ArcGIS Online: An Introduction to the Living Atlas

Deane Kensok, Christophe Charpentier

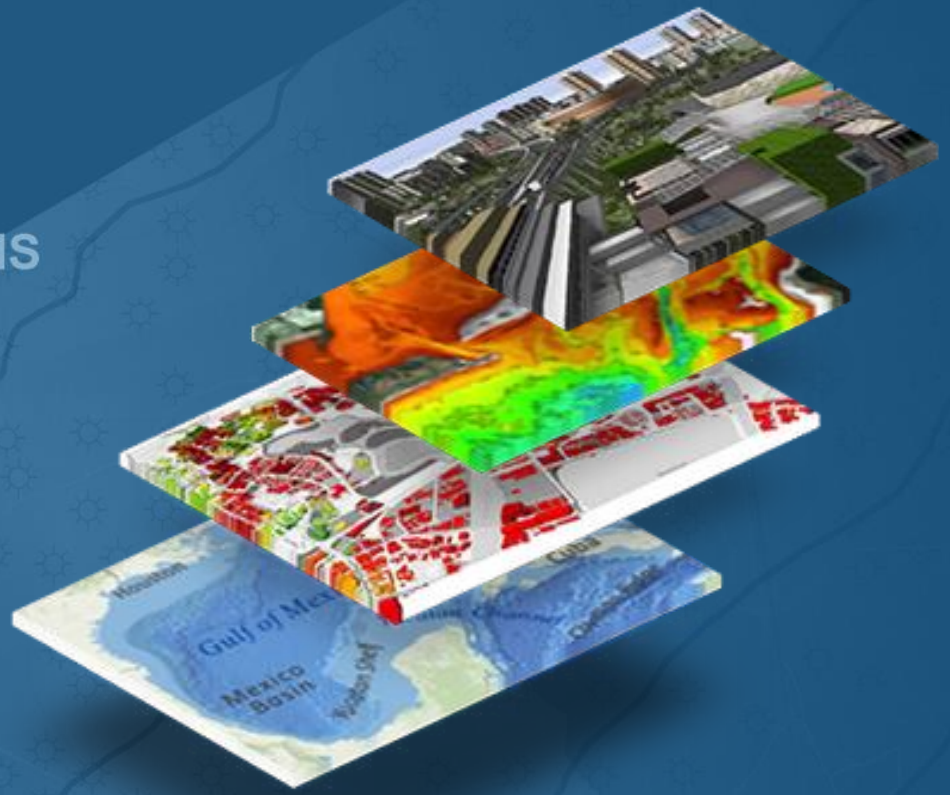
Technical Workshop

Session Agenda

- Overview of the Living Atlas
  - Demo: How to Access the Living Atlas in ArcGIS
- Esri Content Portfolio
  - Overview and Update on What's New in ArcGIS Online
  - Demos: Recent Enhancements
  - Living Atlas at the UC
- Questions & Answers

Content is Integral to the Platform

The Heartbeat of the System …



… to Map, Understand and Analyze the World
… in the Cloud and On-premises

ArcGIS includes a Living Atlas of the World

Maps and Layers from Esri and Thousands of Contributors

Collection is Growing and Changing on a Daily Basis

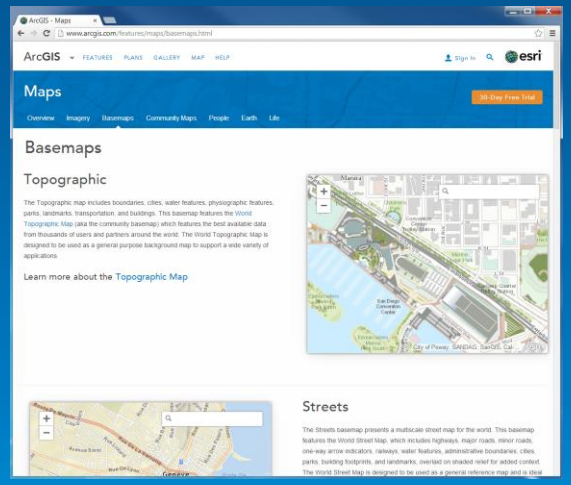
Curated Content for Many Topics

Basemaps
Boundaries
Elevation
Hydro
Transportation
Habitats
Hazards
Soils
Oceans
Urban Systems
Land Cover
Observations
Landscape
Demographics
Imagery
Historical
Weather

. . . Providing a Foundation for Your Work

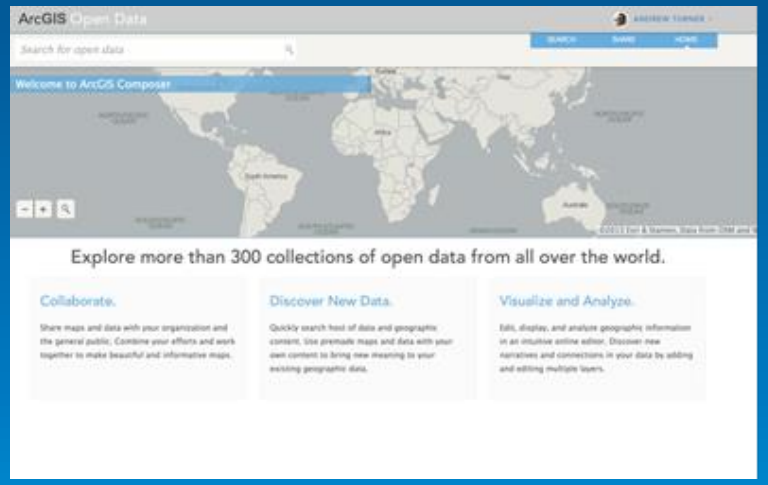
Content is published by Esri, Users and Partners

Esri

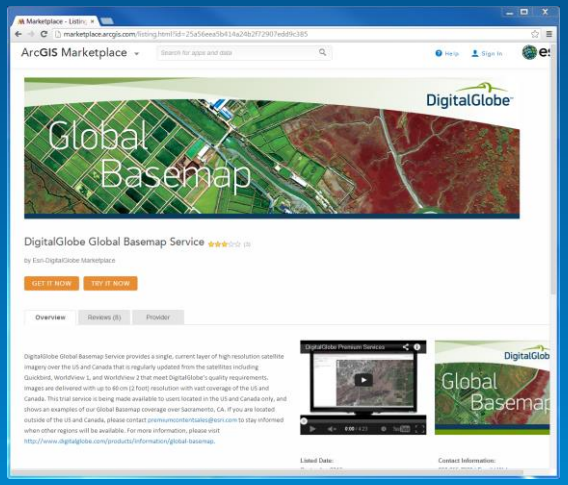


Foundational Map Layers

Community



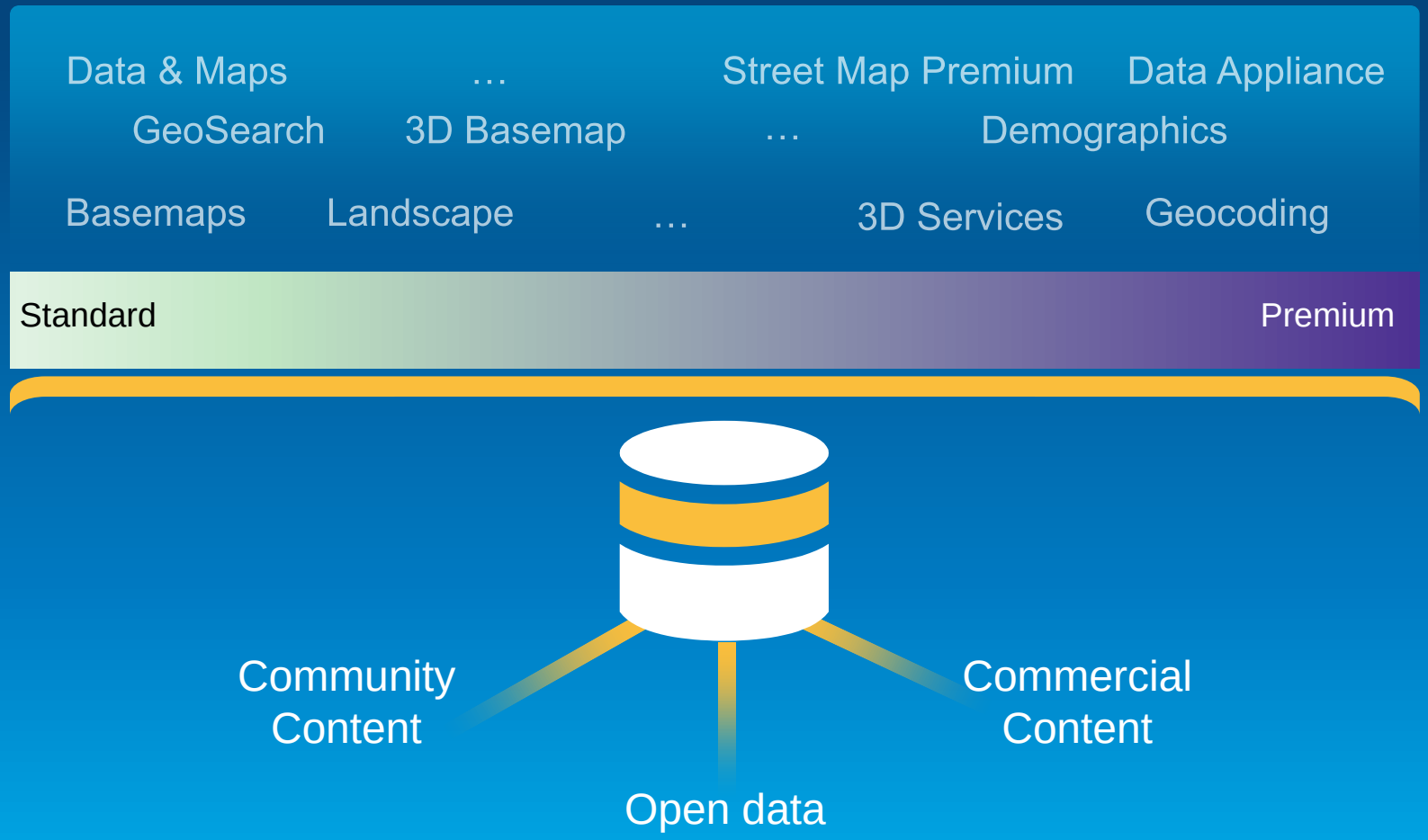
Partners



Local / Regional
Industry Specific

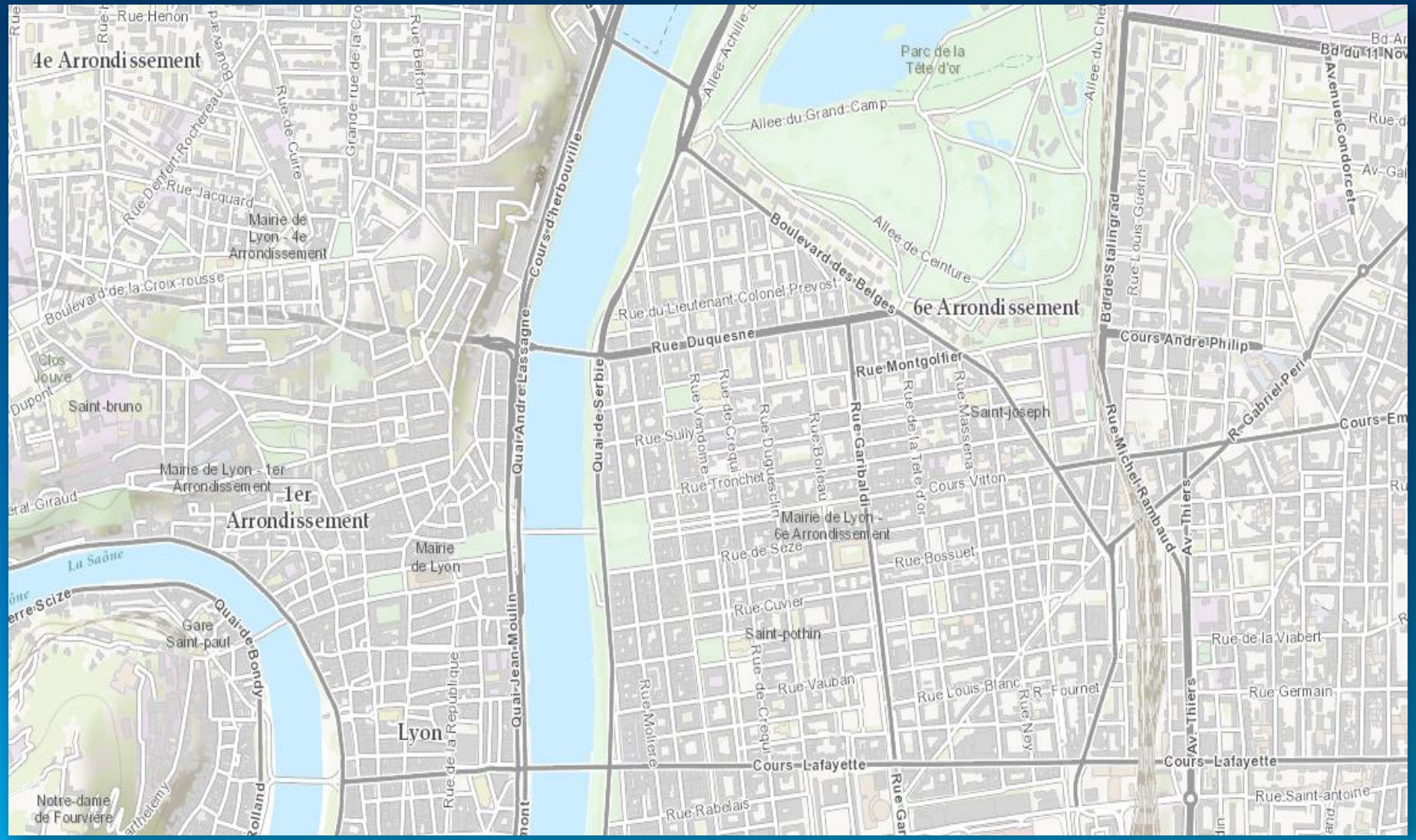
Esri Builds Foundational Map Layers

Ready to use Content and Information Products …



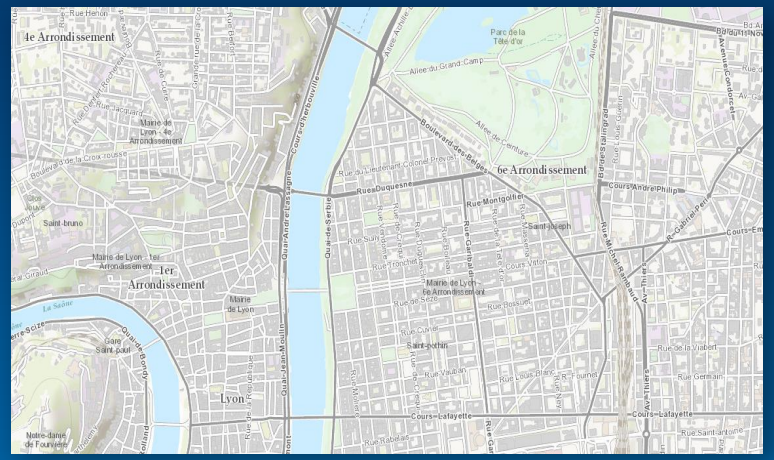
. . . Built by assembling best available Content

Community *Maps*



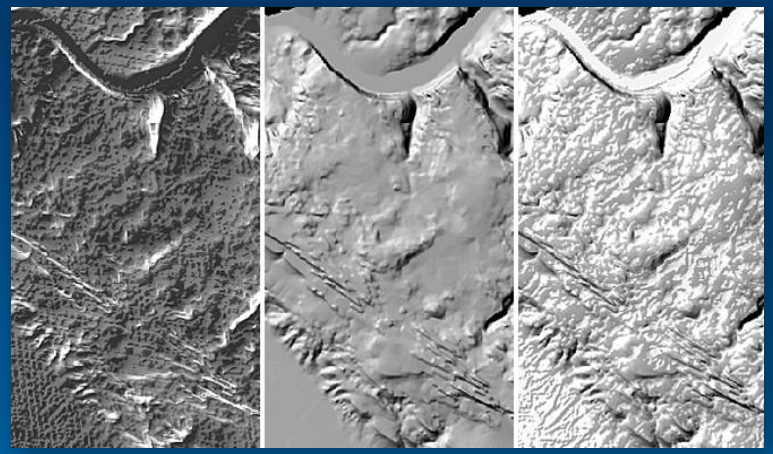
Basemaps

Community *Content* goes beyond maps



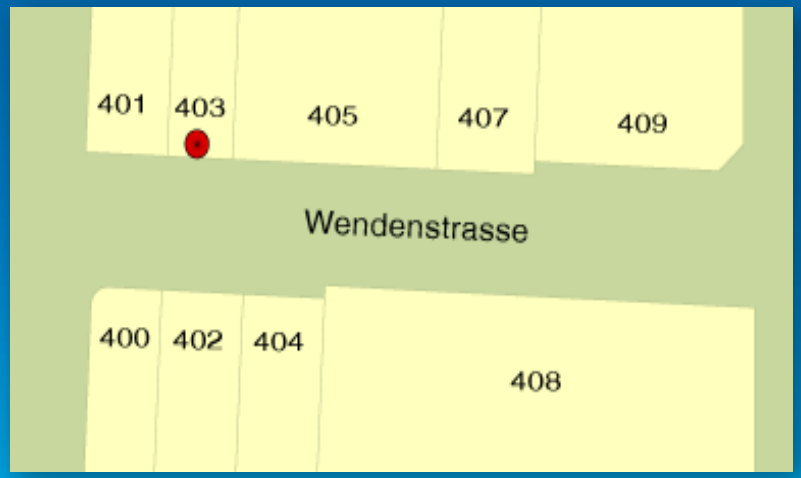
Basemaps

3D



Elevation

Imagery



Geocoding

Landscape

Data

Show Me

All
Applications
Data
New
By Esri
Popular
Free

Categories

All
Image
Feature
Tiled

Industries

All
Aid and Development
Business
Defense
Intelligence
Education
Government

All Platforms | Free & Paid | All Languages | Sort By: Title

Canada Severe Weather
AccuWeather Enterprise Solutions
(2)

