



EFFICIENT PROCESSING OF SAR TIME SERIES WITH SARSCAPE AND ENVI SERVER

Large-scale SAR Operational Processing from Desktop to Enterprise Environments

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What is ENVI?

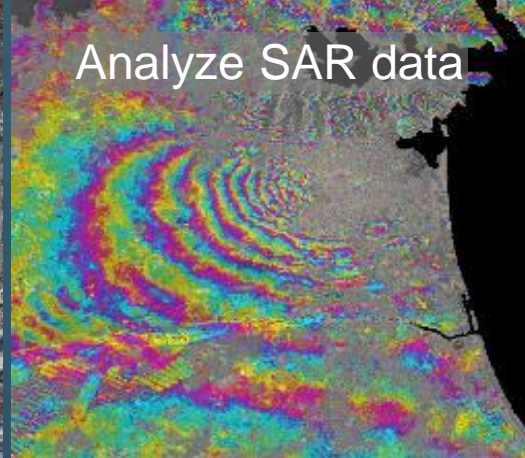
The industry standard for image processing and analysis, used to extract accurate and timely information from remotely-sensed data

ENVI has remained on the cutting edge of innovation for more than three decades

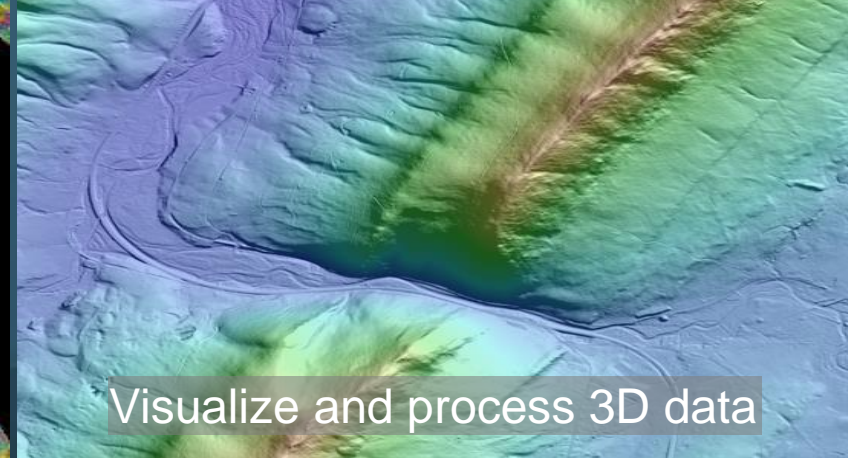
ENVI makes image analysis accessible and requires no prior experience or programming



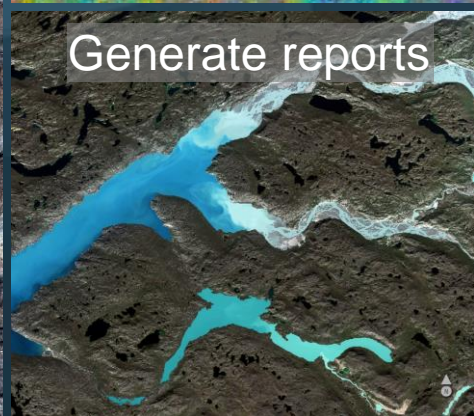
Supports >200 data formats



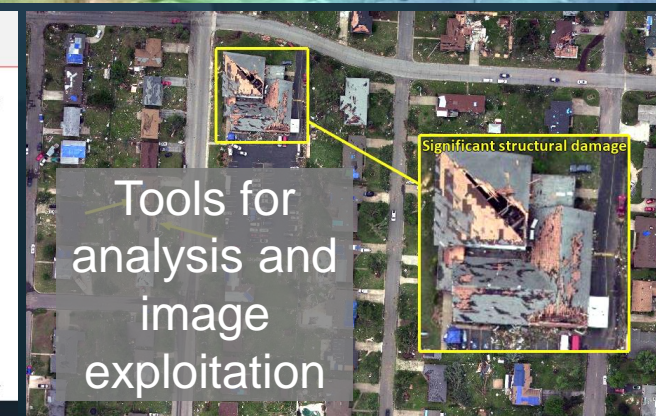
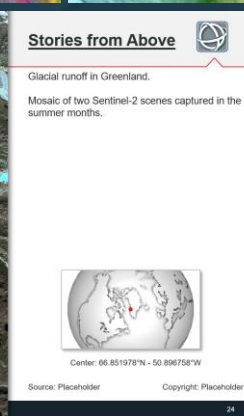
Analyze SAR data



