LAR-IAC4 Status and User Group Meeting

January 28, 2016

Agenda

- LARIAC Program Update
  - Ortho Status
  - LIDAR Status
  - QAQC Status (Dewberry)
- LARIAC Training Schedule
- Nearmap
- User Presentations
  - Land Cover Project (LMU)
  - Hydrologic Modelling (ESRI)
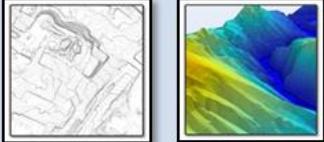- LARIAC – New Data
- Questions and Discussion

What is LAR-IAC?

- Los Angeles Regional Imagery Acquisition Consortium (LAR-IAC)

  "LAR-IAC is multi-jurisdictional purchasing arrangement that enables participating local governments and agencies to benefit from combined economies of scale to efficiently and cost-effectively acquire high definition aerial data."

- Established in 2003 by LA County Regional Planning and Chief Information Office.

LAR-IAC4 Product Matrix

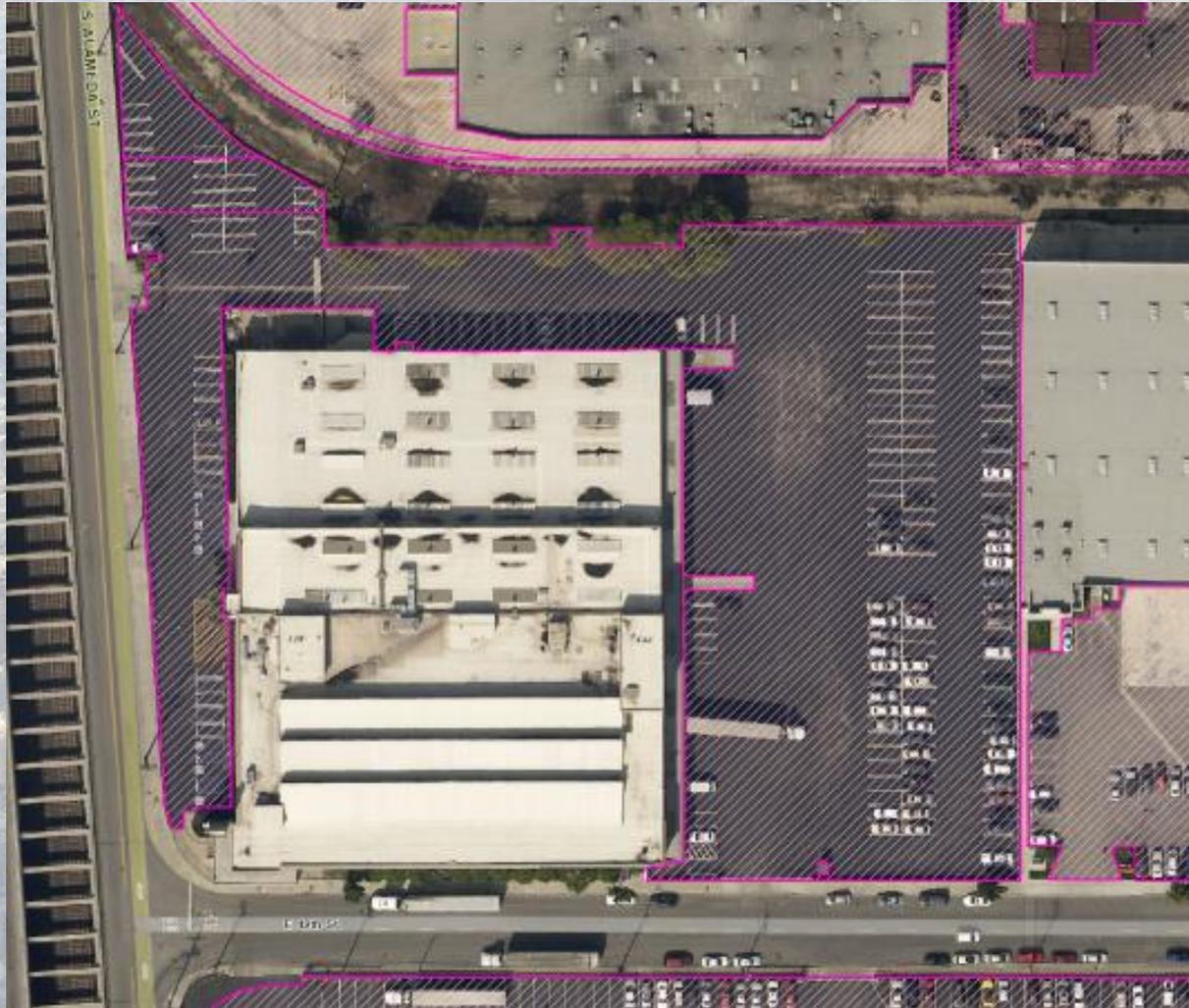| Data Types	LARIAC1 2006	LARIAC2 2008	LARIAC3 2011	LARIAC4 2014
Orthogonal Imagery (4-inch)	X (including Infrared)	X	X	X (including Infrared and 1-foot imagery from 2012 and 2013)
Oblique Imagery	X	X	X	X
Building Outlines		X		X
Elevation Data	X			X
Derived Data • Tree Canopy • Solar Insolation • NDVI (Permeability) • Slope • Hillshade • Height	X			X

