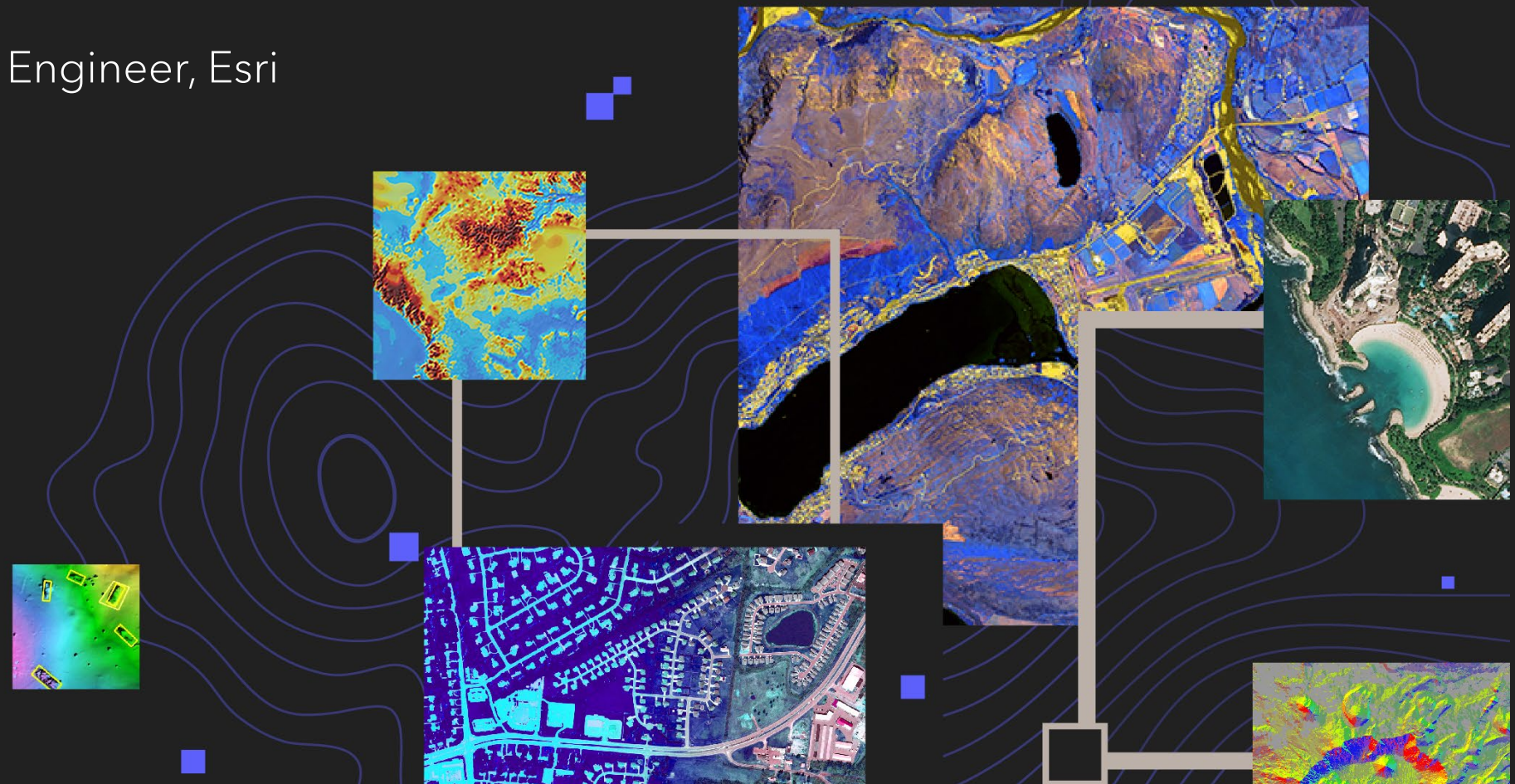
Imagery Workflows in ArcGIS Online

Matt Robinson, Solution Engineer, Esri



Imagery is a Foundational Source of Information

Precision Mapping & Reality Capture

Site Models

New Construction

Basemaps

Simulation

Ortho Photos

Viewsheds

Surface Drainage

Site Planning

Facility Modeling

Terrain Analysis

Foundation Content

Analysis & Observations

Inspection

Monitoring

Construction Progress

Asset Extraction & Management

Economic Development

Natural Disaster

Damage Assessment

Public Safety

Intelligence

SOM

Visualizations

Finding Spatial Patterns

Built Environments

Natural Environments

Urban Growth

National Statistics

Impervious Surfaces

Habitat Loss

Crop Yields

Land Cover

Content

Images, Video & Point Clouds:

Formats

Platforms

Modalities

Services

Management

GeoAI

Photogrammetry

Raster Analytics

Image Mgmt

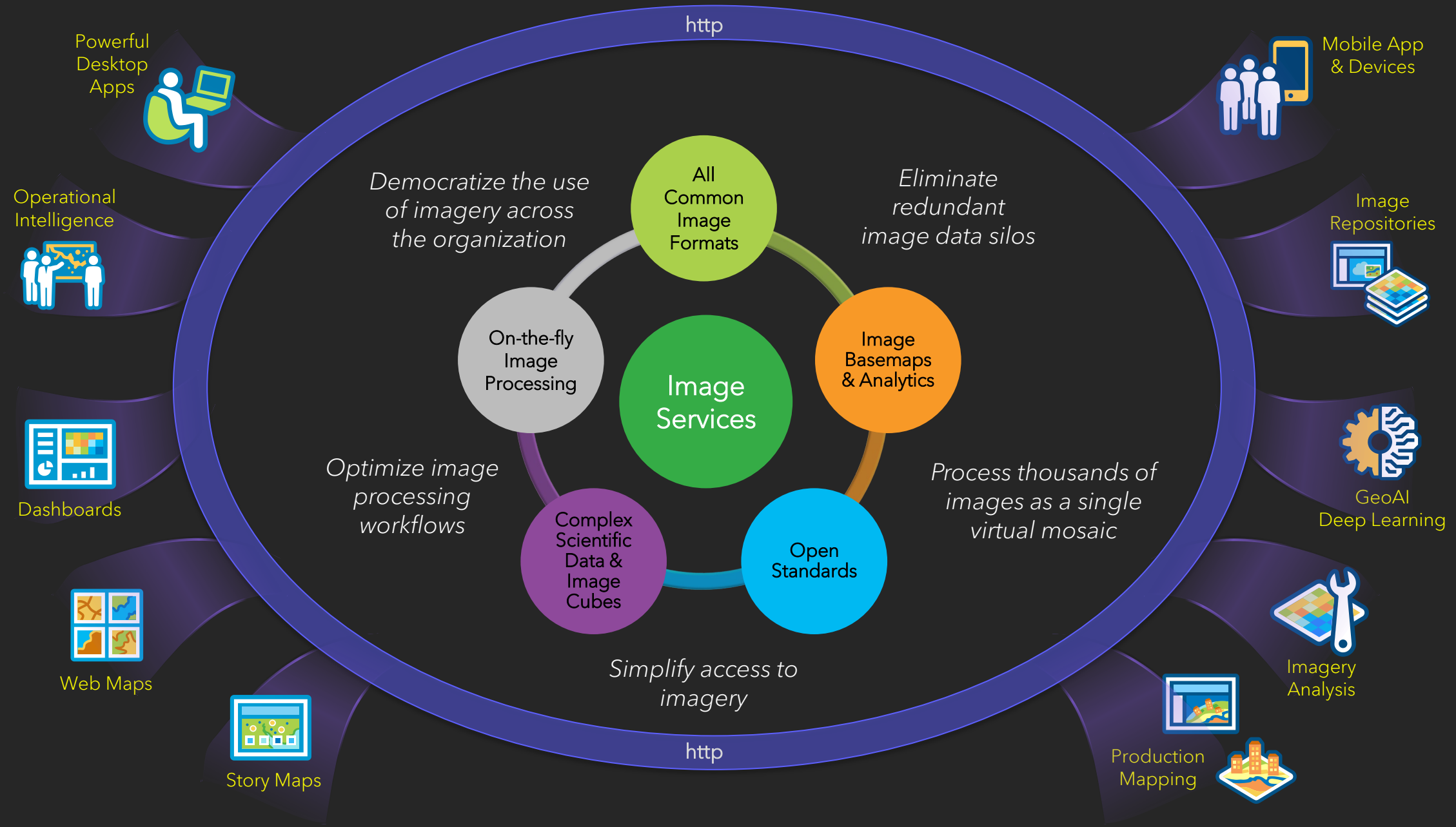
Search & Discovery

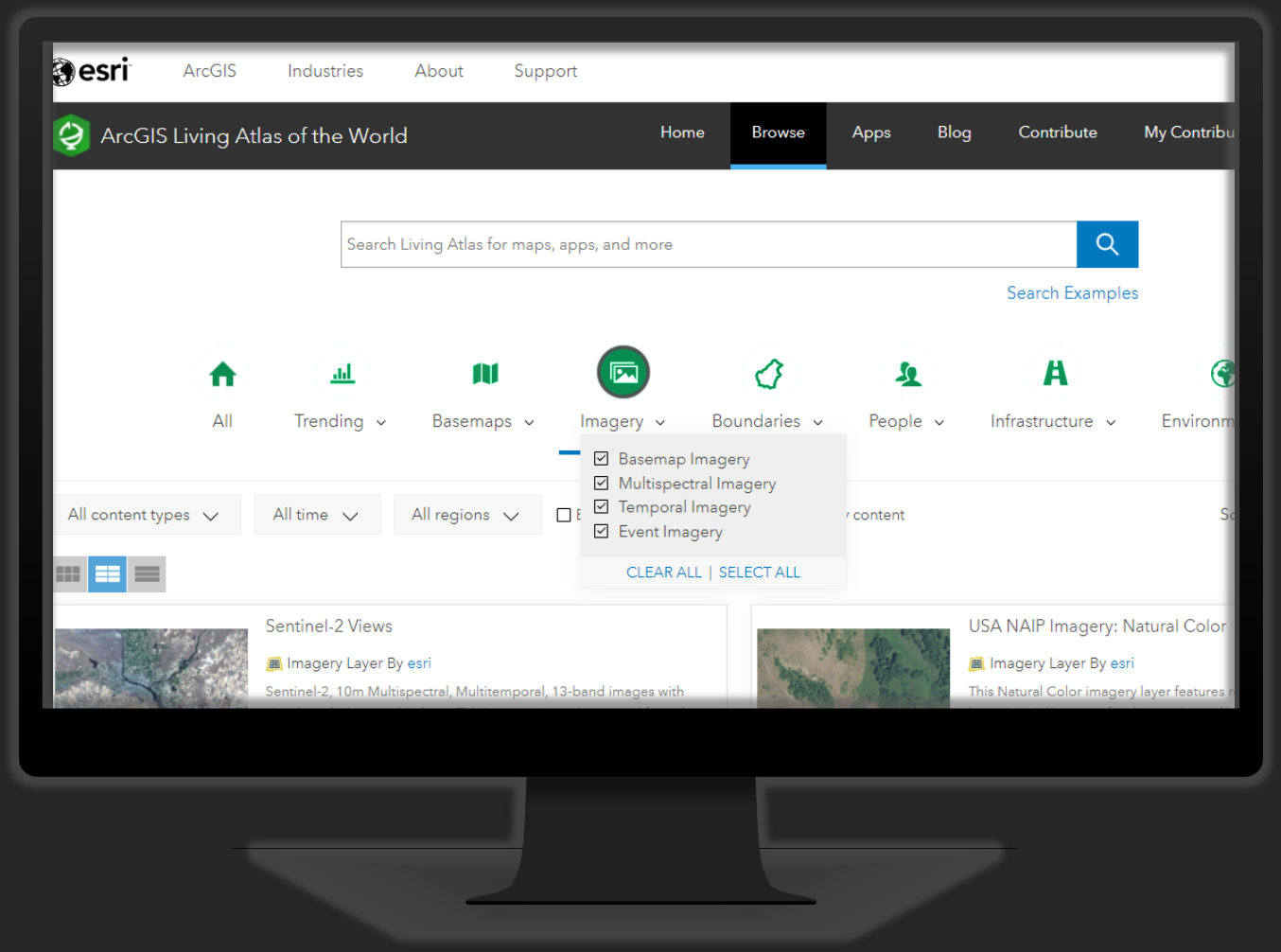
Mosaic Datasets

Time

Image Cubes

Image Services Empower the Use of Imagery

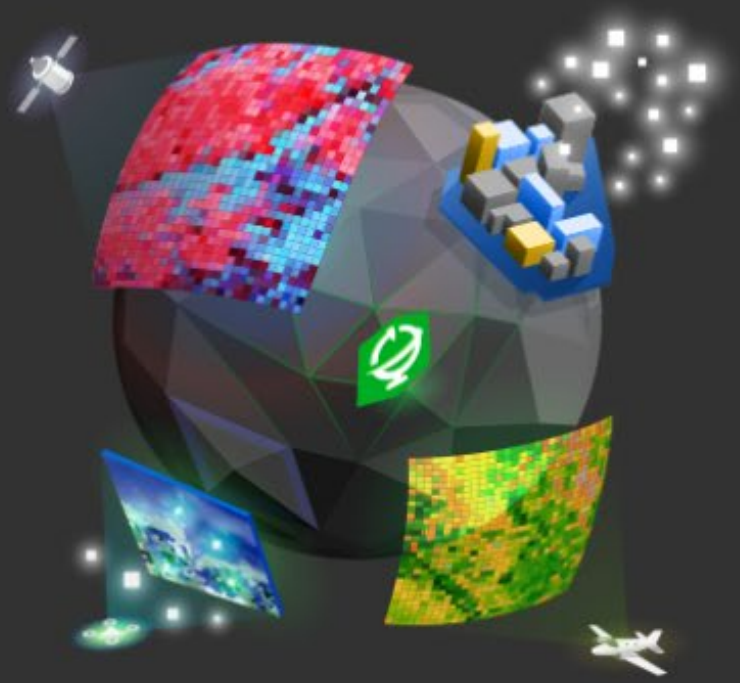




ArcGIS Living Atlas of the World

Imagery Content

Access our vast imagery collection or your own



Access ready-to-use imagery

Ready-to-use, authoritative data layers are available to advance your understanding. Our curated imagery collection is made available via ArcGIS Living Atlas of the World. This collection includes performant high-resolution basemap imagery, as well as categorical, multidimensional, and elevation data services for visualization and analysis.

Imagery Content

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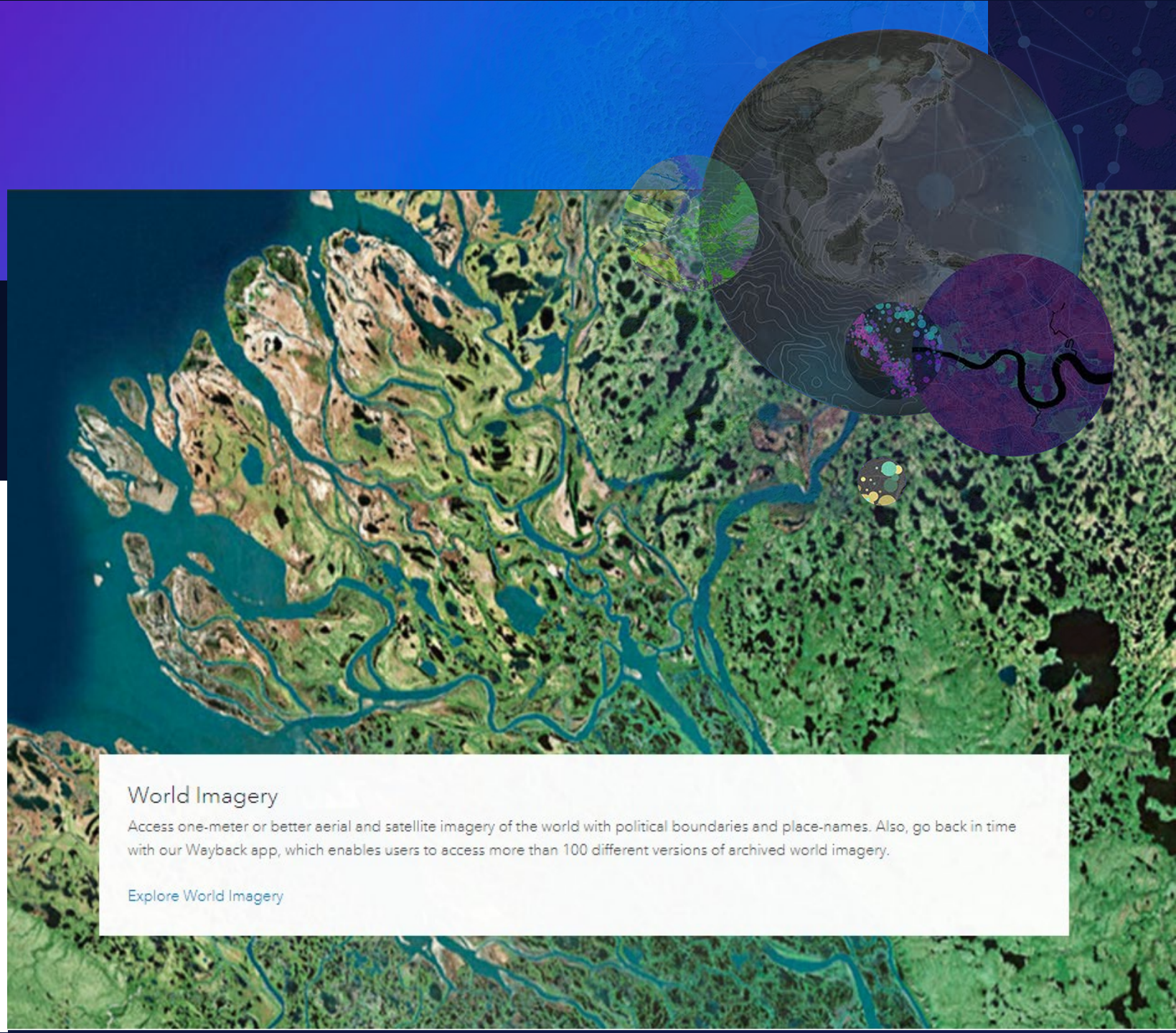