Visualize and process 3D data



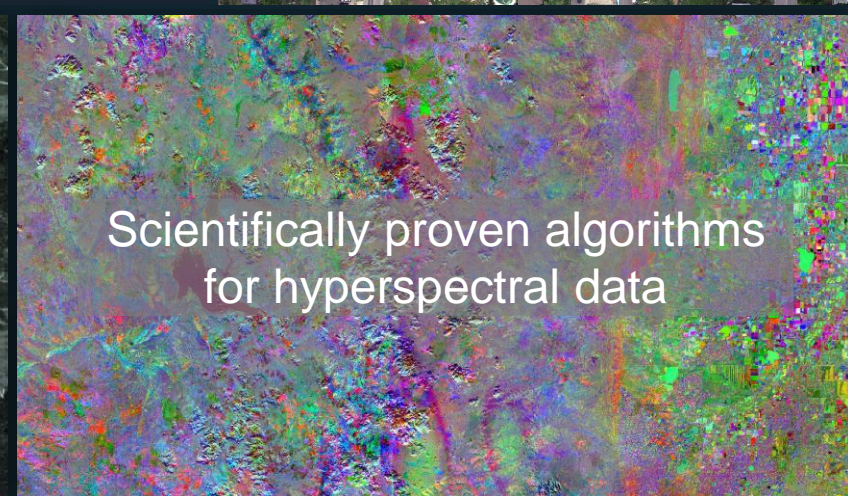
Generate reports



Tools for analysis and image exploitation



Change detection and precision agriculture workflows



Scientifically proven algorithms for hyperspectral data

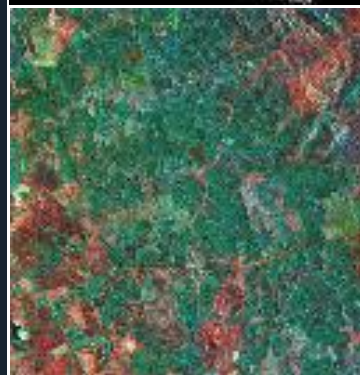
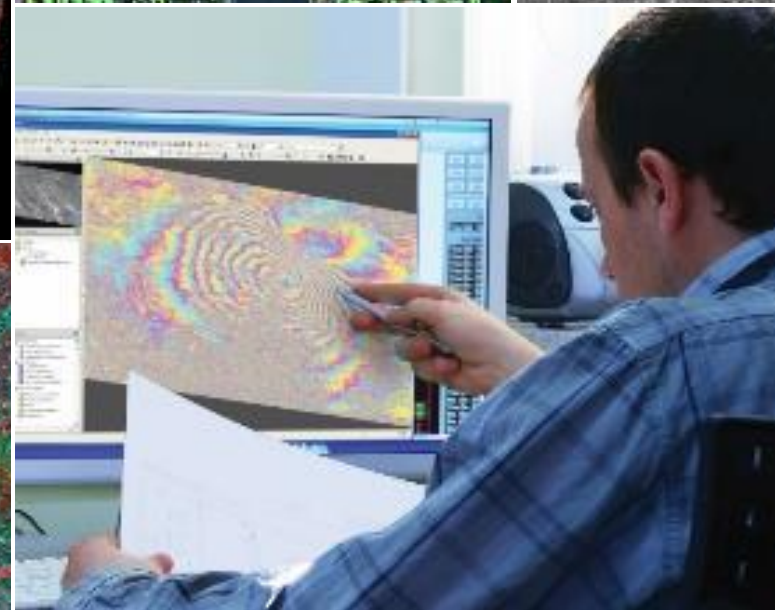
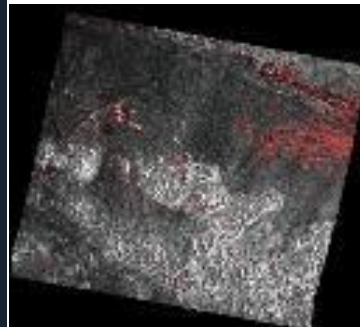
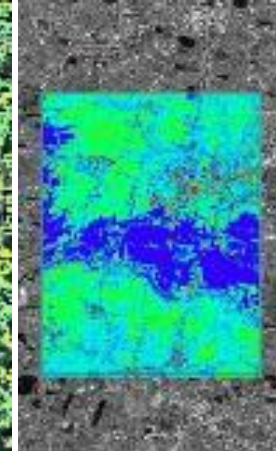
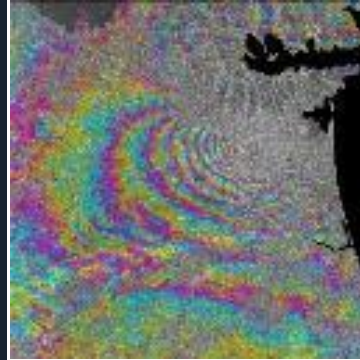


Easily process and analyze SAR data

ENVI integration brings advanced image processing and analysis together with SAR processing in one package

Generate products (like DEMs or surface deformation maps) that can be integrated with other geospatial products

Built-in workflows and modules simplify processing and can be customized



Why should I care about ENVI Server in SARscape?

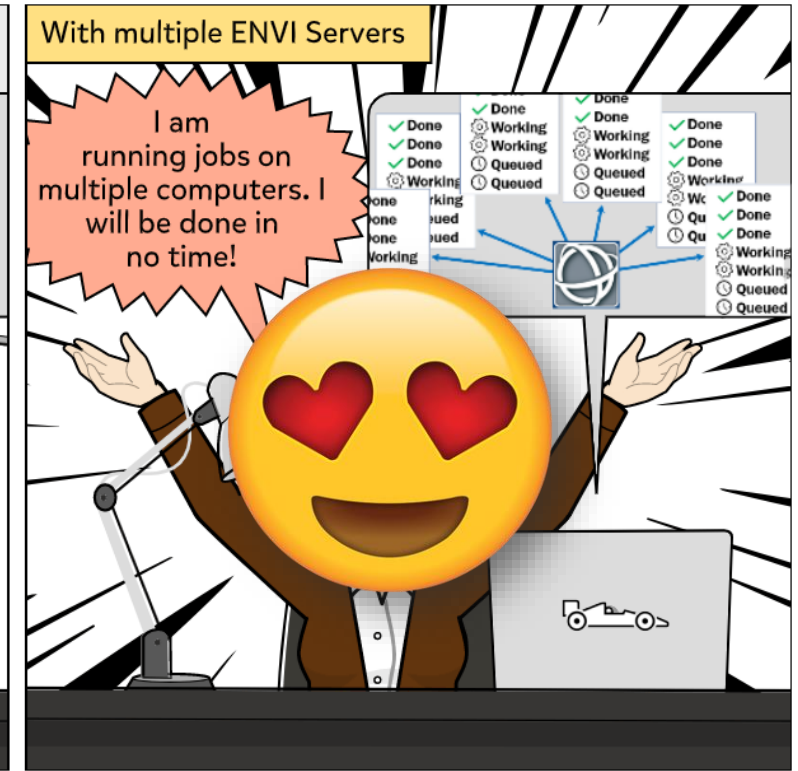
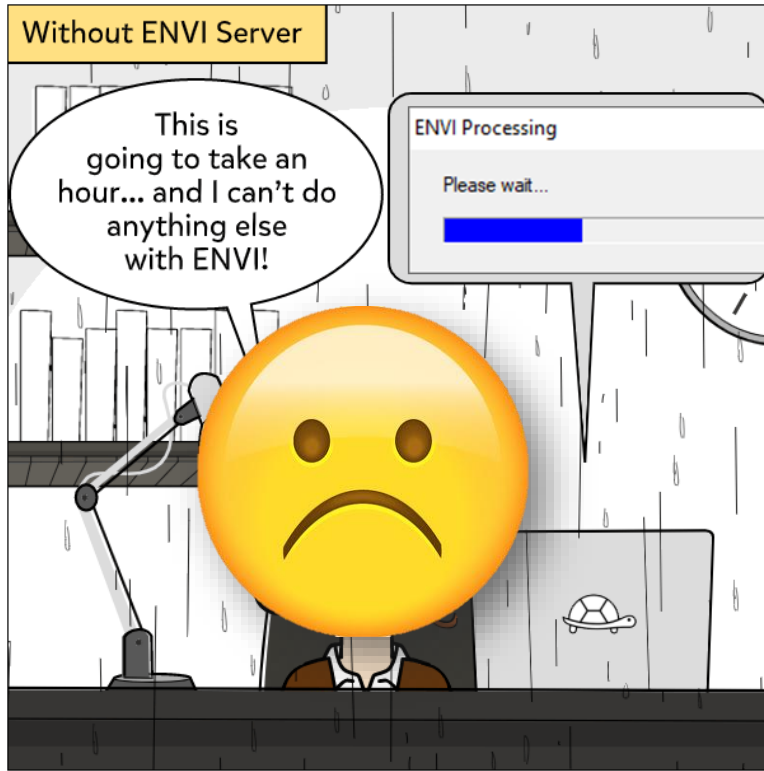