Ortho Status

- Everyone should have received all ortho data except:

- Countywide ECW
  - Delivered two weeks ago.
  - 80 Gb
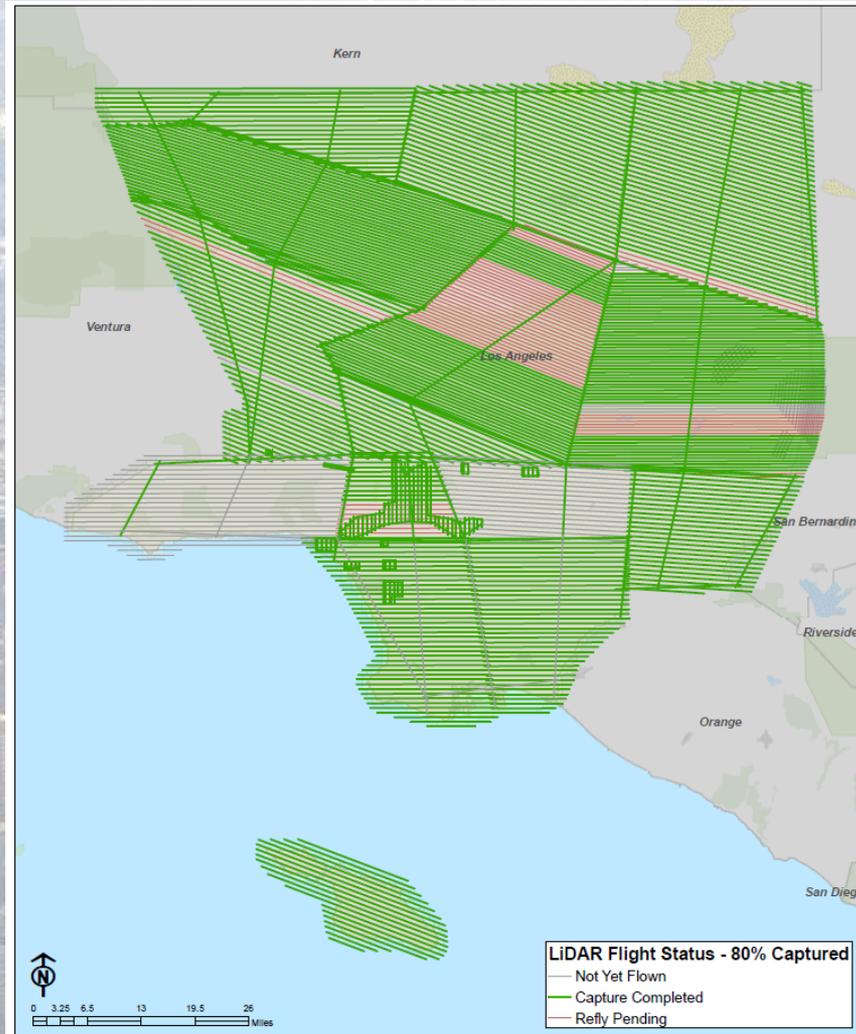 - Countywide participants - contact me if you want this.

