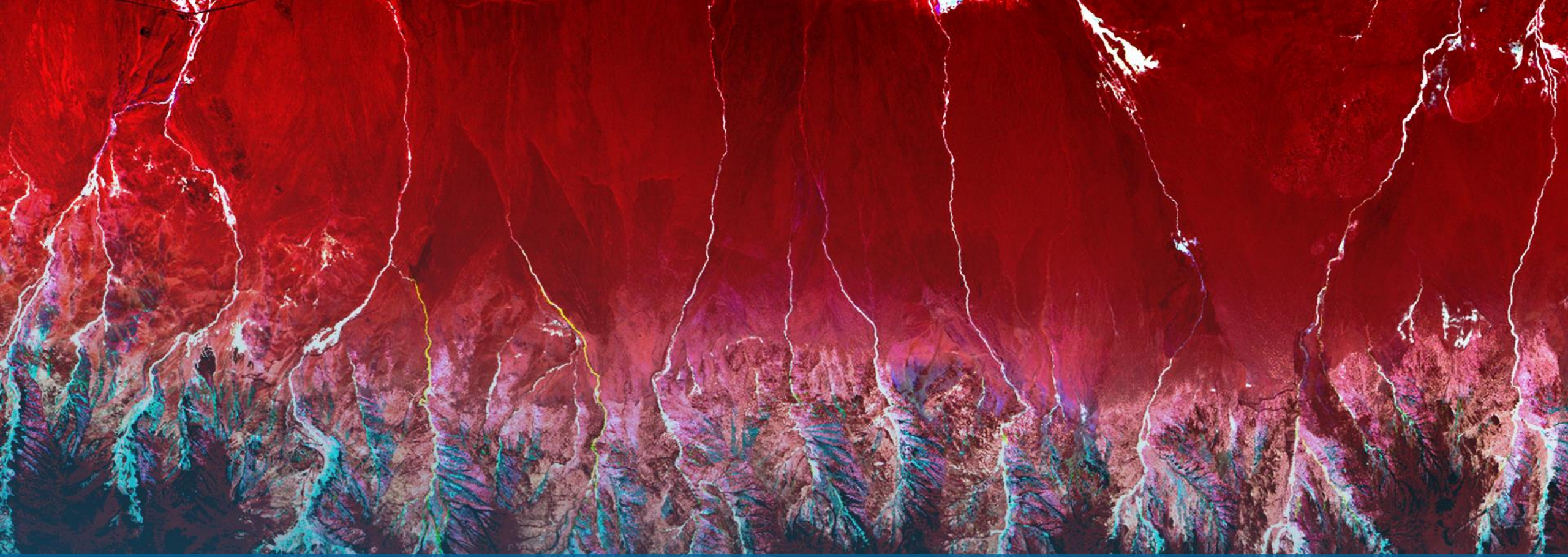


Introducing the ENVI Ecosystem: Making the Benefits of Imagery Accessible

David Burridge & Zach Norman

NV5 GEOSPATIAL

BEFORE WE BEGIN

The webinar is being recorded!

- Slides & on-demand version of the webinar will be available tomorrow morning

Questions?

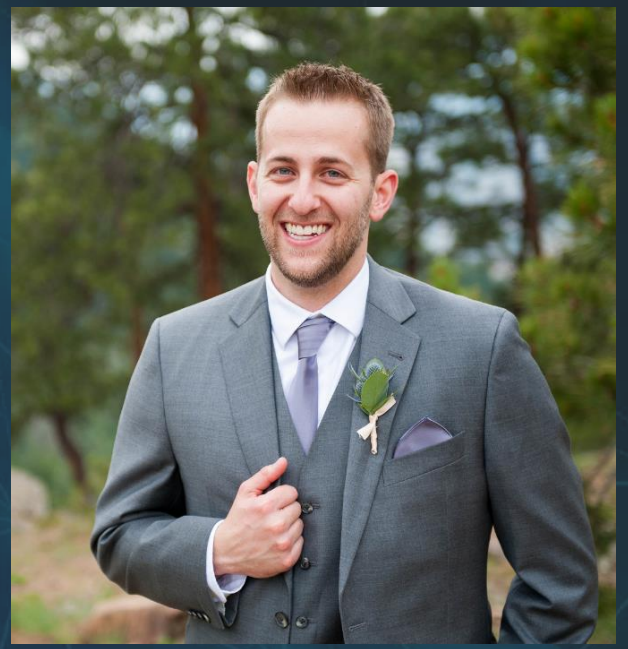
- Please post any questions in the Questions box