Take advantage of modern hardware

Save time by running processes in parallel

Run processes in the background in ENVI

Distribute processing to local servers with common data access

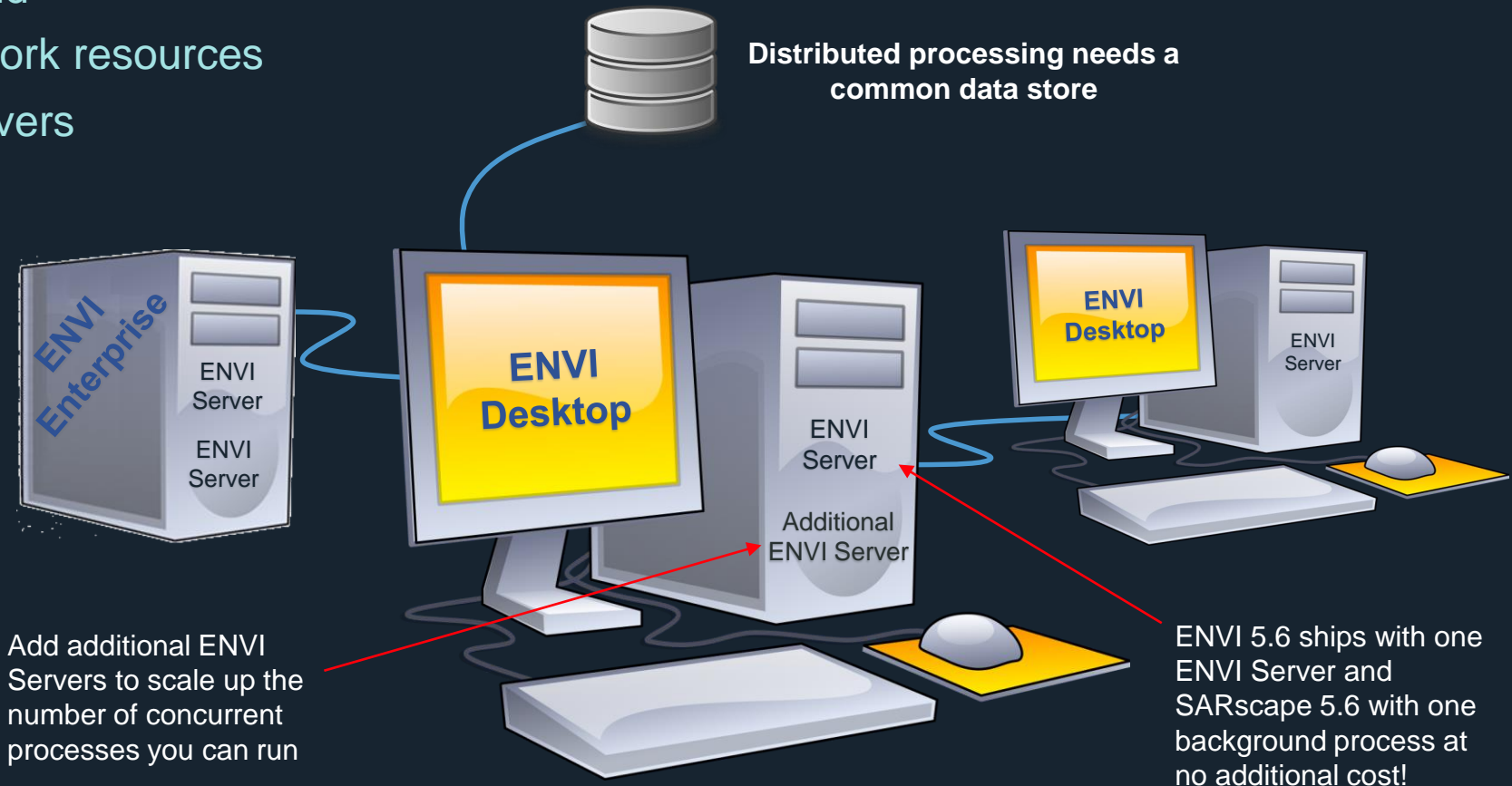


Operational Processing with SARscape and ENVI Server

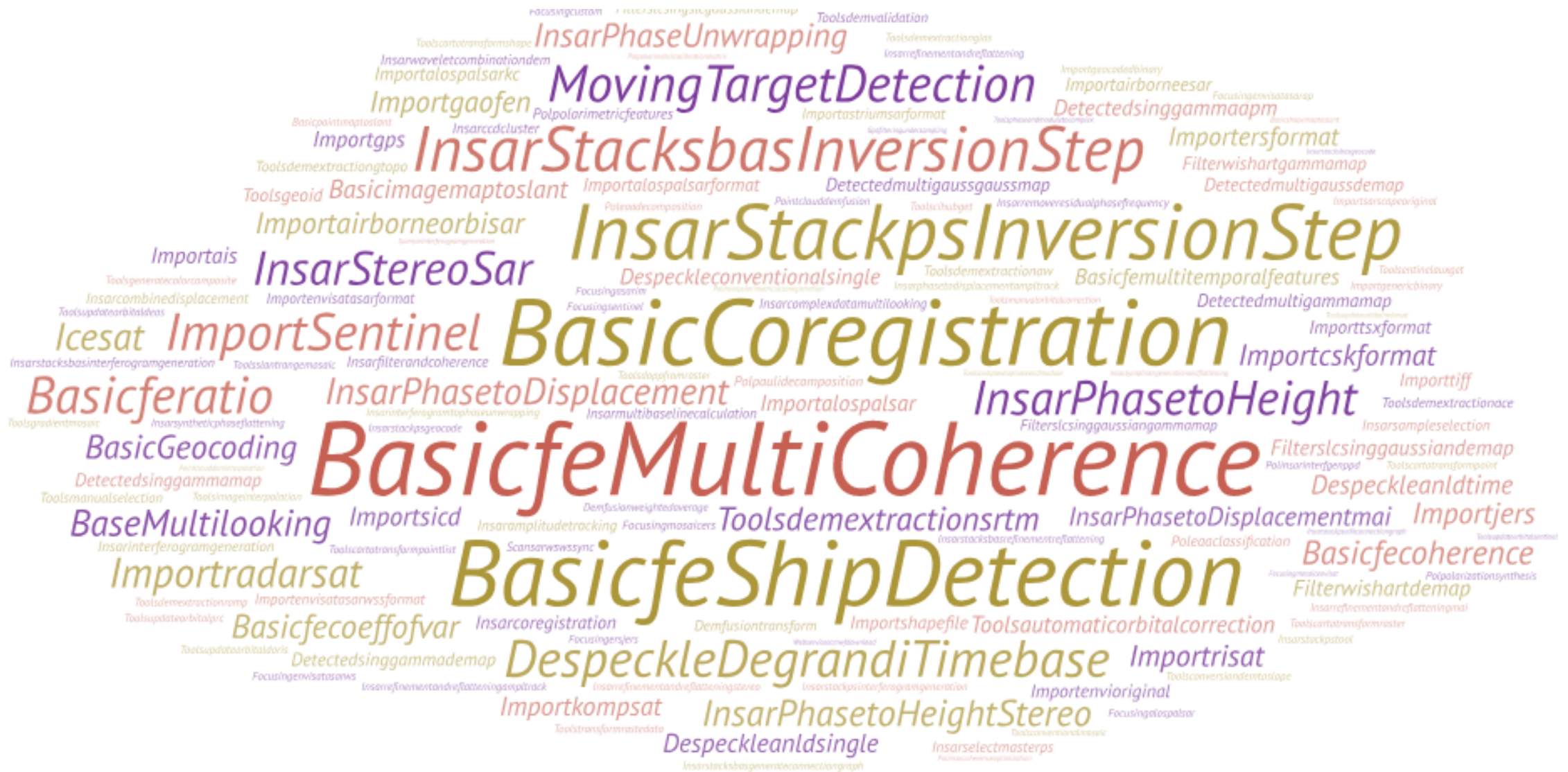


SARscape 5.6 supports ENVI Server to run processing remotely or in the background of ENVI

- Save time by running processes in parallel