ArcGIS Living Atlas of the World

Discover content that supports your work. ArcGIS Living Atlas of the World is the foremost collection of geographic information from around the globe. It includes maps, apps, and ready-to-use data layers and deep learning models.

World Imagery	Landsat
NAIP	HYCOM
World terrain	Sentinel-2
Arctic imagery	MODIS imagery

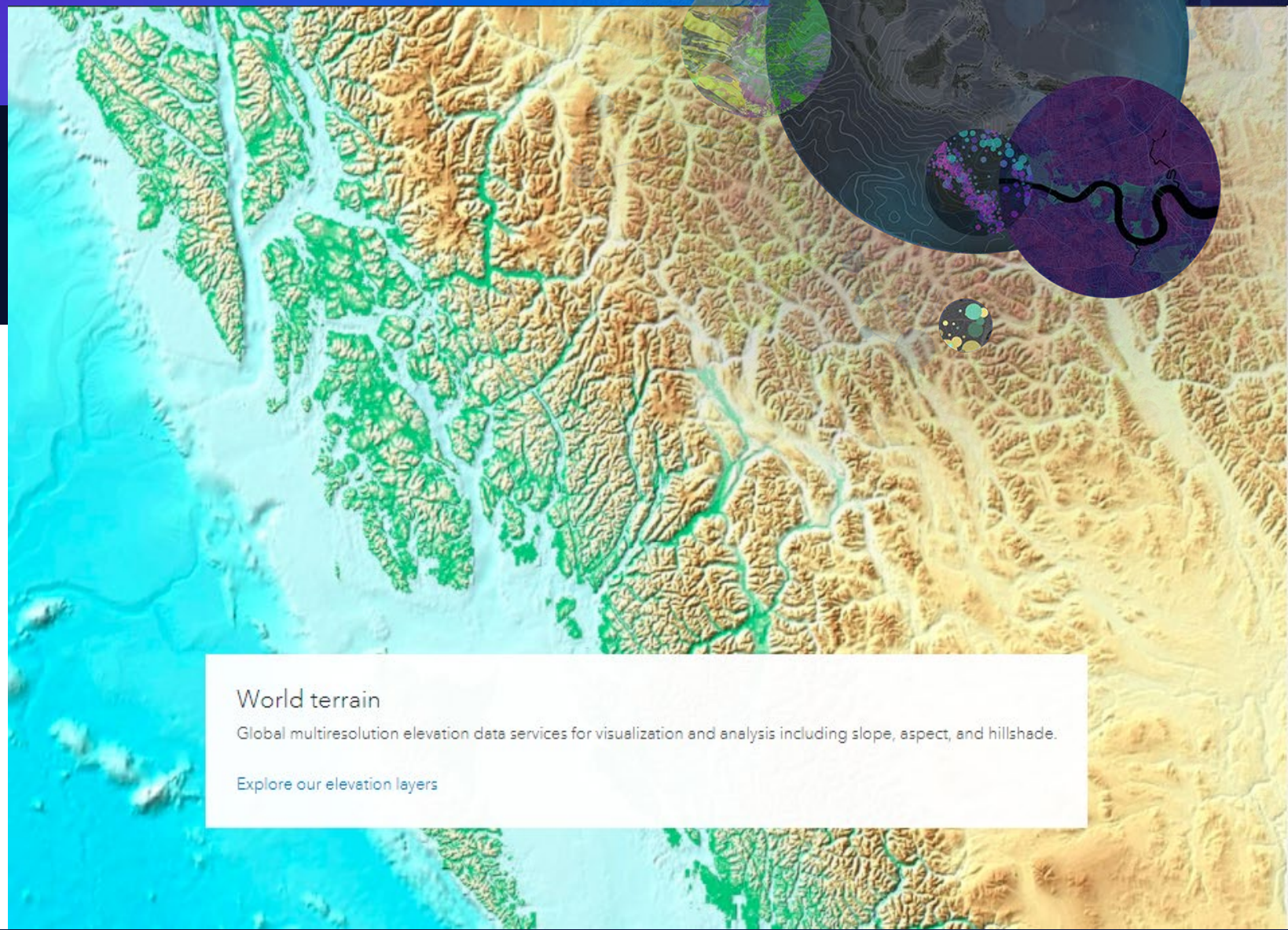
World Imagery

Access one-meter or better aerial and satellite imagery of the world with political boundaries and place-names. Also, go back in time with our Wayback app, which enables users to access more than 100 different versions of archived world imagery.

Explore World Imagery

Imagery Content

Access our vast imagery collection or your own



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World terrain

Global multiresolution elevation data services for visualization and analysis including slope, aspect, and hillshade.

Explore our elevation layers

Imagery Content

Access our vast imagery collection or your own

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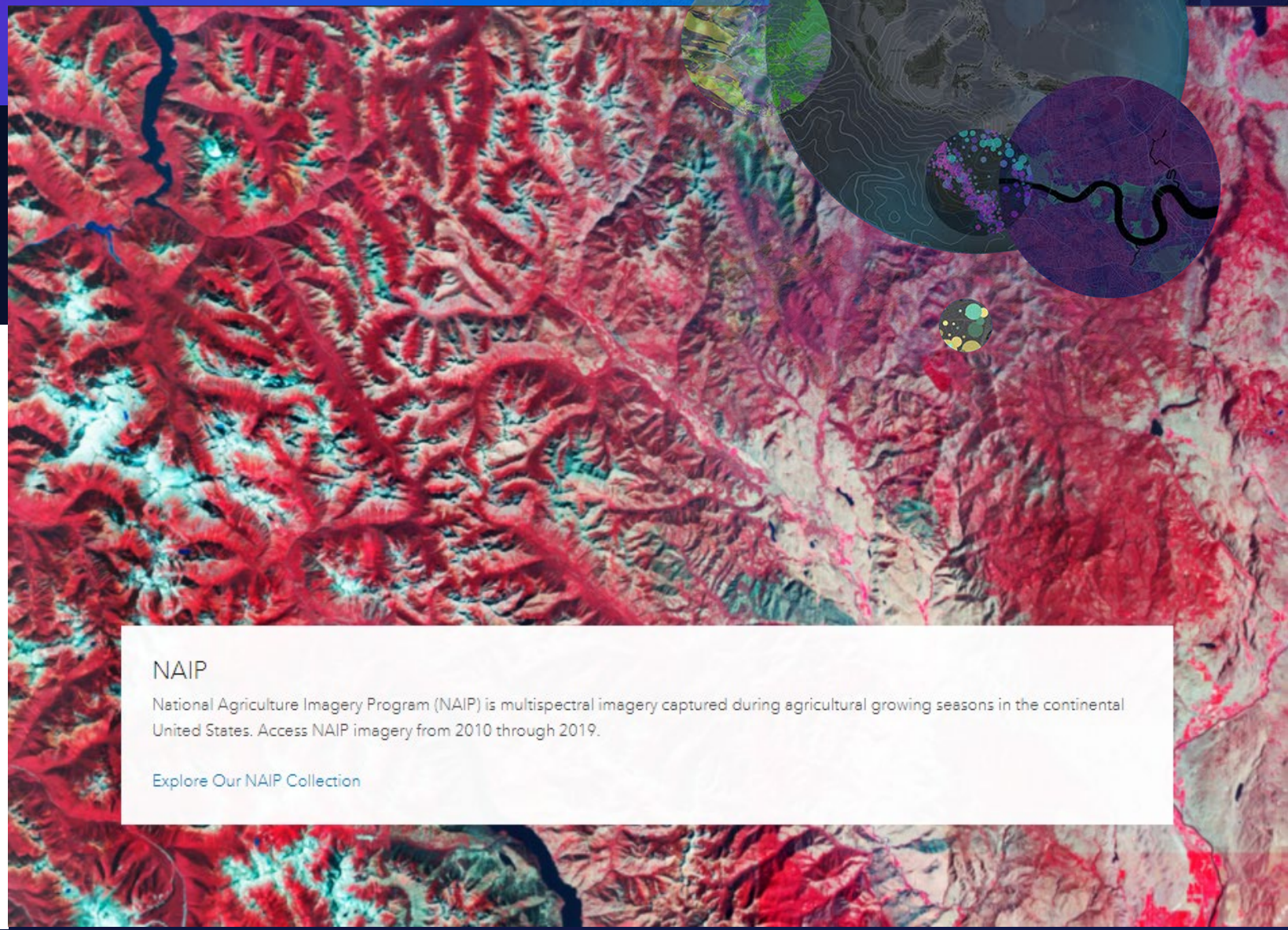

