



# WEST VIRGINIAVIEW 2019 - 2020



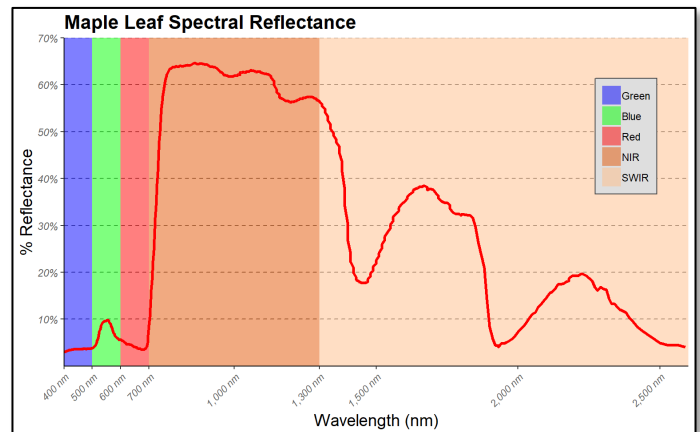
## WEST VIRGINIAVIEW 2019 - 2020 ACTIVITIES

Our HIAs this year focused on the development of **free, online course materials** appropriate for undergraduate/graduate courses and professionals learning independently. Specifically, three courses were produced:

- **Open-Source Spatial Analytics (R)**
- **Client-Side Web GIS**
- **Open-Source GIScience**

These courses cover a wide variety of topics including:

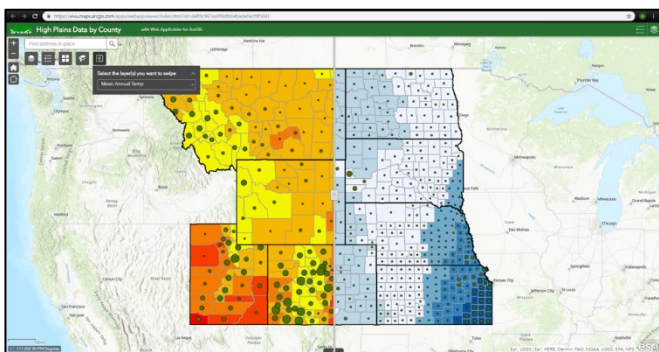
- Coding and **data science** in R
- Visualizing spatial data and making maps in R
- Performing vector and raster spatial analysis in R
- Creating **spatial predictive models** with **machine learning** in R and Python
- Creating **web apps** using ArcGIS technologies
- **Web development** with HTML, CSS, Bootstrap, JavaScript, jQuery, the ArcGIS API for JavaScript, and the Leaflet JavaScript API
- Visualizing, editing, querying, and analyzing geospatial data using the **QGIS open-source software**
- Analyzing remotely sensed data with **QGIS** and **Orfeo Toolbox**
- Data science with **open-source Python**
- Data query with **SQL**



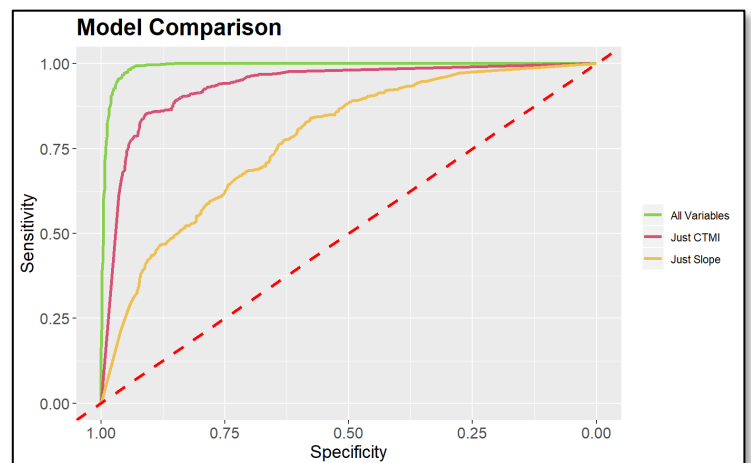
*Spectral reflectance curve for maple leaf created using R and the ggplot2 package*

Other projects for the year included:

- Maintaining our YouTube channel and adding more content
- Generating remote sensing labs to be hosted on our web page.
- Updating our *WV Elevation and LiDAR Download Tool* web app
- Funding software purchases



*Web app developed with the ESRI Web AppBuilder*



*Assessment of machine learning models using R and the caret and proc packages*

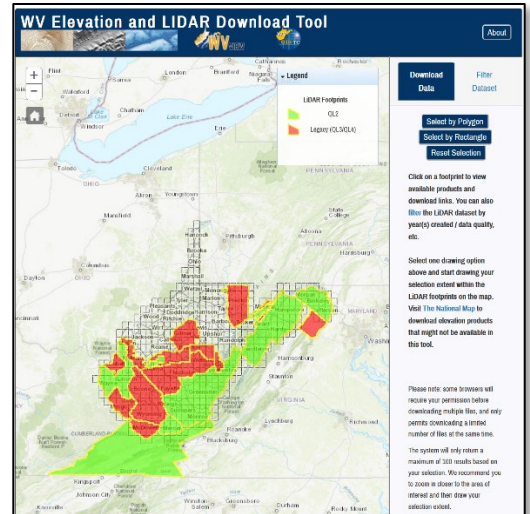
West VirginiaView is a member of the AmericaView Consortium, a nationally coordinated network of academic, agency, non-profit, and industry partners and cooperators that share the vision of promoting and supporting the use of remote sensing data and technology within each state. AmericaView is funded by USGS grant agreement G18AP00077.



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## BENEFITS TO WEST VIRGINIA

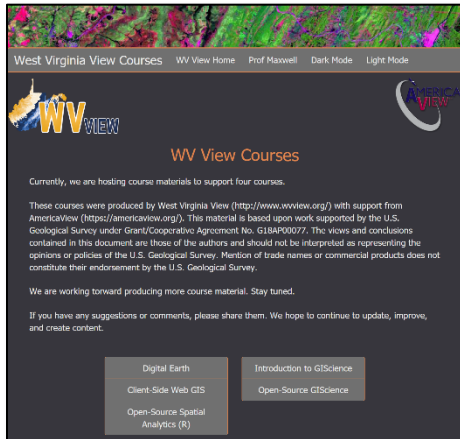
- Provide educational materials for students and geospatial professionals
- Foster remote sensing education, outreach, and research in the state
- Provide access to LiDAR data via a web app
- Fund software purchases
- Support graduate student travel and data needs
- Provide summer funding for graduate students



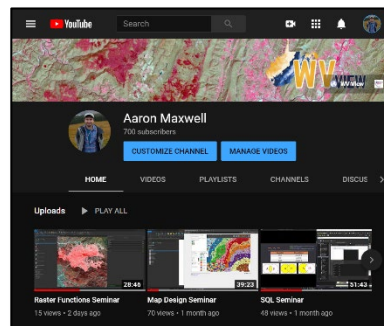
WV LiDAR download web app



Leaflet web app from Web GIS course



WVView courses web page



WVView YouTube channel

## WEST VIRGINIAVIEW CONSORTIUM MEMBERSHIP



Federal consortium members identified above do not receive funding from AmericaView.

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<http://www.wvview.org/>