TODAY'S SPEAKERS

David Burridge

Director of Enterprise Solutions

david.burridge@nv5.com



Zach Norman

Product Manager

zachary.norman@nv5.com

AGENDA

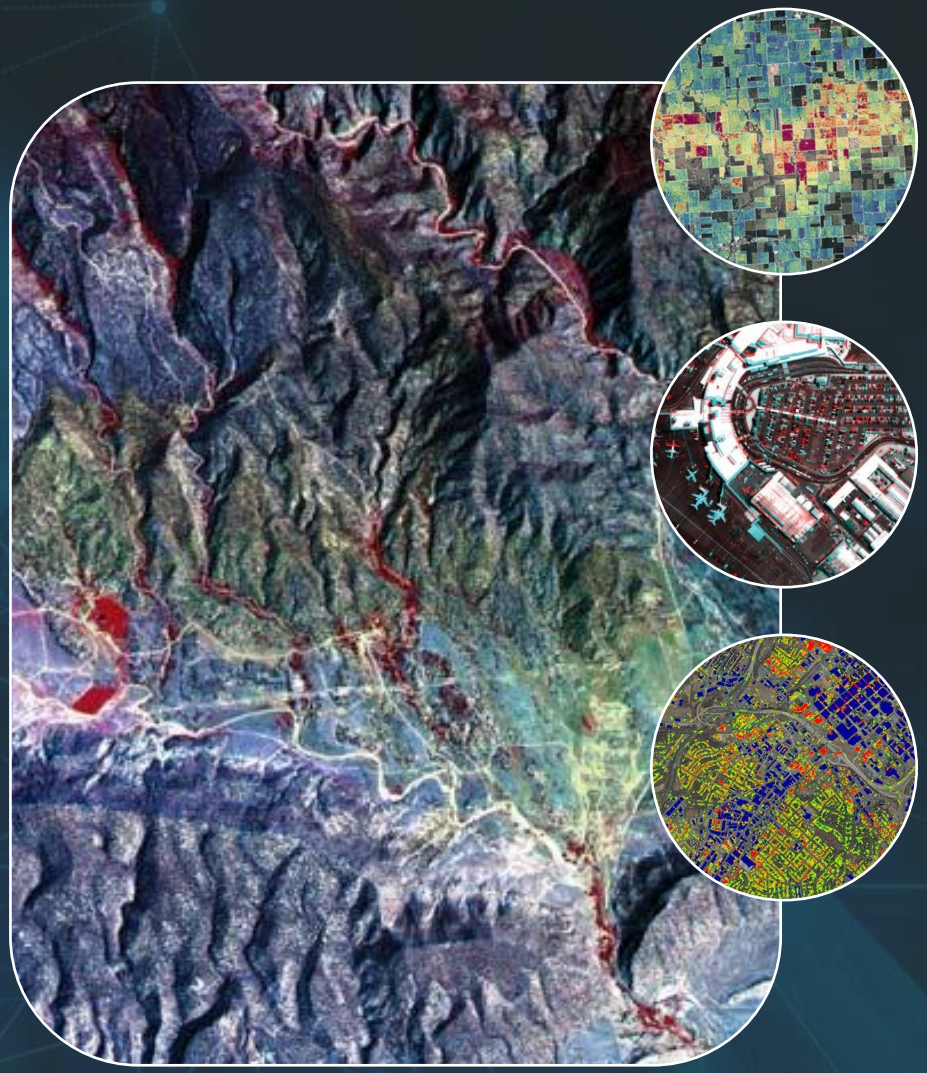
Today's Scenario

What is the ENVI Ecosystem?

The ENVI Ecosystem for Disaster Response

Summary

Q & A



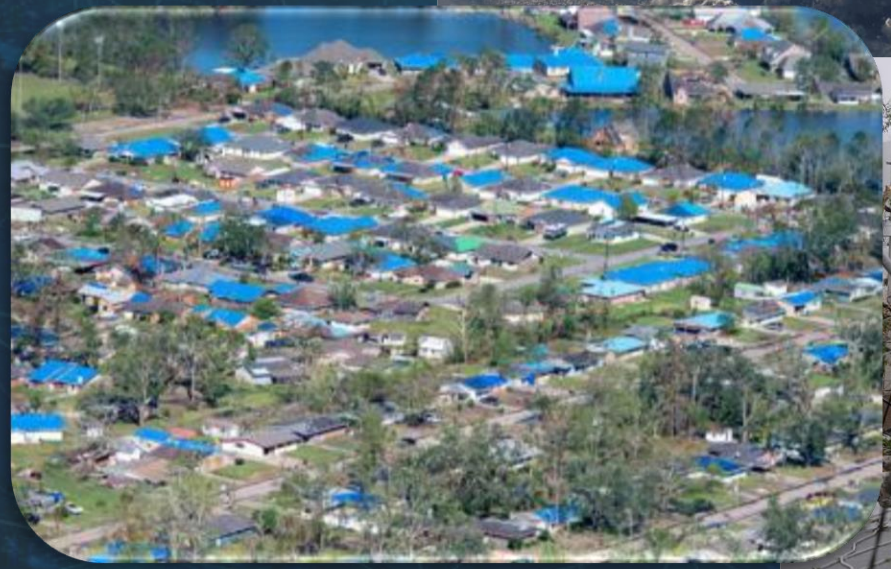
Analyze

Explore

Monitor

ENVI ECOSYSTEM IN ACTION: DISASTER RESPONSE

The ENVI Ecosystem allows organizations to work together to accomplish common goals, such as monitoring damage extent, providing humanitarian relief, and enabling leaders to make informed decisions

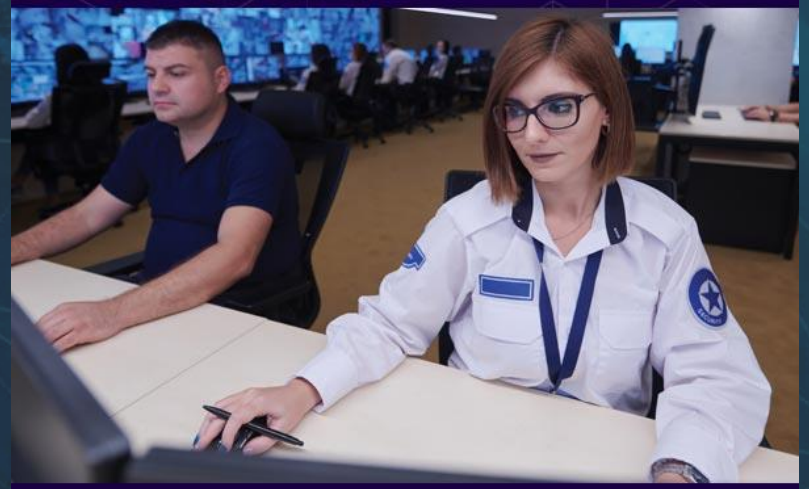


WHAT IS THE ENVI ECOSYSTEM?

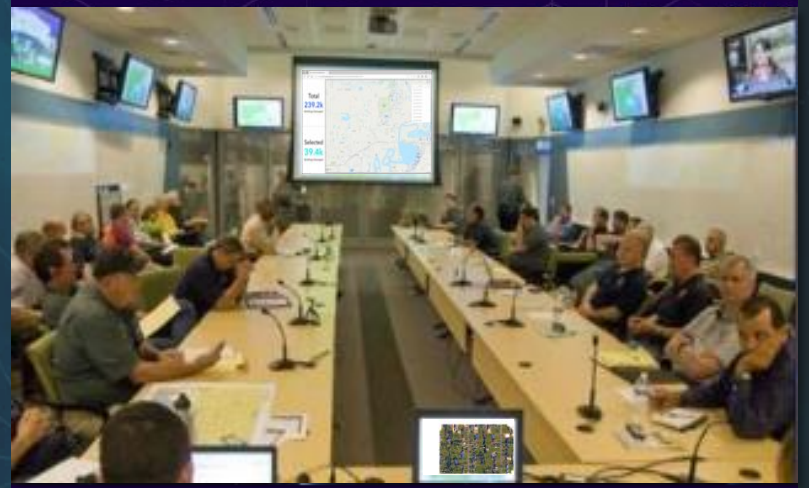
The **ENVI Ecosystem** is a family of imagery solutions that's optimized to deliver value where it counts and enable collaboration across your organization

Imagery Experts

Analysts



Decision Makers



ENVI ECOSYSTEM: CAPABILITIES

THE ENVI ECOSYSTEM PRODUCTS

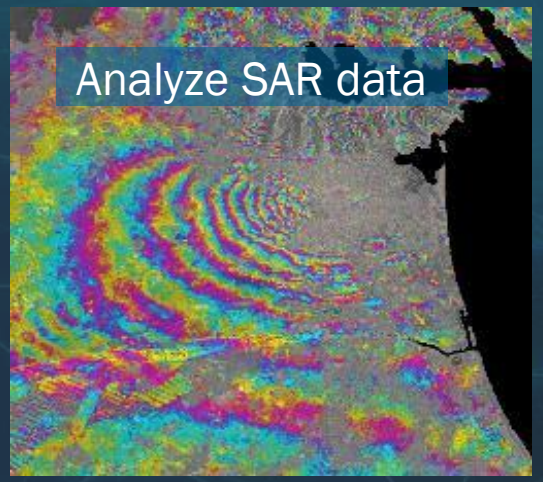
The **ENVI Ecosystem** is comprised of three, interoperable products that come together to maximize the value you get from imagery