Parking Lots

- Funding by LA County Office of Sustainability
  - Support identification of locations for solar carports
- All parkings lots < 5,000 square feet on Commercial, Industrial, and Government properties
- Download from LA County GIS Data Portal:
  - Http://gis.lacounty.gov/dataportal

Sample

Elevation Data Status

LiDAR Flight Status - 80% Captured
- Not Yet Flown
- Capture Completed
- Refly Pending

LARIAC4 LiDAR Update
Updated: 1/27/2016

PICTOMETRY
AN EAGLEVIEW COMPANY

Elevation Data Status

- Flying 80% complete
  - Complete in mid-late February
- Catalina Island complete
  - Used to validate processing methods
  - QAQC identified some small issues
  - Develop DEM, DSM, contours once QAQC completed

Elevation Data Products

- LIDAR points
  - 2 points per square meter
- Derived Elevation Products
  - DEM (Digital Elevation Model) -
  - DSM (Digital Surface Model)
  - DTM (Digital Terrain Model)
  - Contours (1 foot urban, 2 foot National Forest)
  - **Waterways and Lakes**
  - **Solar Model (built from DSM)**
- Many other derived products
  - Hillshade
  - Height

**What are you getting?**

LARIAC DATA
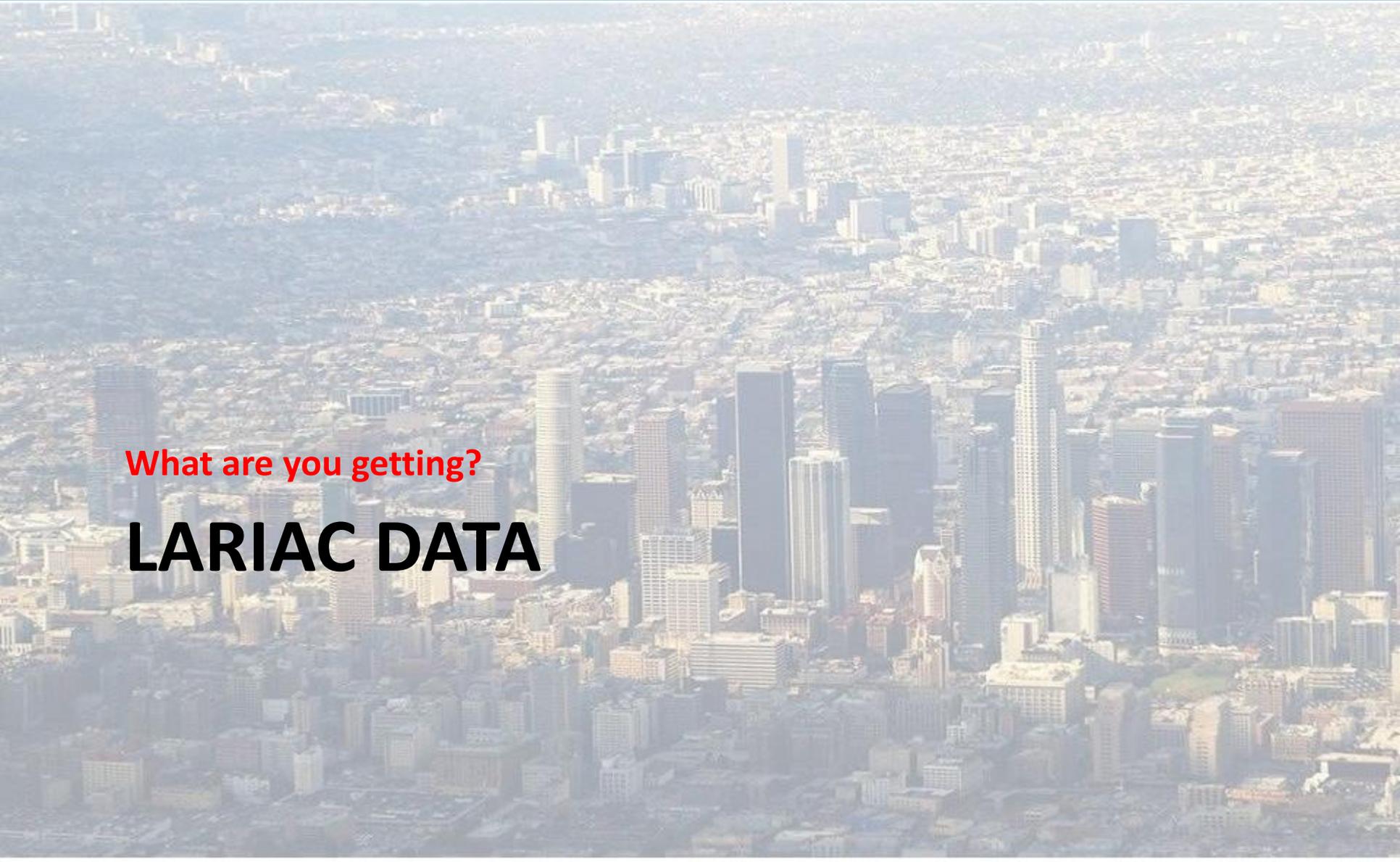
Data Delivery Formats