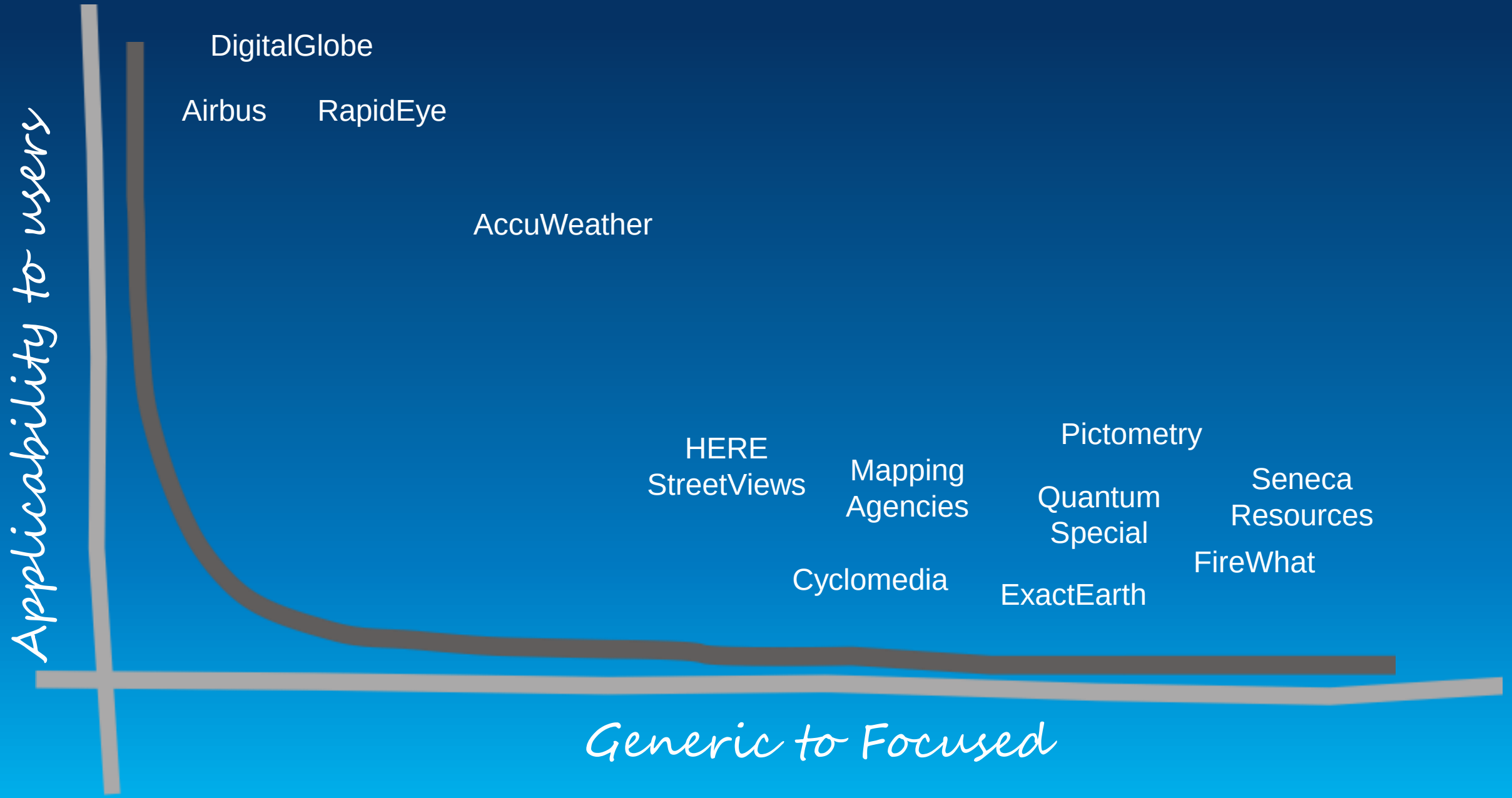
DigitalGlobe FirstLook Service
Esri-DigitalGlobe Marketplace
(0)

DigitalGlobe Global Basemap Service
Esri-DigitalGlobe Marketplace
(3)

DigitalGlobe Multispectral Service
Esri-DigitalGlobe Marketplace

RapidEye Living Image BaseMap
Esri-BlackBridge Marketplace

RapidEye Living Image Multispectral
Esri-BlackBridge Marketplace


Applicability to users
DigitalGlobe
Airbus
RapidEye
AccuWeather
HERE
StreetViews
Mapping
Agencies
Pictometry
Quantum
Special
Seneca
Resources
FireWhat
Cyclomedia
ExactEarth
Generic to Focused

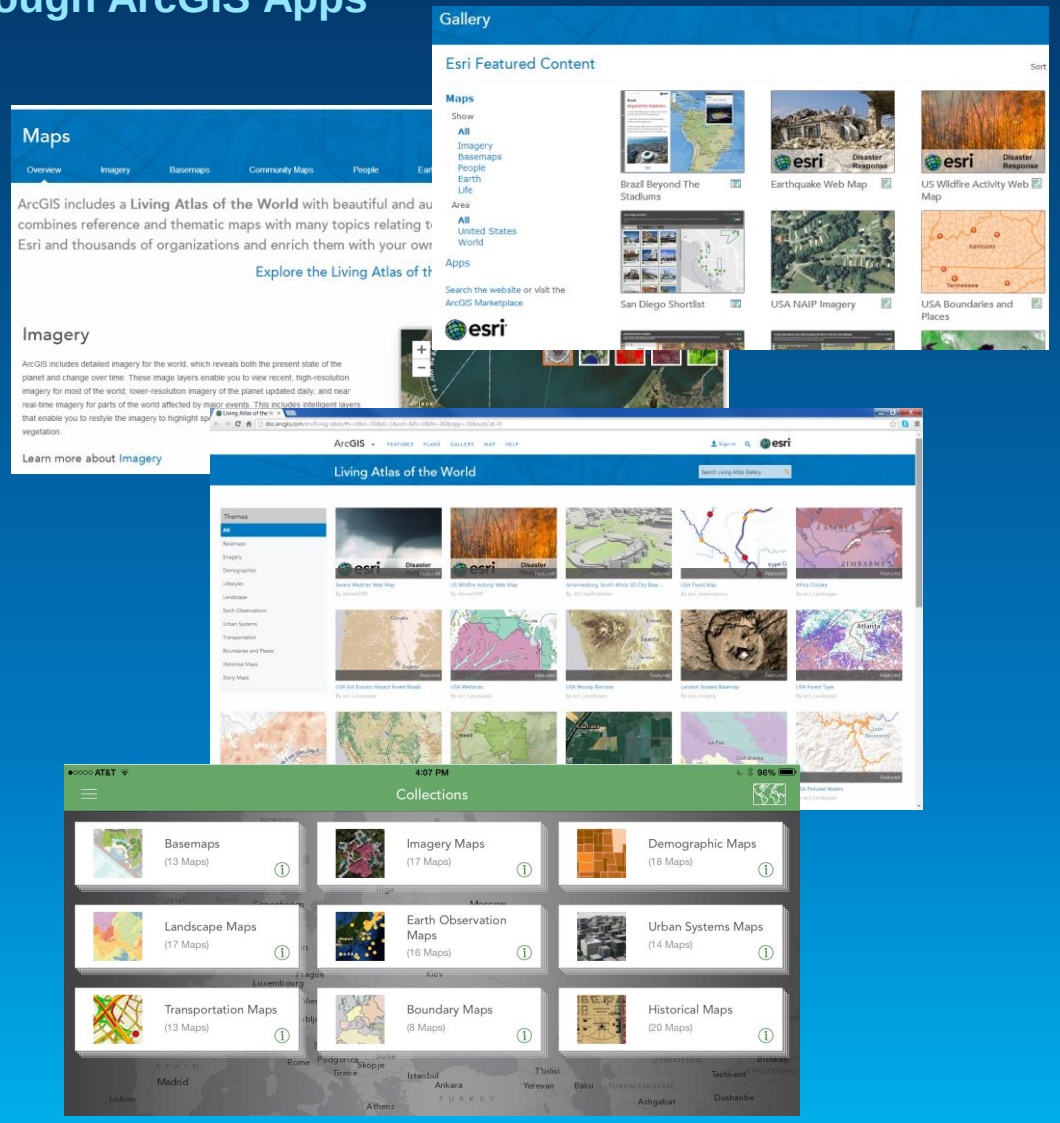
Accessing the Living Atlas through ArcGIS

Multiple ways to Experience the Living Atlas of the World through ArcGIS Apps

- **ArcGIS Online (ArcGIS.com)**
  - Ready-to-Use Maps feature pages
  - Gallery: Esri Featured Content
  - Add Data: Browse Esri Map Layers

- **Living Atlas of the World Web App (New!)**
  - Browse and preview maps, layers, and tools

- **Explorer for ArcGIS App (New!)**
  - Native App for iOS and Mac platforms
  - Free to use with your Org Subscription



Living Atlas Curators

Urban Systems
- Brian S
- Jim H

Landscape
- Peter A
- Sean B

Imagery
- Daniel S
- Vinay W

Earth Observation
- Daniel S

Demographics
- Cathy S
- Nuno R

Basemaps
- Andrew G

Transportation
- Wolfgang H.
- Sean B.

Story Maps
- Jon B

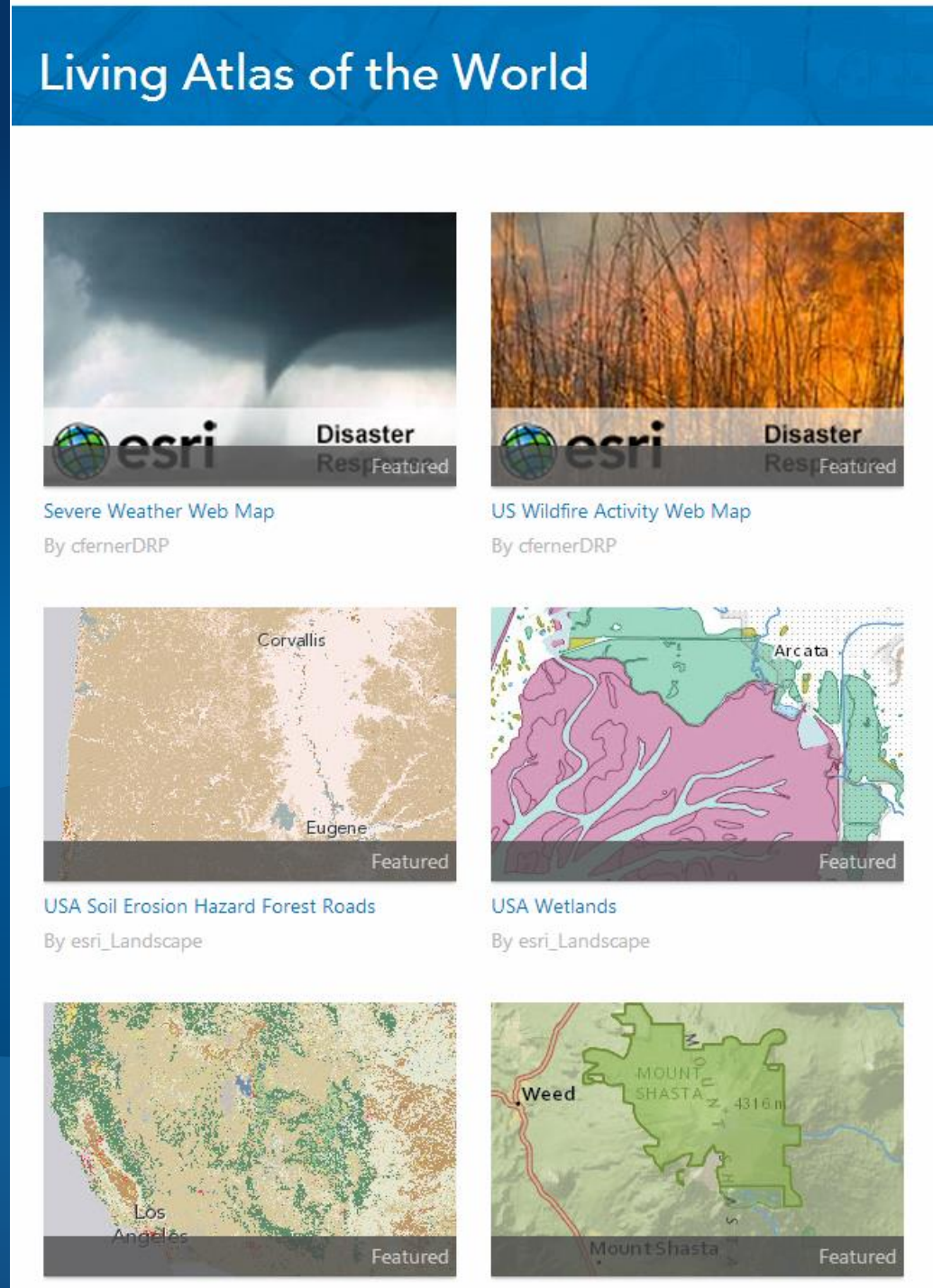
New Theme
- You ! The domain expert

Other Theme
- Domain Expert seating next to you

Demo

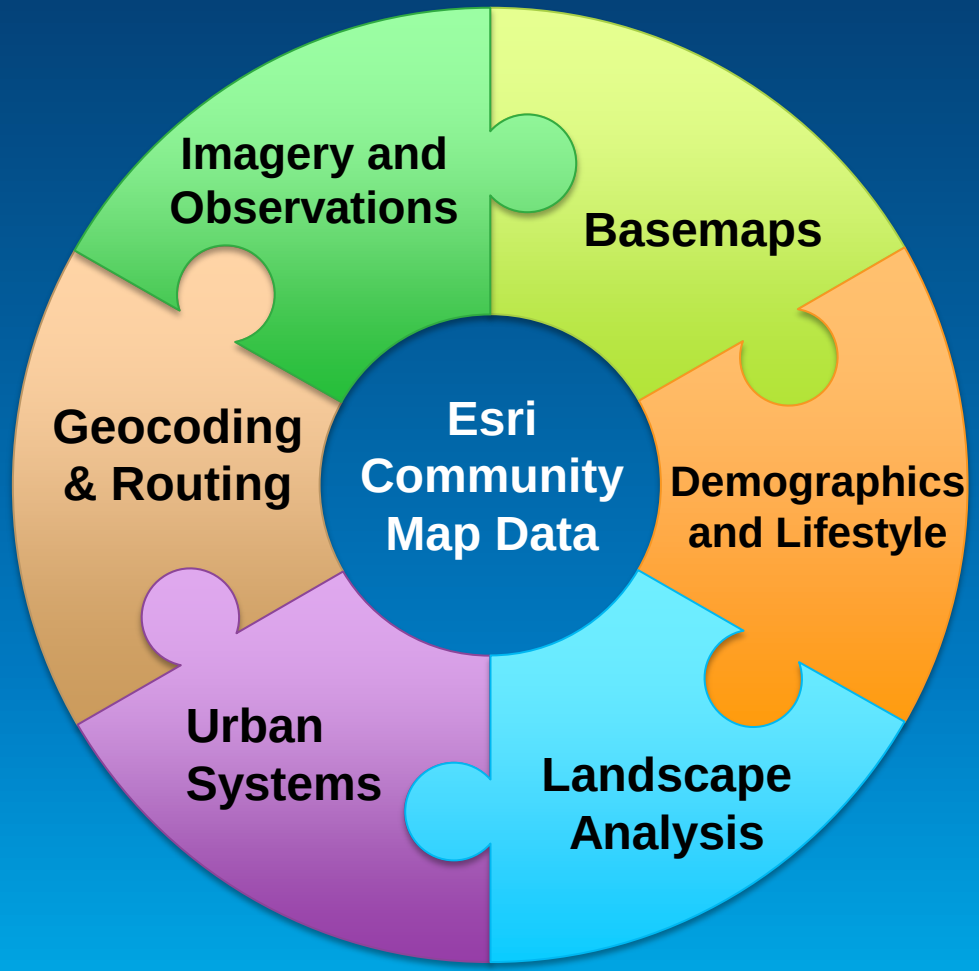
Accessing the Living Atlas through ArcGIS

Recent Enhancements

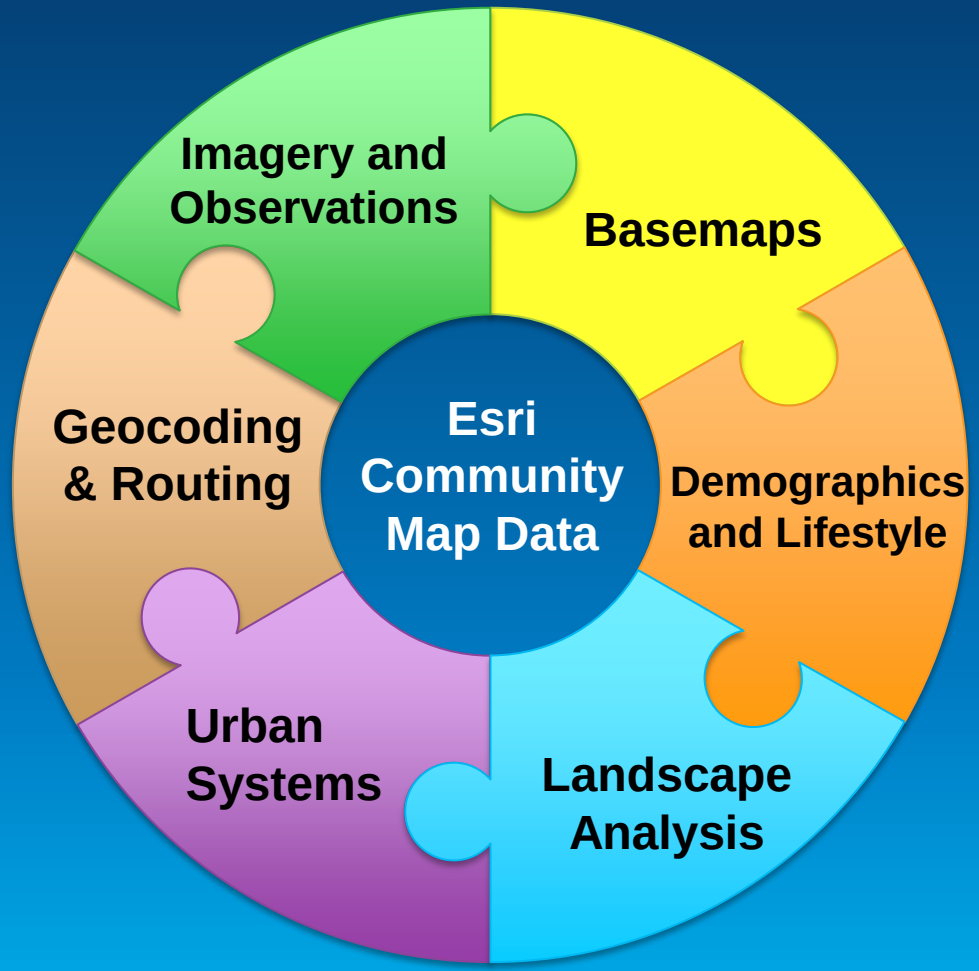


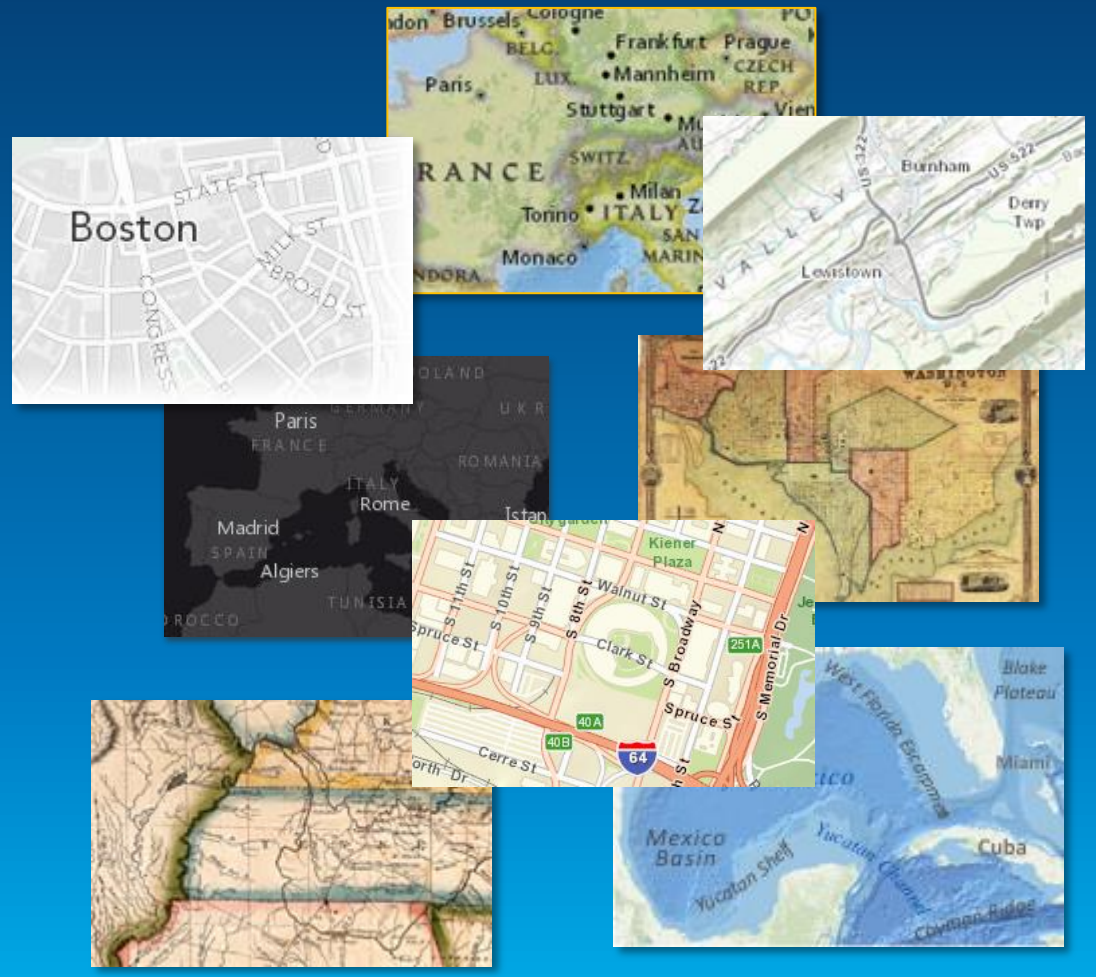
Esri Content Portfolio within Living Atlas