ENVI®

ENVI® Connect

ENVI® Inform

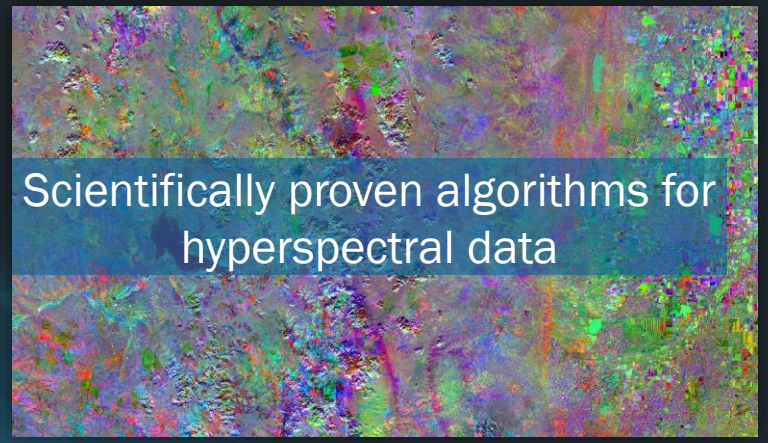
THE ENVI ECOSYSTEM: ENVI

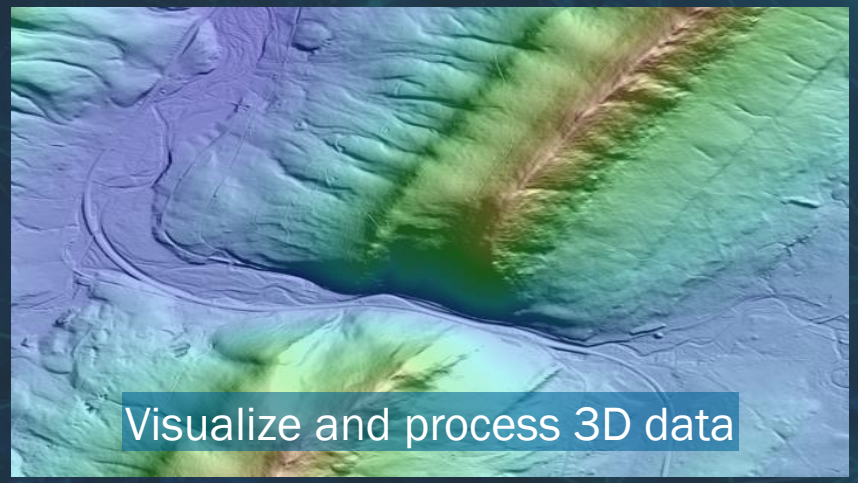


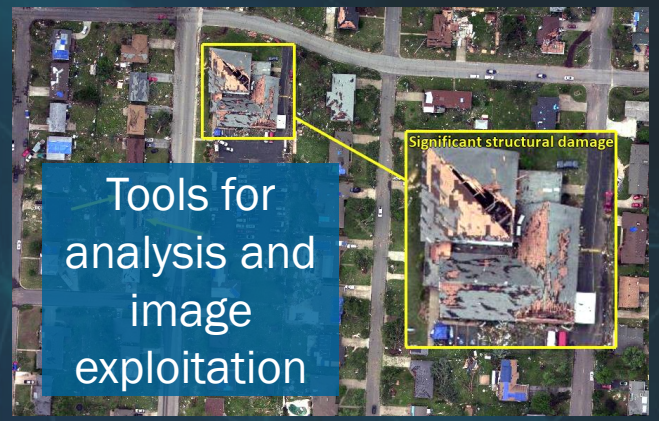
ENVI®

Create. Develop. Analyze.

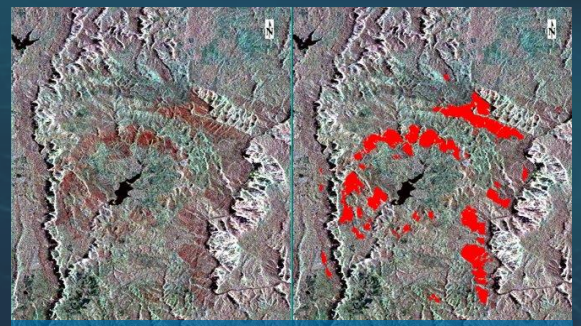
Use ENVI® to Extract Timely, Reliable, and Accurate Information From Geospatial Data.



