esri Eastern Africa
THE SCIENCE OF WHERE

ArcGIS for Food Security

Joyce Siundu- Solutions Engineer

ArcGIS | A Complete GIS Platform

You are GIS. You gain knowledge, share expertise, and help us understand our world; the science of where.

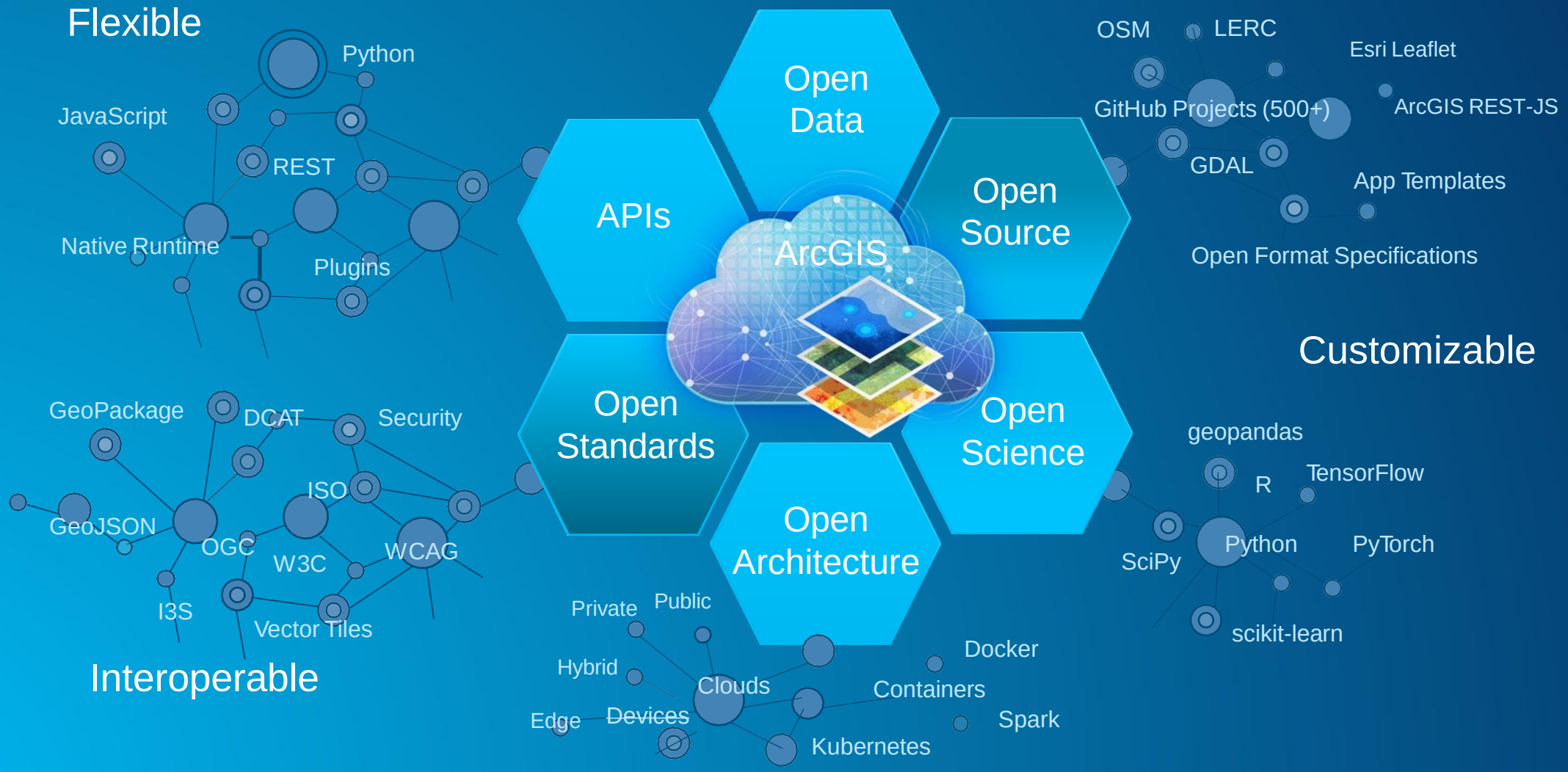
A System for Managing and Applying Geographic Information

- On-Premises
- In your chosen Cloud
- Online / SaaS
- Hybrid

Open

Distributed

ArcGIS is an Open Platform



ArcGIS Integrated GIS system

Connecting People, Processes, Things and Data About Them

Helping Organizations Understand . . .