Content is organized into set of themes, using Esri & Community Data



Esri Content Portfolio for Basemaps

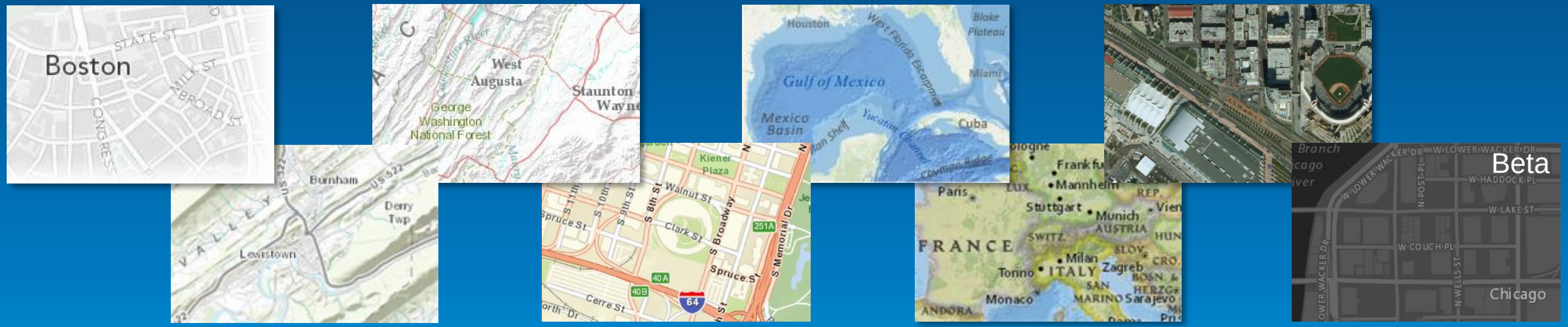




Basemaps

Suite of basemaps to support your web maps and applications

- **Variety of Basemaps for Different Maps and Apps**
  - **From neutral background maps to rich foreground maps**

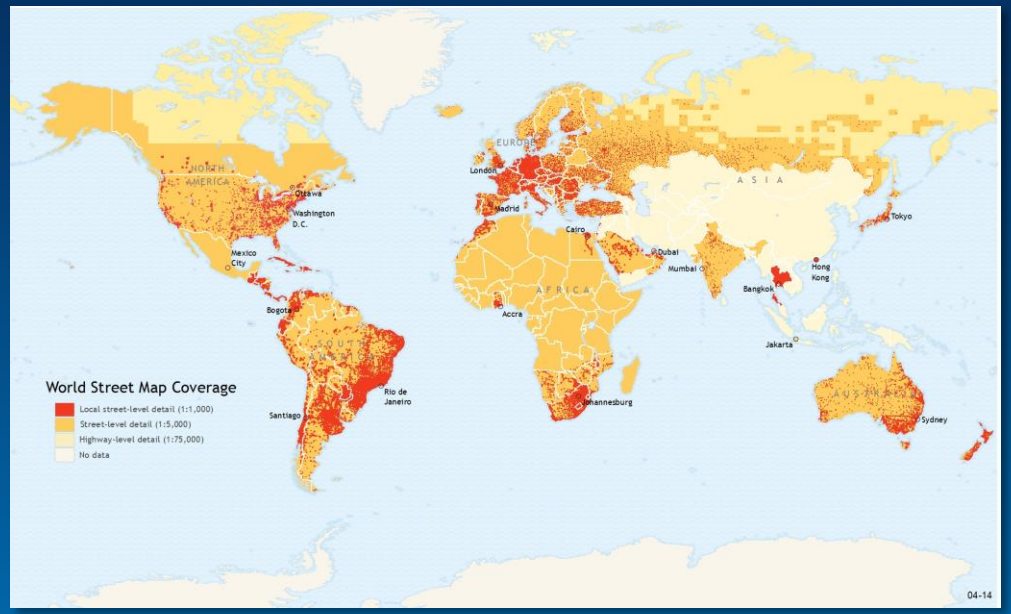


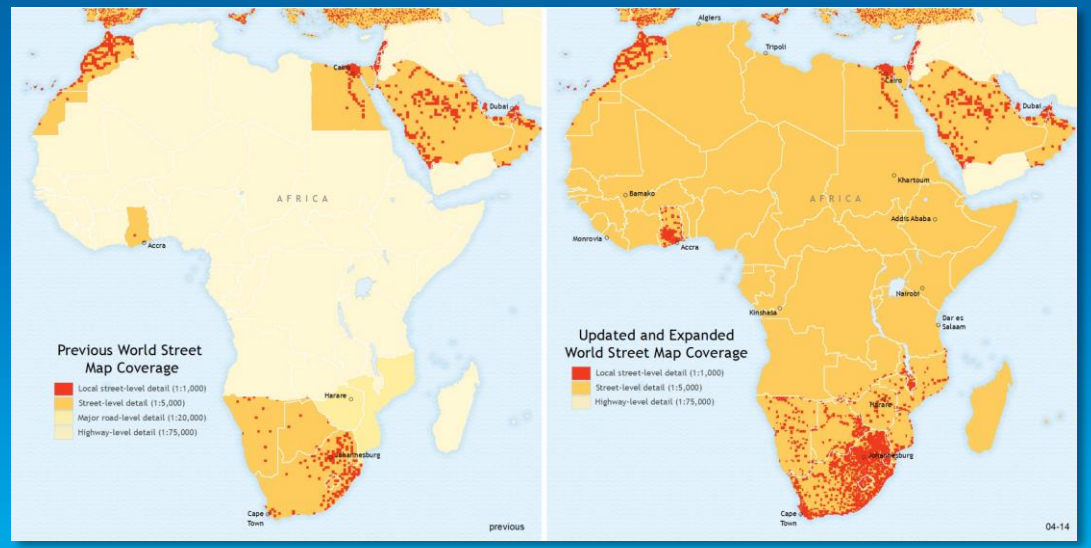
- **Reference and Foundation Maps for the Living Atlas**

Basemaps Going Global

Adding Detail at Large Scales to Complete Global Coverage

- **Global Basemaps**
  - Updating with best available data
  - Expansion of coverage at large scales
    - 1:4k nationwide and 1:1k in urban areas
- **Africa Coverage Expanded Recently!**
  - Featuring OpenStreetMap (OSM) Data
- **North America Updated in June**
- **Europe Updates Planned in Q3**
- **Rest of World to be Added in Q4**
  - Central Asia, Southeast Asia





Recent Enhancements for Basemap Tiles

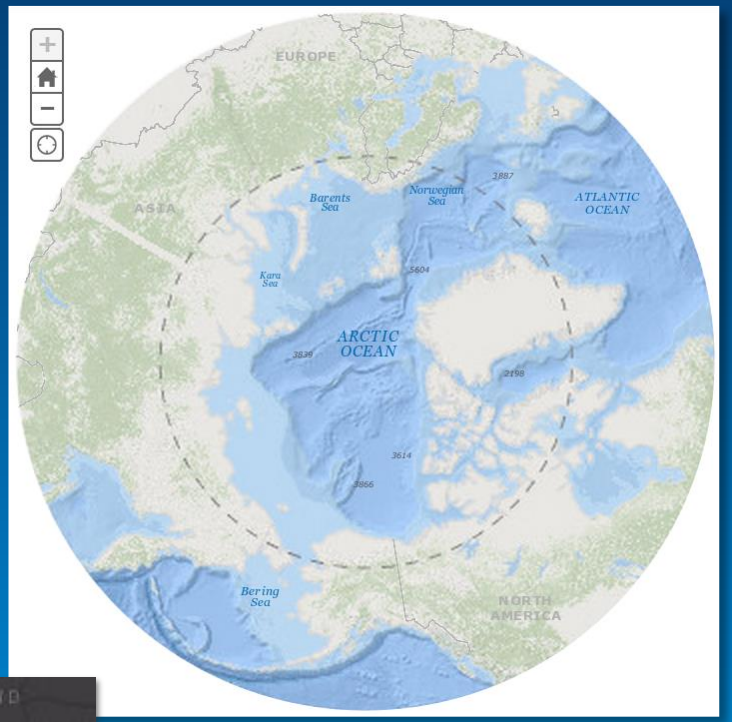
- **Implemented Tile Re-sampling in Web Apps (JavaScript API)**
  - **Greatly reduces "No Data Available" tiles on web**
  - **Displays last available cache at larger scales**

- **Enabled Export of Basemap Tiles**
  - **Supports offline workflows for mobile apps**
  - **Available at no cost with Subscription**

Introducing New Basemaps

Expanding the suite of basemaps to support different maps and use cases

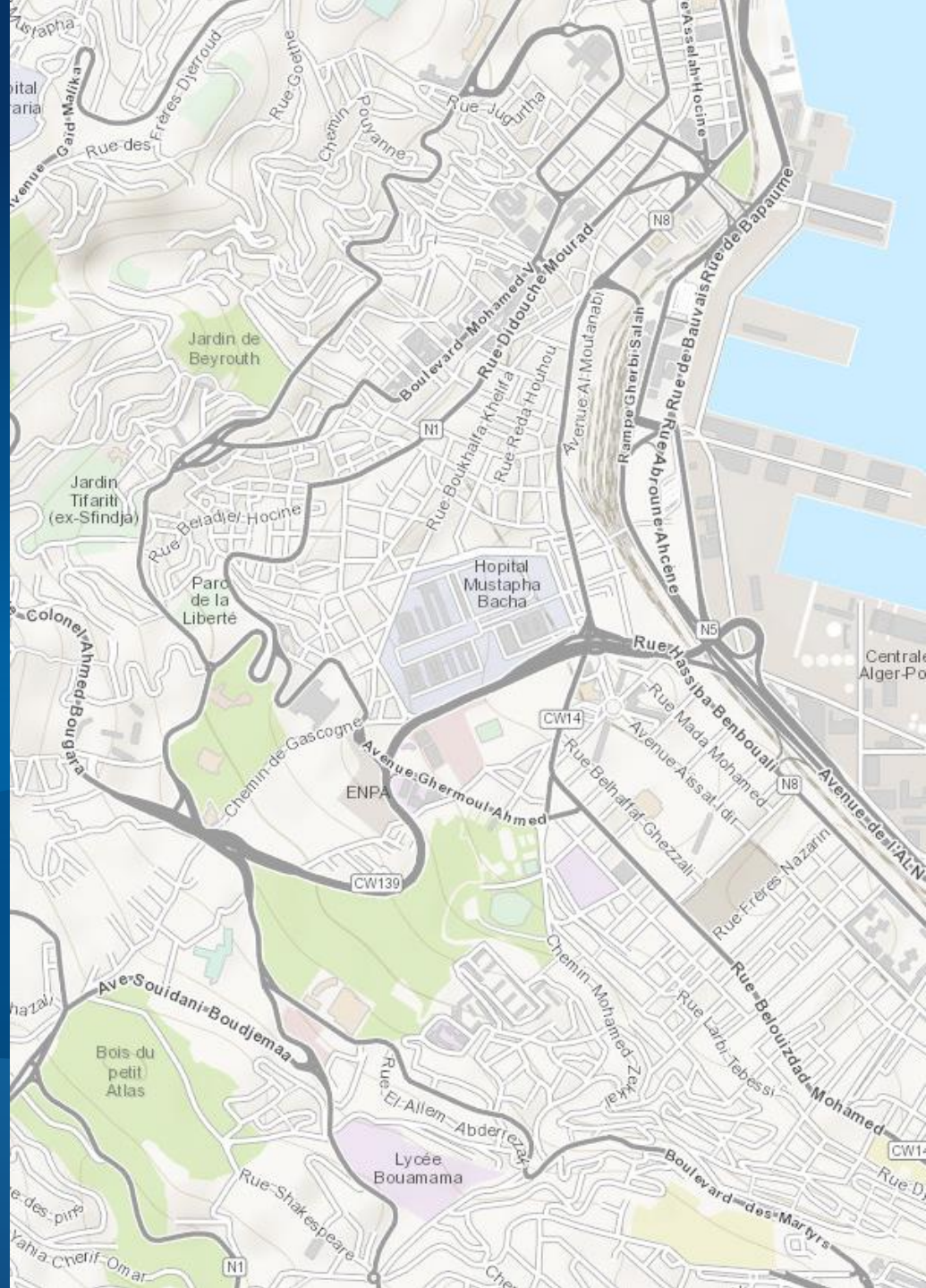
- **New Basemaps in Polar Projection (Beta)**
  - **Arctic Oceans**: ocean basemap for use in polar region
  - **Arctic Imagery**: imagery basemap in same projection
    - Uses standard projection accepted by NOAA, NGA, Oil & Gas
- **Introduce New and Enhanced Map Designs**
  - **Oceans Basemap**: updated with separate overlay layer
  - **Dark Gray Canvas (Beta)**: new background map
  - **Imagery Hybrid (Beta)**: enhanced overlay layer design



Demo

Basemaps

Recent Enhancements



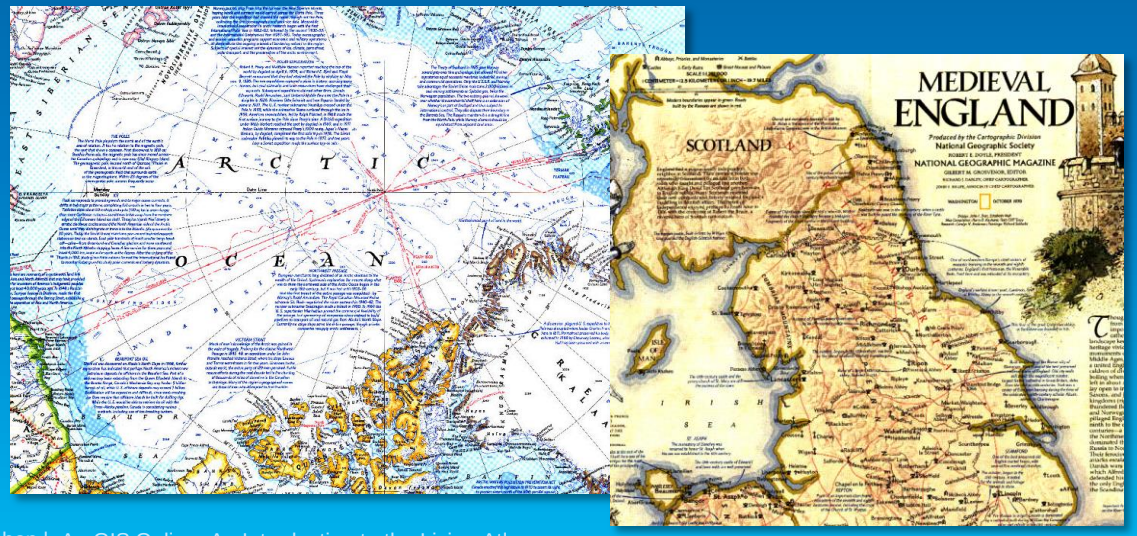
Expanded Collection of Historical Maps

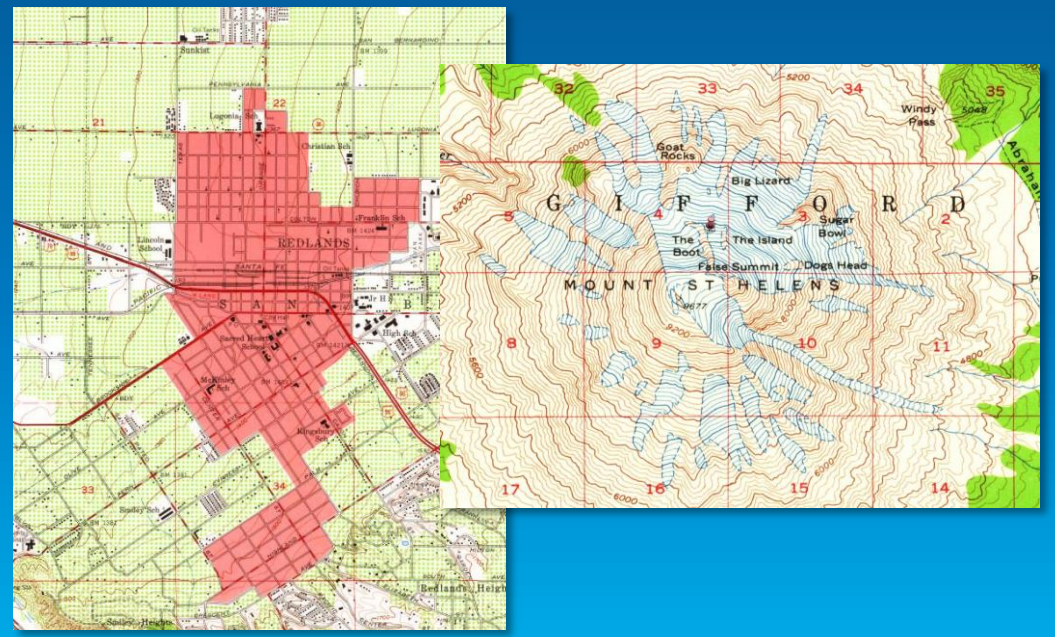
Rich Collection of Beautiful Map Archives published with ArcGIS

