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ArcGIS Online and Community Maps

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Topics for this Session

- **What is ArcGIS Online?**
- **ArcGIS Online Maps and Tasks**
- **What is ArcGIS.com?**
- **The Community Maps Program**

What is ArcGIS Online?

ArcGIS is a Complete System

A Complete and Integrated Geographic Information System



ArcGIS Is An Online System

A Complete and Integrated Geographic Information System



ArcGIS Online

An online repository of GIS maps, apps, and tools

Using ArcGIS Online you can

- **Choose a basemap to begin making your own maps**
- **Discover and use maps and apps**
- **Find and use other resources, like tools and templates**
- **Save, organize and share your work**
- **Create and join online communities**

ArcGIS Online Includes

Maps

- Basemaps, maps, and layers
- Map templates

Apps

- Ready-to-use browser and mobile applications
- Configurable app templates (Flex, Silverlight)
- Developer APIs
 - JavaScript, Flex, Silverlight, iOS, WP7, Android
- Code and samples

Tools

- Geocoding, gazetteer, and geoprocessing services
- Add-ins

Additional hosted and on-premise capabilities coming soon....



ArcGIS Online Is Built-in To ArcGIS

An integrated part of the user experience

- Basemap galleries
- Searching and sharing
- Built-in tools and capabilities
 - Geocoding, gazetteer, etc...



We've been evolving ArcGIS Online

Improving the foundation – Web map specification

- Easier to provide wider access to GIS maps and services
- Enhanced capabilities, supported across all clients
 - Notes, popups, editing and temporal services

Enhanced Viewers

- Ready-to-use - ArcGIS.com map viewer, ArcGIS Explorer Online
- Configurable - Flex, Silverlight, Sharepoint

Easier to deliver custom applications

- Use any web map, ready-to-use components
- Easier to deploy in multiple ways (Web and mobile)

ArcGIS Online Maps and Tasks

ArcGIS Online Maps

- **Esri Maps**

- Developed and maintained by Esri
- Street map, Demographic maps

- **Community Maps**

- Jointly developed by Esri and ArcGIS users
- Topographic map, Imagery map, Sciences maps

- **User Maps**

- Developed and maintained by ArcGIS users
- May be managed (hosted) by user or Esri

ArcGIS Online Maps Summary

- **Imagery**
 - World Imagery
 - Bing Maps Aerial
- **Streets**
 - World Street Map
 - Bing Maps Roads
- **Topographic**
 - World Topographic Map
 - USA Topo Maps
- **Thematic**
 - Demographic maps
 - Sciences maps



*From Esri and the
ArcGIS Community*

World Imagery

Imagery mosaic built from best available commercial and public sources

- **USA Imagery Mosaic of 1m or Better Imagery**
 - **USDA NAIP, USGS Cities, U.S. States & Counties**
 - **Commercial, Sub-meter Imagery for U.S. Metro Areas**
- **International Areas at 1m or Better Imagery**
 - **GeoEye IKONOS Imagery for Major Metro Areas**
 - **Contributed Imagery for Several Other Countries**
 - **Great Britain, Portugal, Belgium, Czech Republic, Netherlands, Luxembourg, France (partial)**



World Street Map

Street map built from commercial street data and other local sources

- **World Street Map down to ~1:150k Scale**
 - Highway and Major Roads for City Level Mapping
- **Detailed Street Map to ~1:10k in Selected Areas**
 - North America, Europe using Commercial Sources
 - Contributed Street Maps for Several Other Countries
 - Japan, Thailand, Hong Kong (China), Colombia



World Topographic Map

Topographic style basemap built from best available data sources

- **Rapidly Growing Community Basemap**
 - Designed as General Purpose Basemap for mashups
 - Compiled to Uniform Cartography from Best Available Sources
 - Collaborative effort with ArcGIS Community to add detail and coverage



Thematic Maps

Variety of demographic and sciences maps focused on specific themes

- **USA Demographic Maps**
 - **Maps for 20 Essential Variables of Latest Esri Data**

Population	People	Economics
Population Density	Median Age	Household Income
Daytime Population	Diversity	Home Value
1990-2000 Change	Household Size	Unemployment
2000-2010 Change	Social Vulnerability	Labor Force Participation
2010-2015 Change	Tapestry	Retail Spending



- **USA National Maps**
 - **Nationwide maps featuring data from Federal sources**

ArcGIS Online Task Services

Functional capabilities available online

- **Geocoding Services**
 - Multi-national geocoding for North America & Europe
 - Supports both Interactive and Batch Geocoding
 - World Places Locator
- **Routing Services**
 - Multi-national routing for North America & Europe
 - Supports multi-point routing, optimized routes, barriers
- **Geometry Service**
 - Project coordinates, ...