Delivery Product	Format 1	Format 2	Format 3	Format 4
Orthophoto (color) (4" and 1')	GeoTIFF & JPG2000 (raw format – 180 Mb per tile)	File Geodatabase (compressed, seamless)	ECW mosaics (compressed, seamless)	Map Services from LA County.
Pictometry oblique imagery (4" and 1')	Medium Compressed JPG format	Online Access		
Building Outlines	ArcGIS shapefile	ArcGIS Shapefile of new construction, changes, and demolition		
Digital Terrain Model (2015)	.las format files (RAW)	Digital Elevation and Surface model (rasters)	Other related formats	

Oblique Image Access

| Method	Description	Use
Electronic Field Study (EFS)	Desktop Application connecting to data delivered on hard disk	Disconnected situations. Use rarely.
Pictometry Online (POL)	Online Application for access	Day to day use – will be deprecated soon – can pass parameters to it.
Pictometry Connect Explorer	Online Application for Access	Day to day use – also mobile - can pass parameters to it.
Pictometry iPAD Application	Mobile Access	Mobile Access
ArcMap Plugin	Connect to POL inside ArcMap	Desktop GIS users
Integrated Pictometry Application (IPA)	Embed oblique imagery inside applications	Enhance existing apps.
Pictometry Gateway	Get multiple shots at one time.	Reporting