- David Rumsey Historical Map Collection

- USGS Historical Topographic Maps

- National Geographic Historical Map Archive

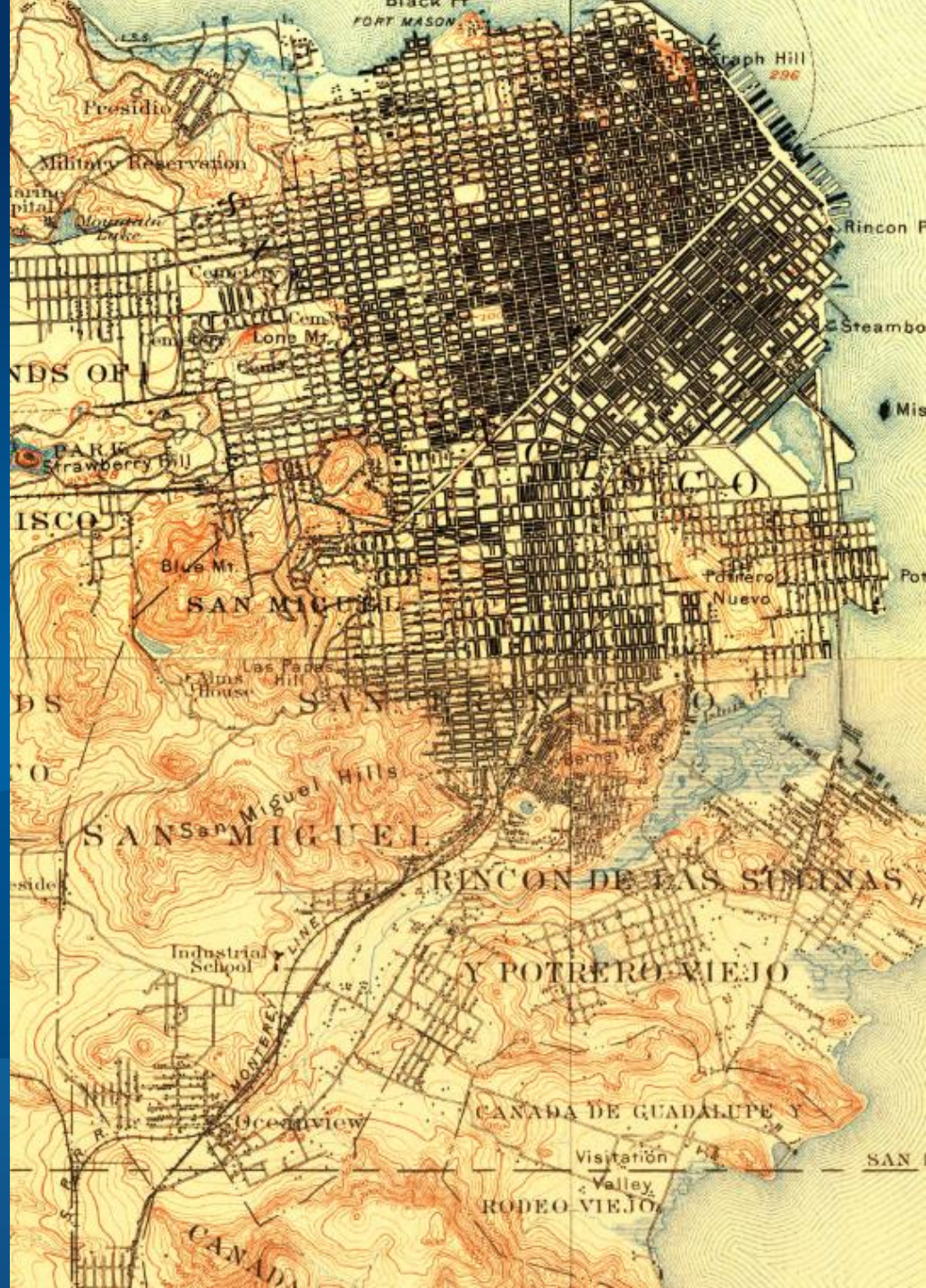




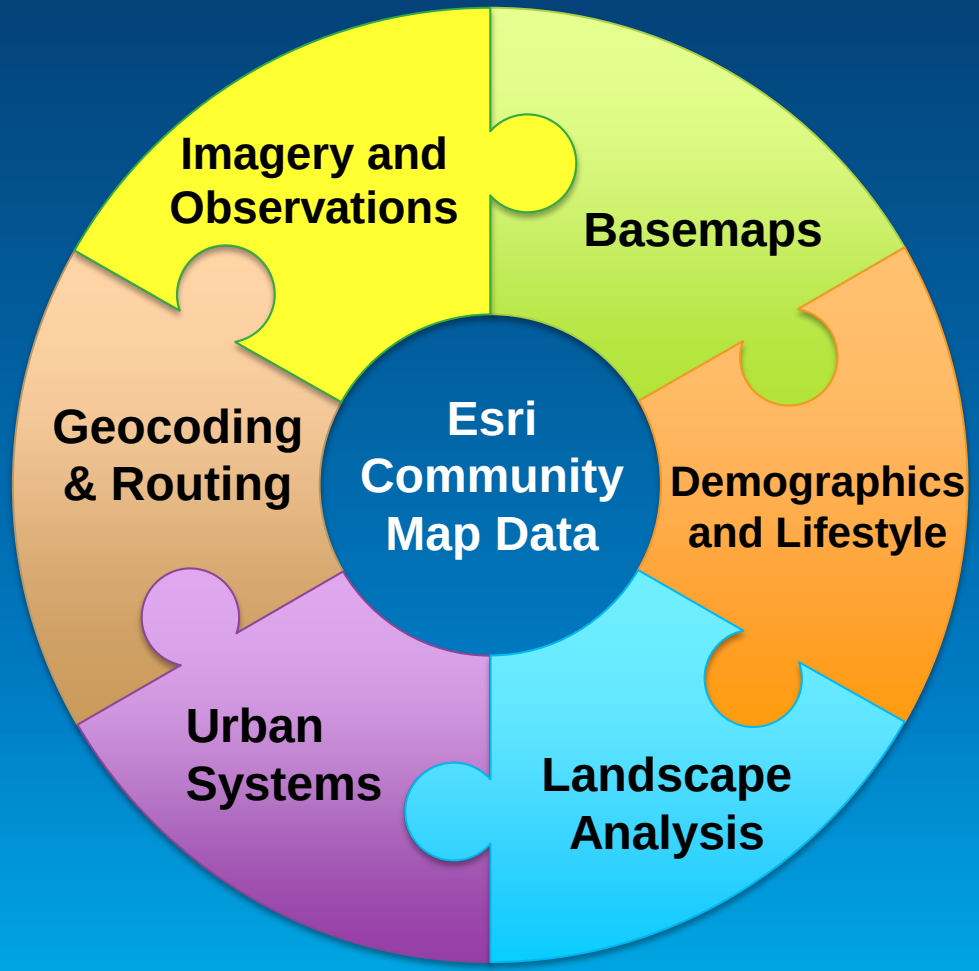
Demo

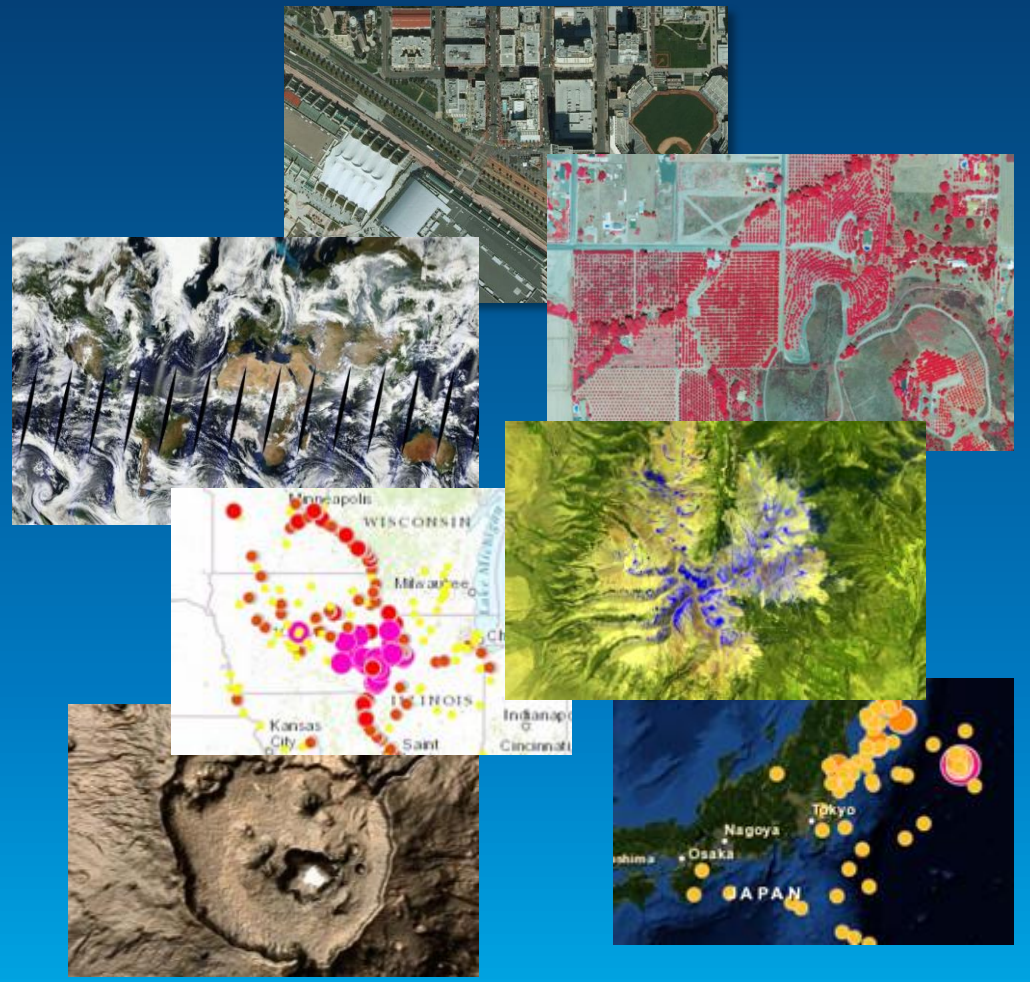
Historical Maps

New Additions to the Collection



Esri Content Portfolio for Imagery



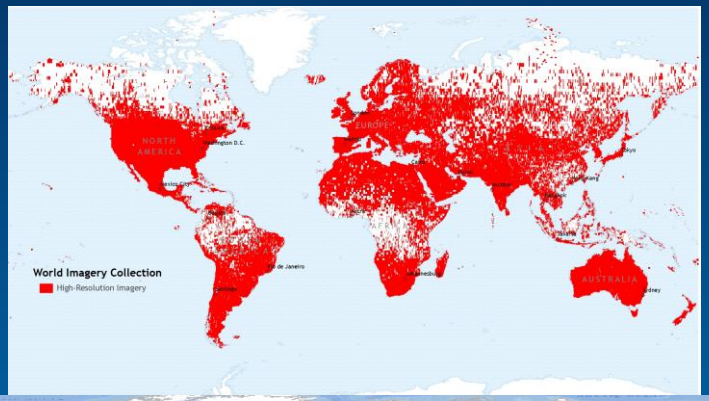


World Imagery

Current Status and Plans for 2014

- **Completed Deployment of DigitalGlobe Imagery**
  - Updates also include user community contributed content
- **Updated Small-to-Medium Scale Imagery**
  - Earthstar TerraColor (15m) and Airbus SPOT (2.5m) imagery
  - Update down to 1:72k level is available now!
  - Selected areas in Europe and Canada down to 1:9k

Current Hi-Res Coverage



- **Continue Updating & Expanding World Imagery Coverage (Q3-Q4)**
  - Expand and update large-scales with high resolution Airbus imagery (2.5m and 0.5m)
  - Publish new imagery provided by user community (e.g. update USA with latest NAIP)

Demo

World Imagery

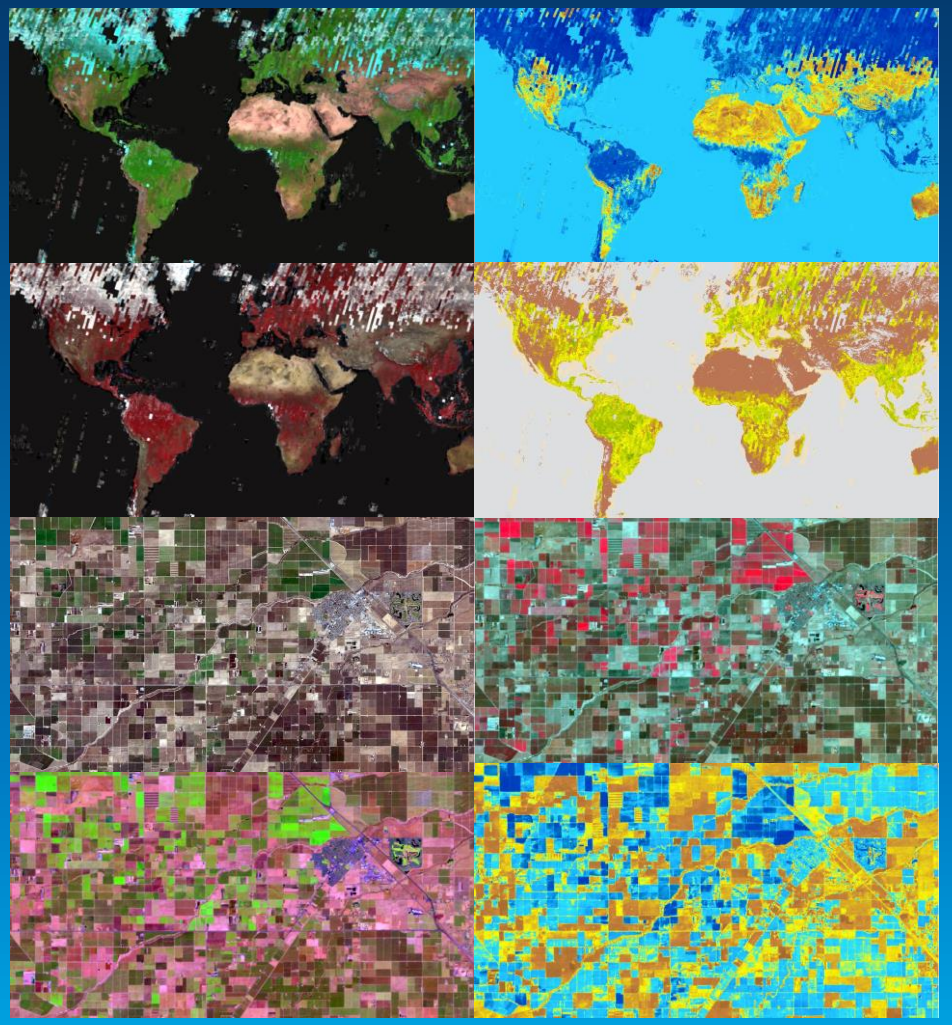
Recent Enhancements

Landsat 8 Imagery

Global 15m imagery for regional land analysis

- **Global: Multi-temporal, Multi-spectral**
- **New scene every 16day (cloud permitting)**
- **5 Latest best scenes for whole world**
- **Update daily with approx. 400 scenes**
- **Available with ArcGIS Online Subscription**

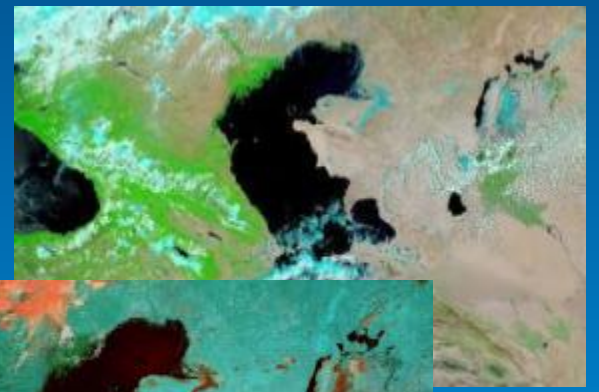
- **Landsat GLS Imagery also Available**
  - **Multi-epochs available from 1975 to 2010**

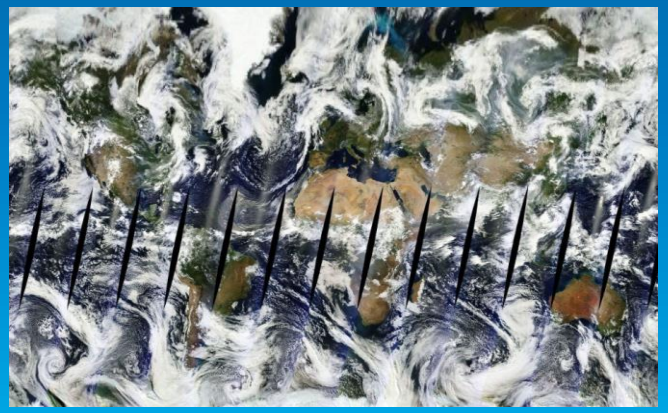


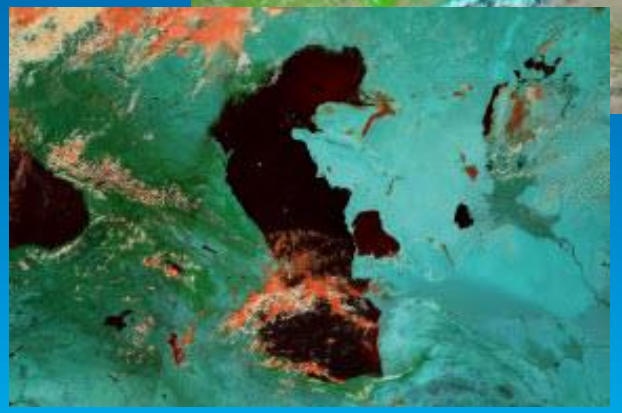
MODIS Imagery

Global 250m imagery layers to support visualization and analysis

- **Image Layers referencing NASA Global Image Browse Services**
  - **GIBS are a set of standard services to deliver global satellite imagery**
  - **Esri will serve the highest resolution and most used info products**
  - **Global imagery updated daily**
    - **Near real time, less than 3 hours latency after capture**
  - **Geographic and Polar Stereographic data**