Nationwide Geocoding Service

National geocoding service for United States

- **Multi-level geocoding service down to address point**
 - Includes address point, segment, ZIP code, & city levels
 - Built using latest data from Tele Atlas and Navteq
- **Supports both Interactive and Batch Geocoding**
 - Free interactive geocoding and limited batch geocoding
 - Batch geocodes up to 1,000 addresses per user per year
 - Subscription option for high volume batch geocoding
 - Available in blocks of 25,000 addresses for \$50 per block
 - **TIP:** to maximize throughput, sort addresses by ZIP code
- **Accessible via ArcGIS Desktop or Web Mapping APIs**

Coming Soon

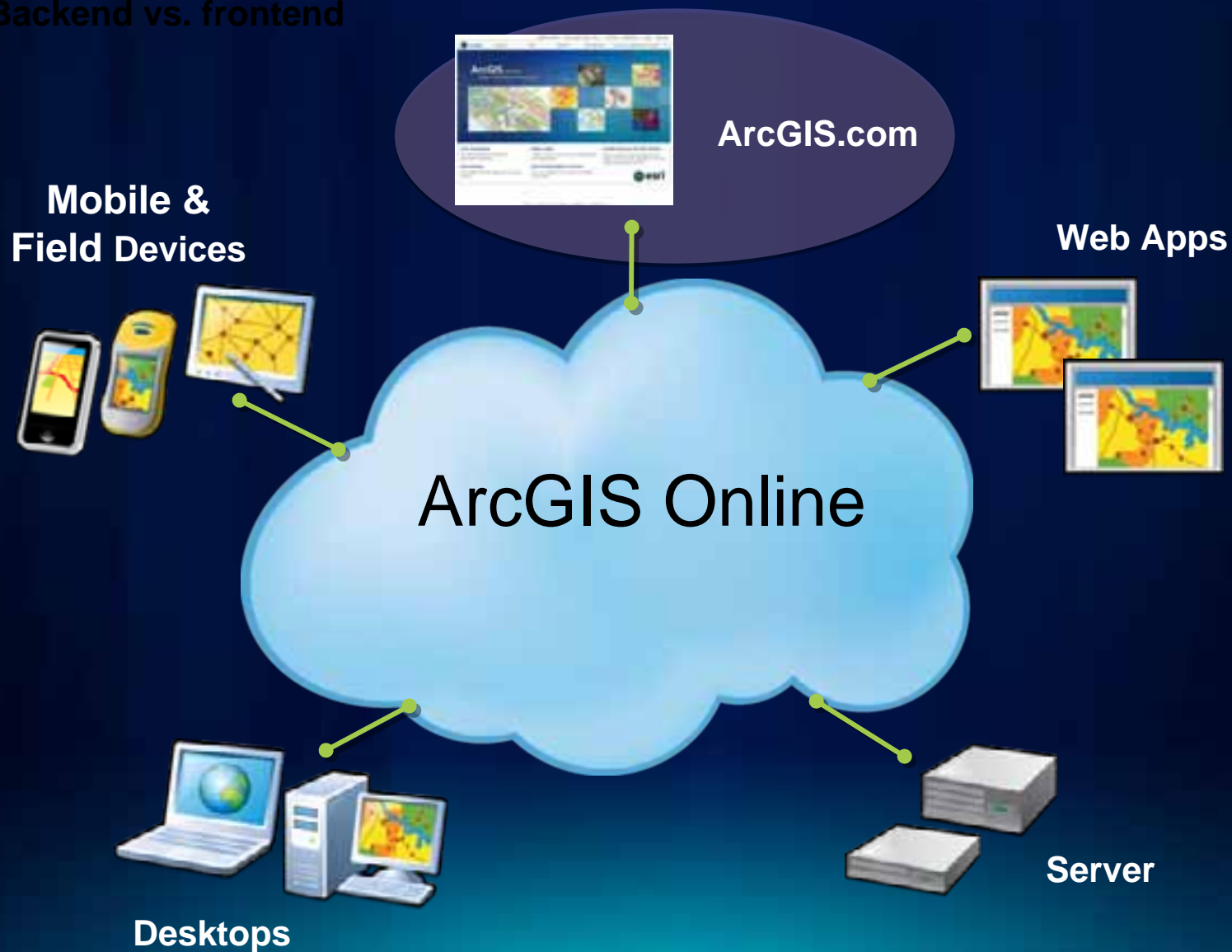
Upcoming enhancement to ArcGIS Online Maps and Tasks