NAIP

National Agriculture Imagery Program (NAIP) is multispectral imagery captured during agricultural growing seasons in the continental United States. Access NAIP imagery from 2010 through 2019.

Explore Our NAIP Collection

Imagery Content

Access our vast imagery collection or your own

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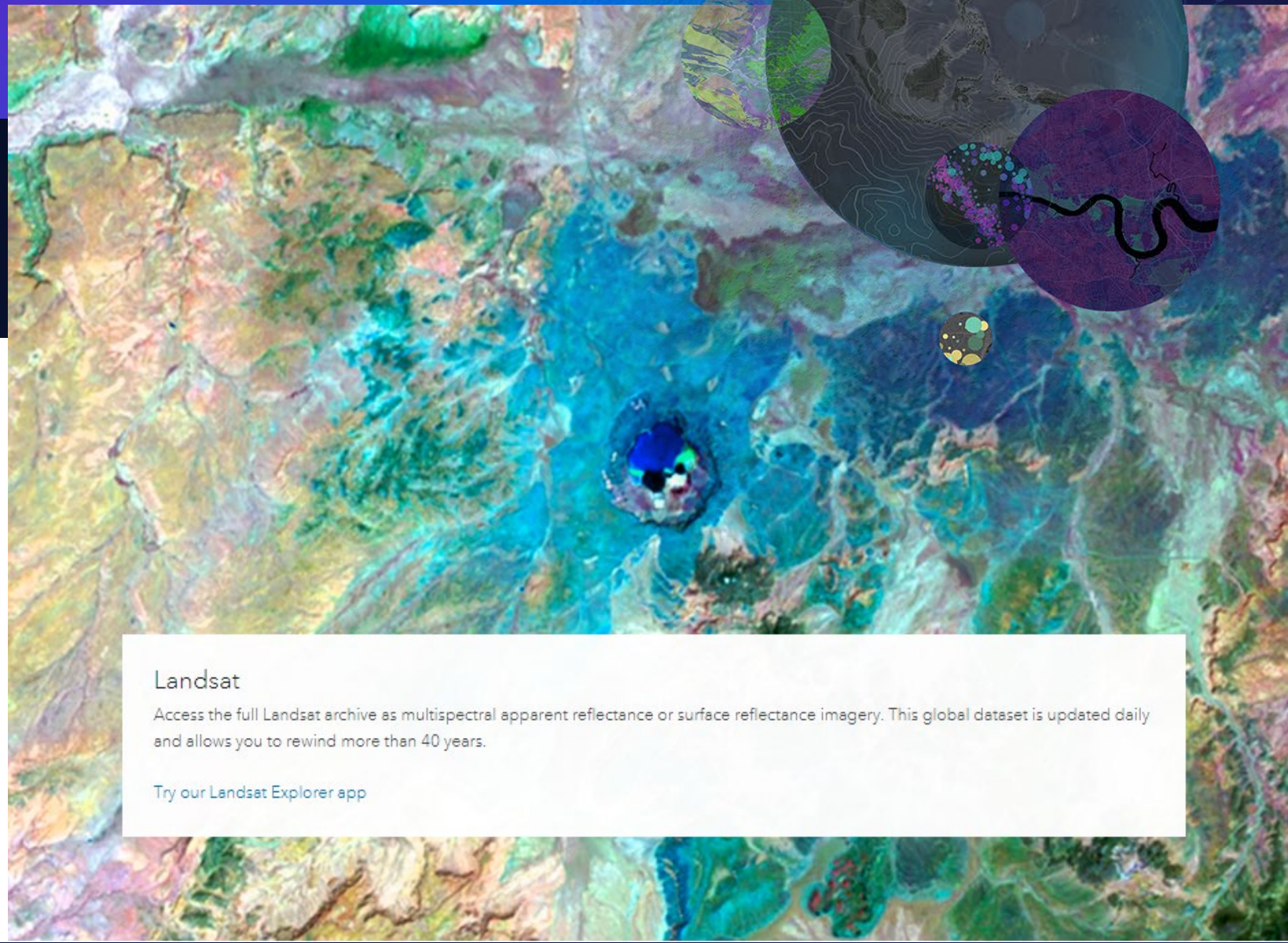

Landsat

Access the full Landsat archive as multispectral apparent reflectance or surface reflectance imagery. This global dataset is updated daily and allows you to rewind more than 40 years.

Try our Landsat Explorer app

Imagery Content

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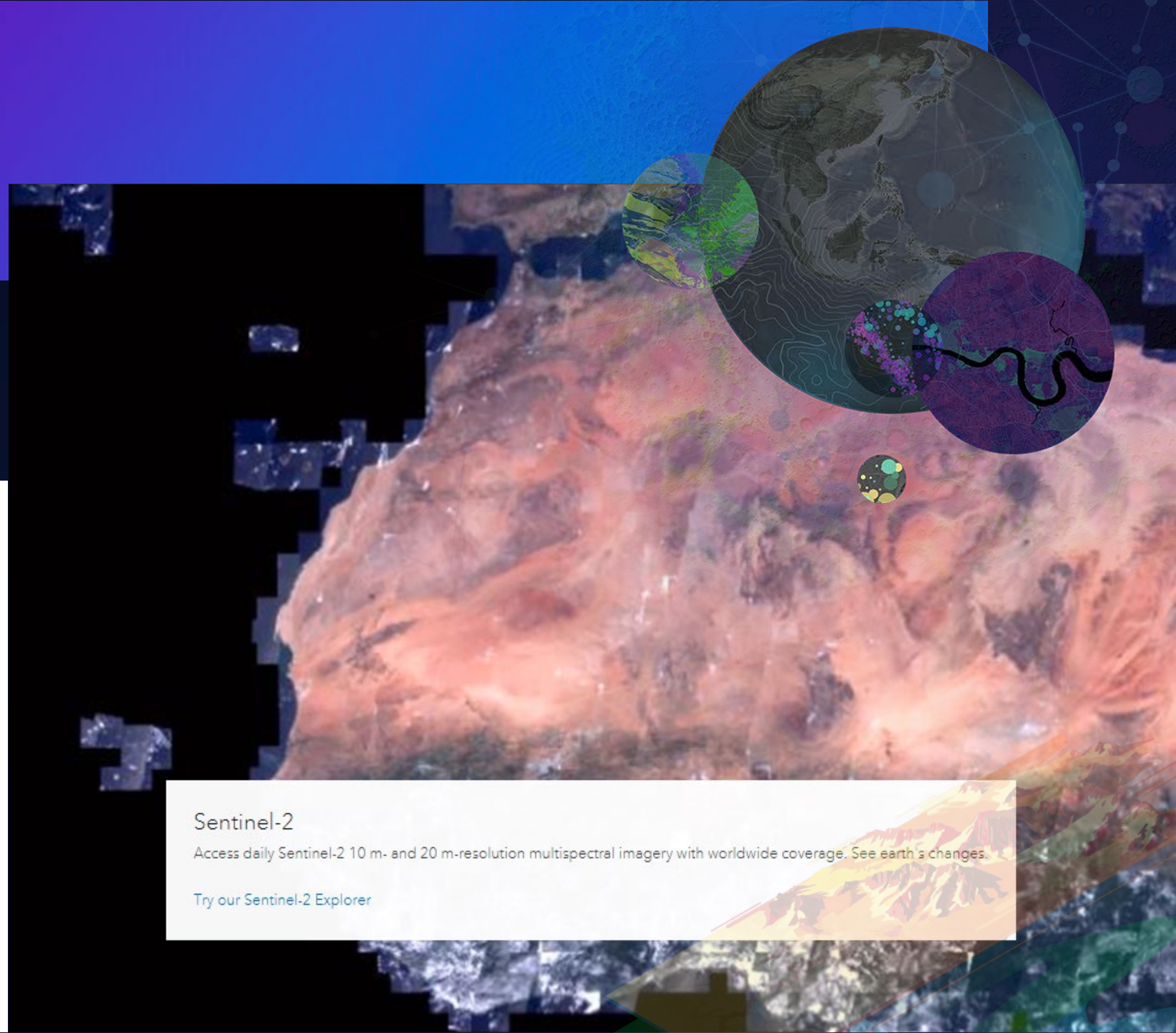


Sentinel-2

Access daily Sentinel-2 10 m- and 20 m-resolution multispectral imagery with worldwide coverage. See earth's changes.