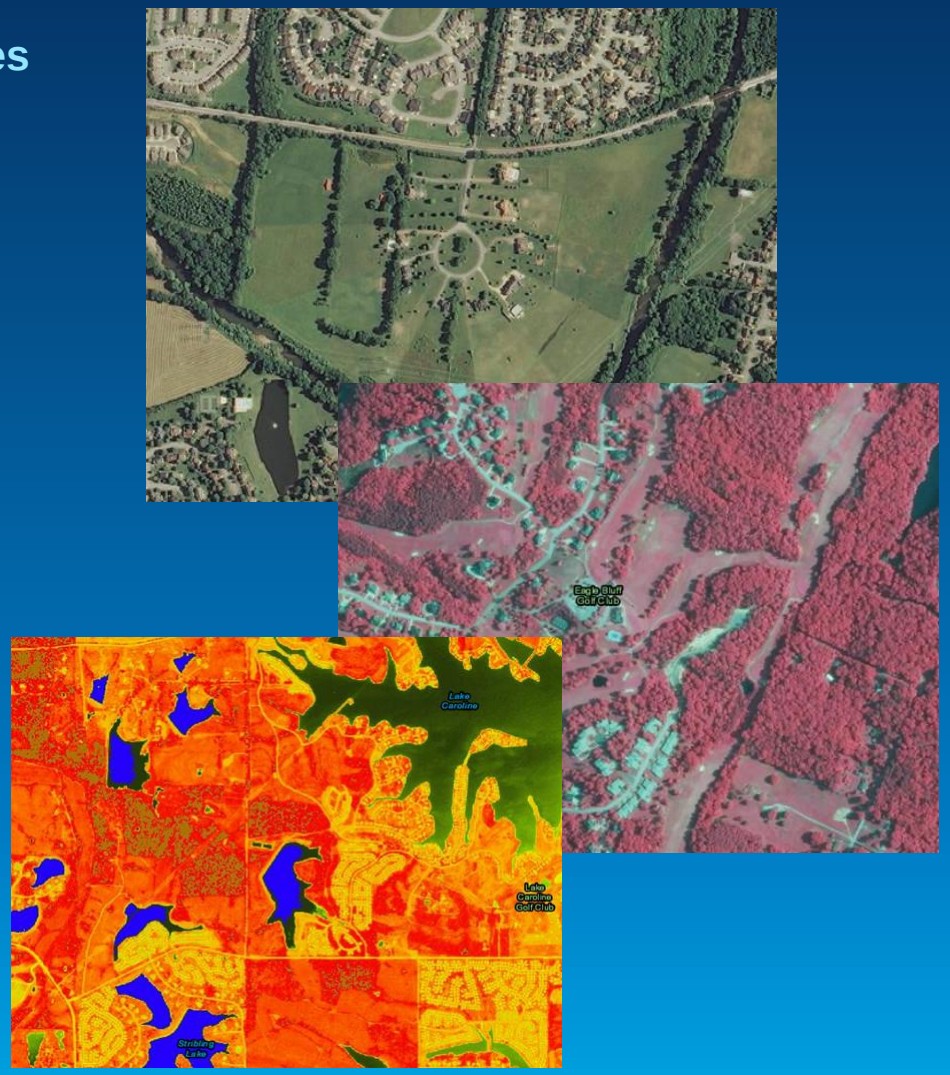




NAIP Imagery

Nationwide 1m resolution imagery for the Continental United States

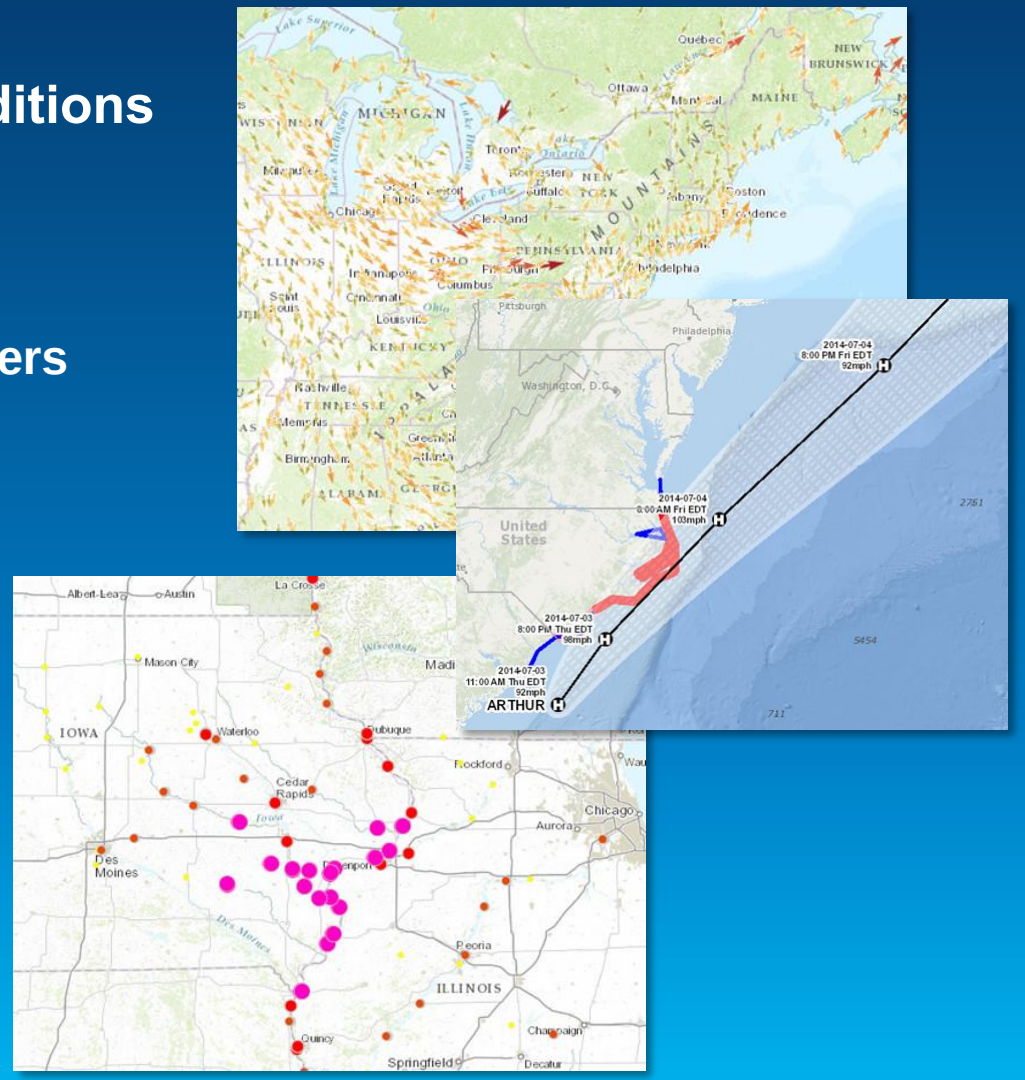
- Nationwide Image Service
- Imagery available for the Past 3 Years
  - Currently NAIP 2010-2012
  - Will be updated annually (NAIP 2013 in Q3)
- Multi-band (4-band) Imagery
  - Supports Natural Color, False Color, NDVI
- Available with ArcGIS Online Subscription
  - Currently available in Beta release



Earth Observations: Live Feeds

New Live Feeds maps and layers added to the Earth Observations Collection in the Living Atlas

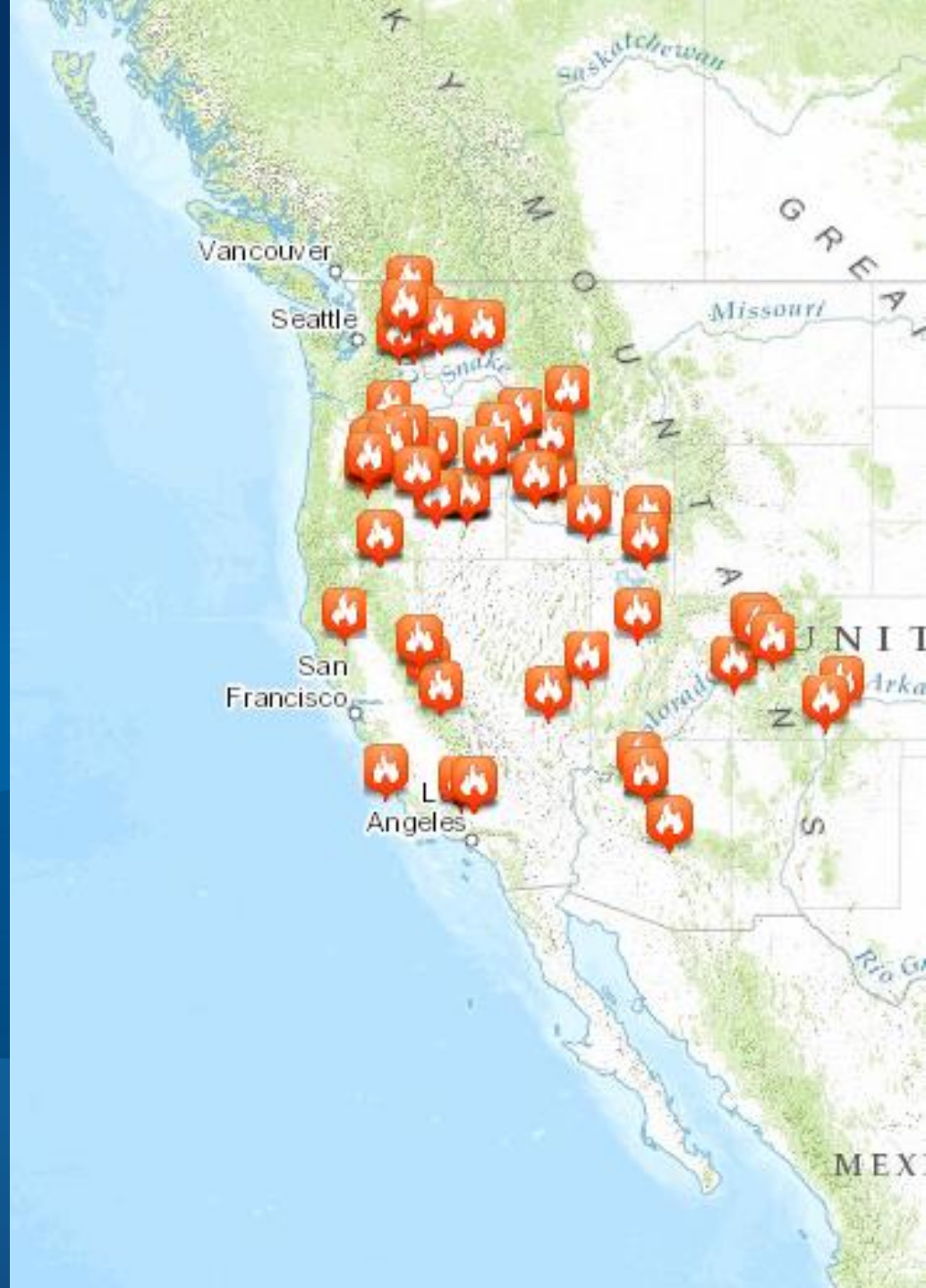
- Map Layers that Describe Planet's Current Conditions
- Updated Frequently with Latest Data
- Best Available Data from Multiple Sources
  - USGS, NOAA, NASA: available as ready-to-use layers
- Initial Set of Map Layers
  - Active Hurricanes, Recent Hurricanes
  - Current Wind & Weather Conditions
  - MODIS Thermal Activity, USA Wildfires
  - USA Weather Warnings, USA Stream Gauges
- Available with ArcGIS Online Subscription
  - Currently available in Beta release