Cached Map Services

- LA County has cached the imagery and provides as a service
  - Fast
  - Easy to integrate into apps
  - No need to create your own
- Access from Web:
  - http://cache.gis.lacounty.gov/cache/rest/services/LACounty_Cache/
- Access via ArcMap
  - http://cache.gis.lacounty.gov/cache/services
- Password Protected (token based)
- Contact LA County for the password
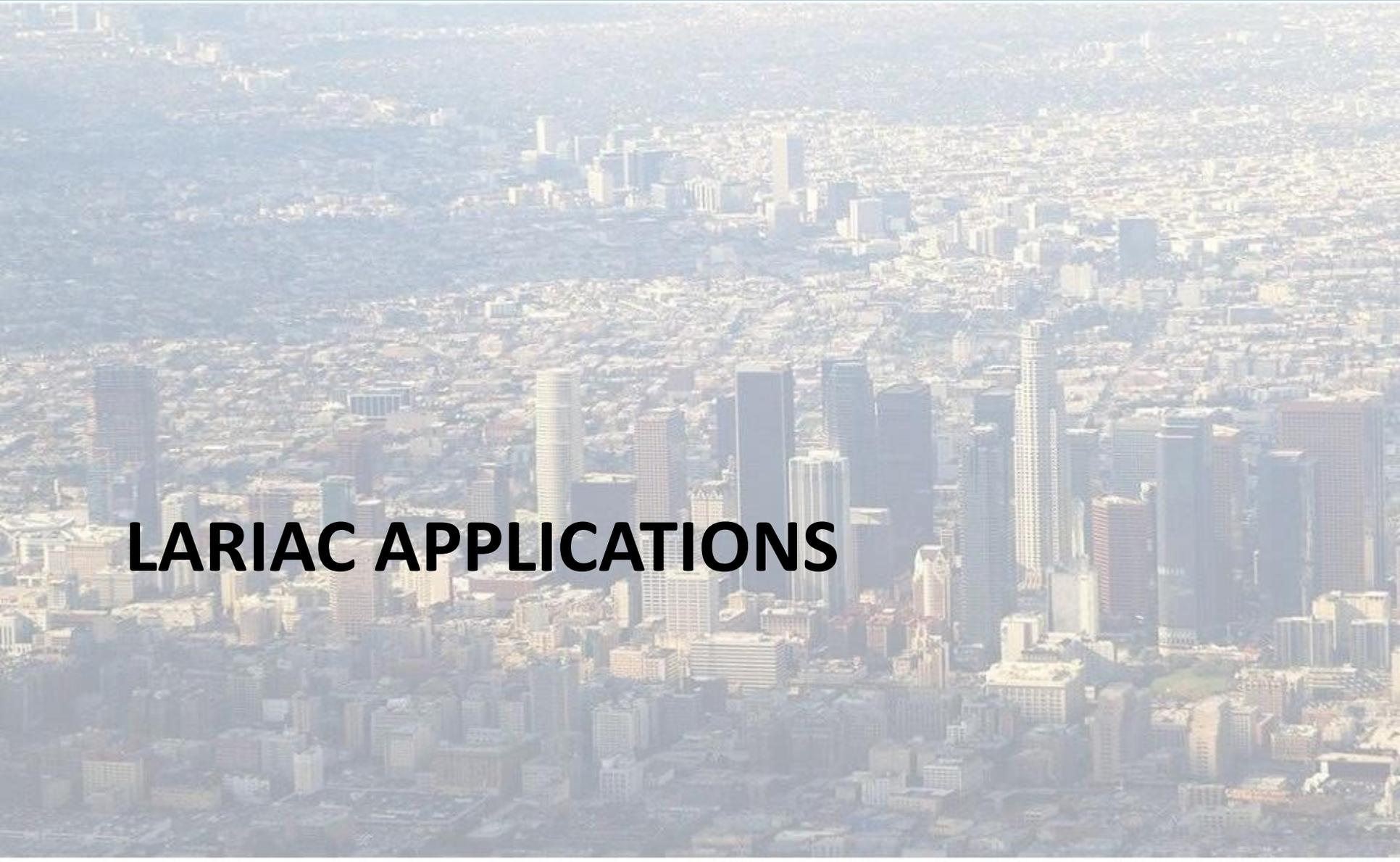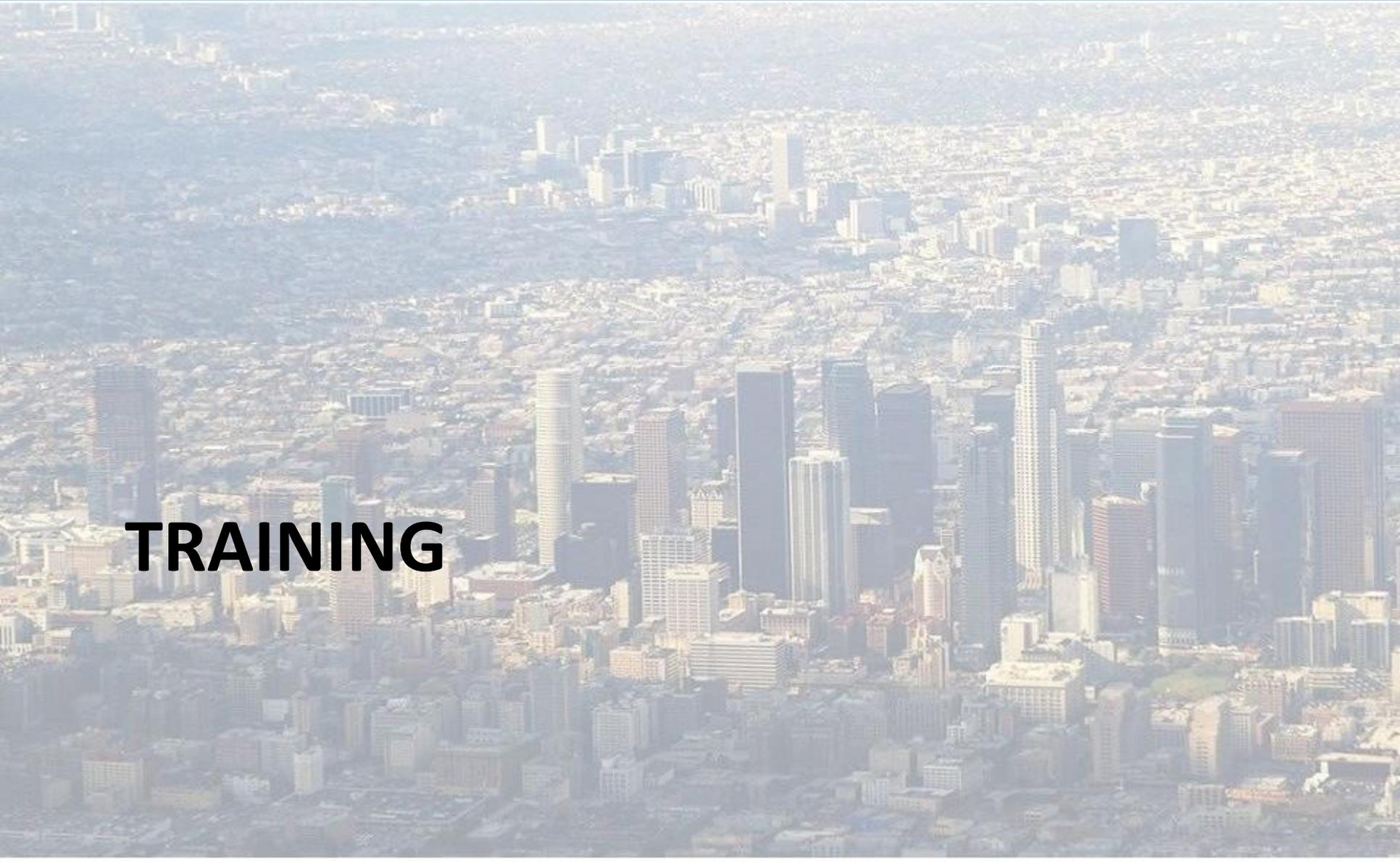
LARIAC APPLICATIONS