- Bulk processing in the background
- Take advantage of powerful network resources
- Distribute processing to local servers with common data access
- No programming required!



SARscape Tasks: Library of Functions for SAR Processing



ENVI Modeler: Visual Programming for Remote Sensing



A visual programming tool to create custom task-based workflows in ENVI

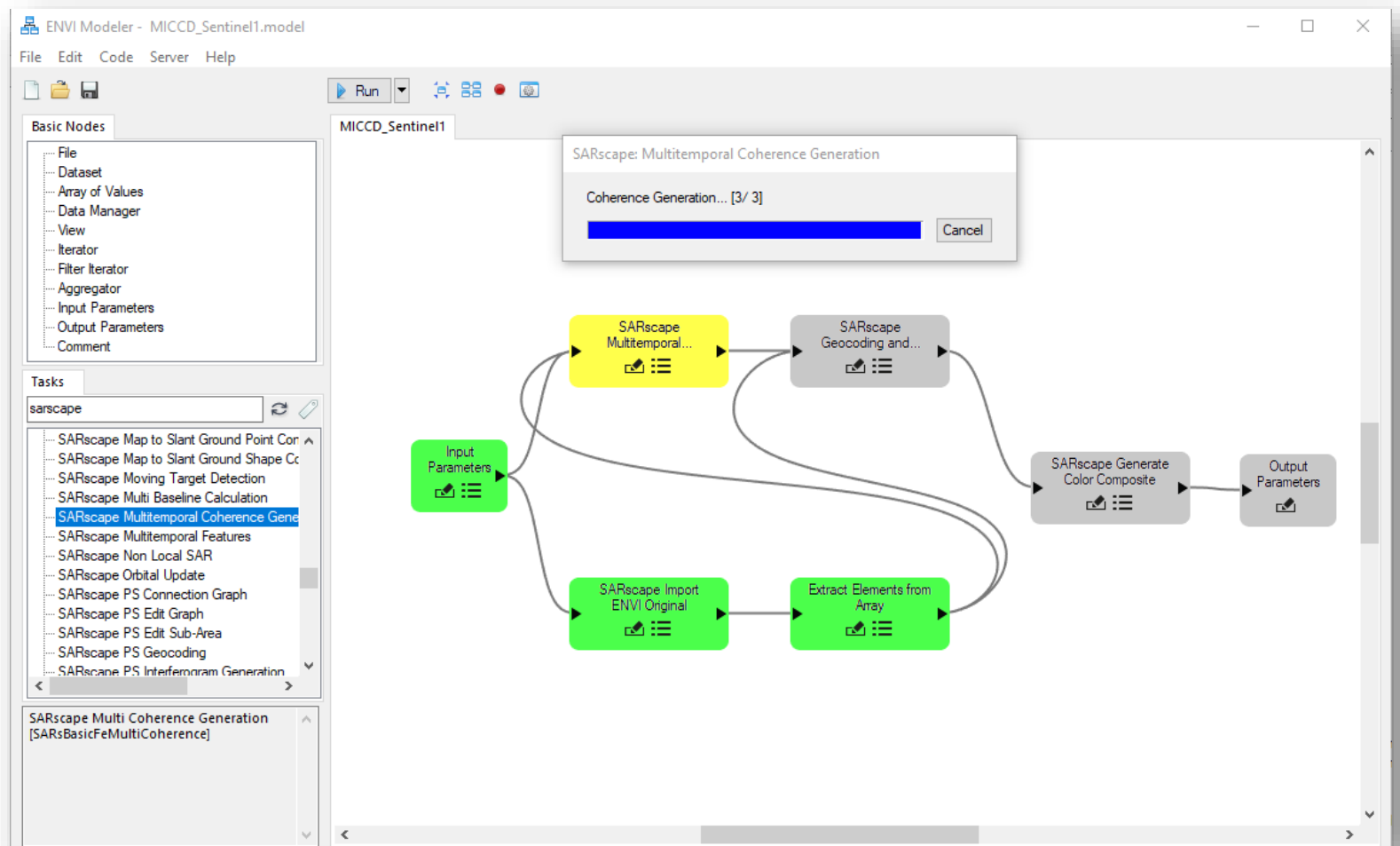
Combines the power of the ENVI API with an intuitive user interface

