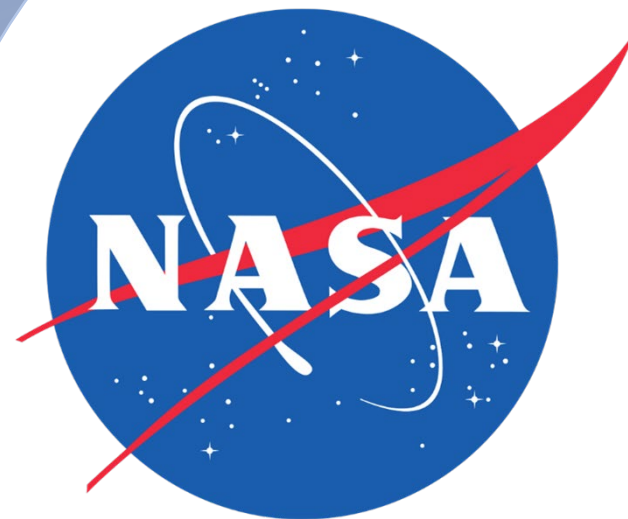




AEOIP Spring Workshop

March 22-24, 2022

Vegetation, Ecology and Soils Mapping

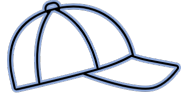


About Me – *Nathan Pugh*

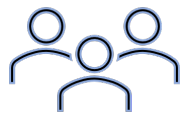
Job Title: Program Assistant - Resource Mapping, Inventory & Monitoring

Organization: USFS-Geospatial Technology and Application Center

1-sentence bio: I love working at GTAC (5+ years) and I enjoy building legos with my kids.



Primary research areas/land management issues/EO application:
Vegetation, Ecology and Soils Mapping



Other team members: Kevin Megown, Rob Vaughan, Claire Simpson, Brett Ruether, Zack Werner, Jenn Lecker, Ian Housman, Leah Campbell, Josh Heyer, Sean Healey, Yang Zhiqiang, Holly Russon, Stacie Bender, Christian Perry, NRCS, USGS



Pitch Fest Idea

What are we doing?

- Large Scale Mapping of USFS Terrestrial Ecological Units, Soils w/NRCS and Landscape Change
- Multiple USFS Regions, Forests and/or full United States and Territory Coverage
- Extensive use of Landsat data including historical archive back to 1984 for Land Cover and Landscape Change Mapping.
- Bare Ground, Erosion, & Disturbance Products for use in Digital Soil, Reforestation and Rangeland mapping.

What data could we use or utilize better ?

- Soil Moisture EO data
- National coverage tree height and size class data



Challenges

Too many ideas and needs -

- Changing funding, costs, needs and expectations.
- Funding is limited and hard to secure
- Costs are rising (Cloud Computing, Contract Labor), staffing shortages
- Needs and expectations are expanding. “Cloud computing is cheap, easy and Machine Learning/AI will make anything possible”
- Expectations don’t match reality of costs and availability of funding and staff.
- Working across agencies to efficiently share processing power, data and products. (Working with agency staff is easy)
- Creating or obtaining high quality training data for EO applications
- High resolution data processing
- How can we improve what we do and be more efficient?



Feedback to AEOIP

- Advocate for EO data availability *in its entirety* for use in multiple computing environments (Google, Microsoft, Amazon, US Government Computing Centers, Universities)
- Advocate for a distribution process or library of intermediate derivative products (ex. cloud free Landsat mosaics)
- Advocate for consistent and long-term acquisition of EO data for repeatable products
- Share best practices for using EO data with machine learning, AI or new models



Thank You!