GIS Viewer

- LA County GIS Viewer
  - Formerly the "Parcel Viewer"
  - Access to comprehensive online GIS tools
  - Includes property information (ownership)
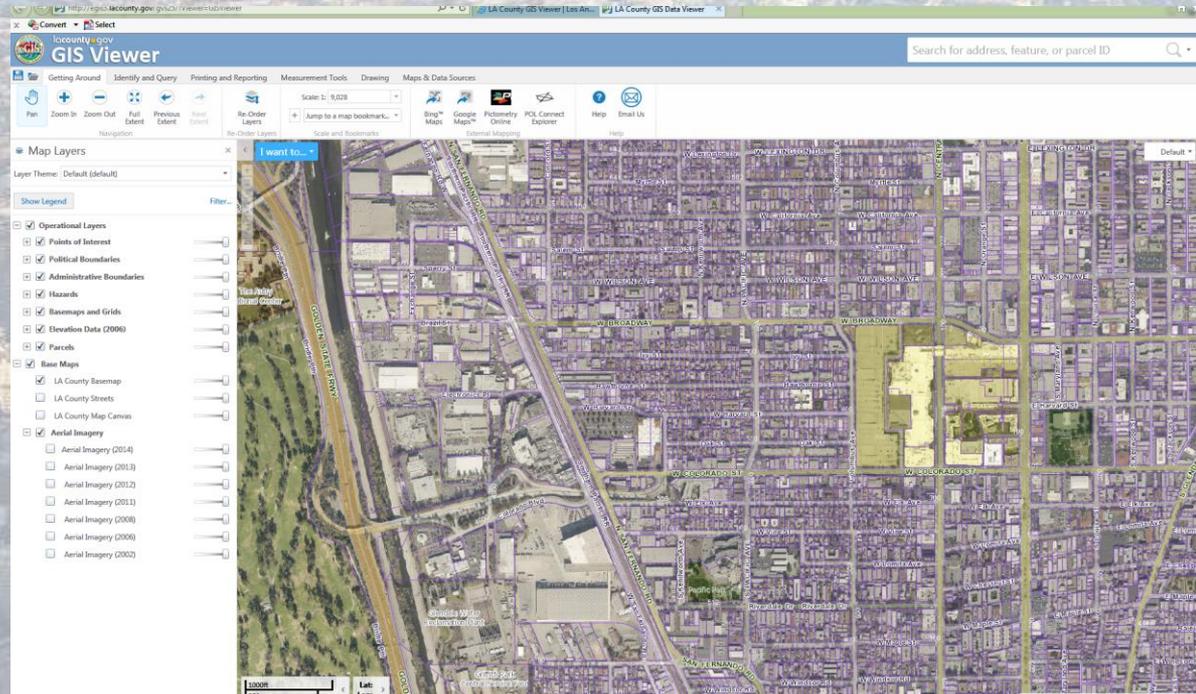
Some Functions

| GIS Viewer Functions	
- Pan	- Add shapefile(s) to the viewer
- Zoom in and out	- Plot coordinates
- Identify features	- Generate elevation profiles
- Search by attribute(s) such as AIN and owner name	- Set transparency of layers
- Measure distance and area	- Buffer features
- Create aesthetic maps for printing, saving and/or exporting	- Perform simple and advanced spatial queries
- Create text and markups	- Launch Bing and Google Street View from its current spatial location

POL Explorer

- Pictometry Connect Explorer
 - Access to Oblique Imagery, selected County data
  - Ability to add your own GIS data

TRAINING

GIS Viewer Training

- 3 online webinars in February for the enhanced GIS Viewer.