Improving Efficiency, Collaboration and Communication

System of Engagement

System of Record

System of Insight

Web GIS

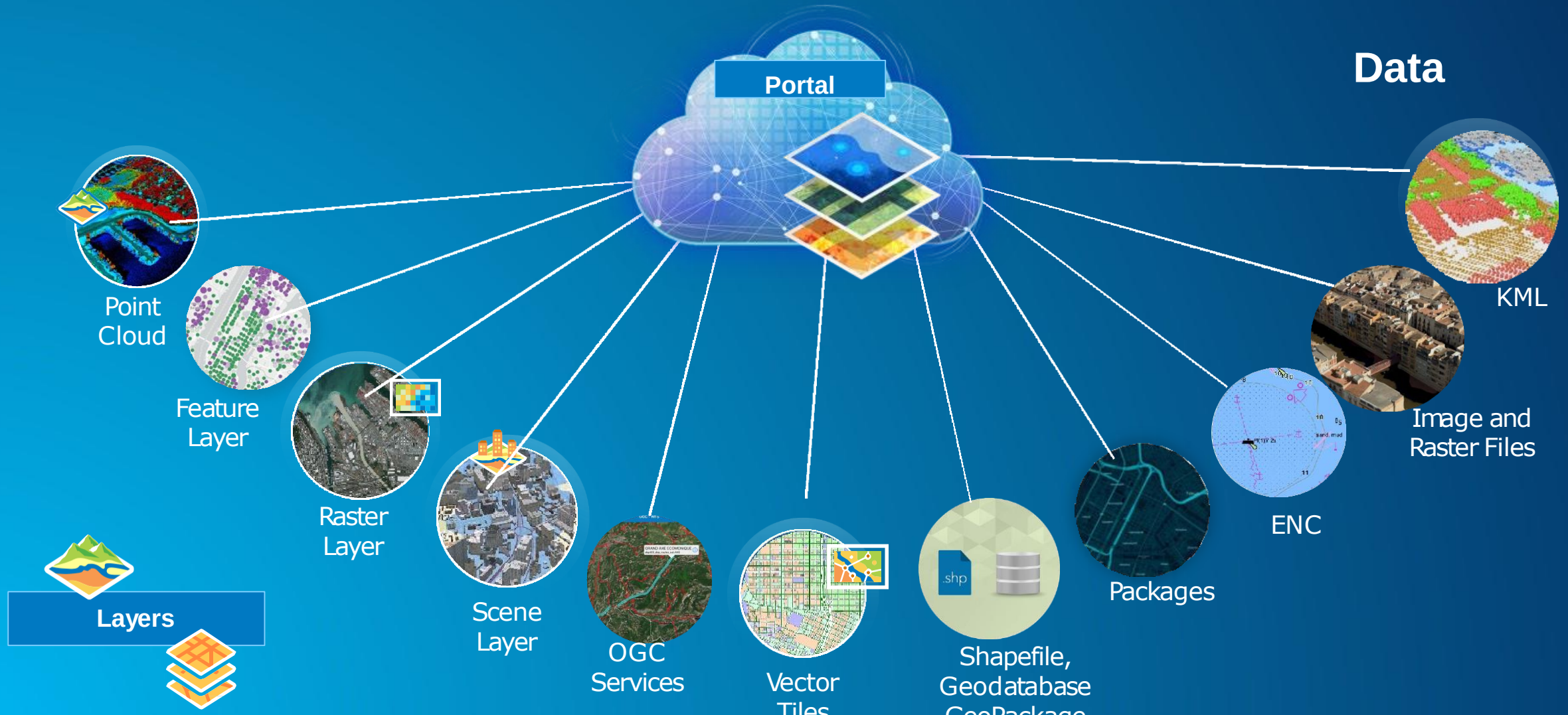
Supports Multiple Types of Systems

- **. . . And Be Aware, Alert, and Responsive**

Geoinformation System

A Framework and Process

Layers


Portal
Data
Point Cloud
Feature Layer
Raster Layer
Scene Layer
OGC Services
Vector Tiles
Shapefile, Geodatabase GeoPackage
Packages
ENC
Image and Raster Files
KML
Layers

ArcGIS for Agriculture

Imagery for Agriculture

System of Record

To manage and process all your imagery

System of Engagement

To share imagery products and information to those that need it

Professional Imagery & Geospatial Analysts

System of Insight

To extract Information from Imagery

ArcGIS is a comprehensive Imagery Platform….

Imagery is a Foundational Source of Information

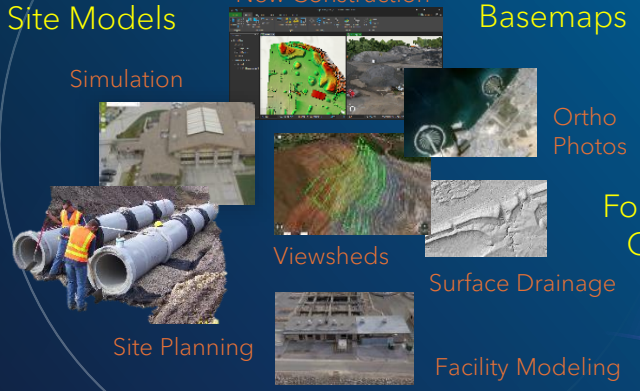
Precision Mapping & Reality Capture

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

Content

Images, Video & Point Clouds:

Formats

Platforms

Modalities

Services

Management

Photogrammetry

GeoAI

Raster Analytics

Image Mngmt

Search & Discovery

Mosaic Datasets

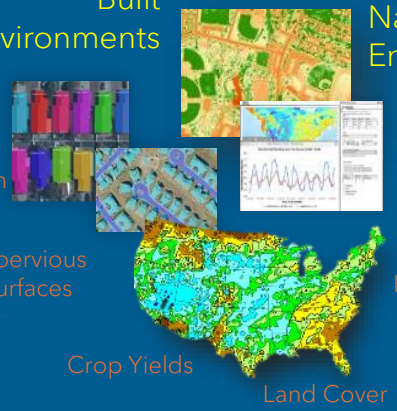
Time

Image Cubes

Finding Spatial Patterns

Built Environments

Natural Environments



Urban Growth

National Statistics

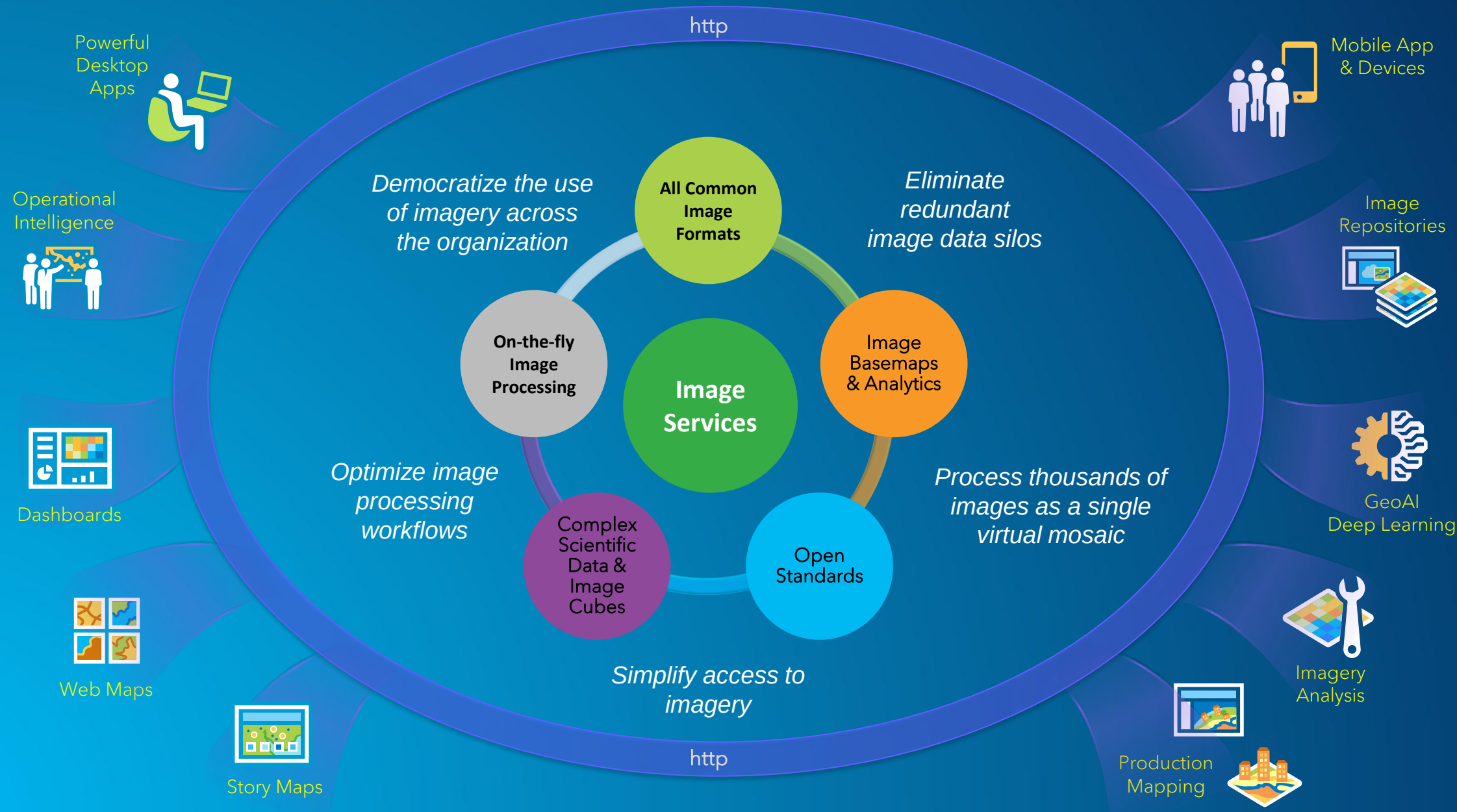
Impervious Surfaces

Habitat Loss

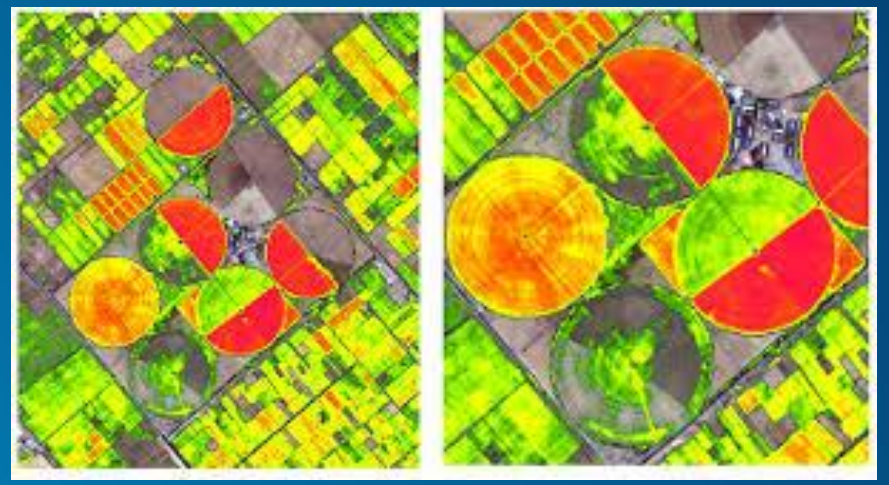
