The ArcGIS Platform for Managing, Processing, and Sharing UAV Data

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Advancing GIS

Strong and Growing....

....Serving Our Users

Our Users

- Thousands of Partners
- Hundreds of Thousands of Organizations
- Millions of Users
Unmanned Aerial Systems/Vehicles (UASs/UAVs)

- A great new source of data
  - Imagery
  - Video
  - Lidar
  - Other data types
  - Site and time specific
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  - Rapid proliferation of platforms/standards
  - Managing & sharing large data volumes
ArcGIS is a Comprehensive Imagery System
Integrating All Types, Sources, and Sensor Models

Making Imagery Accessible

Imagery is a Fundamental Part of the System
ArcGIS is a Comprehensive Imagery System

- Comes With Imagery
- Provides Advanced Imagery Tools
- Manages & Shares Massive Image Collections
ArcGIS Comes with Imagery

- Esri Curated
  - World Imagery
  - World Landsat 8
  - World Landsat GLS
  - World Elevation

- From Imagery Providers
- From ArcGIS Users
ArcGIS Comes with Imagery… And other data

- Base maps
- Weather
- Population & Demographics
- Topography
- Land Use
- Agriculture
- Soils
- …much more…
ArcGIS Provides Advanced Imagery Tools
Visualization, Processing and Analysis

- Fast
- Dynamic
- Massively Scalable
- Both Desktop and Web

Open Architecture, Leveraged by Partners
ArcGIS Manages & Shares Massive Image Collections
Providing Accessibility to all Forms of Imagery and Rasters

Many different sources → Centralized management → Accessible to Desktop, Web & Mobile Users
Image Management Workflow Using Mosaic Datasets

Highly Scalable, From Small to Massive Volumes of Imagery

Create Catalog of Imagery
- Reference Sources
- Ingest & Define Metadata
- Define Processing to be Applied

Apply:
- On-the-fly Processing
- Dynamic Mosaicking

Access as Image or Catalog
Empowering imagery

• Dynamic mosaicking
  - Fuse imagery from multiple sources
  - User defined ordering – No data lost in overlap

• On-The-Fly processing
  - Process imagery as accessed
  - Create multiple products direct from source
    - Pan sharpened, NDVI
    - Hillshade, Slope, Aspect
Image Dissemination via ArcGIS Online

Integrating with / and in The Cloud

- Register With ArcGIS Online
- Massive Accessibility
- Content Management

ArcGIS Server on Premise or in the Cloud

Large Image Collections

Desktop

Mosaic Dataset

Portal

Desktop, Web & Mobile Users
ArcGIS Provides Tools For Two Key User Groups

Imagery Managers
*Large Collections of Imagery*

- Manage
- Share

Imagery Users
*Simple Accessibility*

- Content
- Visualization & Analysis
Demos

2-dates UAV imagery w/ point clouds
3D visualization
Sharing to web browser

Image Management example

Full Motion Video (if time permits)
Business partners in UAV market

- Trimble
- SenseFly
- Pix4D
- Riegl
- …others…
Support for Full Motion Video – Free Add-In for ArcGIS

- Video in standard *MISB* format
  - MISB metadata defines camera position and view angle
  - Geoprocessing Tools to “rip” single image frames, build full coverage polygons
  - Video Bookmarking
  - Management similar to other imagery
Understanding our world.