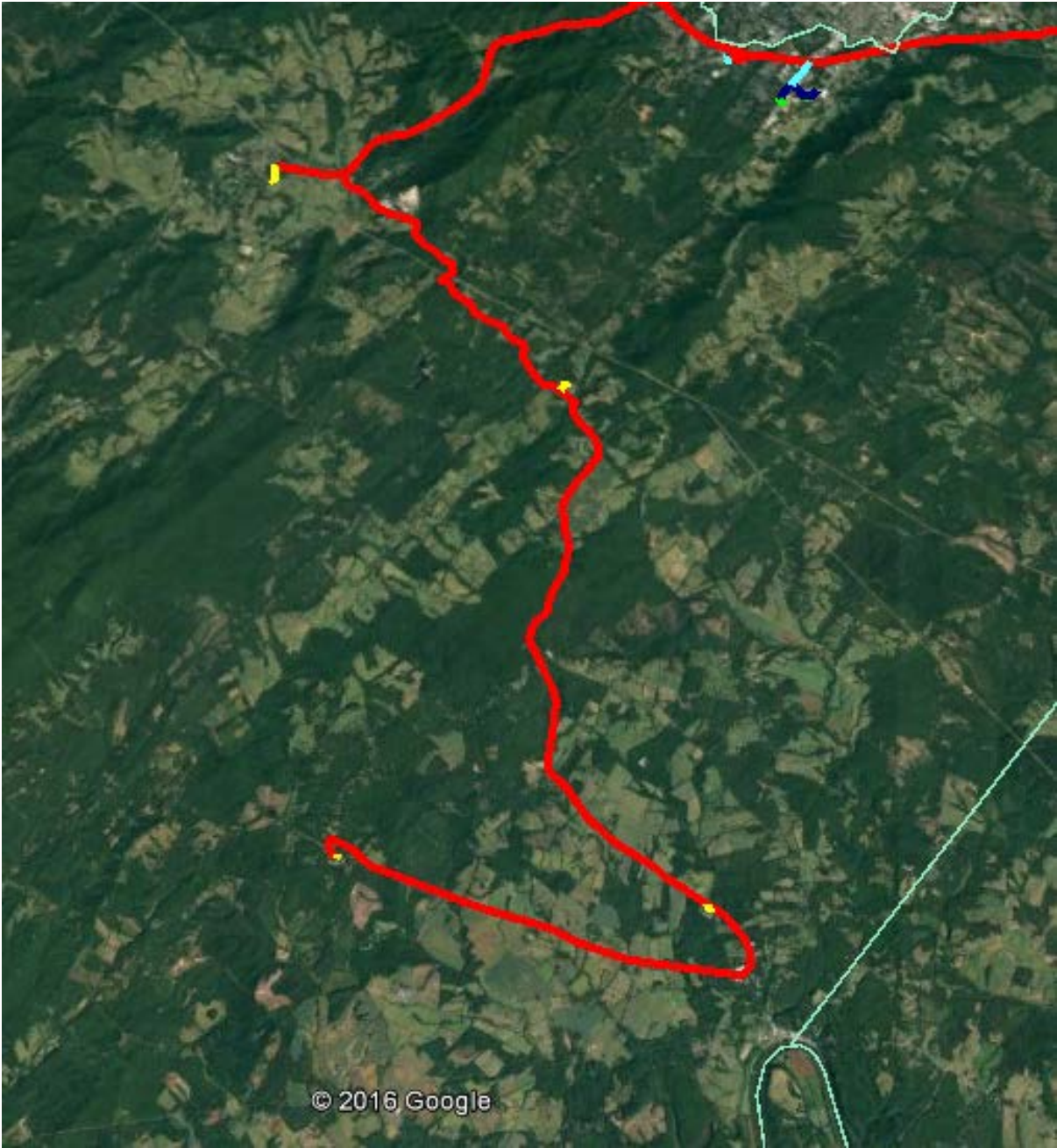
Urban Ring



Northern Sites



Southern

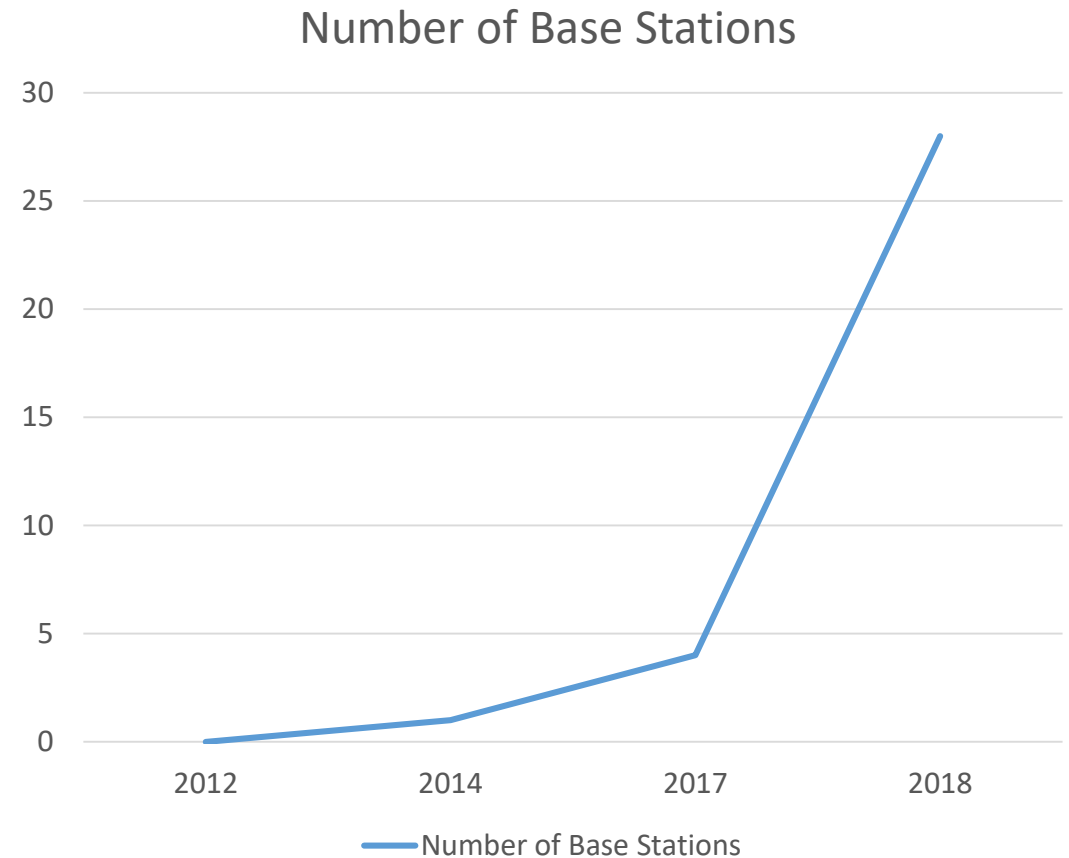