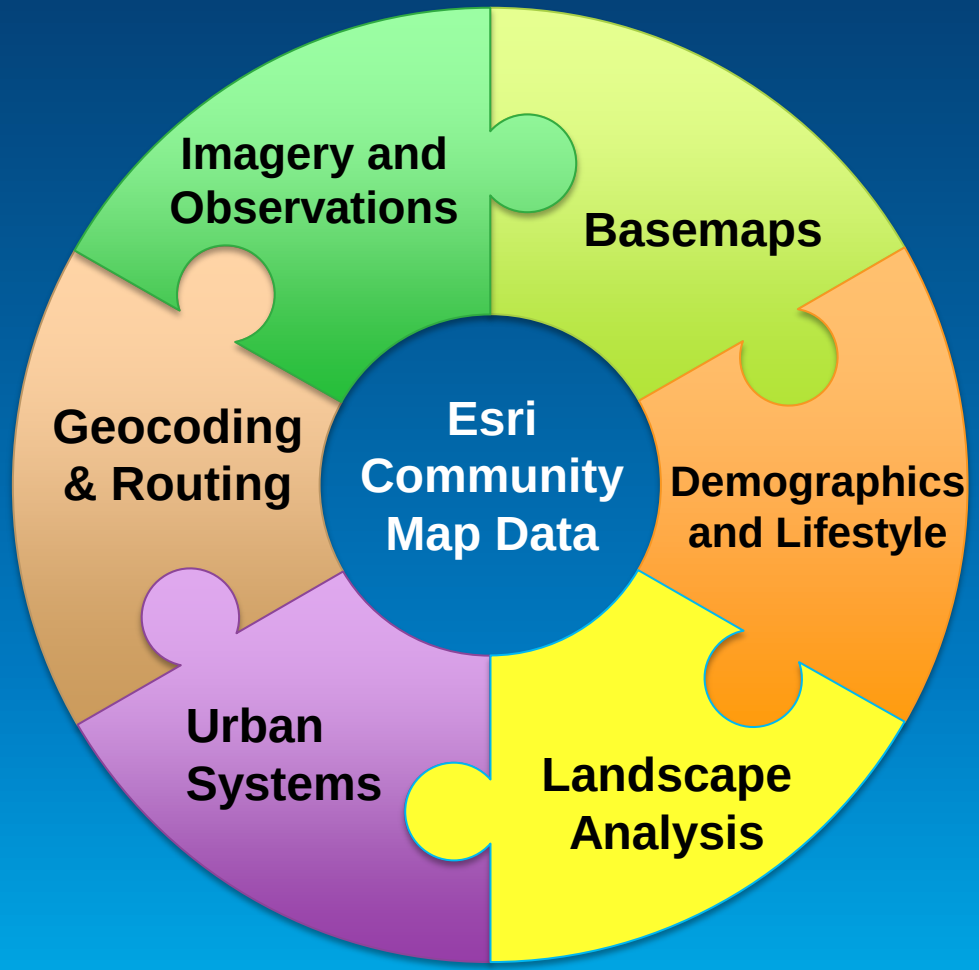
Demo

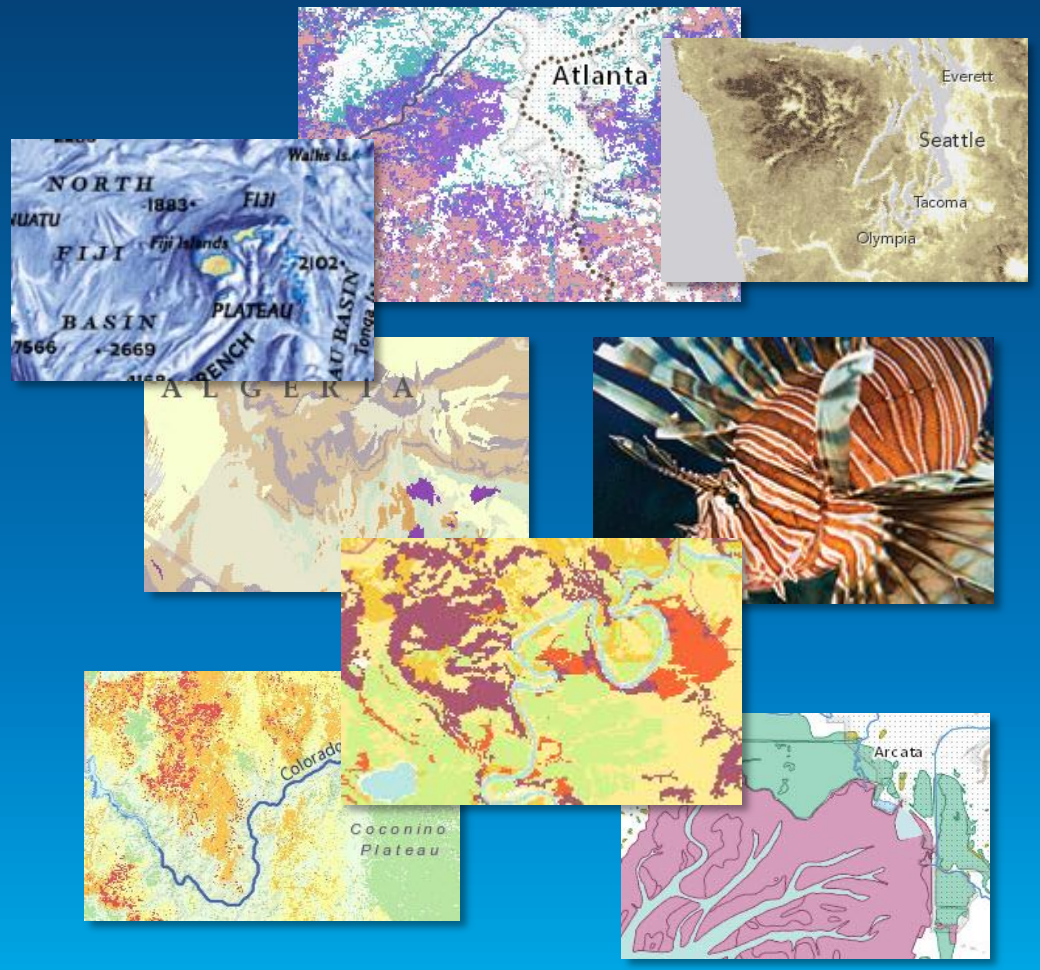
Earth Observations

New Live Feeds



Esri Content Portfolio for Landscape Analysis

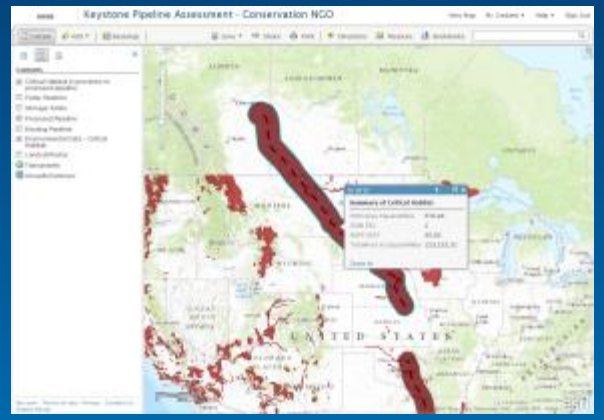




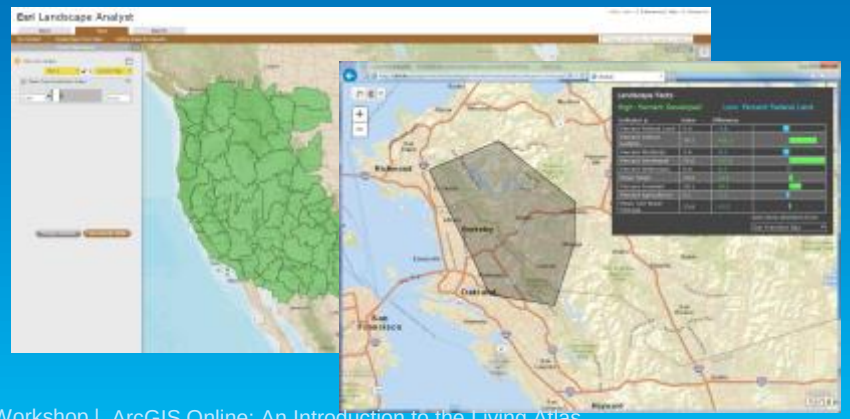
Landscape Analysis Layers

Ready-to-use for visualization and analysis of earth's landscape

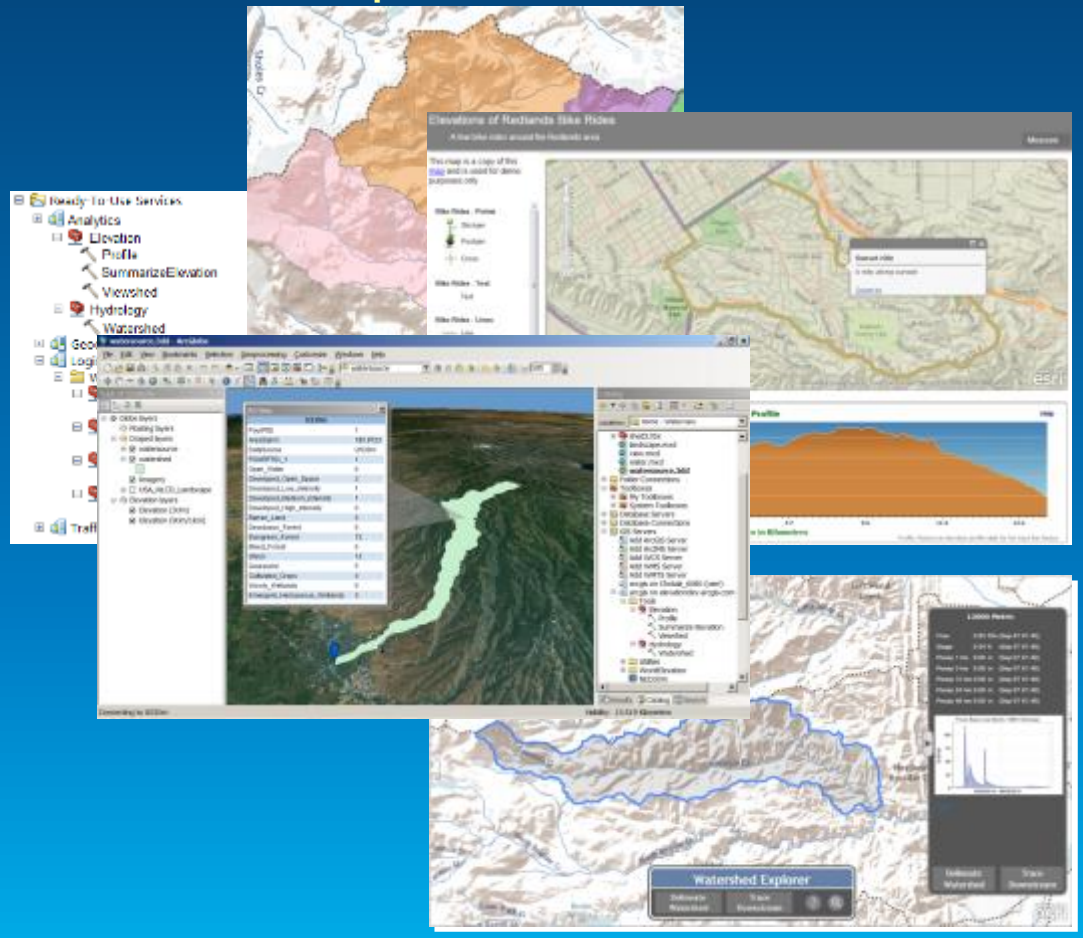
Online Analytics



Location Analytics
Landscape Infographics
and Data Enrichment



Online GP Tools
Desktop and Online



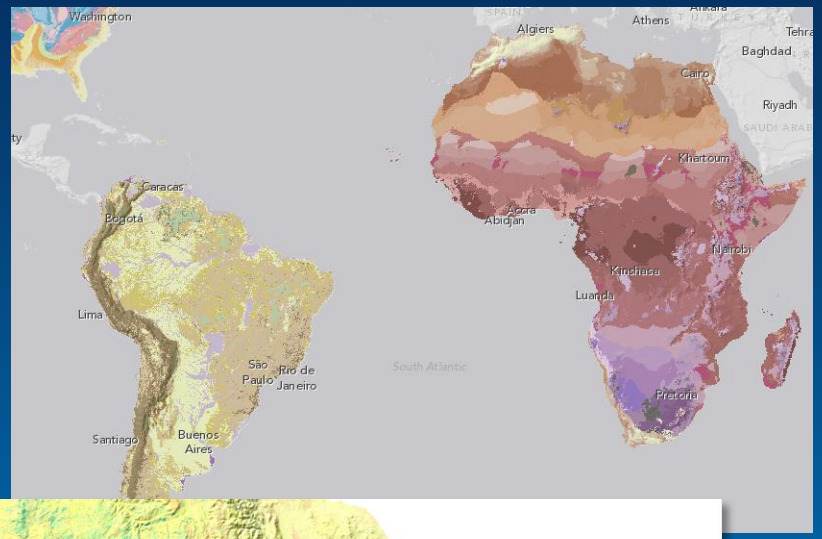
Landscape Analysis Layers: What's New

Ready-to-use content for visualization and analysis of earth's landscape

- **End of Beta Period for USA Landscape Layers**
  - Will update layers as appropriate (e.g. Soils)
  - Recent updates for NLCD, GAP Ranges, Soils SSURGO

- **Recently Published 10+ New International Layers**
  - Content for Africa and South America to start
  - Terrestrial Ecosystems, Land Surface Forms, Ecological Facets, etc.

- **Road Ahead: Provide More Original Content**
  - Ecological Land Classification for the Globe
  - New Global Landcover derived from Landsat 8

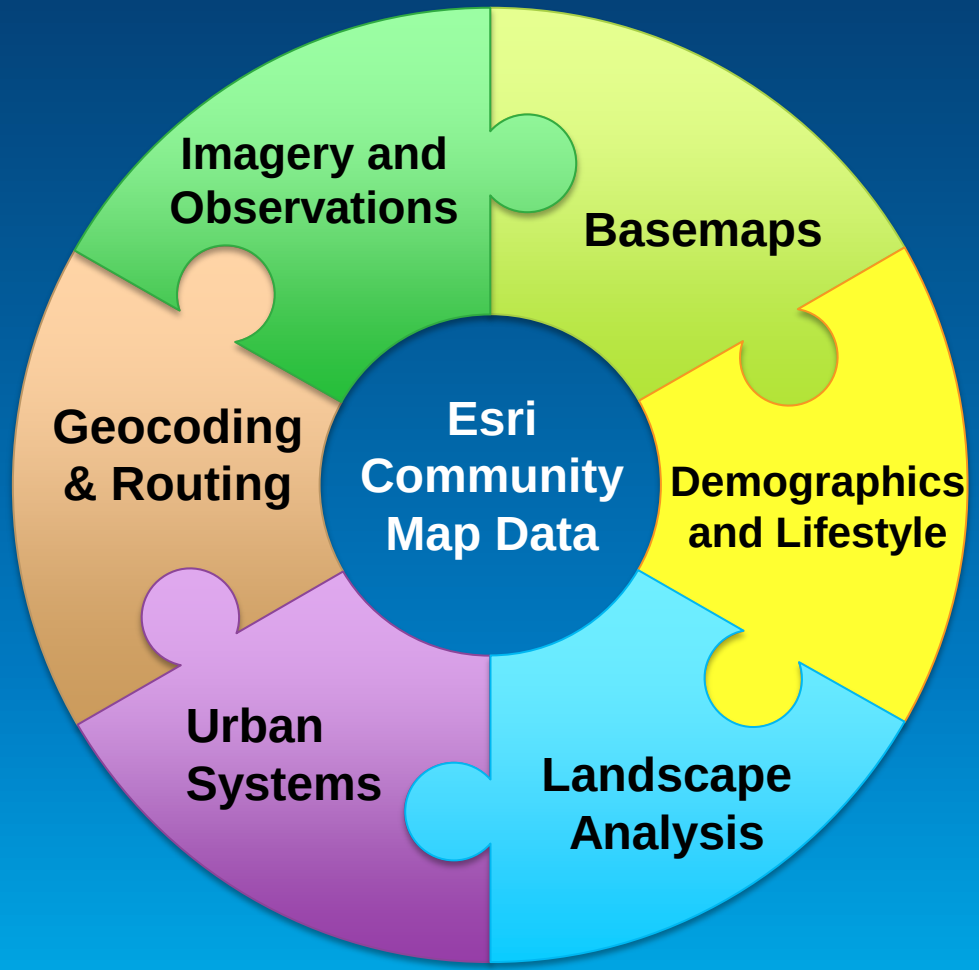


World Elevation Layers: What's New

Ready-to-use content for visualization and analysis of earth's surface

- **End of Beta for Elevation Layers**
  - Recent updates (SRTM 4.1, EarthEnv-DEM90)
  - New Multi-Directional hillshade
  - Community contributions now being accepted
  - Public sources are updated as new DEM's come available
- **New community contributed content**
  - USA - FEMA Lidar DTM
  - International - Denmark, Finland, Norway, and Great Britain
- **Road Ahead:**
  - Expanded high-resolution coverage through community contributions
  - New Analysis Layers – Curvature and Roughness
  - Elevation integration into 3D

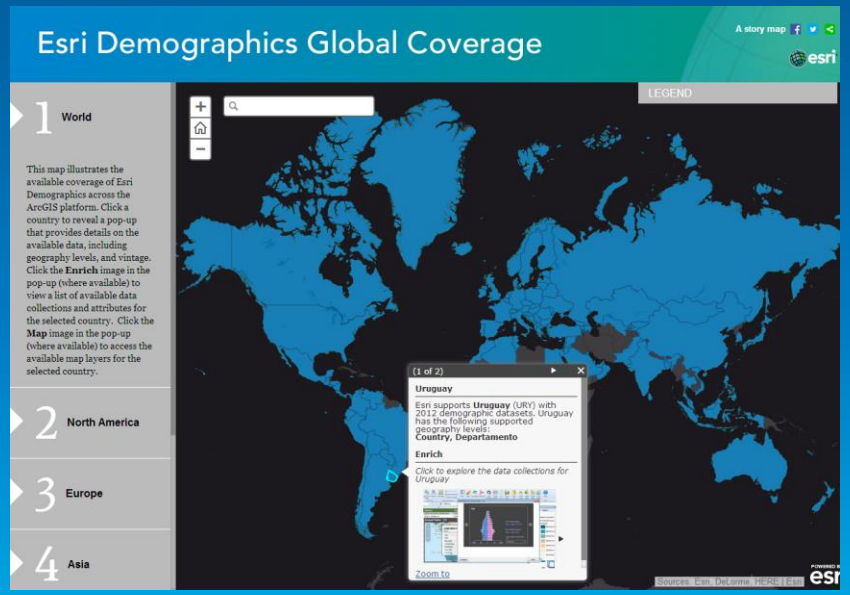
Esri Content Portfolio for Demographics and Lifestyle



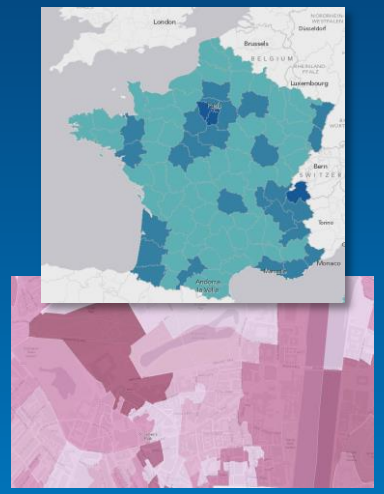
Demographics and Lifestyle Data

New layers and tools available for use in ArcGIS Platform

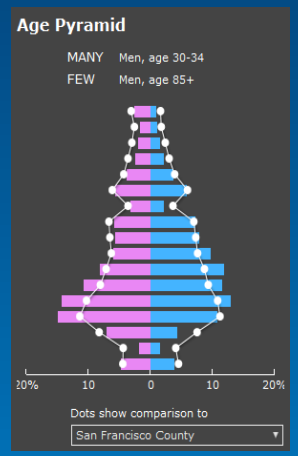
- **Previously Available only in Business Solutions**
  - Business Analyst Online, Community Analyst
- **Now Deeply Integrated into the ArcGIS Platform**
  - Mapping, Infographics, Data Enrichment, Reporting
  - Available with an ArcGIS Online Subscription
- **Building a Global Solution**
  - Foundation Data for over 120 Countries now available!
  - More Detailed Data for Selected Countries
    - South Korea released this month; more to follow …
- **USA 2014/2019 Updates Now Available!**
- **New USA Tapestry Segmentation System Available!**



Demographic Data Accessible in Four Ways



Maps



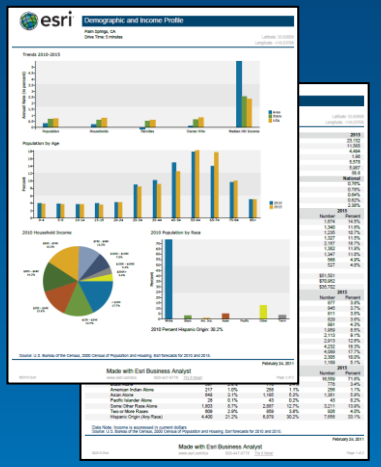
Infographics

Address	City
123 S Main St	Fairfax

+

Median Age	Tapestry Segment	Median Income
32.4	Laptops & Lattes	$77,018

Geographic Data Enrichment

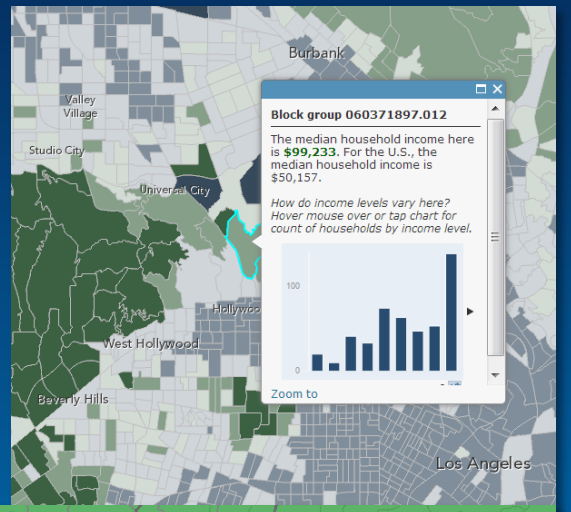


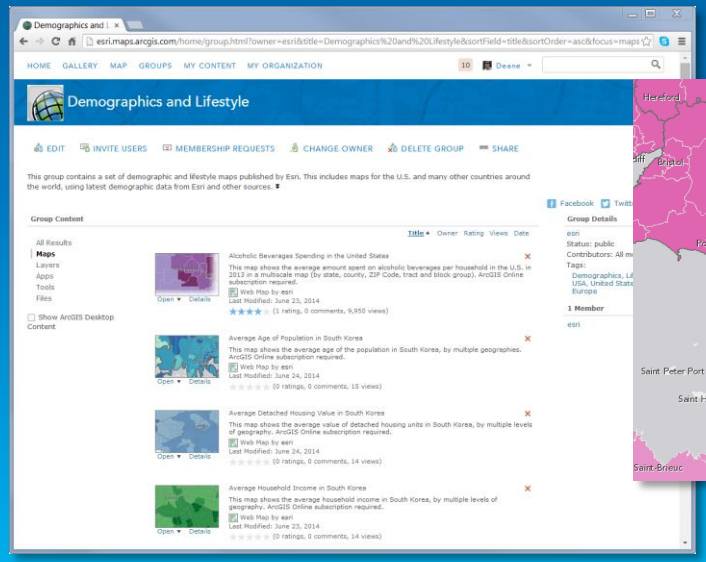
Reports

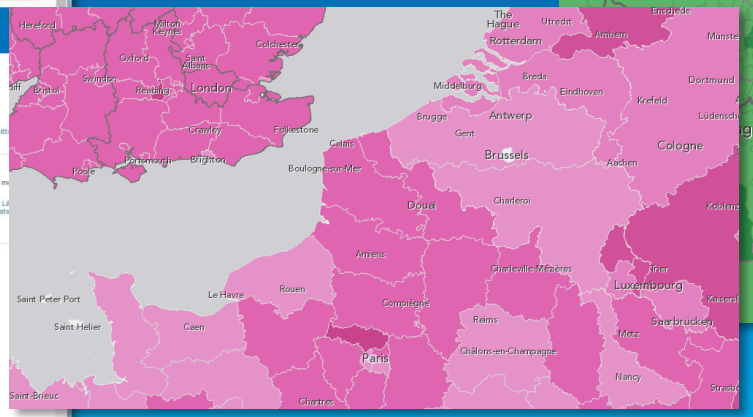
Demographic Maps

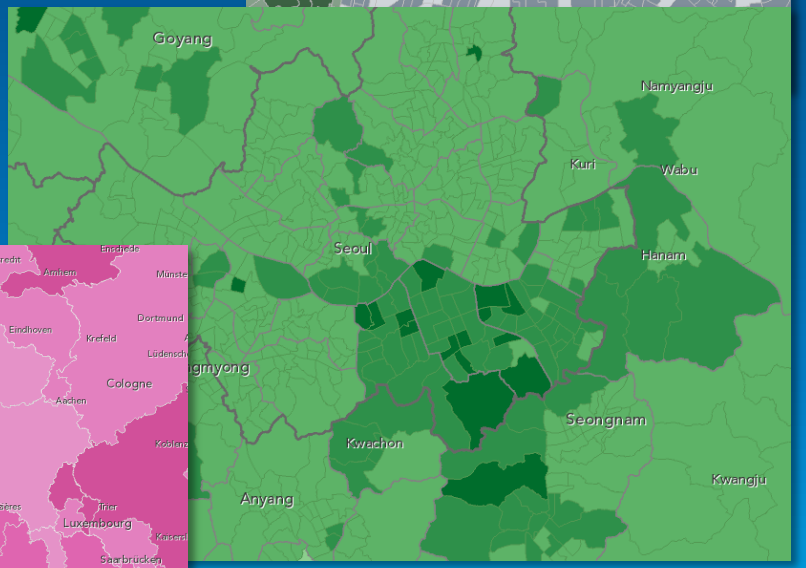
Collection of Ready-to-use Maps and Layers

- Data for Multiple Themes
  - Demographics, Lifestyle, Spending, Business
- Include Popups
- Configurable: customize symbols or popups
- Access via “Demographics and Lifestyle” Group