Batch processing without any knowledge of ENVI programming

Build Workflows that mix SAR and Optical processors seamlessly

Run workflows remotely or in the background with ENVI Server

Generate IDL and Python programs from models, create extensions to ENVI, and export metatasks to ArcGIS



ENVI Server: Through SARscape Tasks and ENVI Modeler



Automate and batch process SAR data remotely or in the background through ENVI Server, with SARscape Tasks and the ENVI Modeler

The screenshot displays the ENVI software interface with several windows open:

- ENVI Main Window:** Shows a satellite image with a color-coded SARscape coherence map overlaid. The Layer Manager on the left lists layers like 'MICCD_output' and 'S2_RGB_2020'.
- ENVI Server Job Console:** A table showing the status of several completed jobs on 'This Computer':

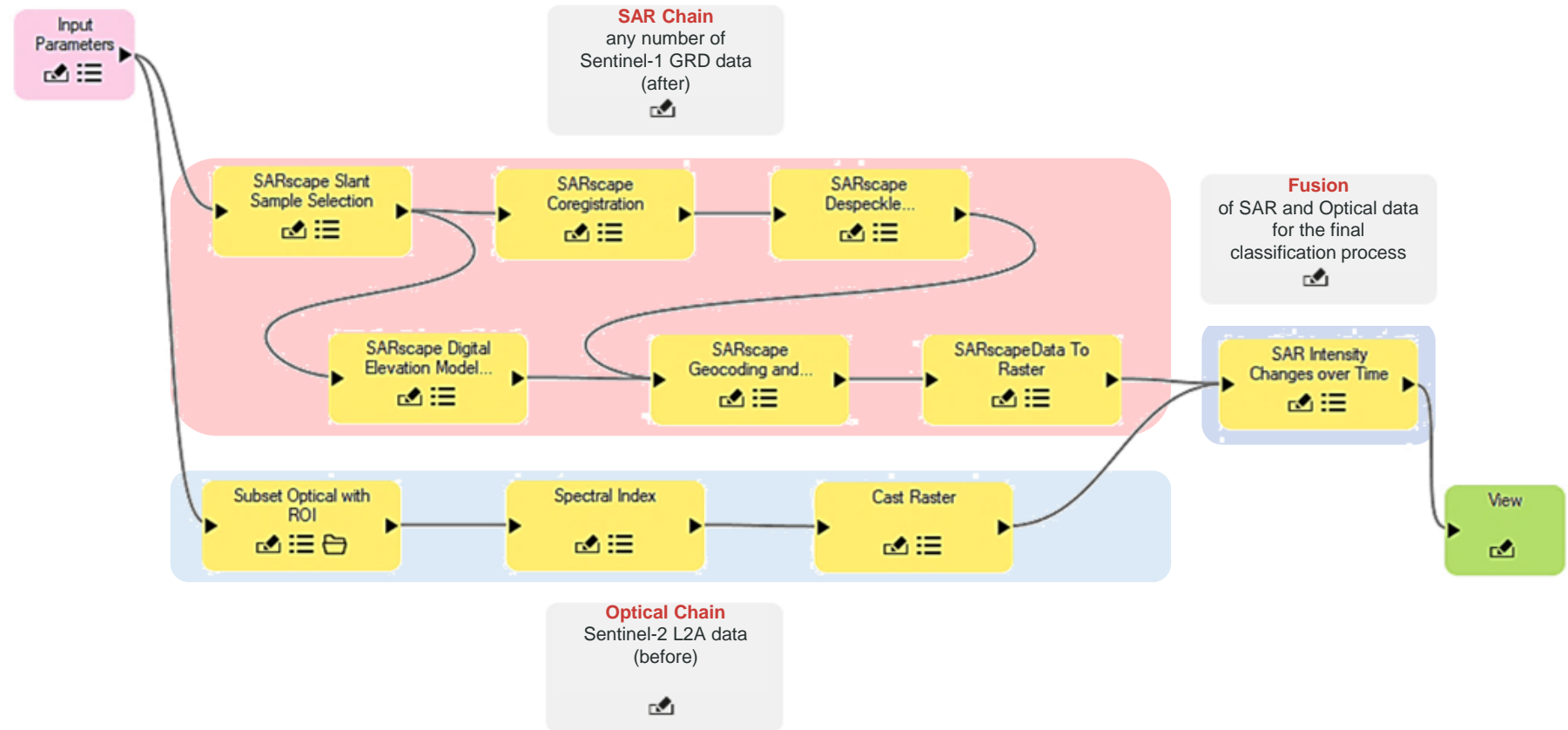
Job	Status	Name	Started	Duration	Actions
31	Completed	MultiTemporal_Coherence	January 27, 11:55	00:08:40	Display results
30	Completed	MICCD Sentinel1	January 27, 11:53	00:13:25	Display results
29	Completed	SARscape Geocoding and Radiometric Calibration	January 27, 11:47	00:00:37	Display results
28	Completed	SARscape Basic Multilooking	January 27, 11:34	00:00:22	Display results
- ENVI Modeler - MICCD_Sentinel1.model:** Shows a workflow diagram with nodes: 'Input Parameters' (pink), 'SARscape Multitemporal...' (yellow), 'SARscape Geocoding and...' (yellow), 'SARscape Generate Color Composite' (yellow), and 'Output Parameters' (pink). A 'Run' menu is open, showing options like 'Run Model in the Background' and 'Run Model on QA GSF'.
- Tasks Panel:** Lists various SARscape tasks, with 'SARscape Multitemporal Coherence Generation' selected.