Albemarle All Access

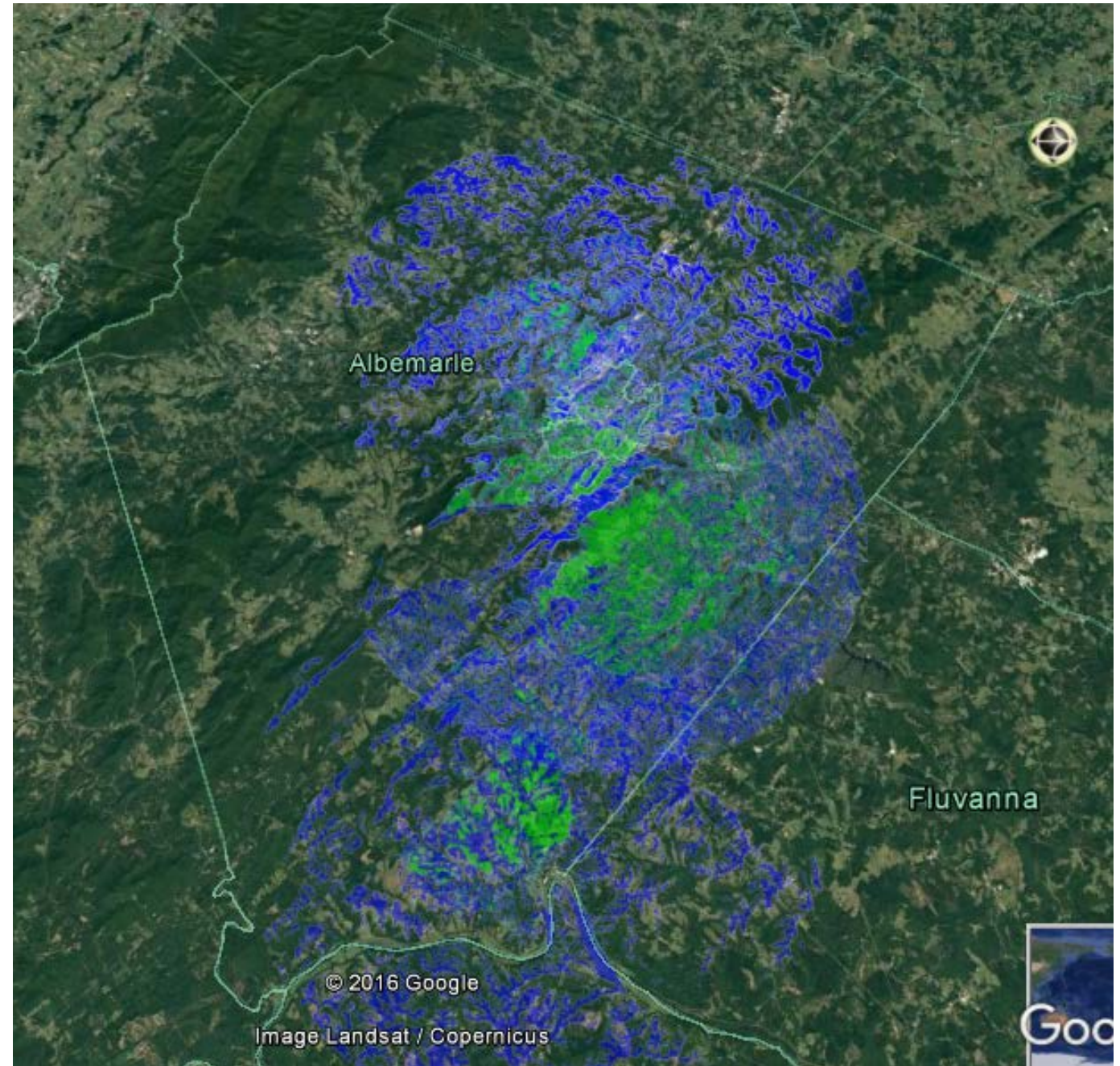


Broadband Buildout

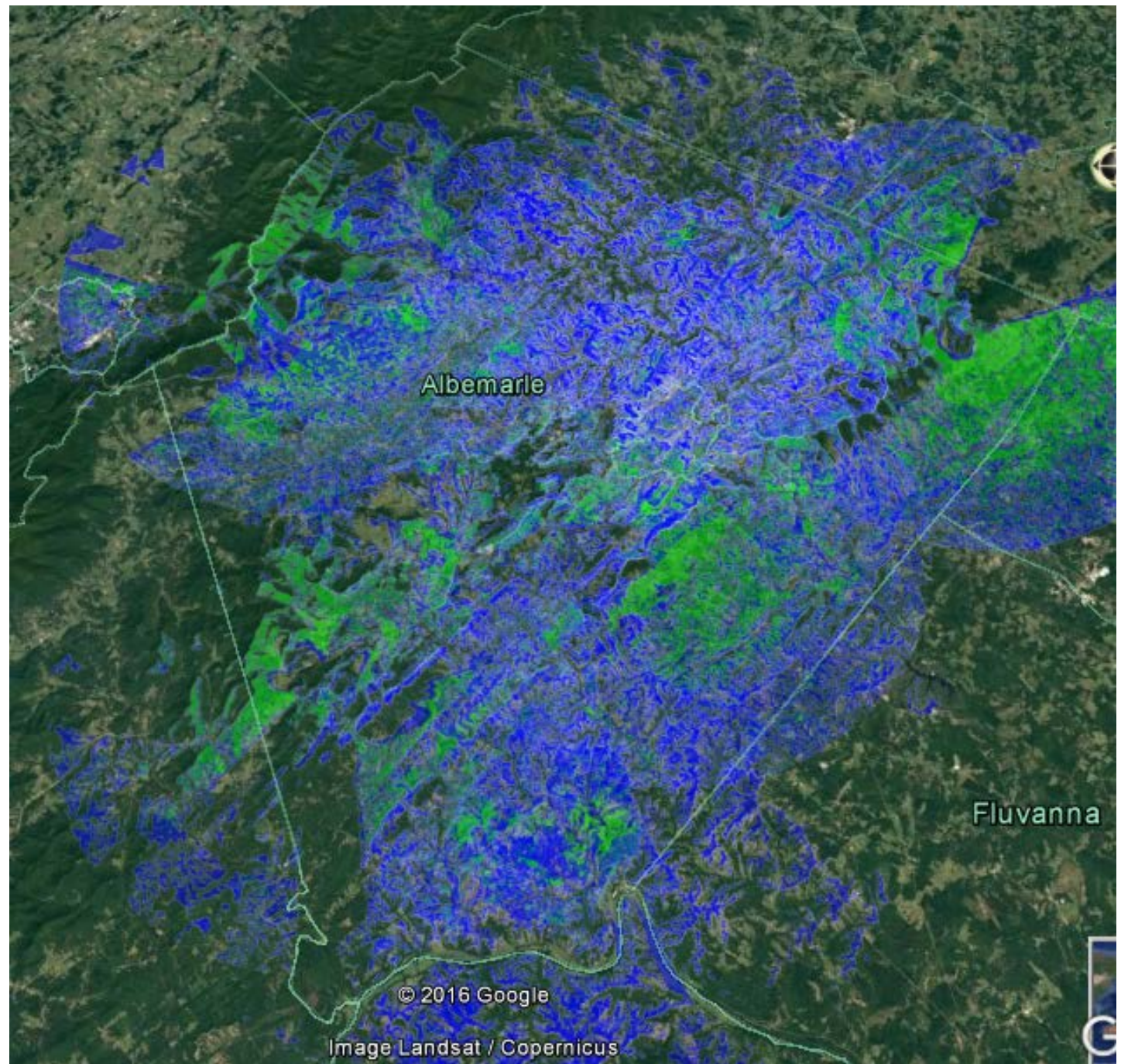
- 2012
 - No equipment existed
- 2014
 - 1 WiMAX unit was setup at AHS to meet federal requirements
- 2017
 - Operating at Carter's MT, AHS, AHES, and SES
 - Deployed to Southwood providing Wi-Fi at both community centers