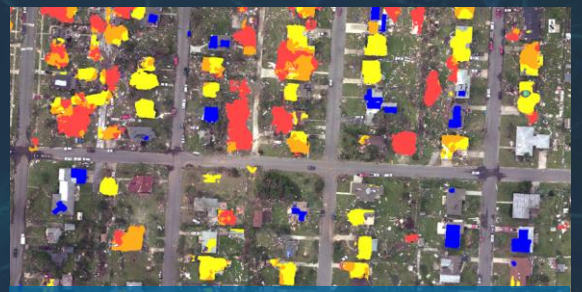




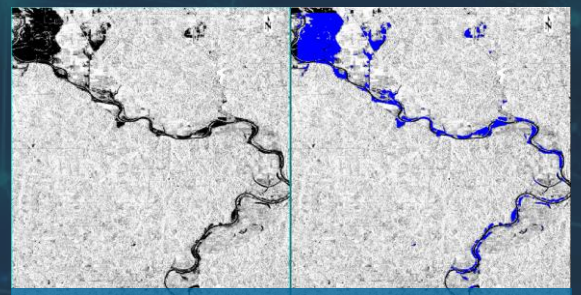
ENVI FOR DISASTER RESPONSE



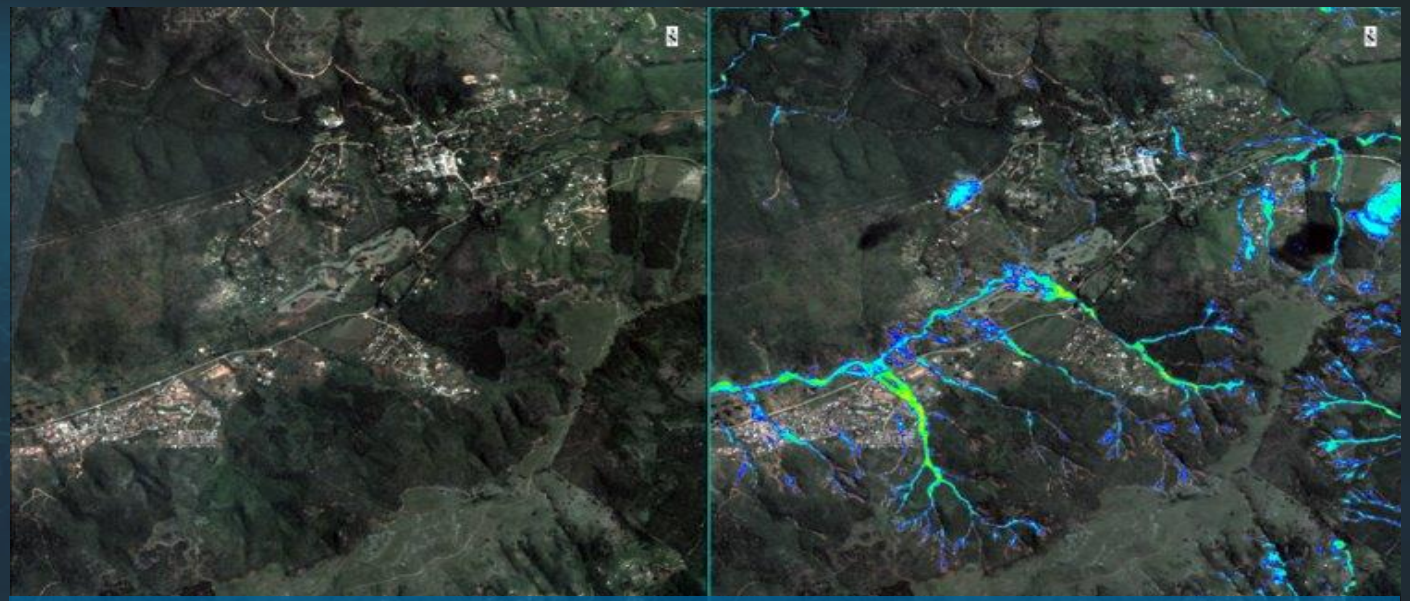
Severe burn using SAR



Building damage



Flood detection using SAR

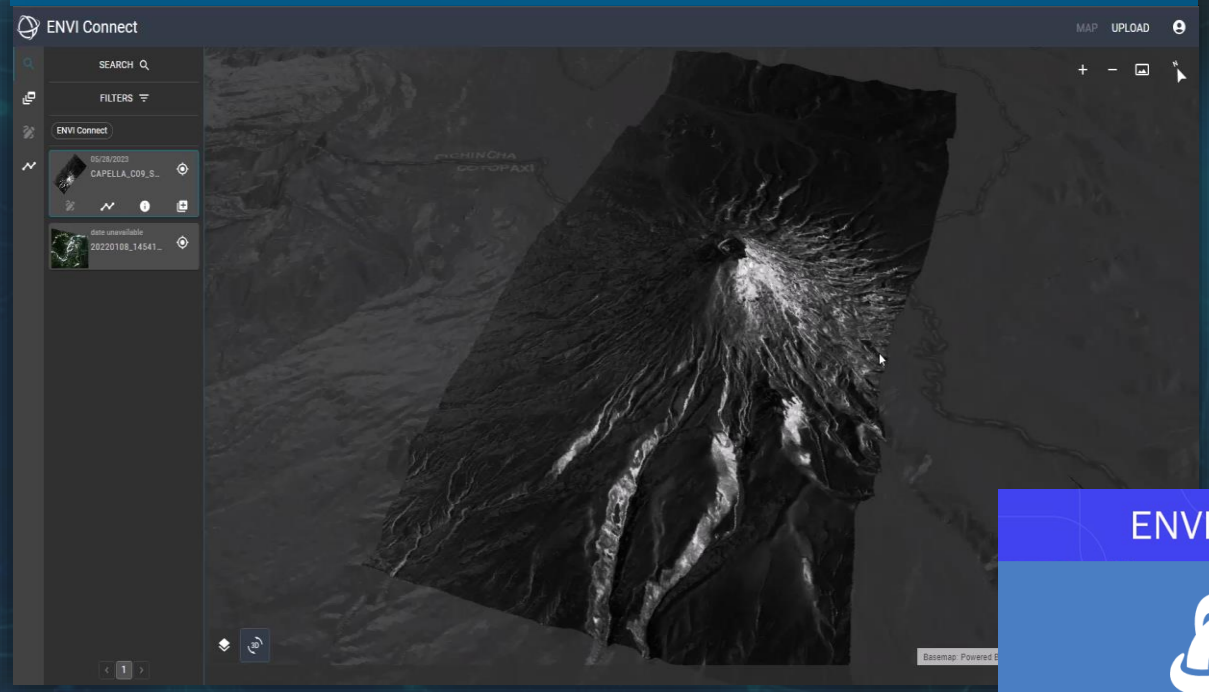


Landslides after heavy rain

Tornado path from building damage

THE ENVI ECOSYSTEM: ENVI CONNECT

Native support for MSI, HSI, PAN, SAR data with 2D and 3D visualizations



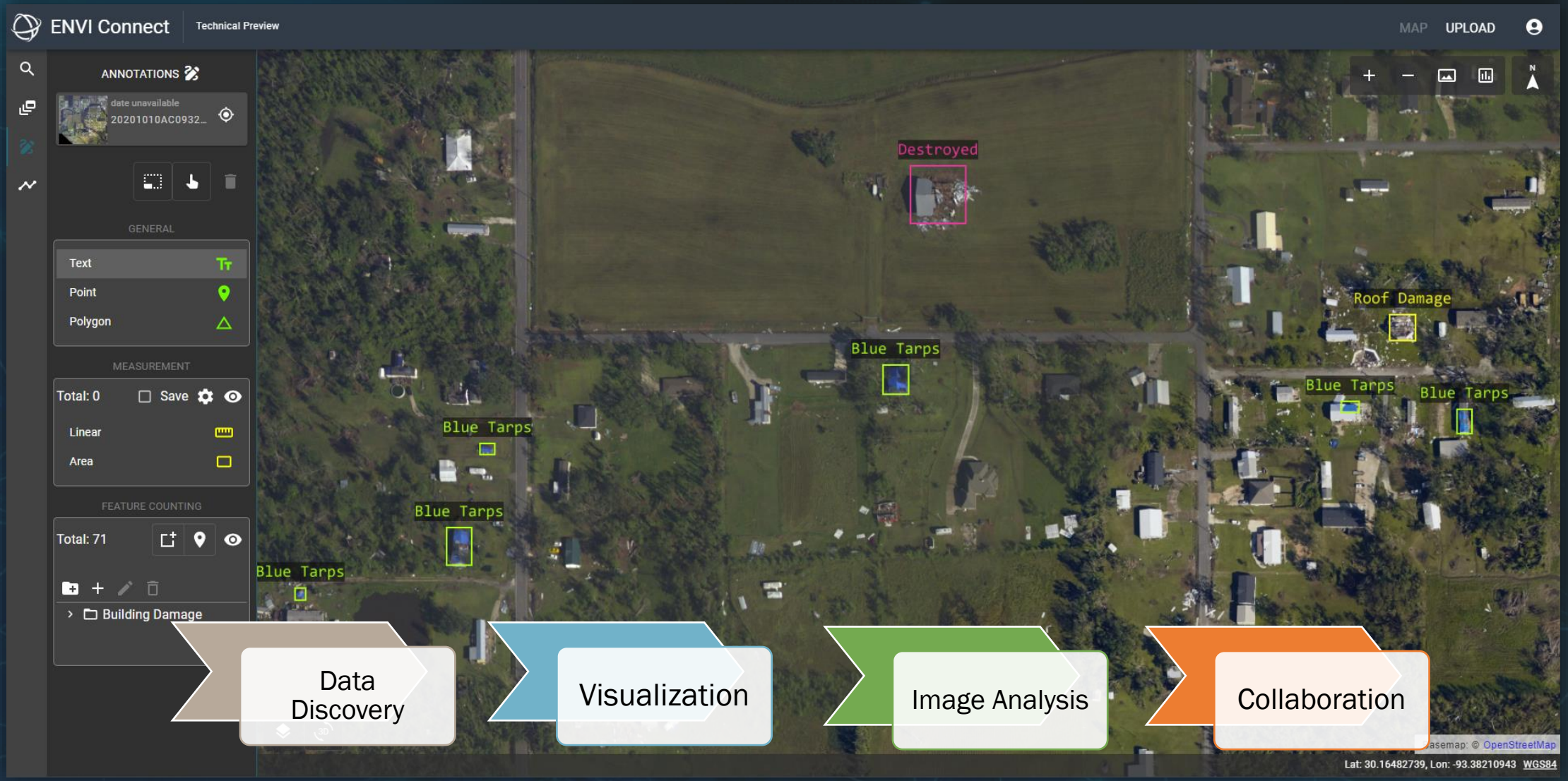
Generate products to share your findings