ENVI Modeler: Fusion of Optical and SAR Processes

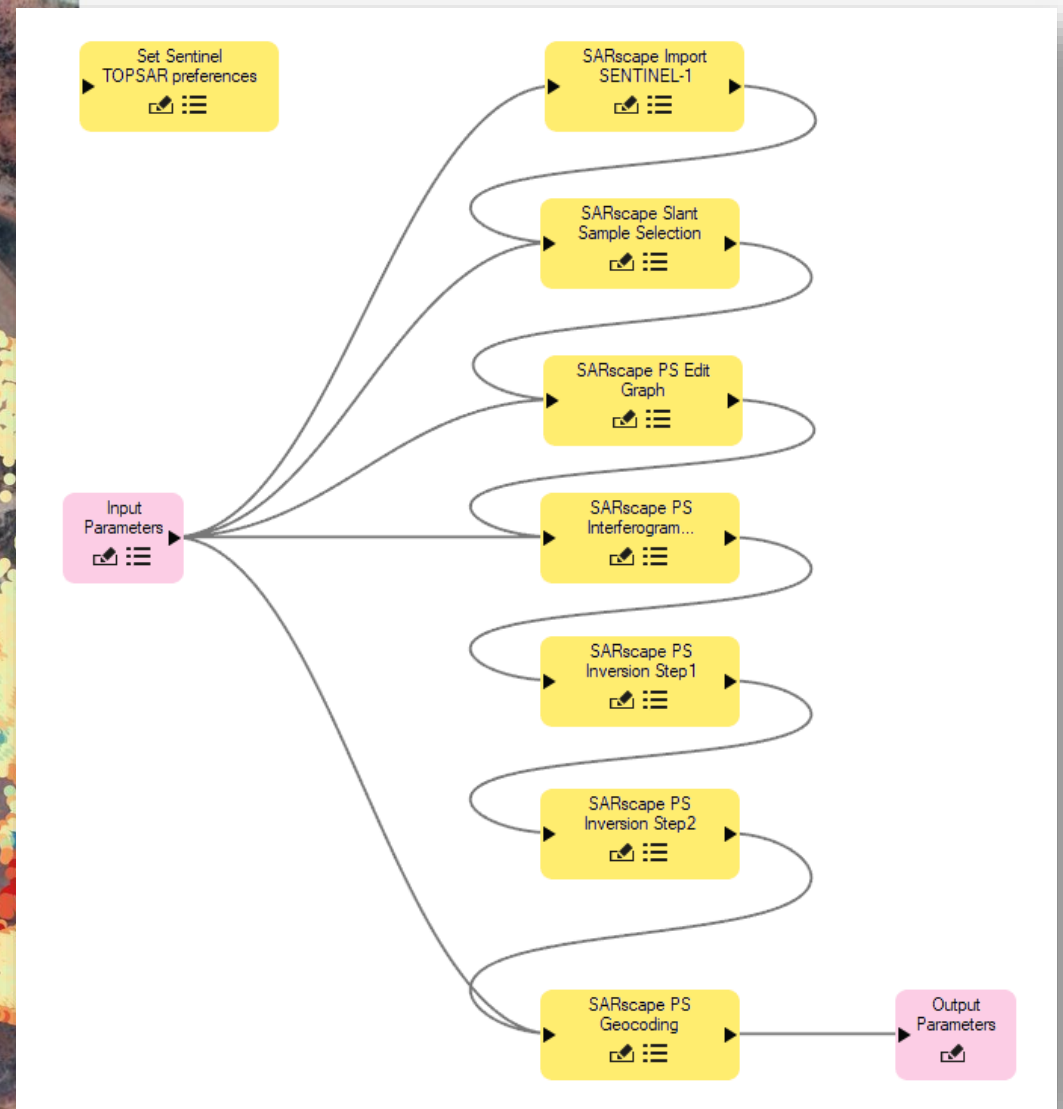
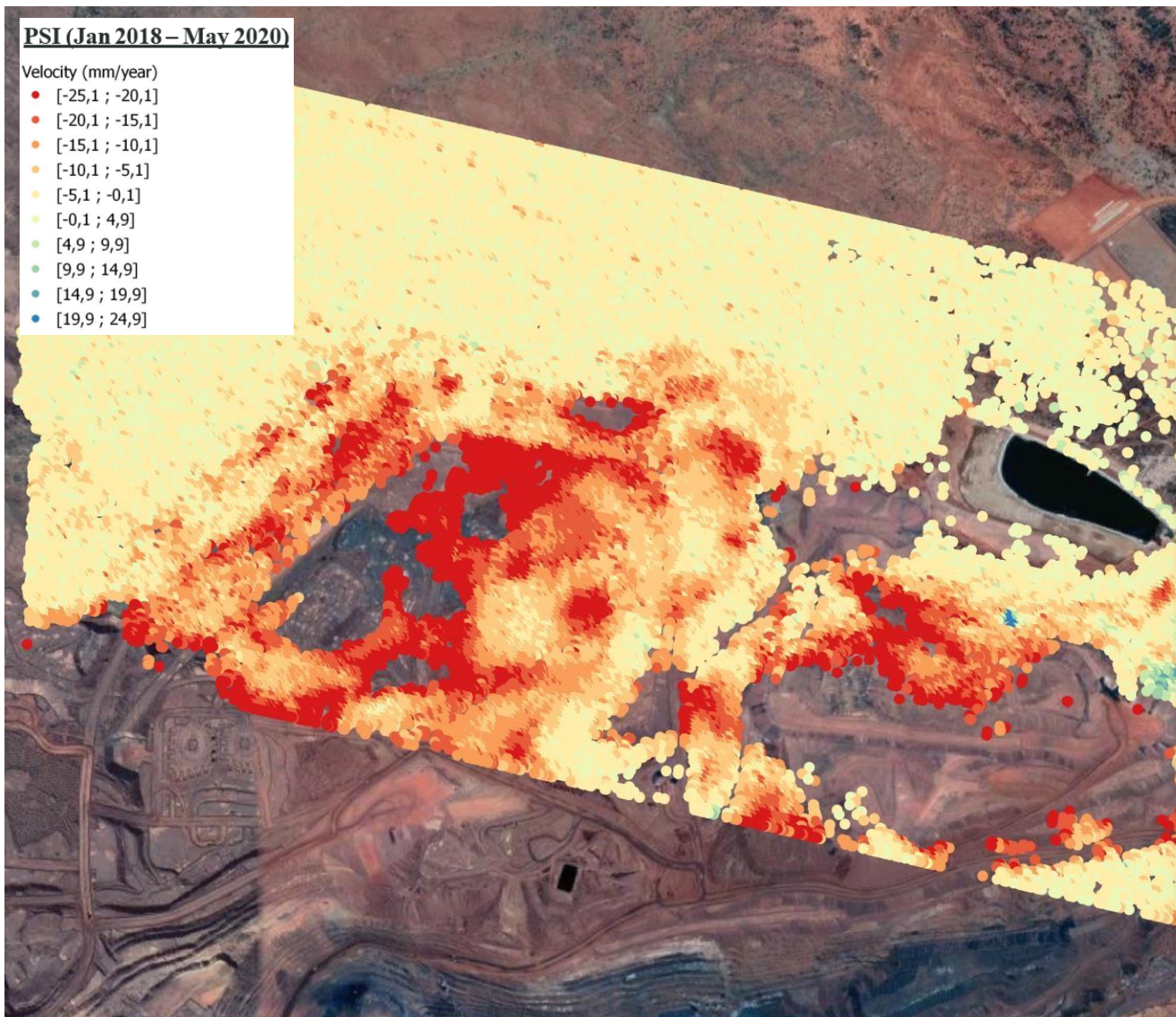