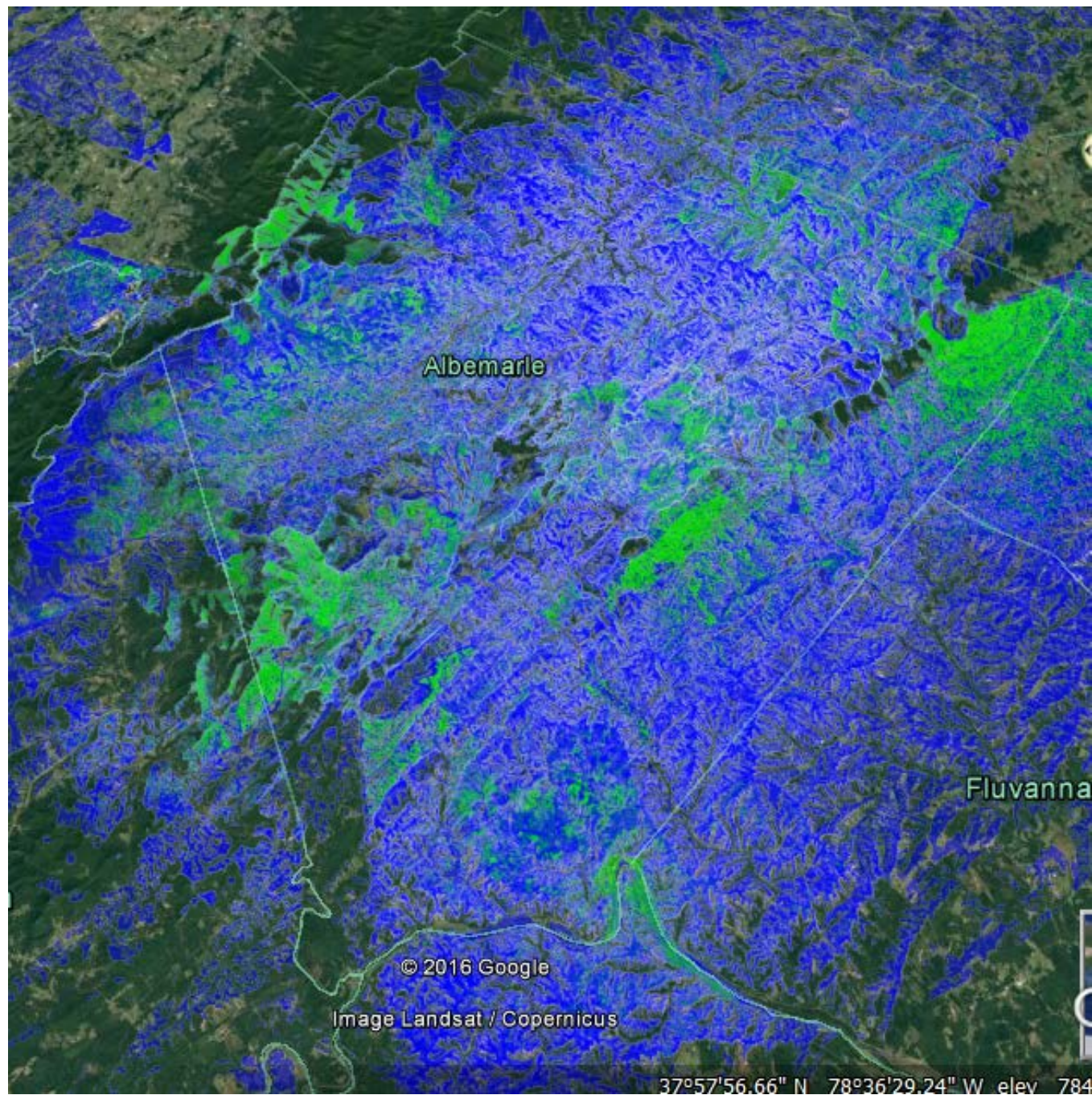
Current State



By 2018



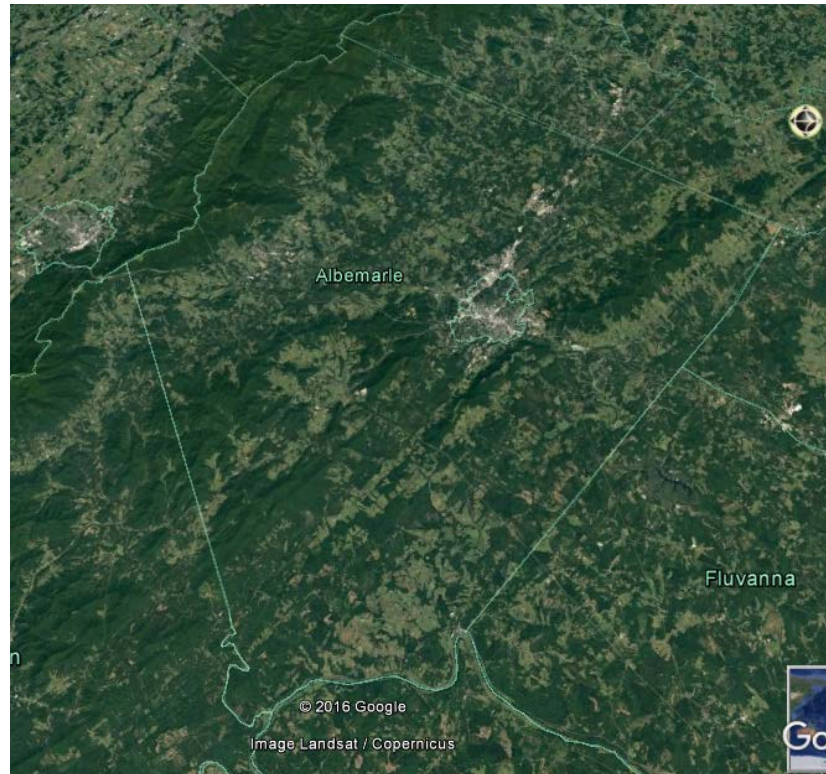