ENVI® Connect

View. Collaborate. Solve

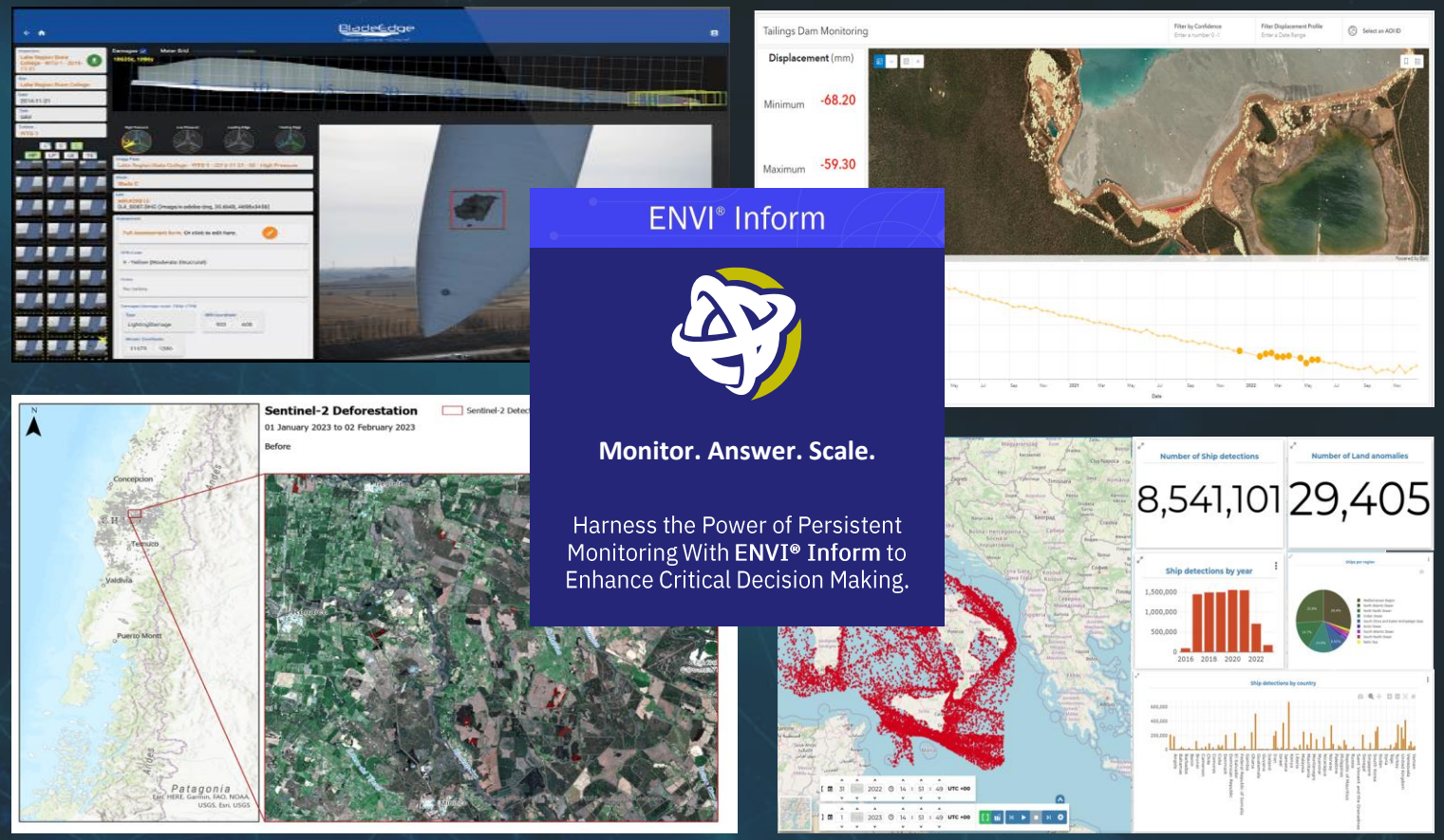
ENVI® Connect Is a Web Application That Enables Users To Easily Work Together and Solve Geospatial Problems.

ENVI CONNECT FOR DISASTER RESPONSE



THE ENVI ECOSYSTEM: ENVI INFORM

- Automated processing at scale
- Cloud hosted platform
- Deploy ENVI workflows
- Automated data discovery
- Publishing to multiple destinations
  - Shared cloud file storage
  - Reports
  - Online dashboards
  - GIS (e.g., ArcGIS)