Try our Sentinel-2 Explorer

ArcGIS Image product suite

Desktop

ArcGIS Image Analyst
For ArcGIS Pro

Server

ArcGIS Image Server
for ArcGIS Enterprise

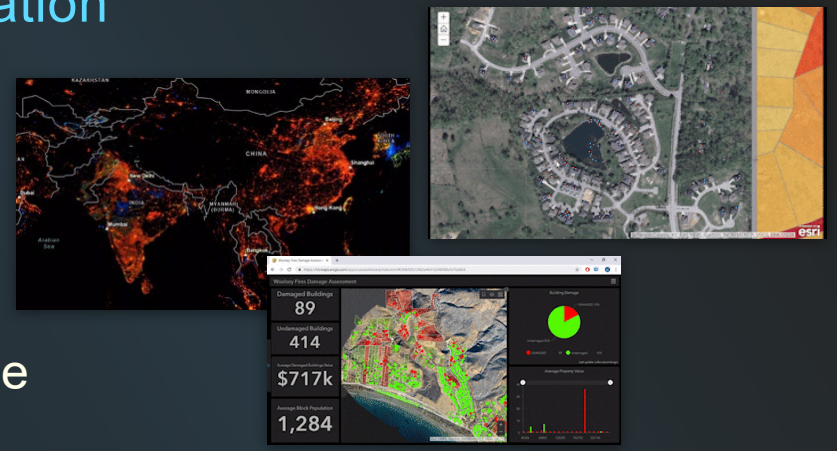
SaaS

ArcGIS Image for
ArcGIS Online

NEW

SaaS based Image Hosting & Raster Analytics in the Cloud

Data Management, Analysis & Visualization



ArcGIS Image for ArcGIS Online

Upload & Host Your Imagery in ArcGIS Online

SaaS

ArcGIS Image Dedicated

Put ArcGIS next to Your Imagery

Azure, AWS . . .

Capabilities

- Tiled Imagery
- Dynamic Imagery
- Image Processing
- Raster Analytics & Modeling
- AI Workflows & DL Tools

- 175+ Functions & Tools

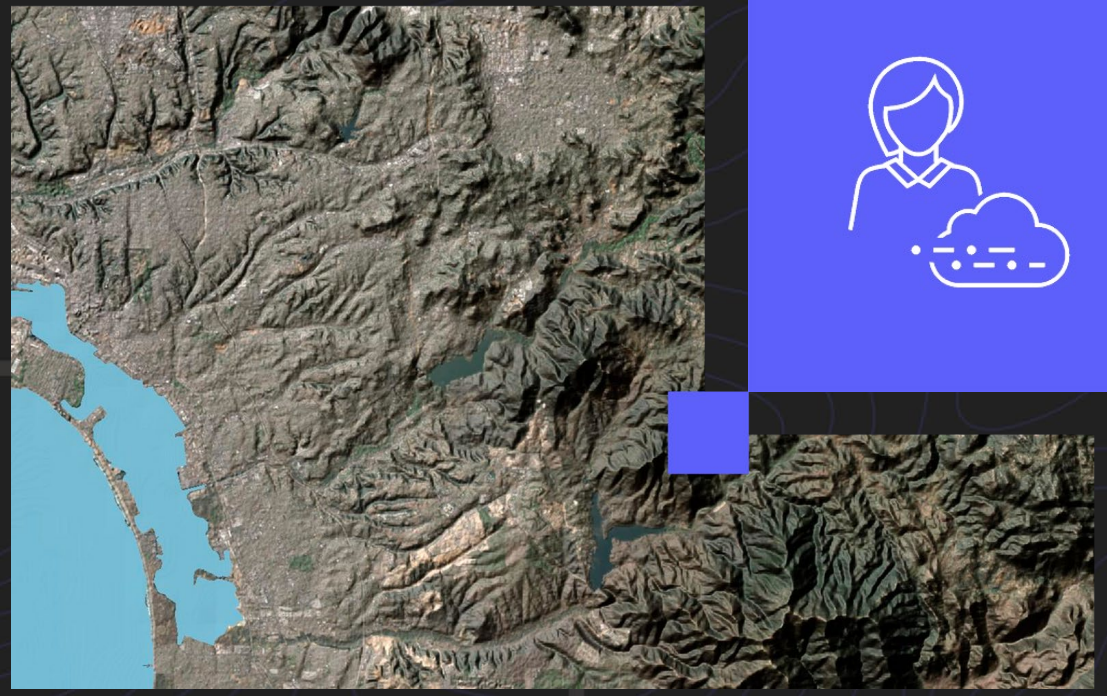
Enables Massive Image Processing & Raster Analysis

ArcGIS Image for ArcGIS Online

Imagery hosting, analysis, and streaming in the cloud

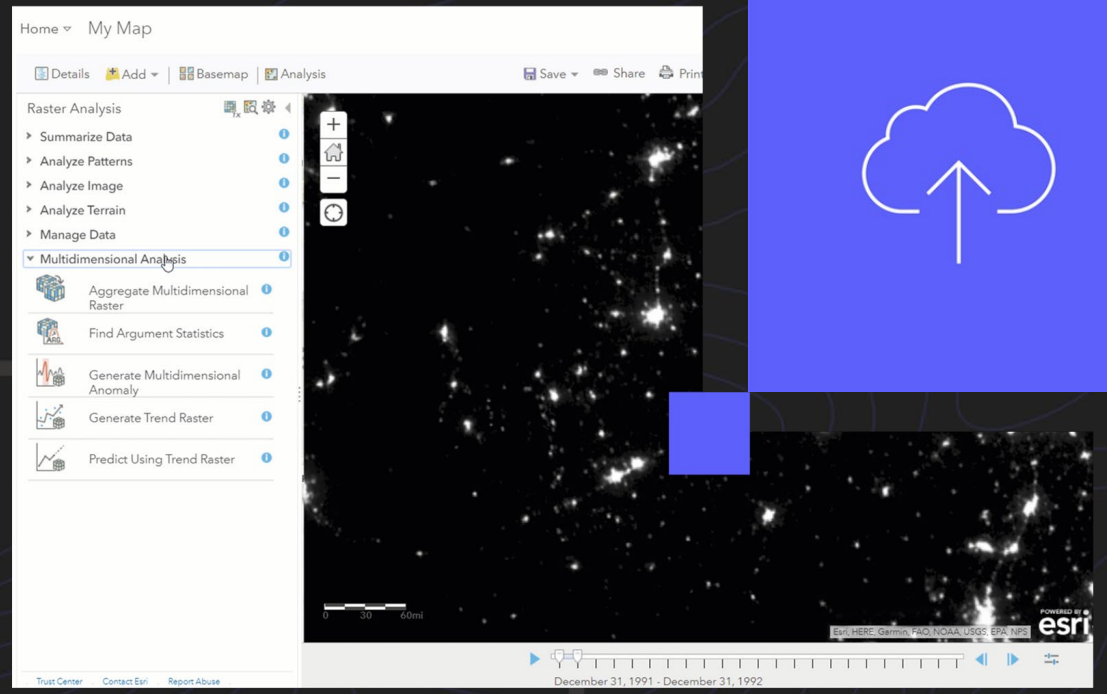
Make Imagery Accessible Across the Organization