By 2020



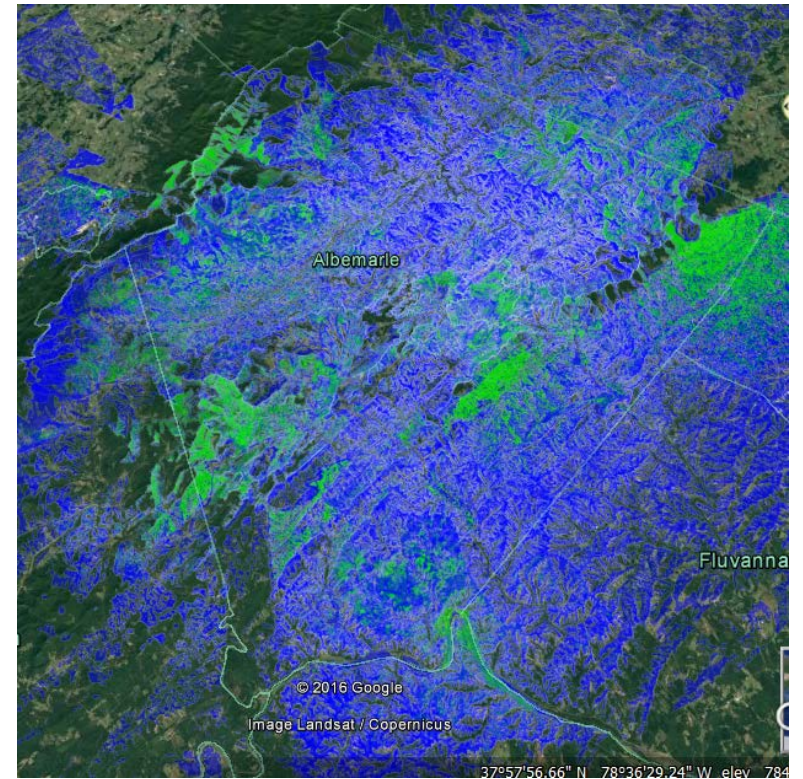
Side by Side



2012



2020



Questions