- **Updates to ArcGIS Online Basemaps**
 - Update to over 40% of continental U.S. imagery
 - Update to World Street Map for North America & Europe
 - Added detail for World Topo Map down to ~1:10k/1:5k
- **New ArcGIS Online Maps**
 - Set of Landsat Global Land Survey image services
 - U.S. Parcel overlay layer with parcel boundaries & ID
 - More national maps published using federal data
- **Enhanced Task Services**
 - Single-line geocoding for North America (USA & CAN)
 - New geocoding service based on TIGER 2010 data
 - New drive time network analysis service

What is ArcGIS.com?

ArcGIS Online vs. ArcGIS.com

Backend vs. frontend



ArcGIS.com

A new website and a new component of the ArcGIS System



Like other components of the ArcGIS System, ArcGIS Online is built-in

When you visit ArcGIS.com you can

- Explore a gallery of featured maps and apps
- Use maps, and make your own
- Search for shared items and groups
- Login to ArcGIS Online to
 - Save and share maps you make
 - Join and create groups



The Community Maps Program

What is a community map?

- It includes the basic information that the community uses most often to build its maps and do its work
- A small number of basic components, nicely presented
- A tiled, raster service at multiple scales
- Available free and all the time for desktop, web and mobile
- Is it a basemap? Yes and no



Example Community Maps

World Topo Map



Canada

World Imagery



Portugal

World Street Map



Hong Kong

The benefits of community maps

- They save time and money
- They help make beautiful maps
- They cross boundaries and scales
- They encourage and enable collaboration



Community Map

Community Basemaps

Esri led initiative to publish ArcGIS user basemap data online

- **Provide Useful and Reliable Basemaps**
 - **Designed to support a variety of maps and apps**
- **Built with Authoritative Data from GIS Community**
 - **Data from local authorities and leading providers**
- **Provide High Quality Cartography**
 - **Beautiful maps built with best available sources**

Community maps = a new level of collaboration

Many users from many organizations contributing data



...that is harmonized via shared standards, data models, and templates



...into a comprehensive, multi-scale online map

Authoritative crowdsourcing

Trusted data, created and shared by professionals



Community maps enable and connect many things



The ArcGIS Community Maps Program

We want you to be a part of this effort

- ESRI will
 - Work with authoritative data providers (Our Users)
 - Promote a community process that brings together key data providers
 - Publish our collective results as a community map
 - Provide iterative releases
 - Work with you to update and maintain these maps
 - Use ArcGIS Online as a platform to facilitate this community initiative

Benefits of Participation

- Detailed Basemap for **Your Community** is Online
 - High-quality cartography with your accurate data
 - High-performance and availability service
 - No hosting costs or support required from provider
- Basemap is **freely available** to ArcGIS and Web users
 - Use in your ArcGIS maps and apps
 - Use in your public facing Web apps
- Developer APIs freely available to build Web Apps
 - REST, JavaScript, Flex, Silverlight APIs available
 - Combine your map services with community basemap

How to Participate in the Community Basemaps

Help Us Make Community Basemaps better with Your Data

- **Goal is to Blend Your Local, Authoritative Data into the Appropriate Community Basemap**
 - Improve the basemap with better data
- **Identify Community Basemap(s) you can Support**
 - World Imagery, World Street Map, World Topo Map
- **Get Started by Contacting Esri and Sharing Info**
 - Visit us at www.esri.com/communitymaps
 - Complete [participation form](#) on Community Maps site
 - Provide permission for Esri to use data in online map

Example: The World Topographic Map

- Compiled from the **best available** data sources
- Deployed as a **continuous** map of the world based on a **single unified design**
- Intended for use by the broader **GIS community and your end users**
- ESRI intends to showcase and highlight the **content of our users and partners**