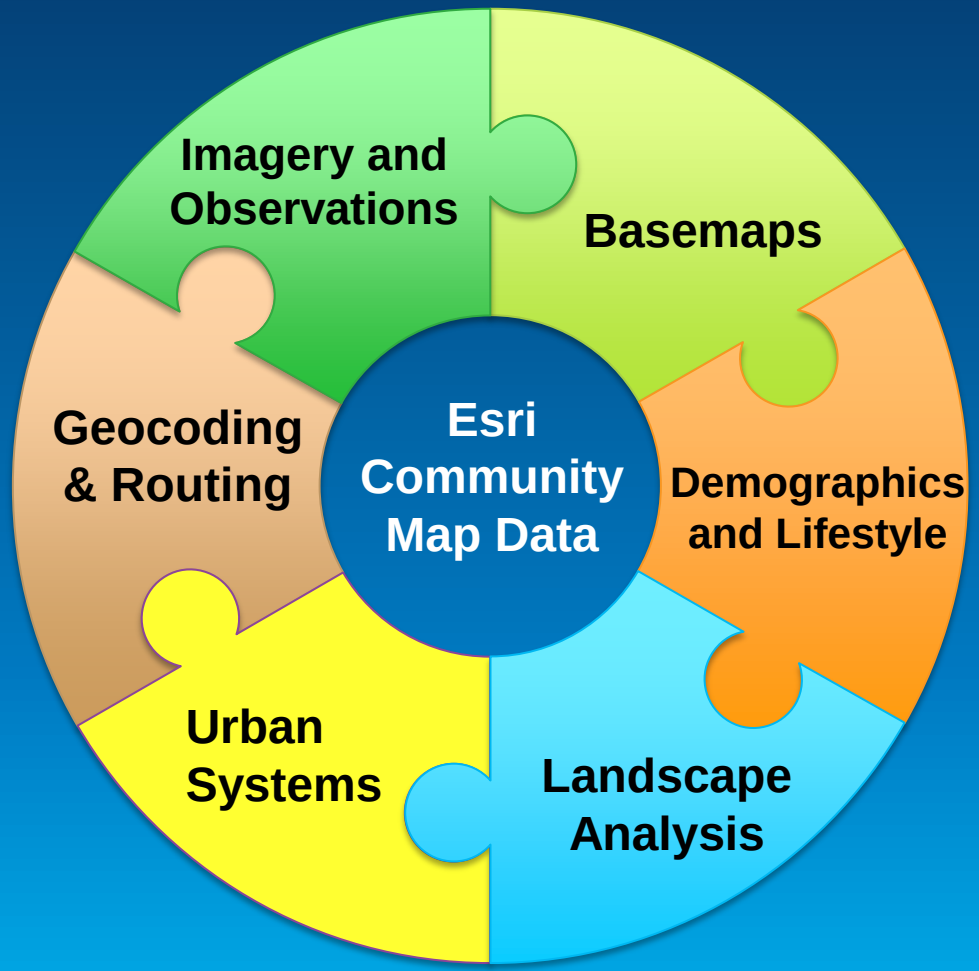


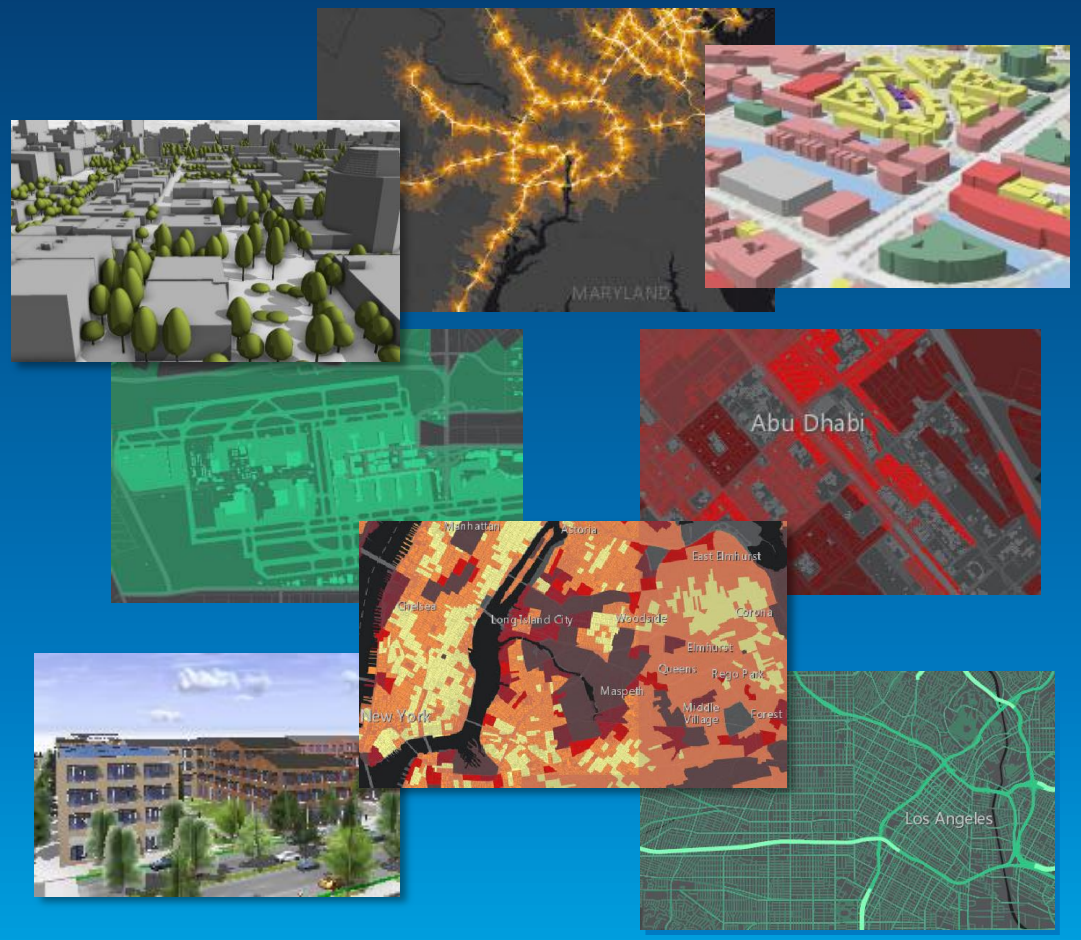






Esri Content Portfolio for Urban Systems



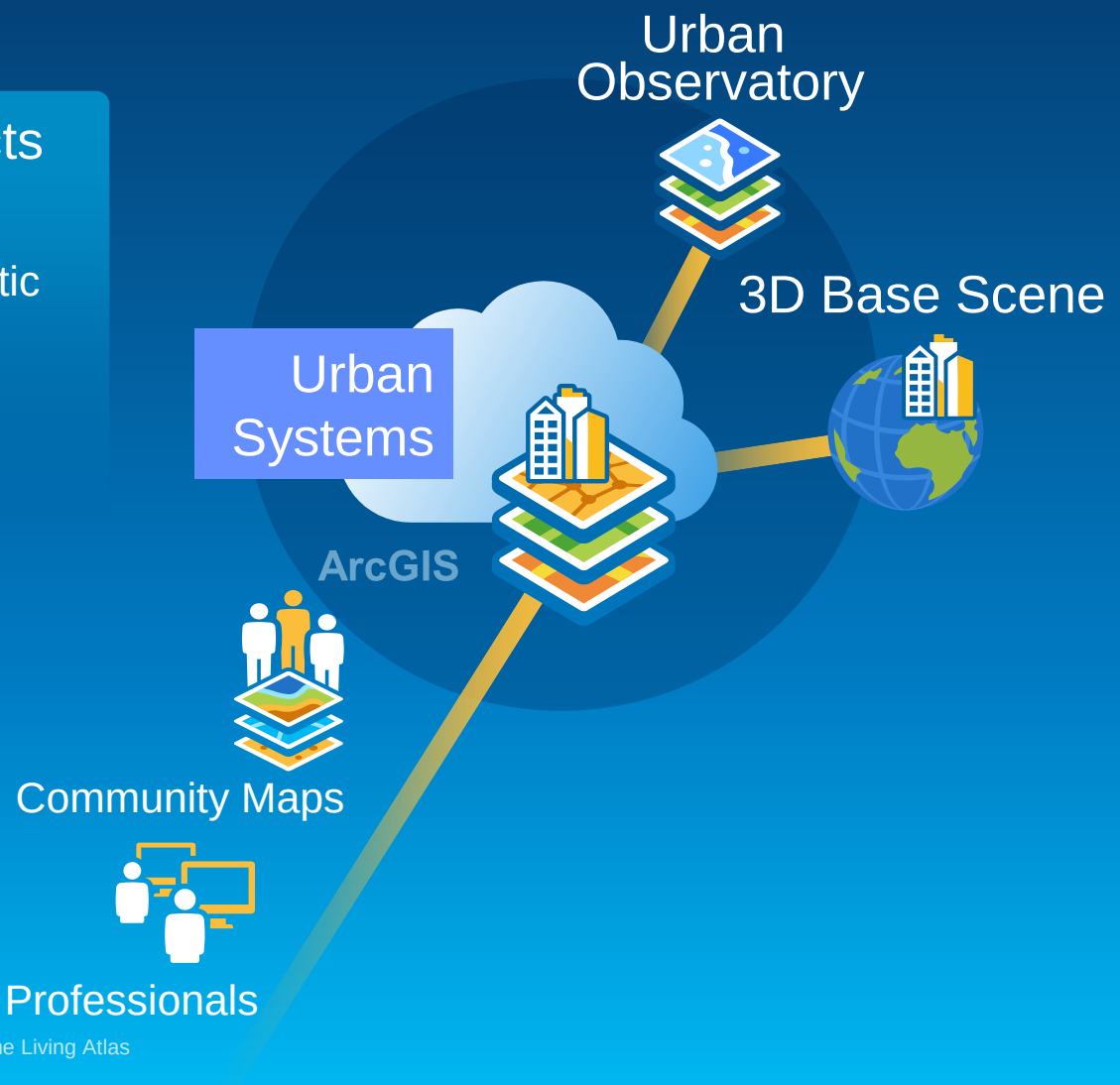


Urban Systems

Provides the critical information needed to understand our cities and their systems

Information Products

- 3D Base Scene
- Operational + Thematic Maps Layers

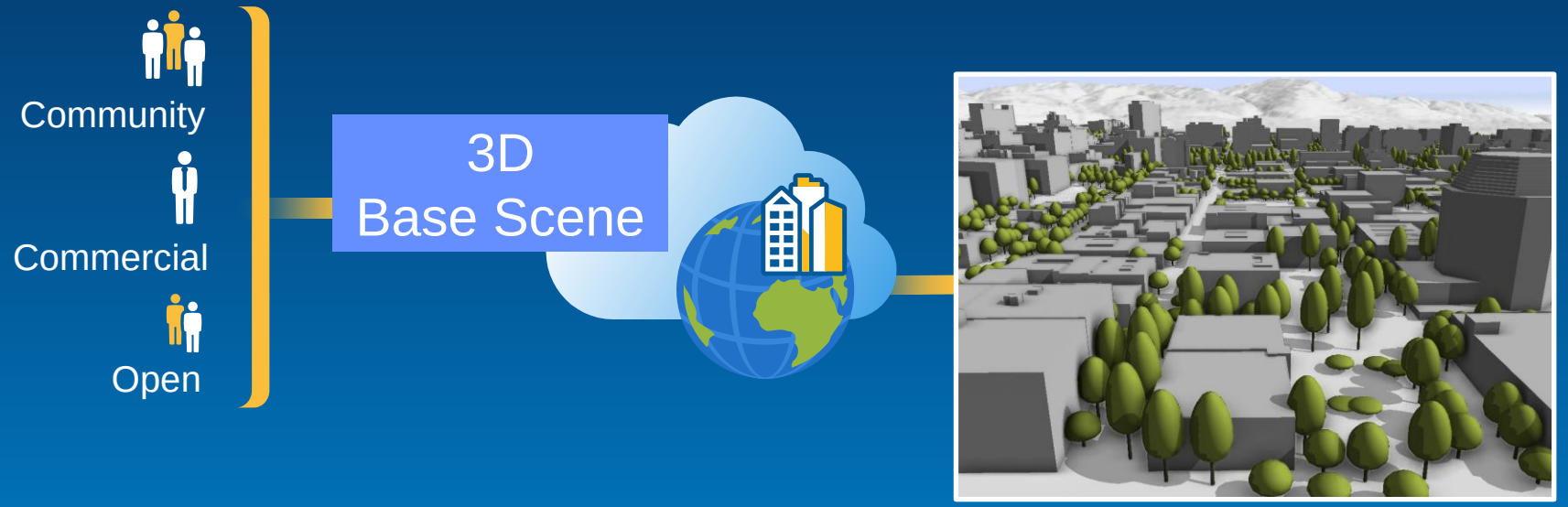


Key Map Layers

Parcels
Buildings
Addresses
Campuses
Utility Networks
Zoning/Land Use
Indoor Plans
Admin Boundaries
Transportation
Terrain

3D Base Scene

Supporting your work in 3D



Multi Scale:

- Global
- Regional
- Local
- Campus

Visualize New Development

Understand Zoning Regulations

Manage Campuses

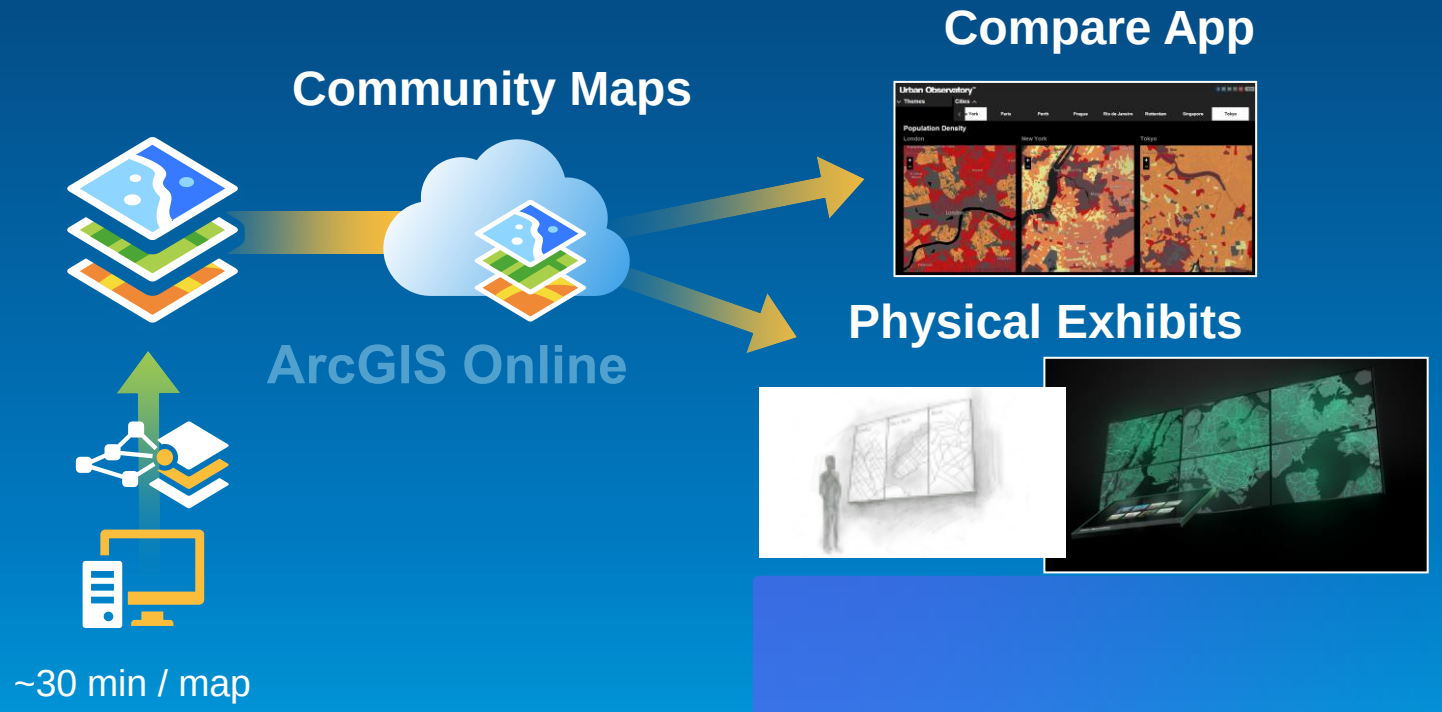
Manage Public Safety

Conduct 3D Analysis

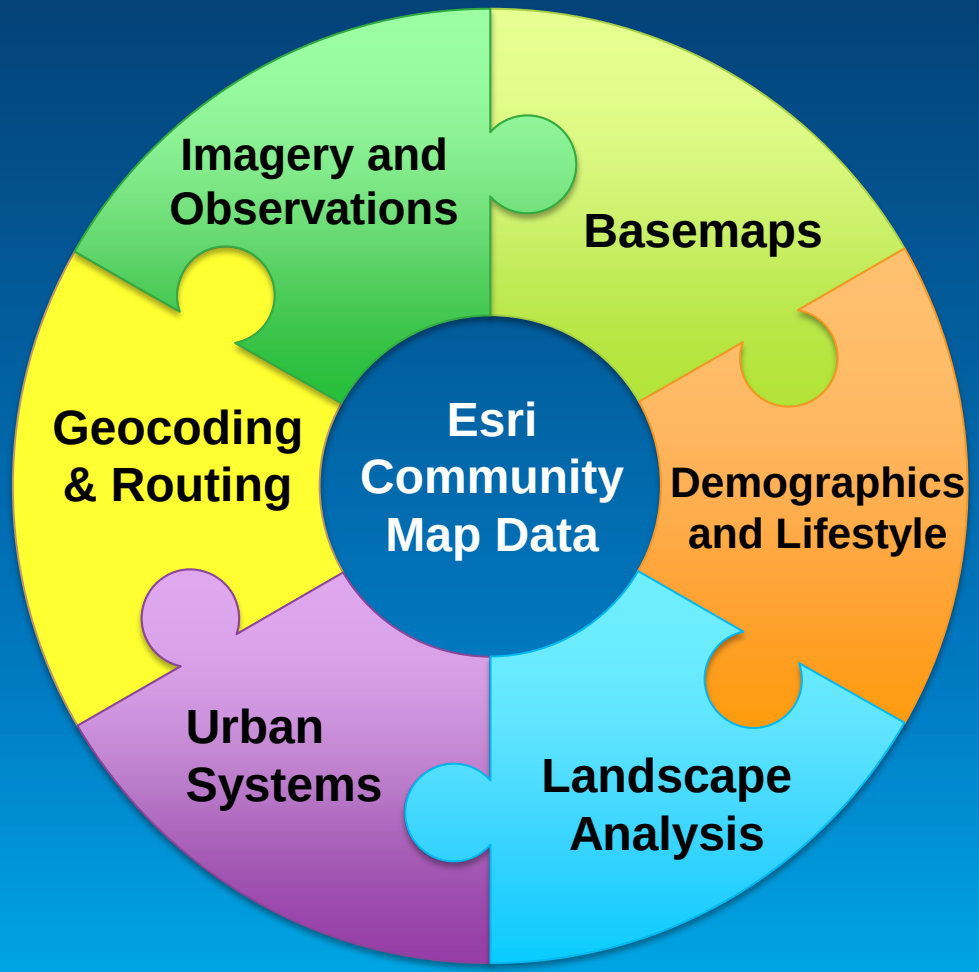
Urban Observatory

A live museum with a data pulse

- **Allows visualization and comparison of specific urban themes across multiple cities around the world**



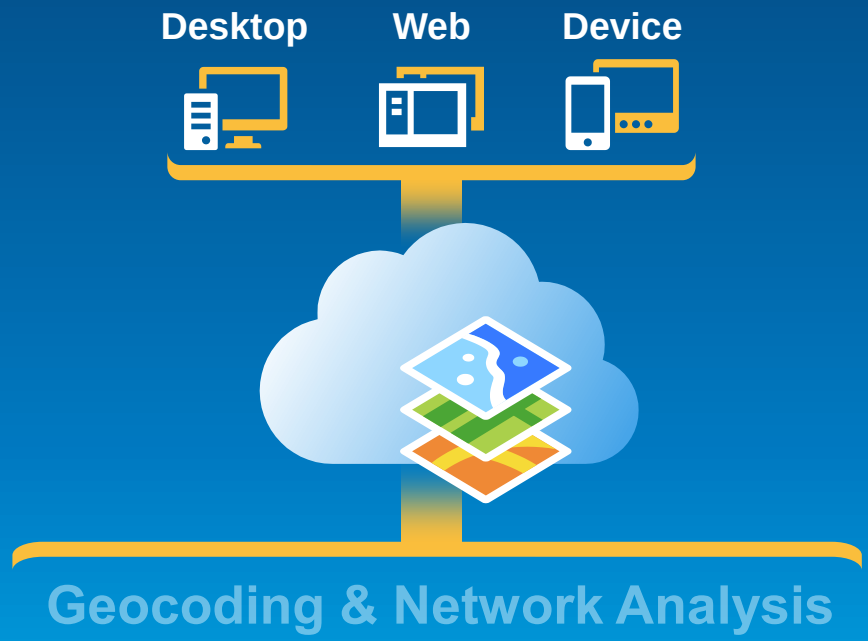
Esri Content Portfolio for Geocoding & Routing