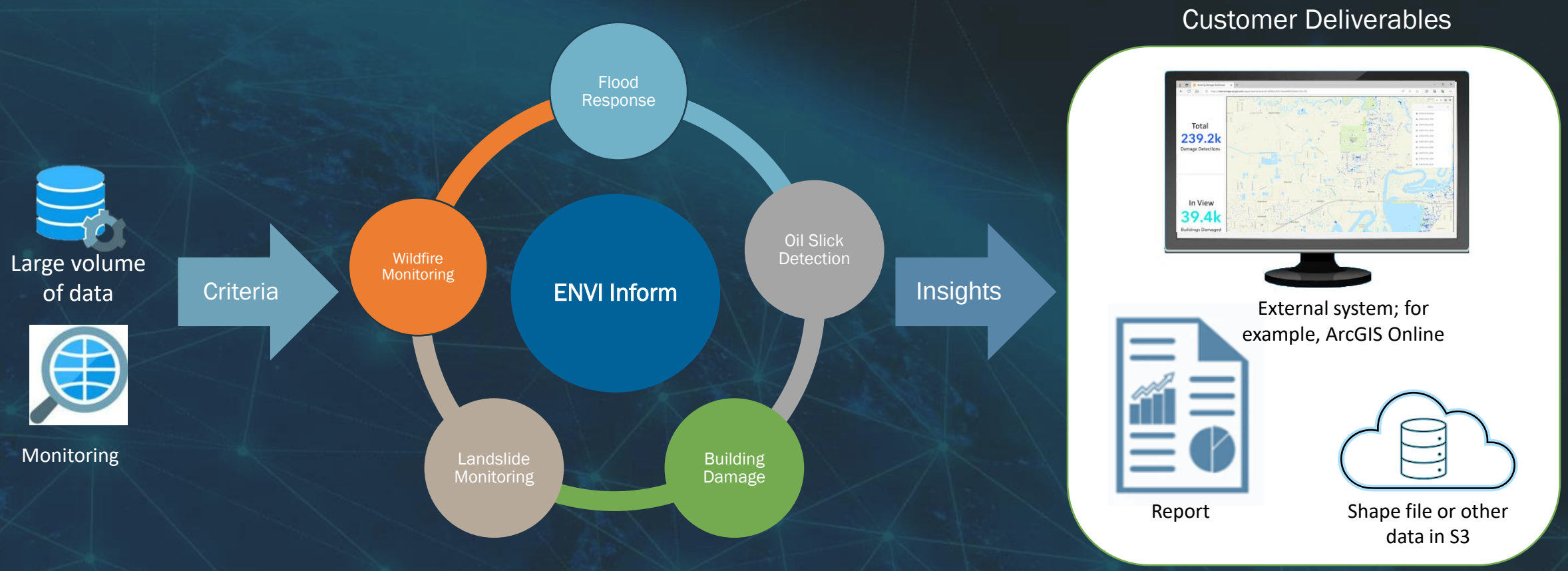


ENVI® Inform

Monitor. Answer. Scale.

Harness the Power of Persistent Monitoring With **ENVI® Inform** to Enhance Critical Decision Making.

ENVI INFORM FOR DISASTER RESPONSE

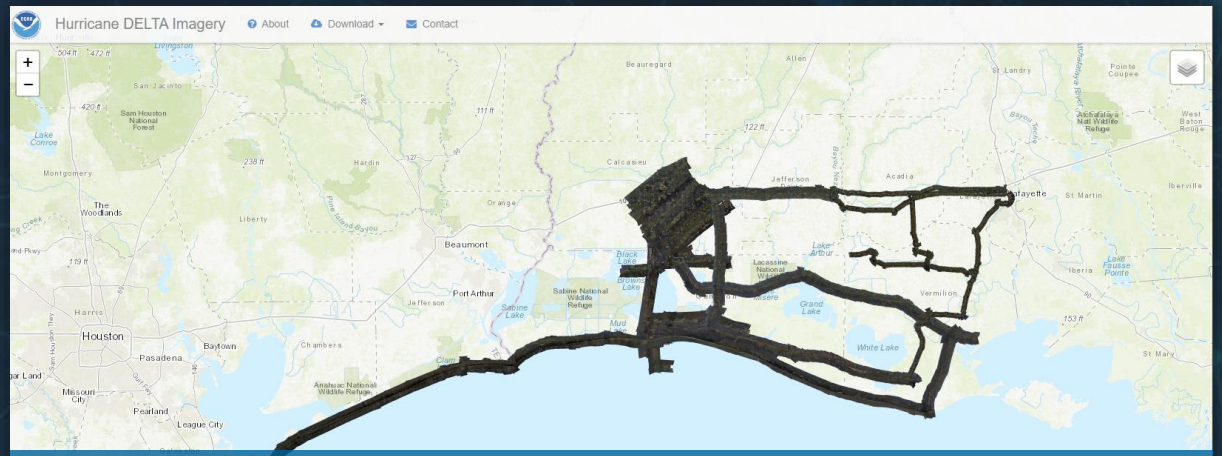


TODAY'S SCENARIO

- You're an analyst who has been tasked with identifying damaged buildings after a major hurricane
- You have thousands of images to look at in order to determine the most severely hit areas
- You need to create a map from your findings and deliver those to your superiors to help direct where time-critical aid is sent

BACKGROUND: HURRICANE DELTA

- October 4-10, 2020
- $3.09 billion in damage
- After the hurricane, data was collected
  - Made available as an OGC service
  - ~1200 image tiles in total