Great maps come from great GIS datasets created and maintained by our users

Crowdsourced data is seamlessly merged

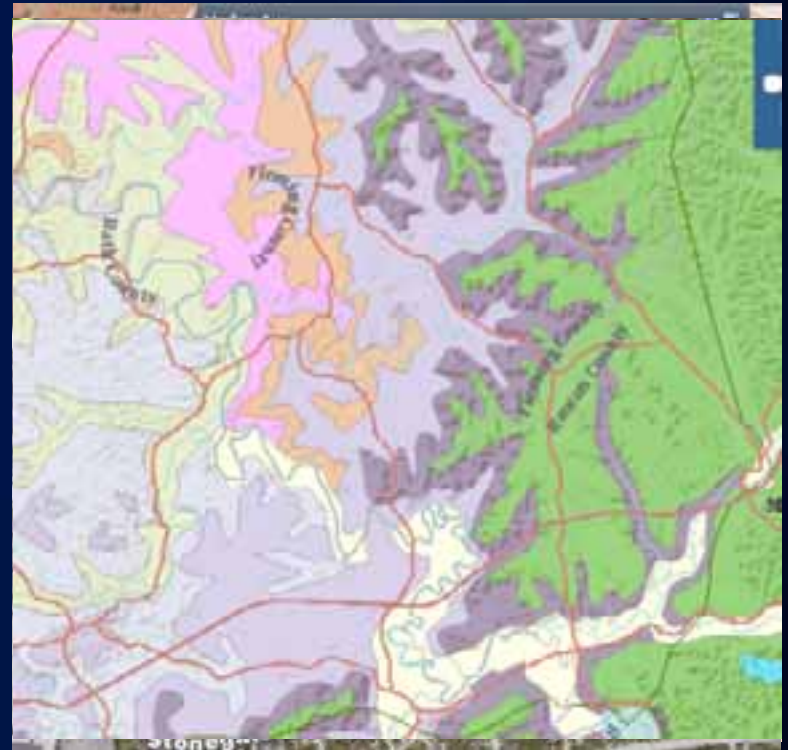
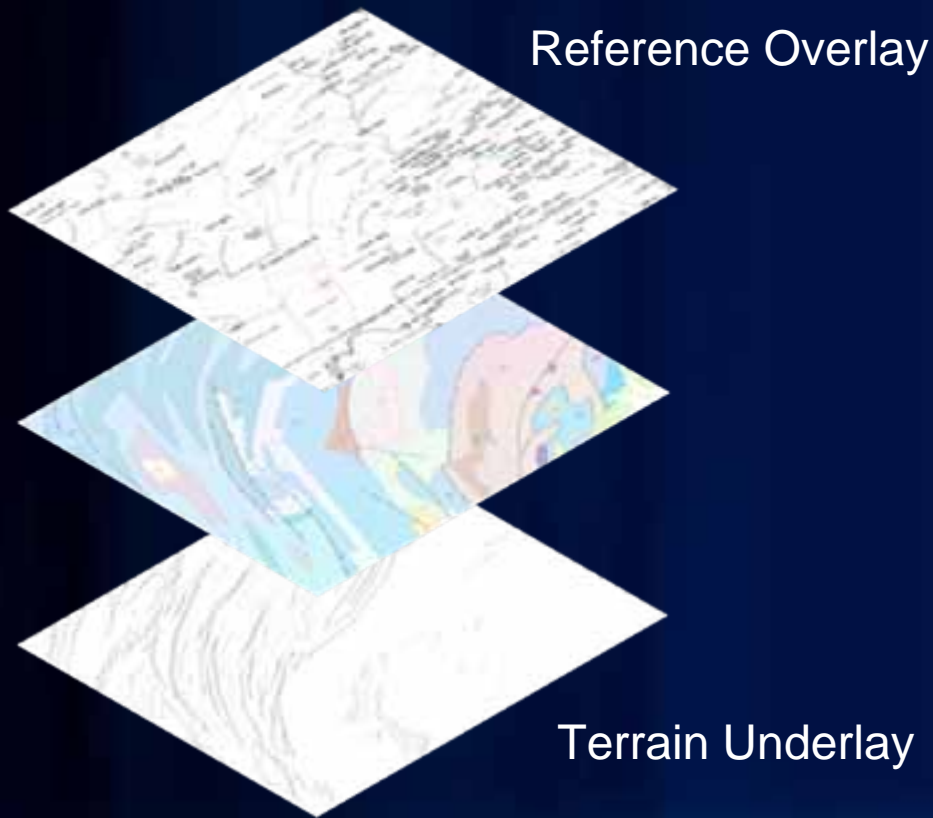