Stream your imagery as tiled and dynamic services



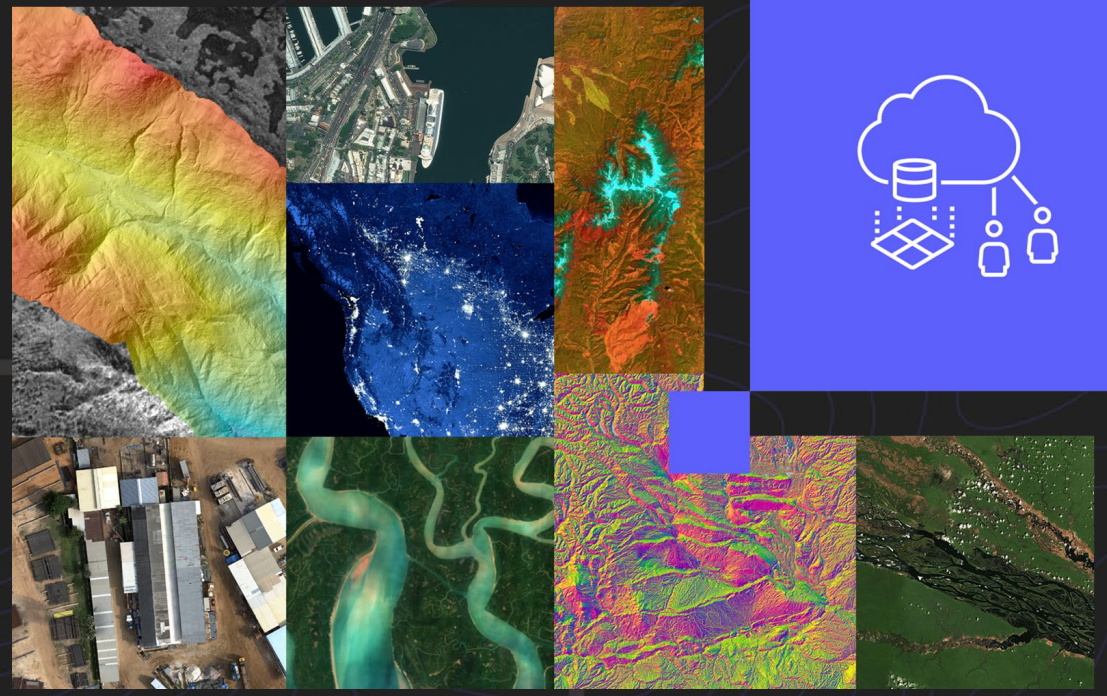
Eliminate Infrastructure Management

Free yourself to focus on your work by hosting, analyzing, and streaming imagery in a secure, scalable SaaS



Simplify Image Management

Easily upload and publish imagery over the web

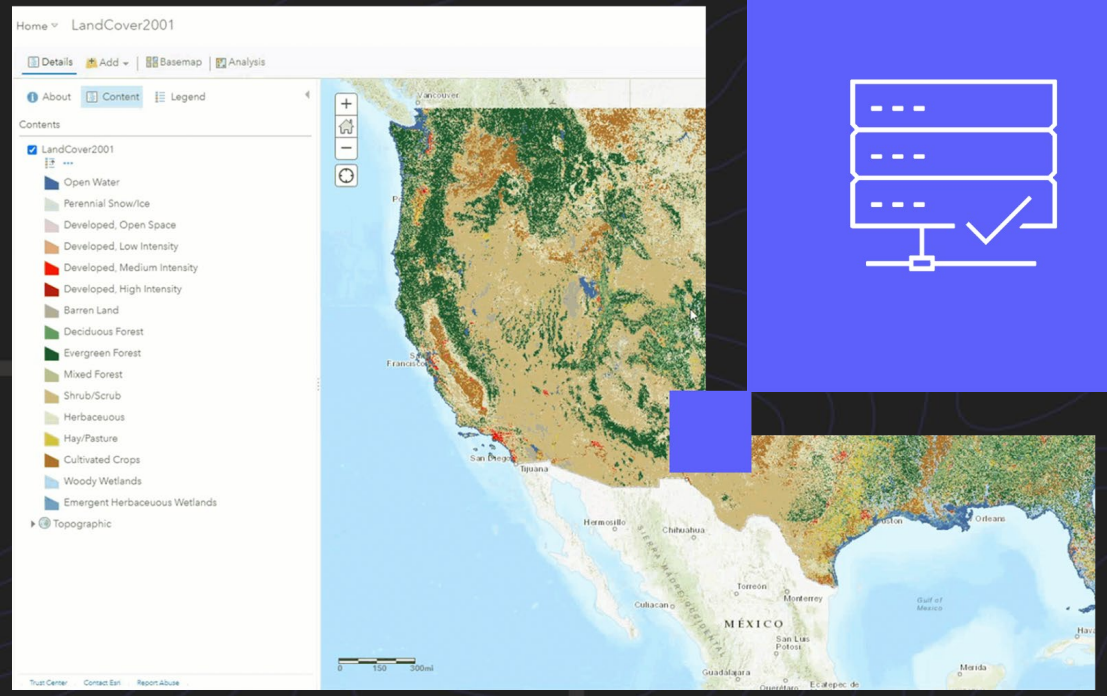


Process Imagery at Scale

Extract insights from imagery using powerful image analysis workflows that leverage our elastic and resilient cloud environment

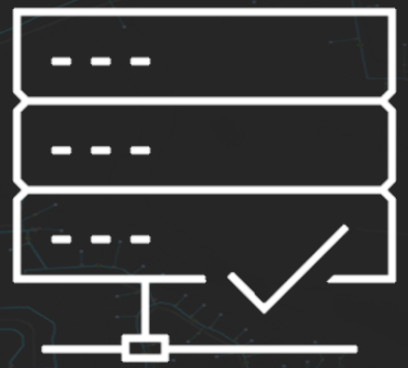
Save Time Without Increasing Costs

Scale effortlessly as volumes of data increase to meet customer demand



How ArcGIS Image for ArcGIS Online Works

Step 1
Upload and publish imagery to ArcGIS Online



Step 2
Select the type of image service

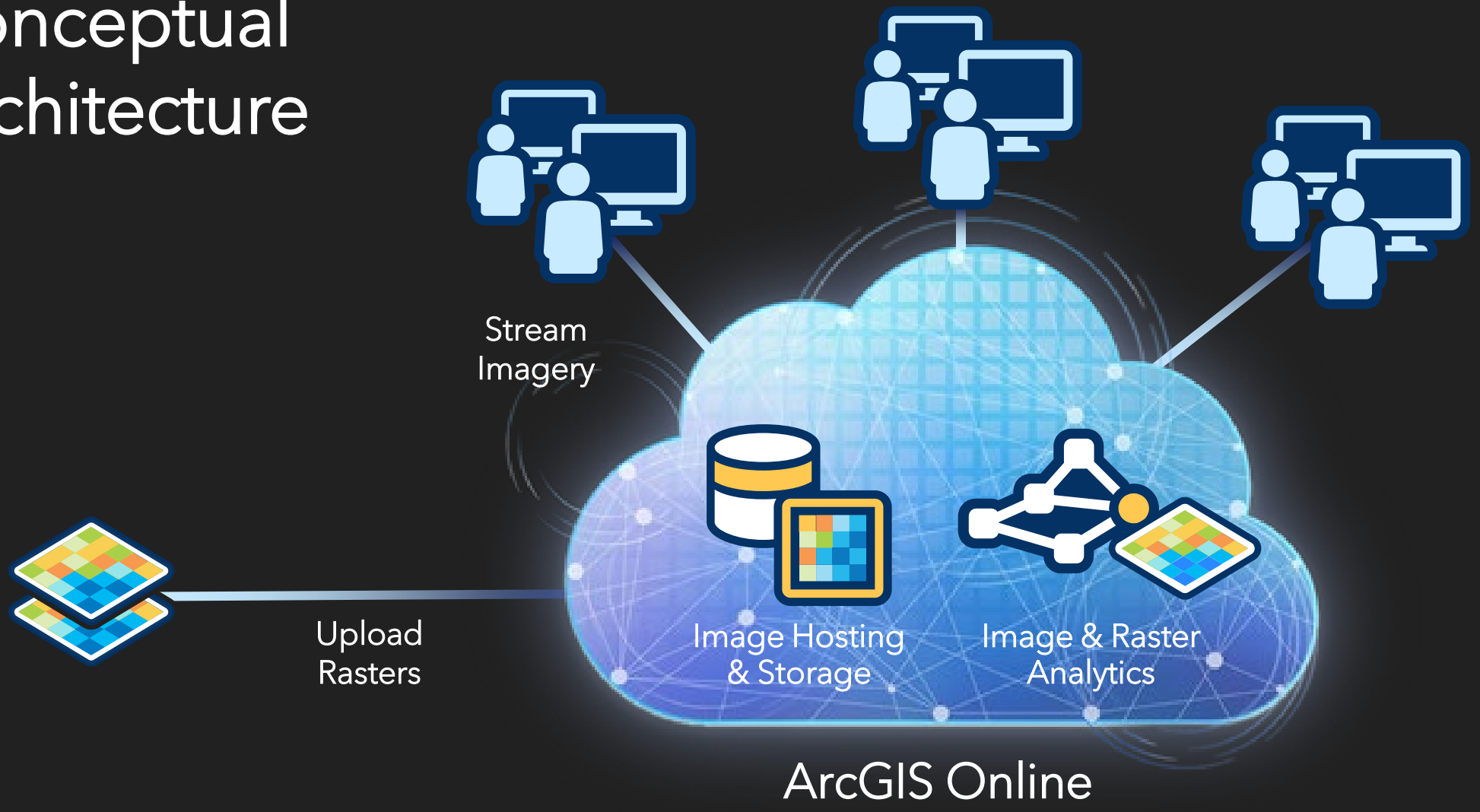
(Tiled or dynamic)