Dashboard for Hurricane Delta imagery

Hurricane Delta as it made landfall over Louisiana

09 Oct 2020 22:01Z NOAA/NESDIS/STAR GOES-East ABI GEOCOLOR

ENVI ECOSYSTEM: DISASTER RESPONSE WORKFLOW

1. Imagery Expert creates operational workflows to support disaster response

ENVI

2. Hurricane event

ENVI Inform

3. Automatic imagery discovery and creation of building damage layer

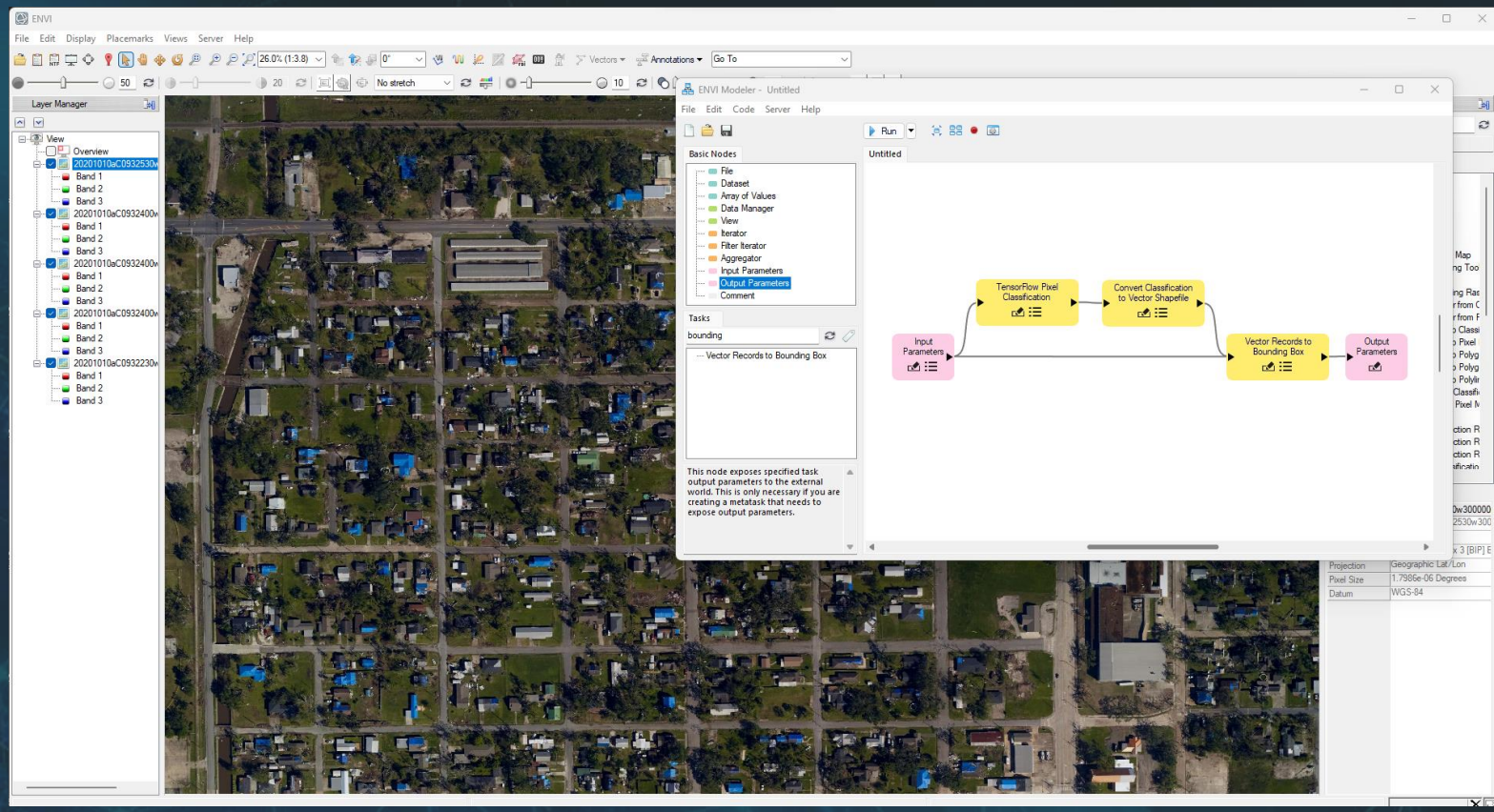
ENVI Connect

4. Analysts review imagery and building damage to create situation reports

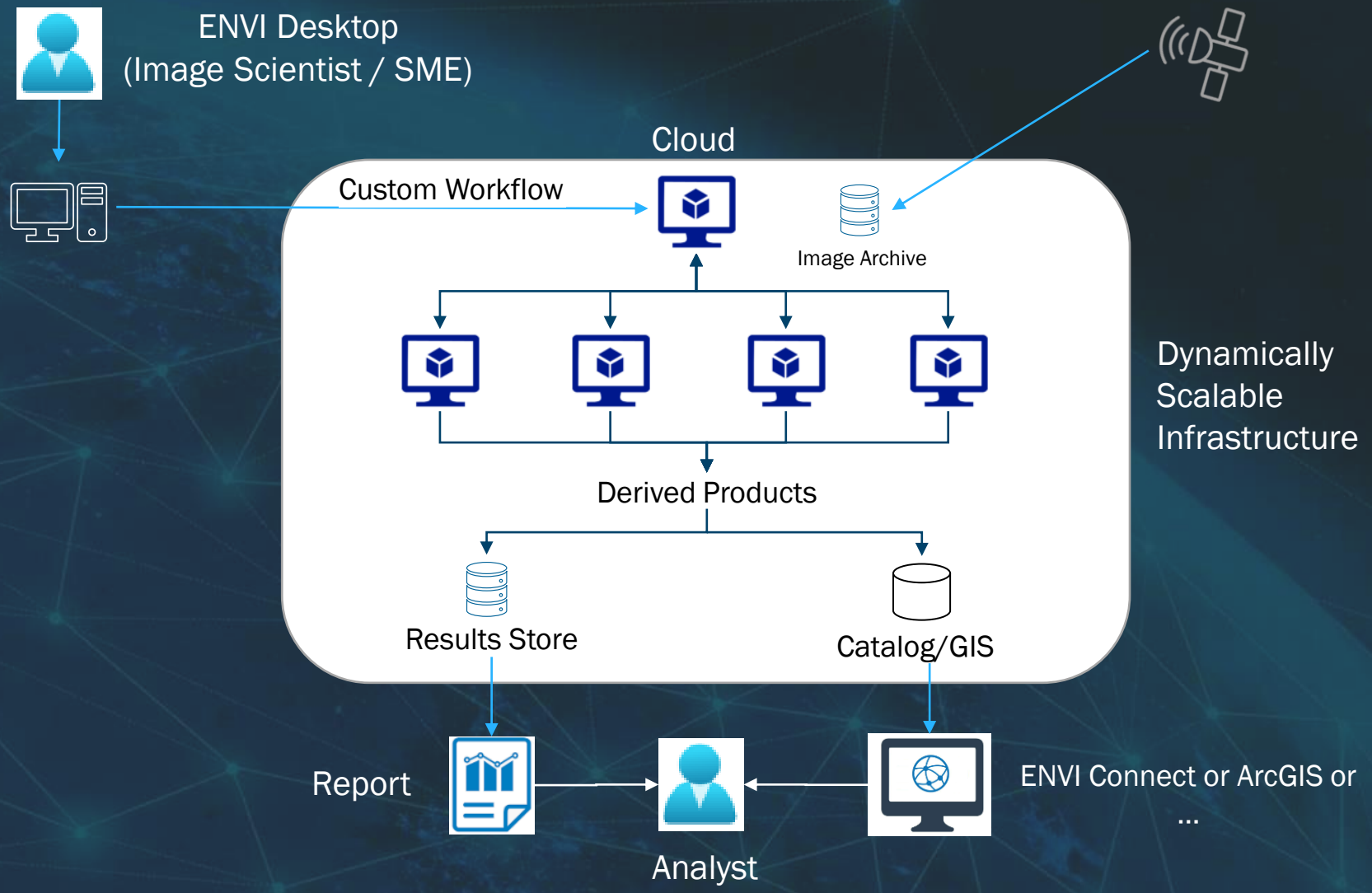
5. Reporting used to inform response

1. BUILDING DAMAGE ASSESSMENT USING ENVI

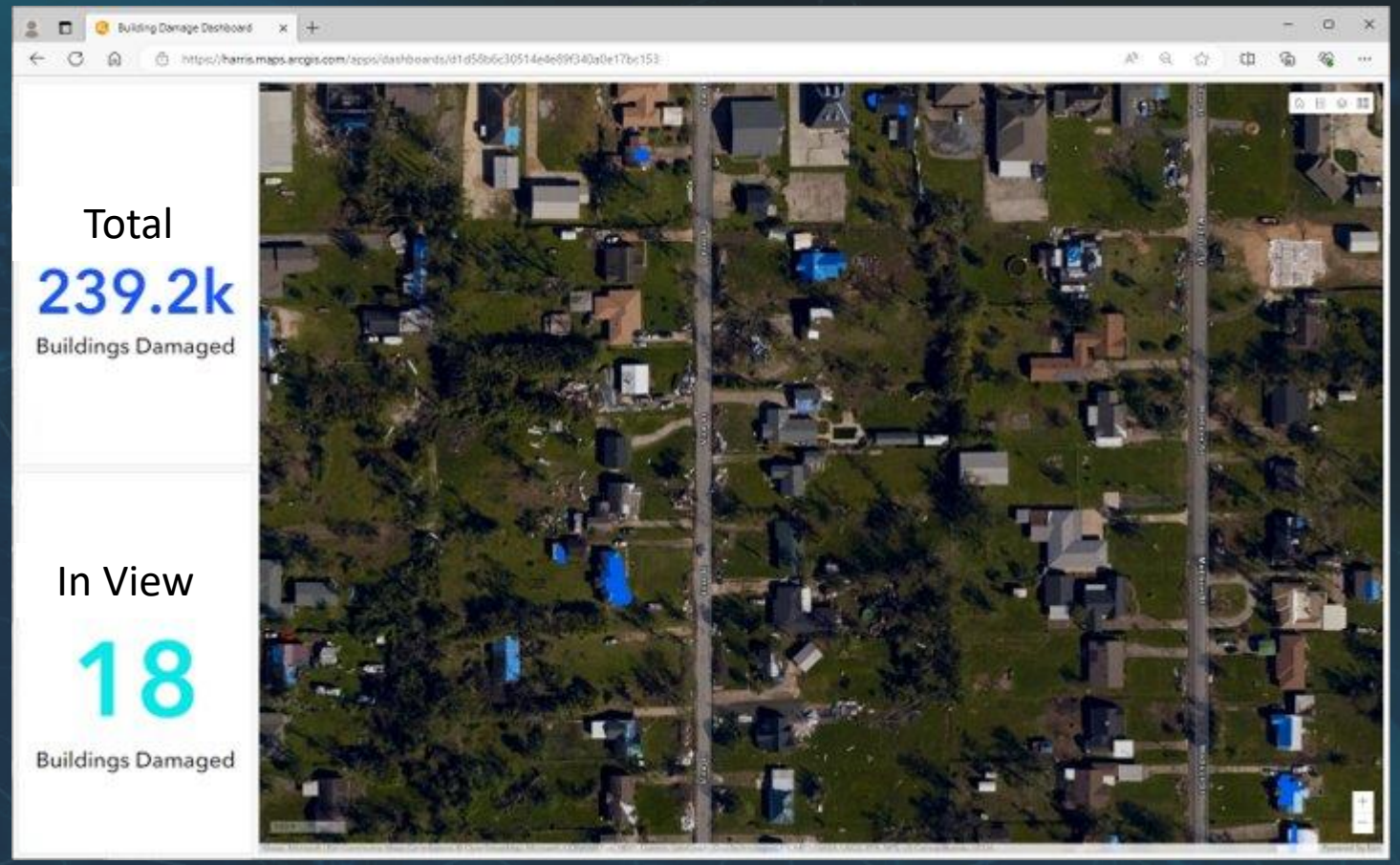
- Imagery expert uses ENVI Deep Learning to create a model that detects building damage
- This workflow can be automated and deployed to run in different environments
- This includes the cloud where it can run at scale