Crop Yields

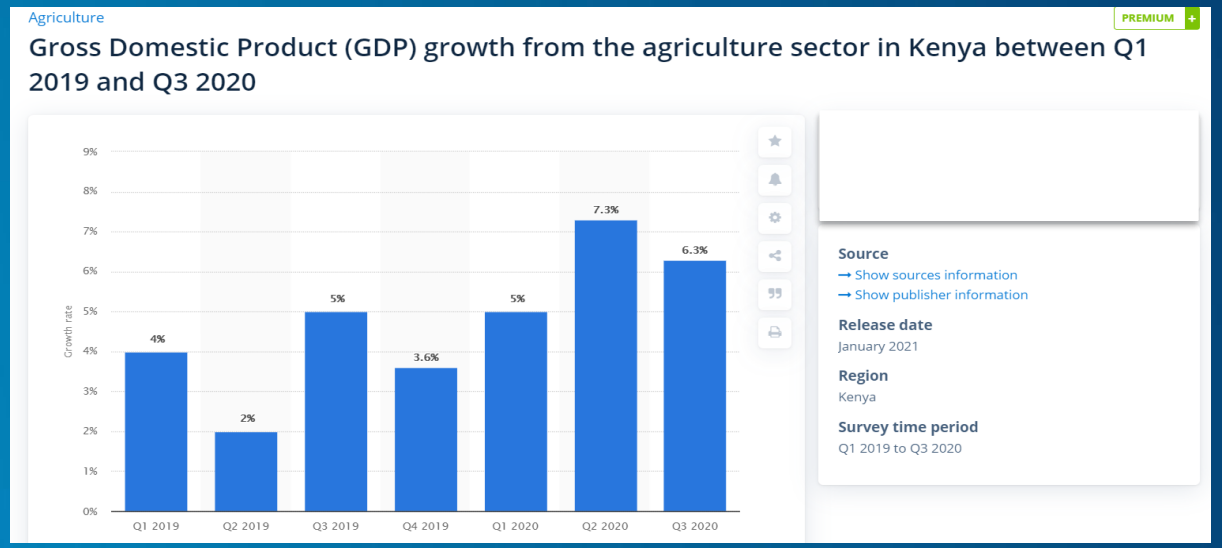
Land Cover

Image Services Empower the Use of Imagery



ArcGIS and Agriculture





Source

Sensor Support

ArcGIS Supports a Wide Range of Sensors

- SPOT , IKONOS
- Pleiades (Updated to support DIMAP 1.1)
- Landsat surface reflectance products
- Sentinel surface reflectance products
- WV-3 (SWIR support)
- GF1,GF2,H1J,ZY3 SASMAC, TH1

Multidimensional data:

Irregular NetCDF and HDF EOS swath data

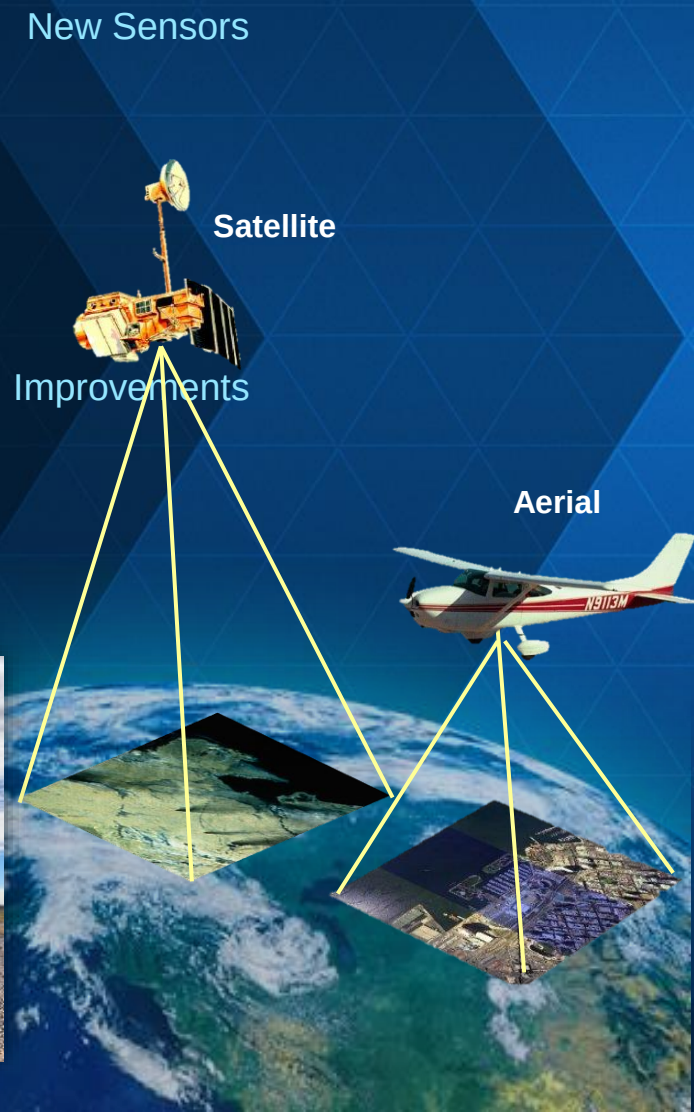
Simplified experience to handle multiple variables

NITF:

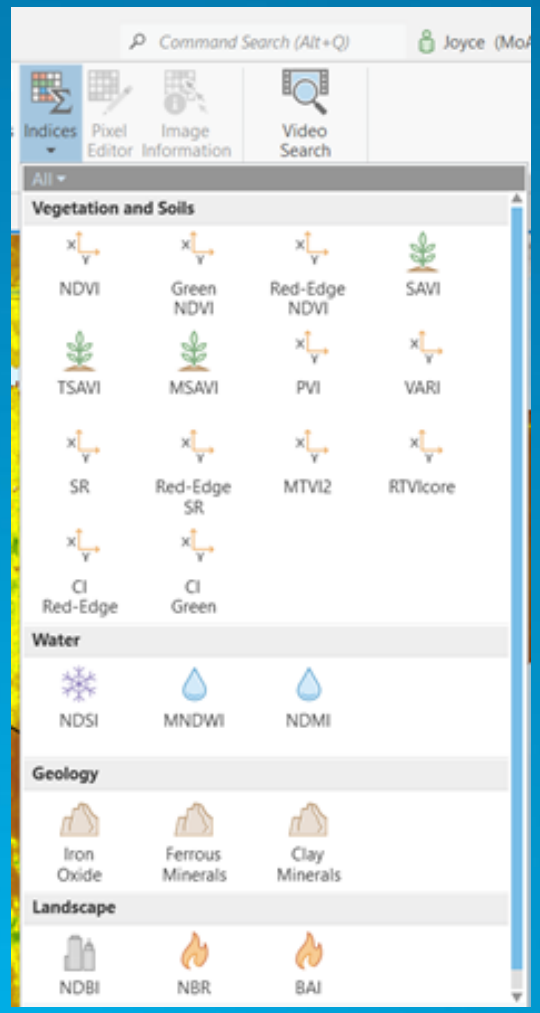
Legacy commercial NITF format (don't meet current NCDRD standards)

Eg. IKONOS, Quickbird, Geoeye-1, WV-1, WV-2

These and many more…..



Raster Analytics | Selected Vegetation Indices



- Normalized vegetation Index

(NIR - R) / (NIR + R)

- Enhanced Vegetation index

EVI = G * ((NIR - R) / (NIR + C1 * R – C2 * B + L))

- Soil Adjusted Vegetation Index

((NIR - R) / (NIR + R + L)) * (1 + L)

Demo


esri Eastern Africa
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