Step 3
Add analytics to your imagery

(optional)

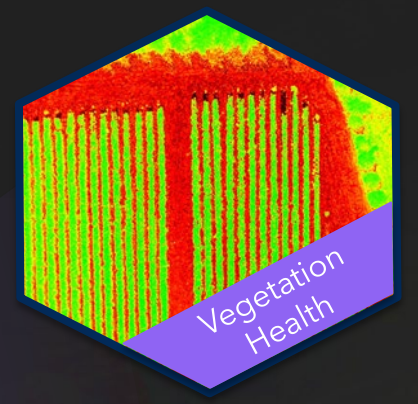
Step 4
Stream imagery to end users

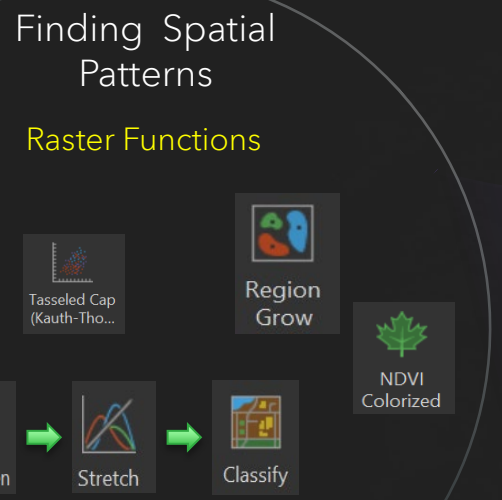
Conceptual Architecture



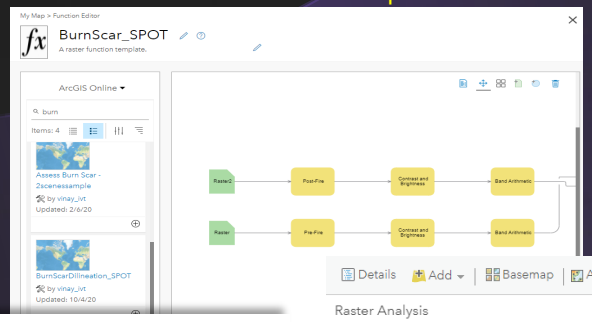
Finding Spatial Patterns

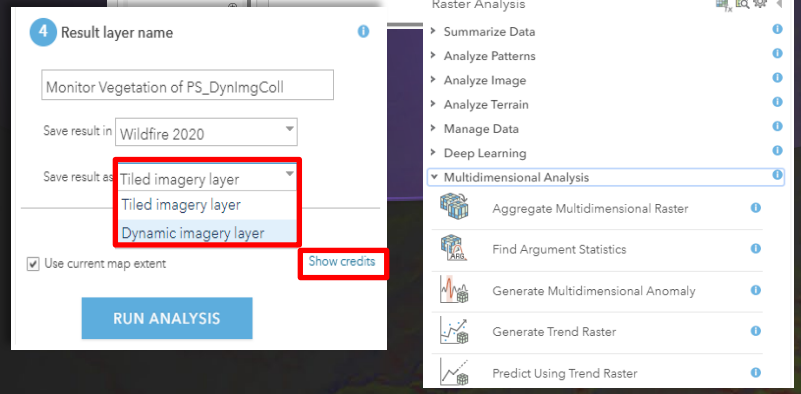
Extensive imagery analysis and raster analytics included

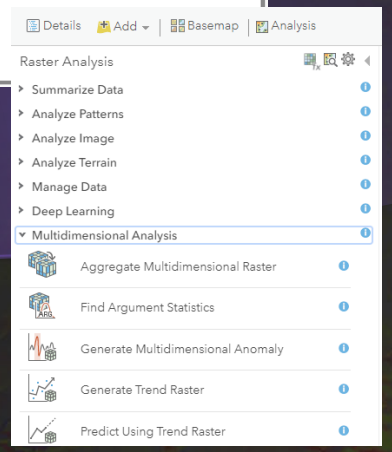




Raster Function Templates







Observations On Demand Using Deep Learning

Optimized for GeoAI feature extraction at scale

Tools:

Inference

Models

Information on Demand

Inspection

Monitoring

Activity Tracking

Damage Assessment

Change Detection

Buildings

Land Cover

Trees

Assets

How to Get Started

Pricing

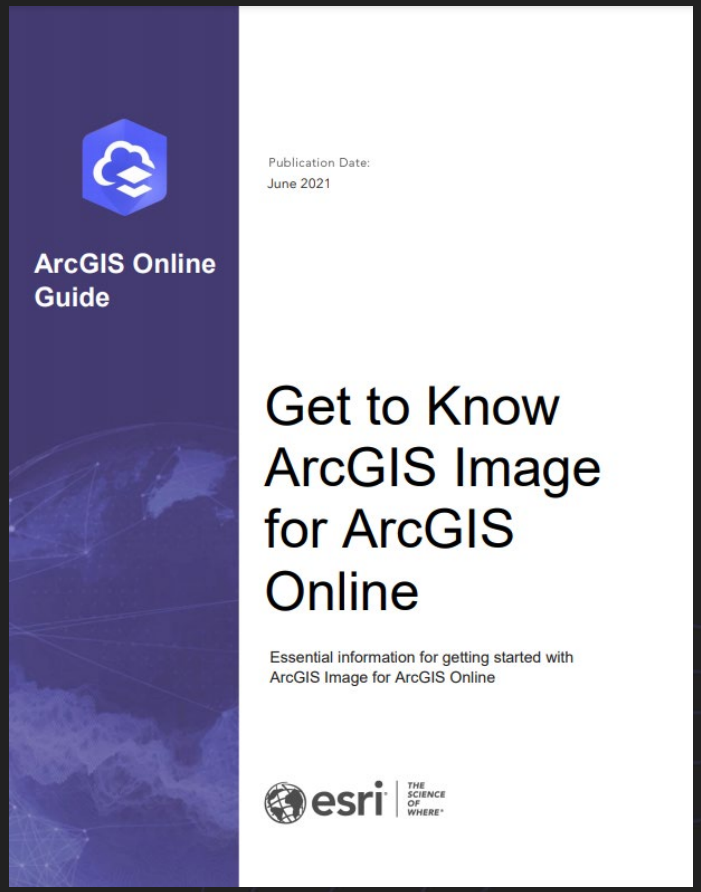
Start with
Creator user type
$500/user/year

Add **ArcGIS Image for ArcGIS Online**
$700/user/year

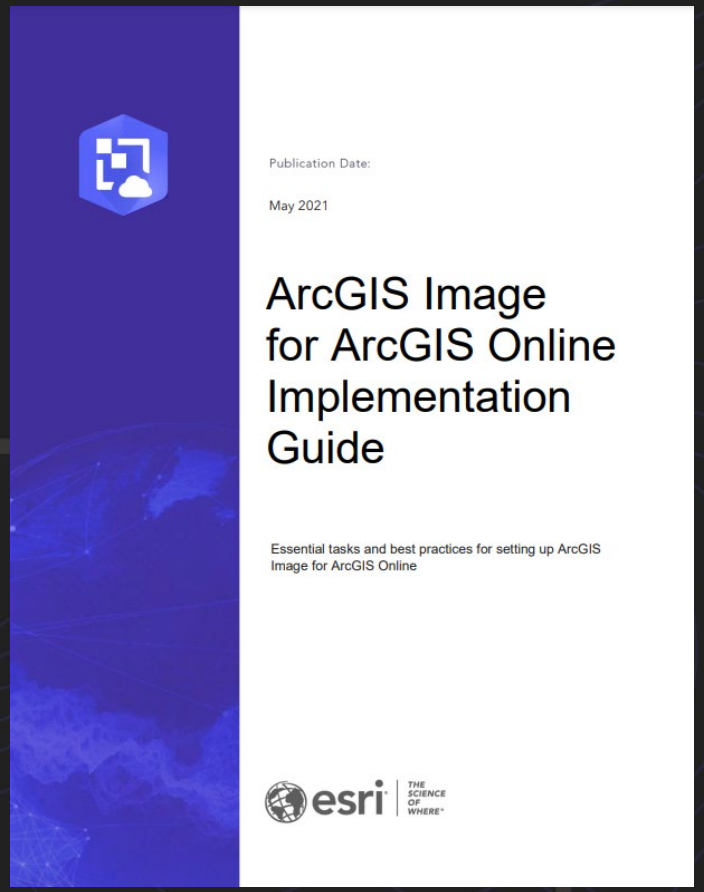
Consume **credits** for **premium services**