- Full support of nodes in non-native technology (e.g. Python, Java, ...).
- Workflows can mix SAR and Optical processors seamlessly.

Create on the desktop
—
Deploy everywhere !



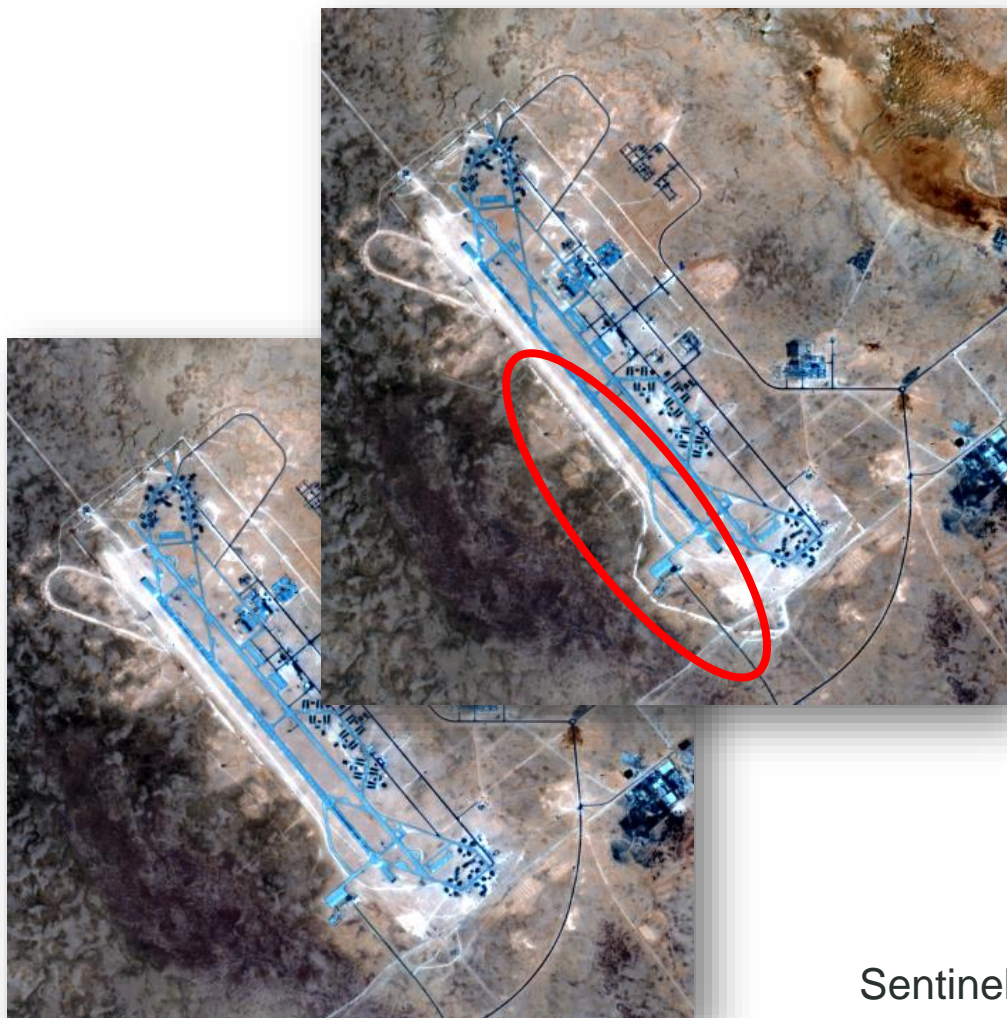
Example: Persistent Scatterer Monitoring of an Open Pit Mine



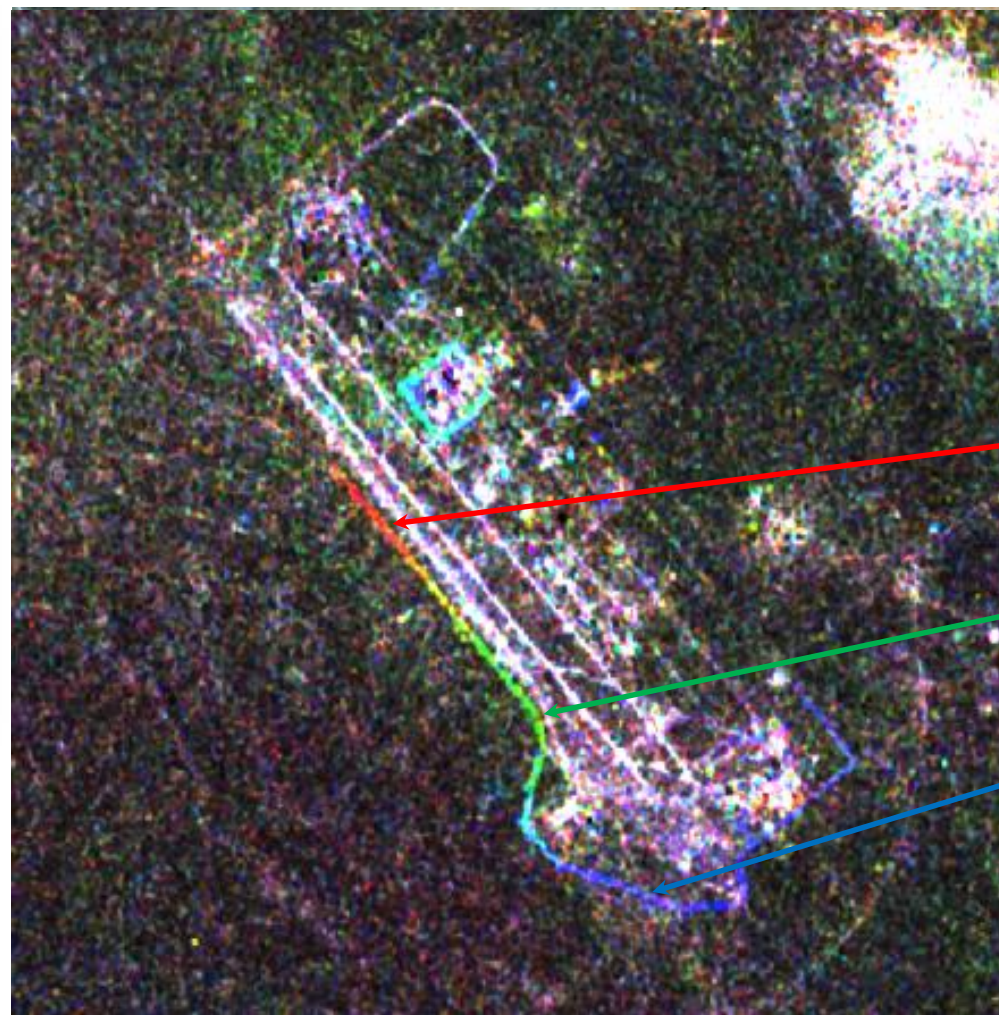
Demo: Monitoring Ground Activities – Coherence Change Detection