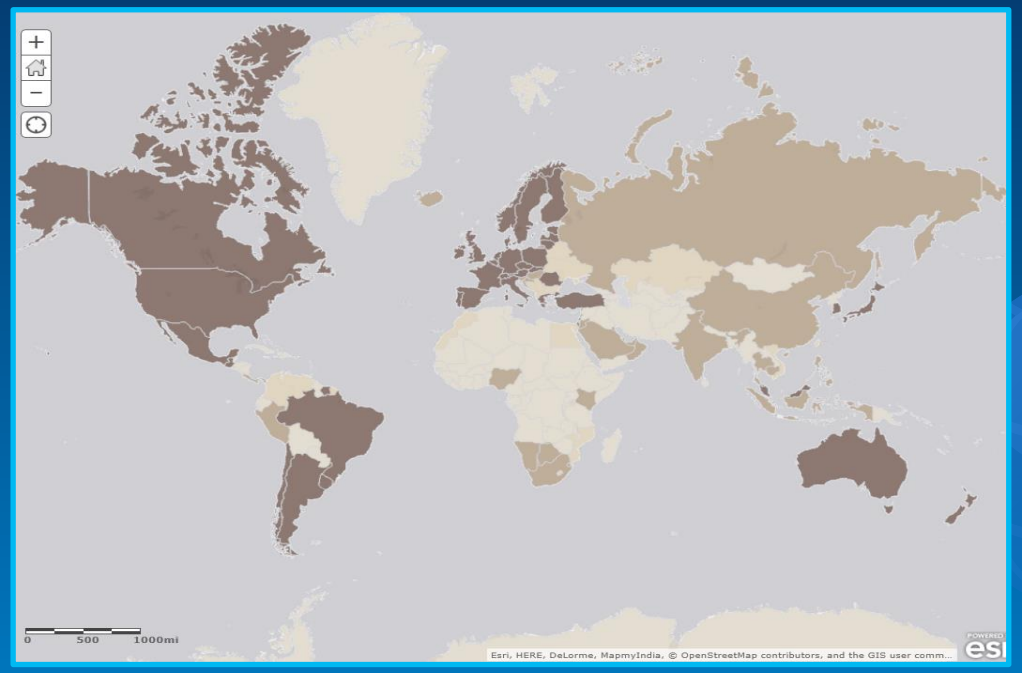
Geocoding and Network Analysis

Essential analytical services that are available in the ArcGIS Platform

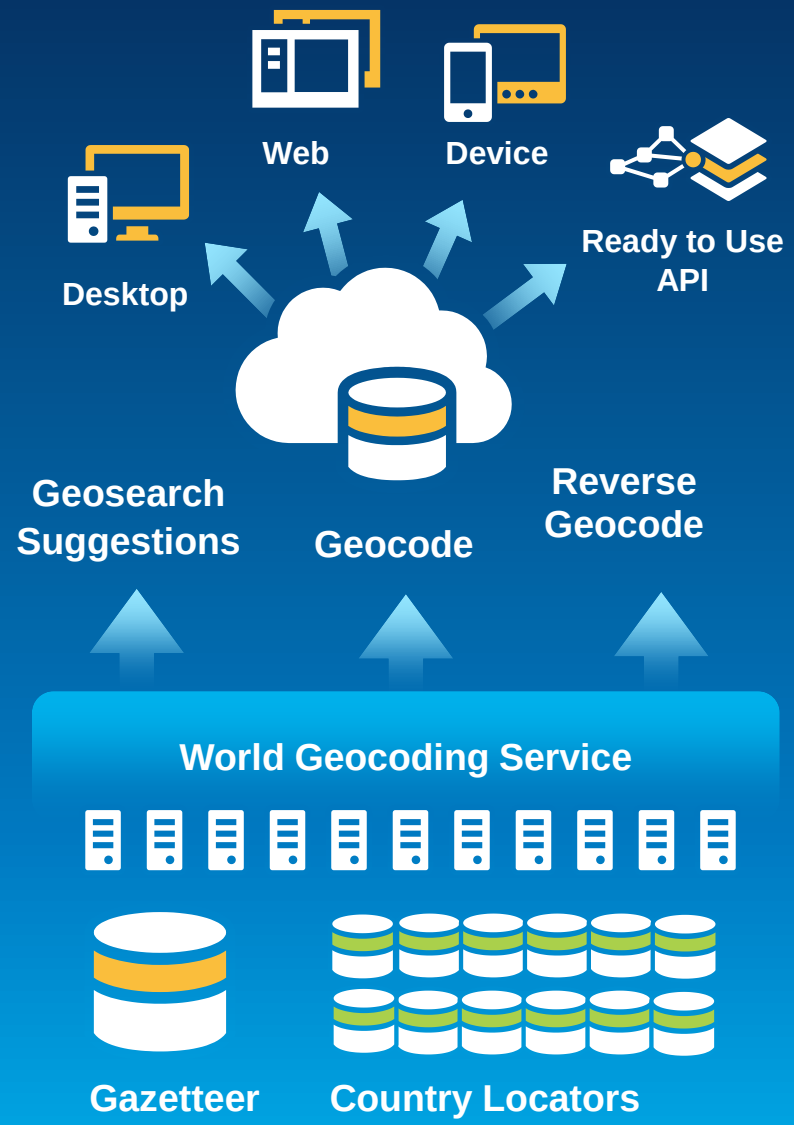
- **Integral Part of the ArcGIS Platform**
- **Built-in to ArcGIS Applications**
- **Available for use in APIs and SDKs**



World Geocoding Service

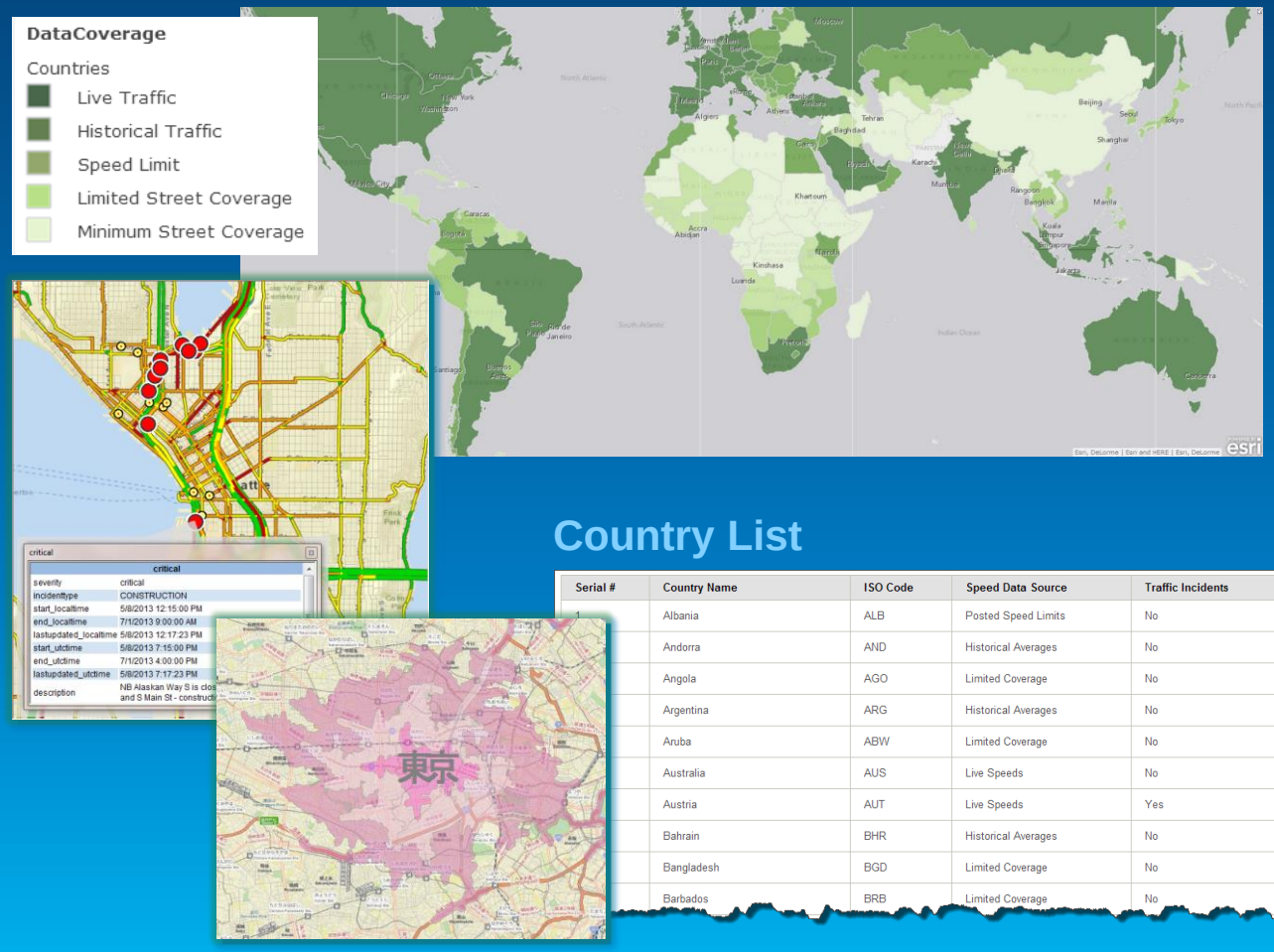


- Built with best available global content
  - Includes 106 Countries with addresses
  - Includes World Places and Points of Interest
- Supports inputs in Multiple Languages



Global Coverage – Network Analysis Services

Coverage Map



19 Direction Languages

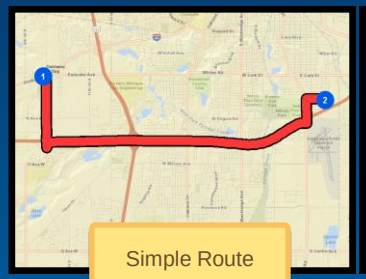
Transportation Network
- 101 - Detailed
- 44 - Intermediate

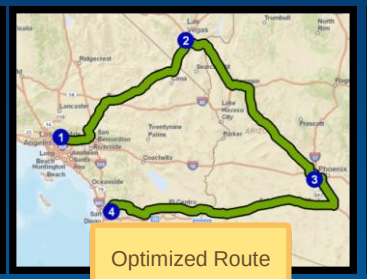
Traffic
- 35 - Live
- 42 - Historic

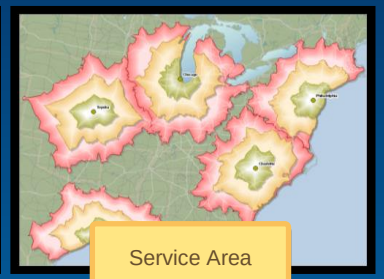
Country List

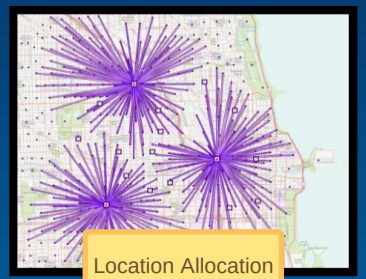
Serial #	Country Name	ISO Code	Speed Data Source	Traffic Incidents	Logistics Attributes	Region
	Albania	ALB	Posted Speed Limits	No	No	Europe
	Andorra	AND	Historical Averages	No	Yes	Europe
	Angola	AGO	Limited Coverage	No	Noo	Middle East and Africa
	Argentina	ARG	Historical Averages	No	No	South America
	Aruba	ABW	Limited Coverage	No	No	South America
	Australia	AUS	Live Speeds	No	No	Oceania
	Austria	AUT	Live Speeds	Yes	Yes	Europe
	Bahrain	BHR	Historical Averages	No	No	Middle East and Africa
	Bangladesh	BGD	Limited Coverage	No	No	South East Asia
	Barbados	BRB	Limited Coverage	No	No	South America

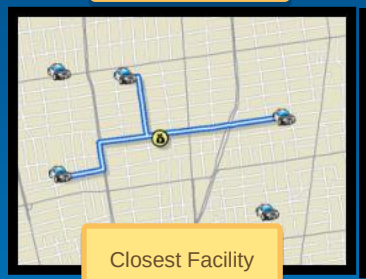
Network Analysis Capabilities

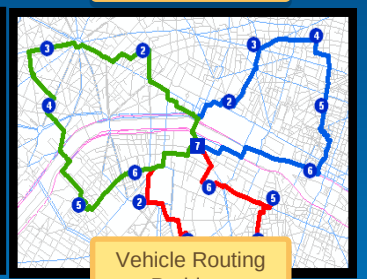

Simple Route


Optimized Route


Service Area


Location Allocation


Closest Facility


Vehicle Routing Problem

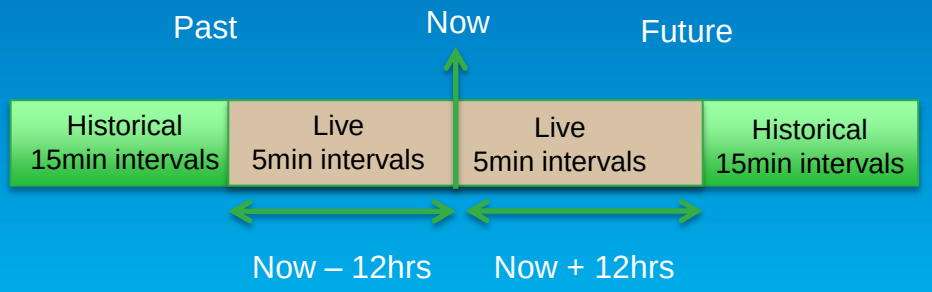
Traffic

Commercial Grade

Travel Modes

Directions

Traffic Aware



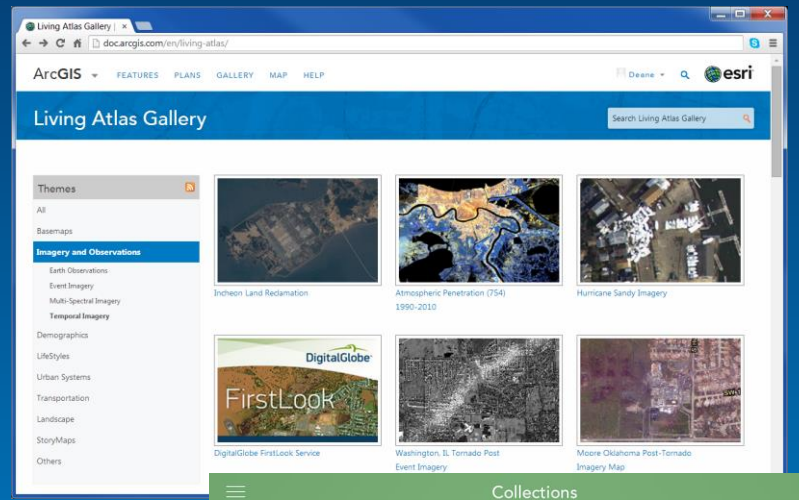
Living Atlas at the User Conference

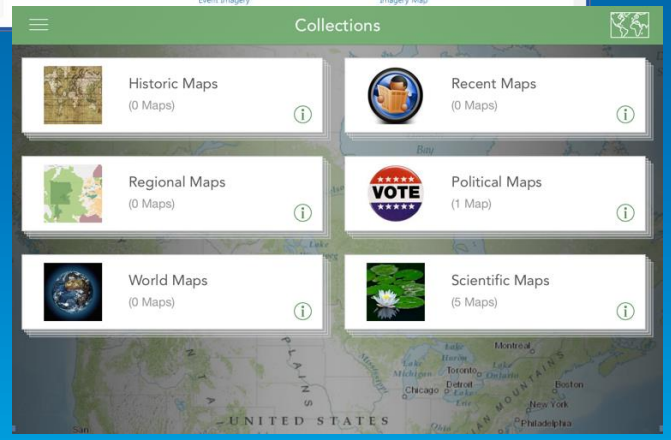
New Ways to Experience the Living Atlas during the UC and Beyond

1. **Physical Exhibits**
   - Plenary Breaks
   - Map Gallery
   - Online Island in Esri Showcase

2. **Living Atlas Web App**
   - Custom Web App to Browse and Preview Maps

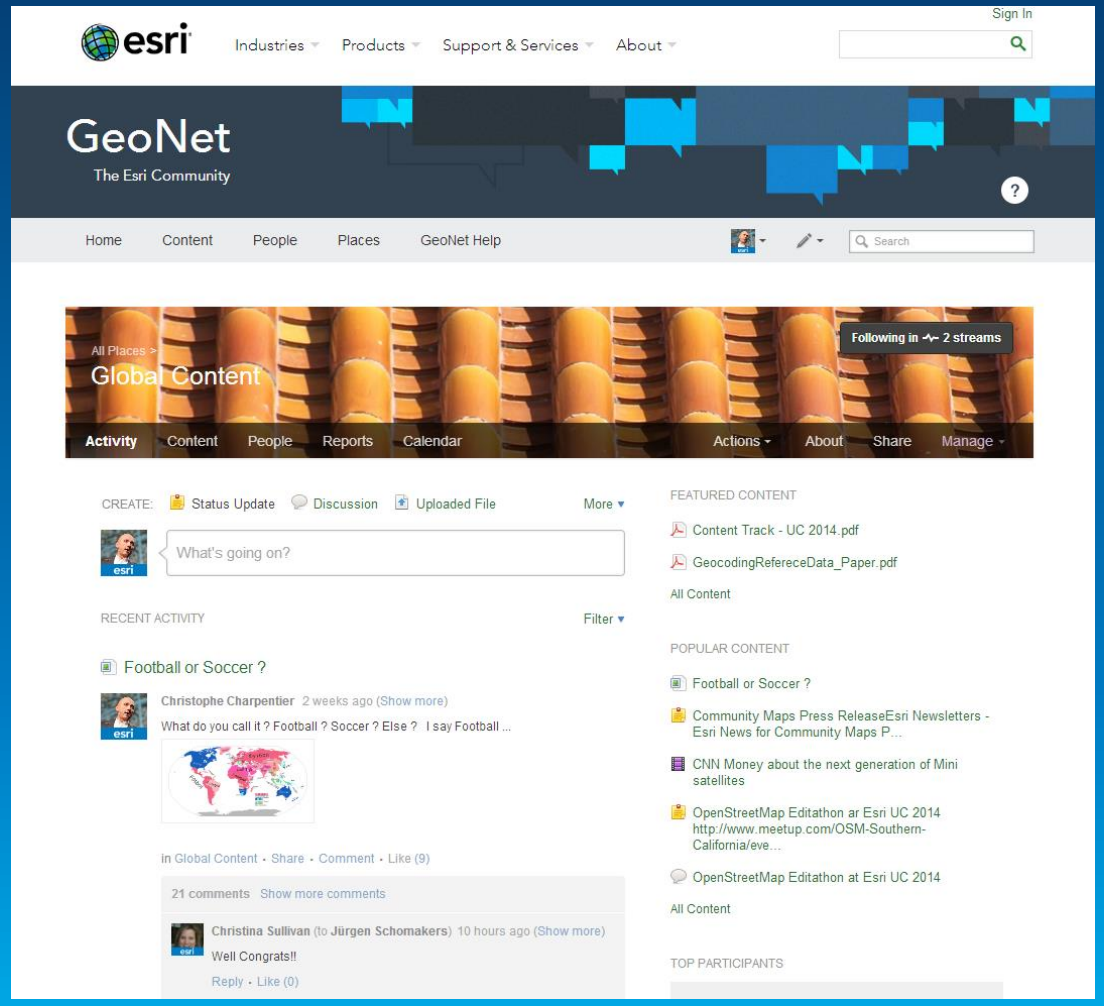
3. **Explorer for ArcGIS App**
   - “Try It” Experience Featuring Collections of Maps





Join the ArcGIS Content Community

http://bit.ly/ContentCommunity



Thank you…

- **Please fill out the session survey:**

First Offering ID: 1112

Second Offering ID: 1348

Third Offering ID: 1996

Online – www.esri.com/ucsessionsurveys

Paper – pick up and put in drop box

Understanding our world.