



Automated protocols for generating very high-resolution commercial validation products with NASA HEC resources

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Goals and Objectives

Enhance scientific utility of sub-meter DigitalGlobe data by:

- 1) Improving VHR data querying: using databases and mosaic datasets within NASA-GSFC's ADAPT global archive of DG VHR imagery;
- 2) Producing on demand VHR 1/2° degree mosaics: automating estimates of surface reflectance, ortho-rectifying and normalized 1 m mosaics for pan and 2 m for multi-spectral; and
- 3) Producing on demand 2 m posting DEMs: leveraging HEC processing and open source NASA-ARC ASP software.

Approach

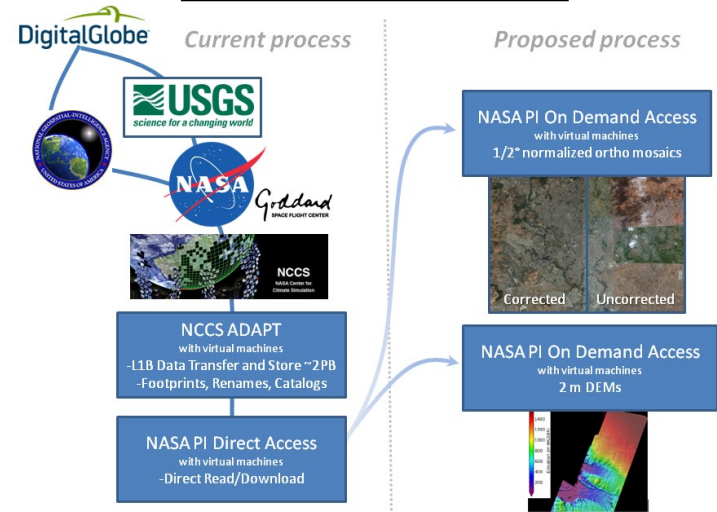
Develop a HEC API to:

1. identify NASA-GSFC archived VHR DG data and Ortho-rectify, atmospherically correct, identify clouds/shadows, mosaic, and convert to GeoTiff in a standard GIS ready projection;
2. identify NASA-GSFC archived VHR DG stereo pair data and produce orthos and DEMs.

Co-Is/Collaborators

Mr. Mark Carroll, Dr. Paul Montesano, Dr. Compton Tucker, Dr. Alexei Lyapustin, Dr. Daniel Slayback, Dr. David Shean, Dr. Oleg Alexandrov, Mr. Mathew Macander, Dr. Daniel Duffy, Dr. Jorge Pinzon, Dr. Gerald Frost and Dr. Scott Goetz

Architecture Overview



Key Milestones

Automated database, beta	07/2018	TRL _{in} = 3
Surface reflectance WV-2, beta	10/2018	
½° Mosaics and DEMs, beta	1/2019	
System Interface, API, beta	05/2019	
Optimization of performance	07/2019	
Client libraries and API tools completed	10/2019	TRL _{out} = 5

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