Sentinel-2 (06 June & 01 July 2019)



Multi Inverse Coherence Change Detection



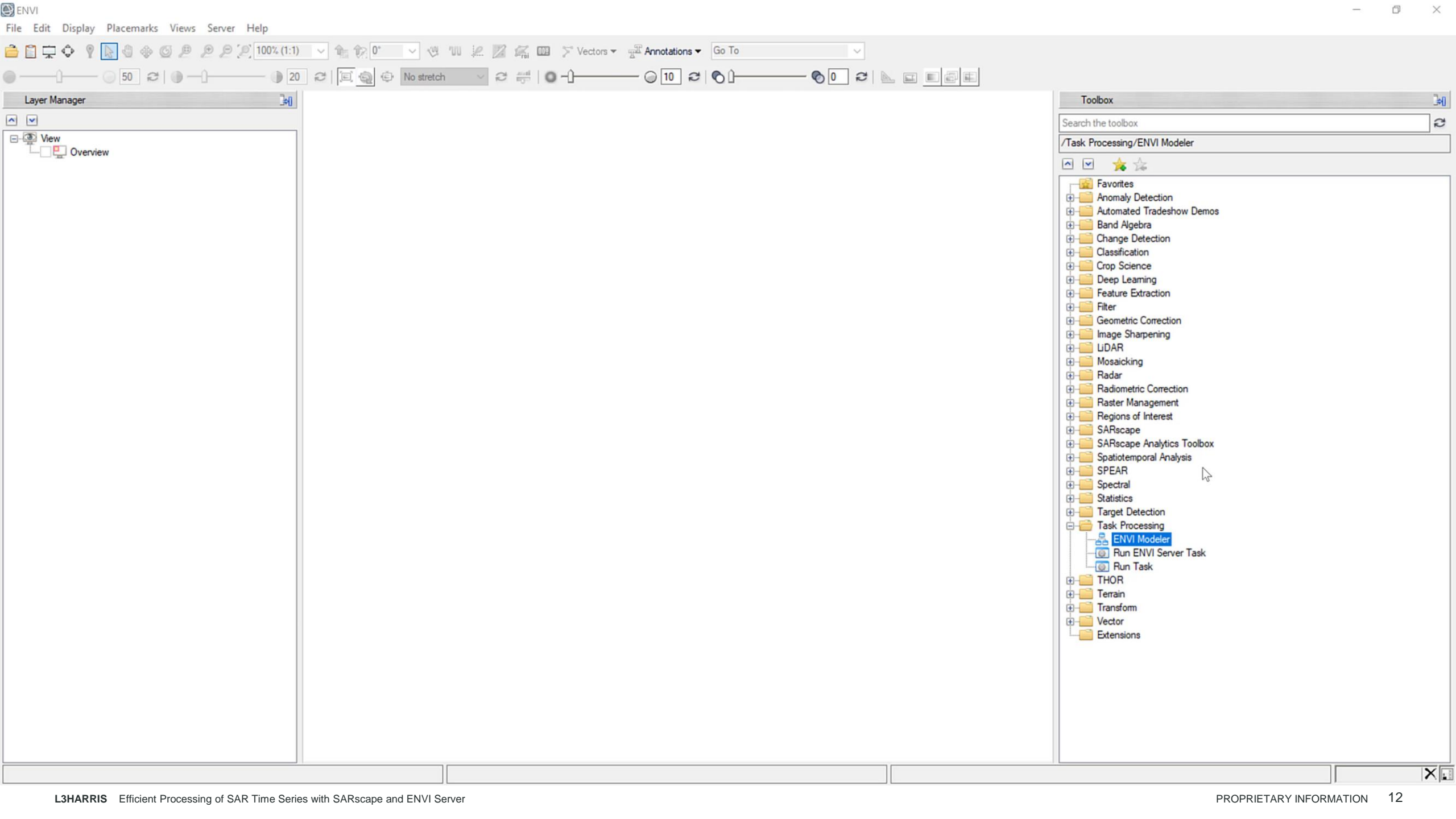
Inverse coherence 1
Inverse coherence 2
Inverse coherence 3

May 26, 2019 -
June 7, 2019

June 7, 2019 -
June 19, 2019

June 19, 2019 -
July 01, 2019

Sentinel-1



View Overview

Search the toolbox

/Task Processing/ENVI Modeler

- Favorites
- Anomaly Detection
- Automated Tradeshow Demos
- Band Algebra
- Change Detection
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- Filter
- Geometric Correction
- Image Sharpening
- LiDAR
- Mosaicking
- Radar
- Radiometric Correction
- Raster Management
- Regions of Interest
- SARscape
- SARscape Analytics Toolbox
- Spatiotemporal Analysis
- SPEAR
- Spectral
- Statistics
- Target Detection
- Task Processing
 - ENVI Modeler
 - Run ENVI Server Task
 - Run Task
- THOR
- Terrain
- Transform
- Vector
- Extensions



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