- Imagery storage
  1.2 credits/GB/month
- Dynamic imagery hosting
  Based on # of images stored per day
- Imagery analysis
  Depends on # of pixels processed + complexity of analysis

Resources



https://bit.ly/3h66lsx



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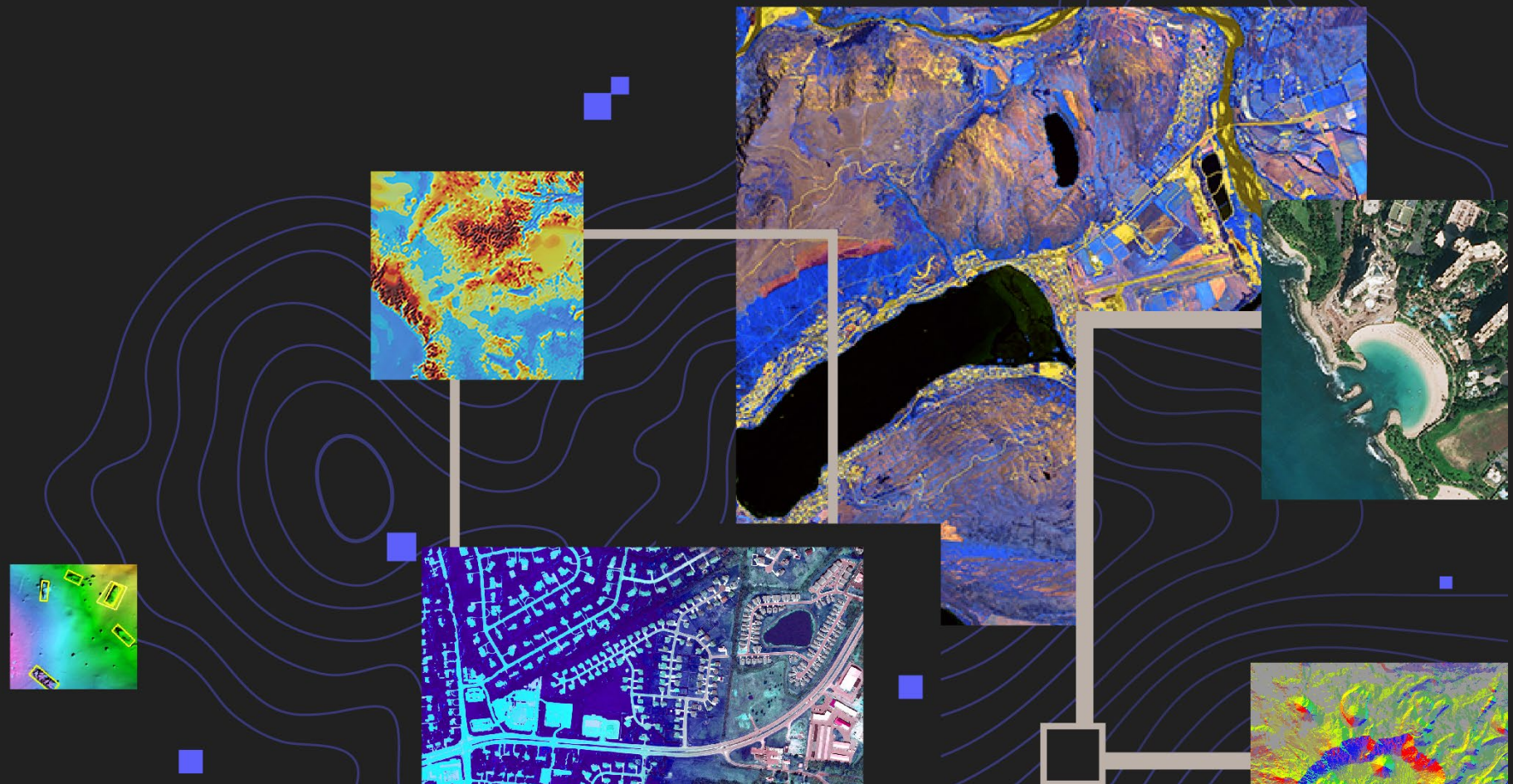
ArcGIS Image for ArcGIS Online



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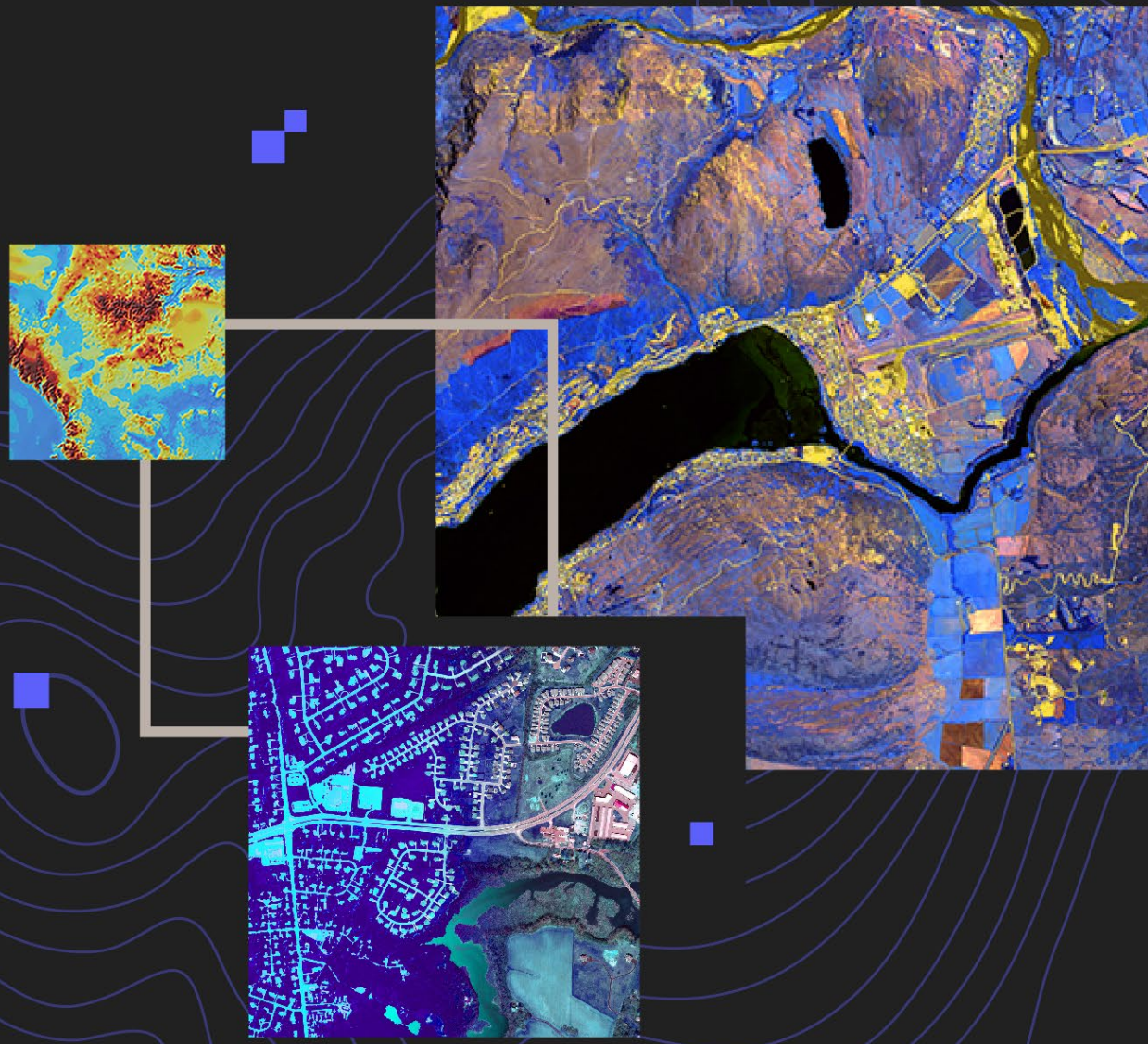

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