World Topographic Map

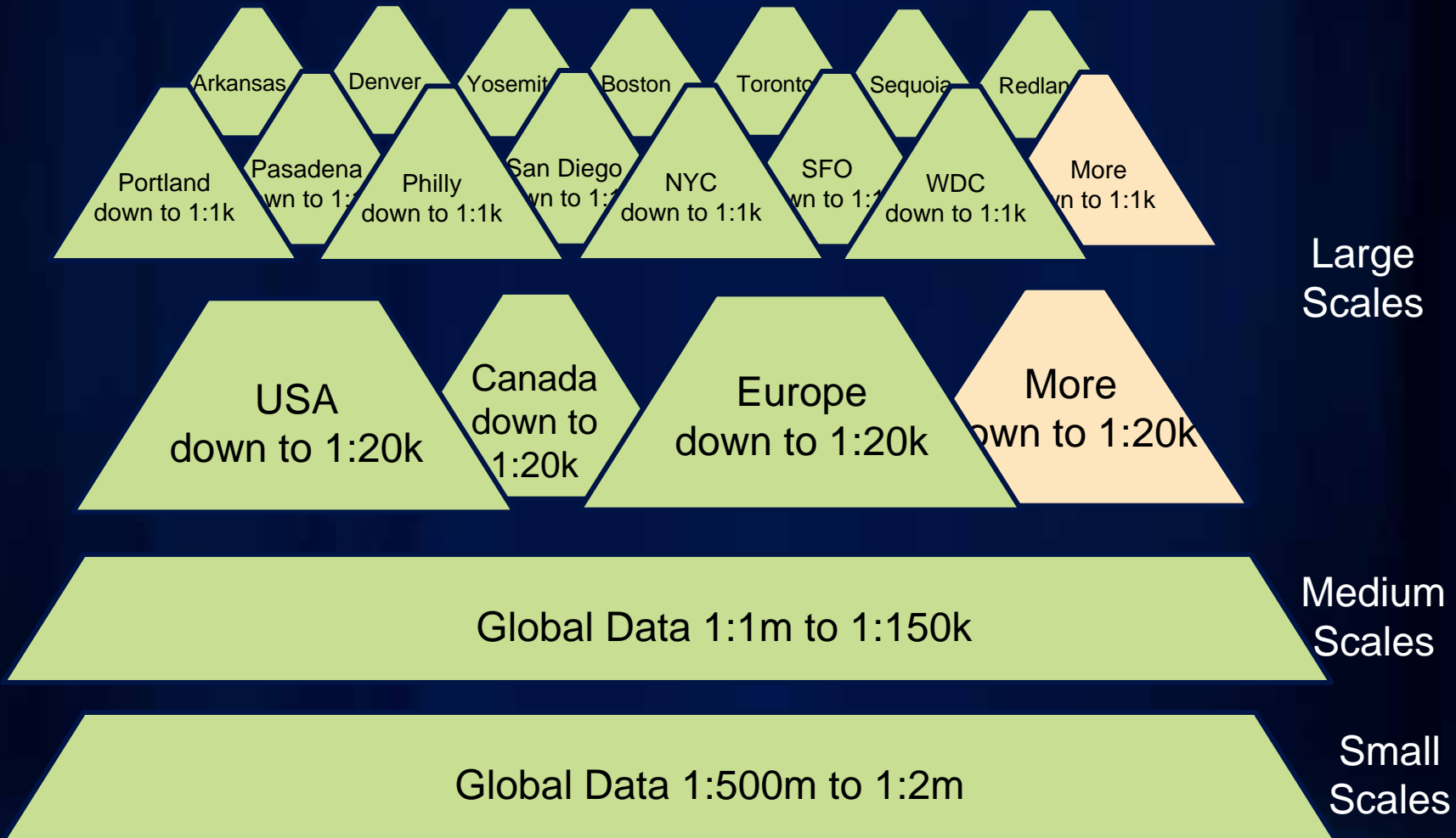


Examples of Current Contributors

Community maps as basemaps



World Topographic Map Content Levels



Community Maps Resource Center

Online resources to participate in community basemaps



resources.arcgis.com

Map Templates

“Best practices” templates for publishing your data

- Same templates used for ArcGIS Online maps
- Enables you to make great maps for Web, mobile apps
- Downloadable, ready to use, plug-in your data
- Includes documents, sample data, and styles



<http://resources.esri.com/maptemplates>

World Imagery – What is Needed?