3. AUTOMATED DAMAGE ASSESSMENT IN ENVI INFORM



3. AUTOMATED DAMAGE ASSESSMENT IN ENVI INFORM



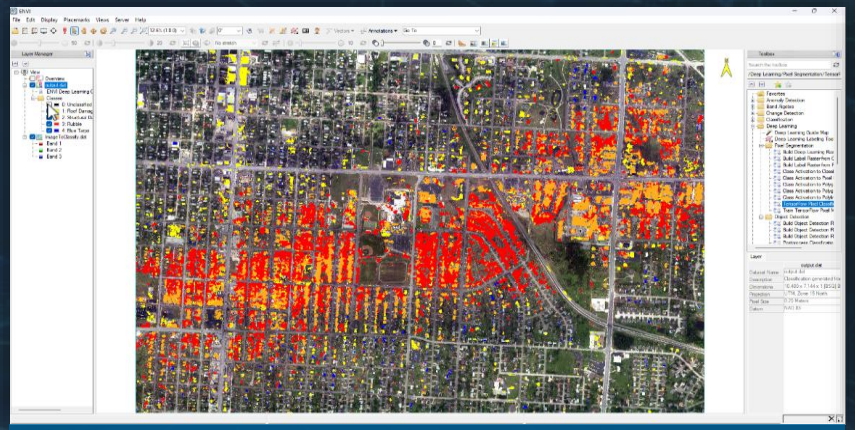
5. REPORTING TO INFORM DISASTER RESPONSE

Soldiers Preparing to Provide Aid *Photo Credit: U.S. Army*

Command Post Computing Environment (CPCE) *Photo Credit: U.S. Army*

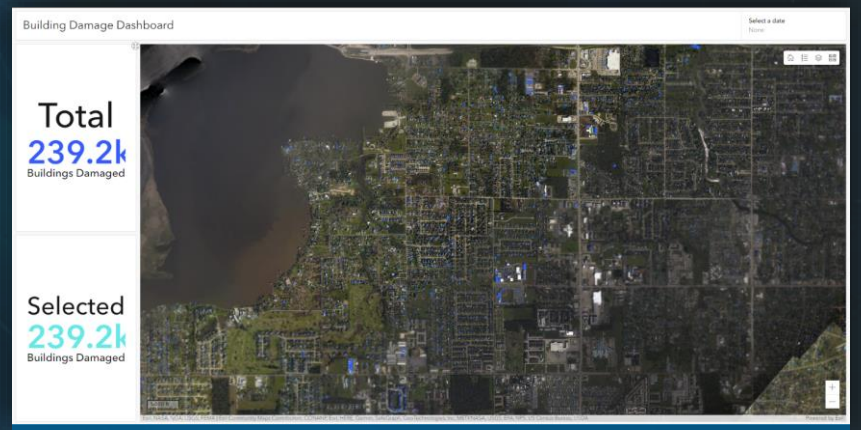
PUTTING IT ALL TOGETHER

Through interoperability, the **ENVI Ecosystem** provides collaborative solutions for users across an organization



Automate workflows and deploy across the ENVI Ecosystem

Collaborate and efficiently perform image analysis at scale



Export data to populate GIS dashboards for decision makers

Questions and Discussion

David Burridge

Sales Lead

david.burridge@nv5.com

Zach Norman

Product Manager

zachary.norman@nv5.com

NV5 Geospatial

www.NV5GeospatialSoftware.com

geospatialinfo@nv5.com

303-786-9900