- Natural Color Imagery that is **More Recent and/or Higher Resolution** than what is currently available
 - 1m or better imagery where only 15m is now available
 - More recent imagery than what is currently available
 - Get latest info for [World Imagery](#) map on [ArcGIS.com](#)



World Imagery – How to Participate

1. **Provide Source Imagery Your Area**
 - Deliver Imagery in GeoTIFF format
 - Ship or FTP Imagery to Esri-Redlands
 - Provide Metadata for Imagery (Date, Res, Accuracy)
2. **Esri will Generate Map Cache of Imagery**
 - Cache Map using [Bing/Google Tiling Scheme](#)
 - Esri can Provide Map Cache back to Provider
3. **Publish Map to ArcGIS Online**
 - Esri will blend imagery with other bordering area
 - Esri will Publish Map Cache to Online Servers
 - Updates made on a semi-annual basis (Q2/Q4)

World Topographic Map – What is Needed?

- **Basemap Data to Expand Topo Map Globally where detailed data is not currently available**
 - **Local City / Regional Data for North America and Europe to Add Detail from ~1:20k down to ~1:1k scale**
 - **National Data from ~1:150k down to ~1:20k scale**
 - **See United States and Canada for Published Examples**



World Topographic Map Status

Current status of community basemap in May 2011

- **Worldwide Map down to ~1:150k**
- **USA & Canada Map down to ~1:20k**
- **European Map down to ~1:20k**

- **Selected Cities/Areas down to ~1:1k**
 - **Portland, Philadelphia, Pasadena, Redlands**
 - **New York City, San Francisco, Washington DC**
 - **State of Arkansas, Yosemite National Park**
 - **San Diego, Hong Kong, Toronto, Moncton**
 - **Boston, Cambridge, Charlotte, Denver, Seattle**
 - **Austin, Minneapolis, Sequoia Kings Canyon**
 - **Miami, Dover, Phoenix, Waltham, Houston**
 - **Napa County, Milwaukee County, Duval County**
 - **Laguna Niguel, Westerville, Broomfield , Sussex County, ...**



World Topographic Map – Required Data Layers

National Map (1:150k – 1:20k)	Local City Map (1:20k – 1:1k)
Admin Boundaries	Admin Boundaries
Cities	Parcels
Roads	Roads
Land Cover	Building Footprints
Landmark Areas	Landmark Areas
Parks	Hydrography
Building Footprints	Railroads
Hydrography	Parks
Railroads	Neighborhoods
	Vegetation
<i>Hillshade (Elevation)</i>	<i>Hillshade (Elevation)</i>
<i>Contours</i>	<i>Contours</i>
<i>Landforms</i>	<i>Landforms</i>



Topographic Map – How to Participate

1. Author Map for Your Area

- Download Appropriate [Topo Map Templates](#)
- Assemble Necessary Data Layers
- Author Multi-scale Map in ArcGIS Desktop

2. Cache Map for Your Area

- Coordinate with Esri on Specific Area to be Cached
- Cache Map using [Bing/Google Tiling Scheme](#)
- Publish Test Service of Map Cache for Review

3. Publish Map to ArcGIS Online

- Ship or FTP Map Cache to Esri-Redlands
- Esri will blend tiles with other bordering maps
- Esri will Publish Map Cache to Online Servers

Frequently Asked Questions

- **Can provider build web apps using online map?**
 - Yes, the map and developer APIs are freely available to provider.
- **Is Esri generating revenue from the use of our data?**
 - No, the maps are freely available to ArcGIS users.
- **Will the map be updated to maintain its currency?**
 - Yes, Esri will coordinate with provider to publish updates as needed.
 - Annual updates planned with Esri publishing updated map/data from provider.

Frequently Asked Questions (continued)

- **Who owns the data that is contributed through the community maps program?**
 - The data provider retains all ownership of data. Esri requests permission to publish map cache of data.
- **Will the map service be reliable?**
 - Yes, map hosted in commercial data centers with 24/7 support and 99.9% availability.

How to Get Started

- **Visit us at www.esri.com/communitymaps**
 - Learn more about community maps
 - See map of other users who are participating
 - Submit participation form to get started
- **Contact Community Maps Team**
 - Email us at online_content@esri.com
 - Contact Us Directly
 - General: Deane Kensok, Colin Stokes
 - Int'l: Christophe Charpentier, Paul Yoshitomi



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