- **Registration Page**: https://www.wejoinin.com/sheets/mpylb

- **Dates:**
  - Monday, February 8th, 9-10:30AM
  - Wednesday, February 10th, 2-3:30PM
  - Wednesday, February 17th, 9-10:30AM

- I will send out the information

Explorer Training
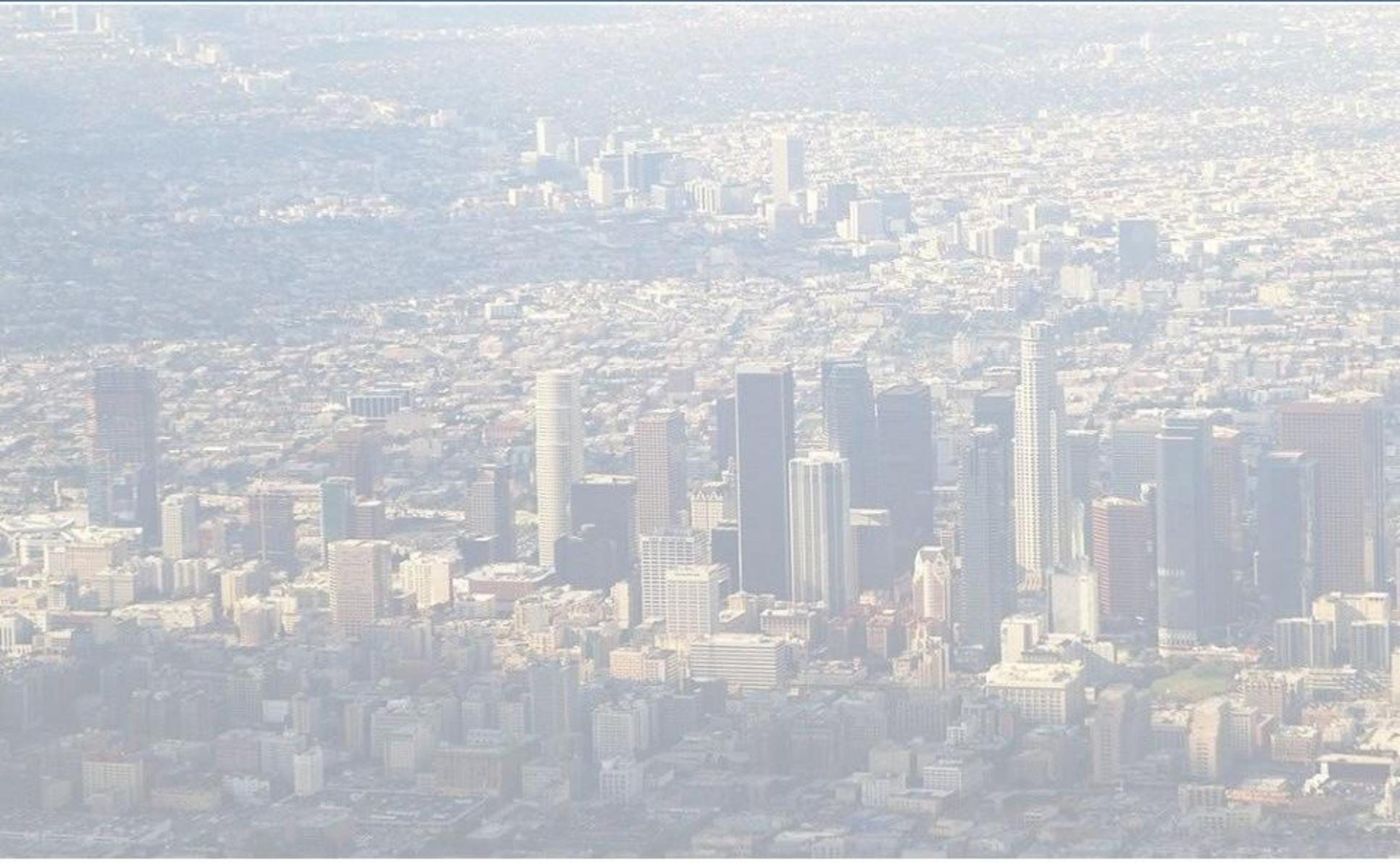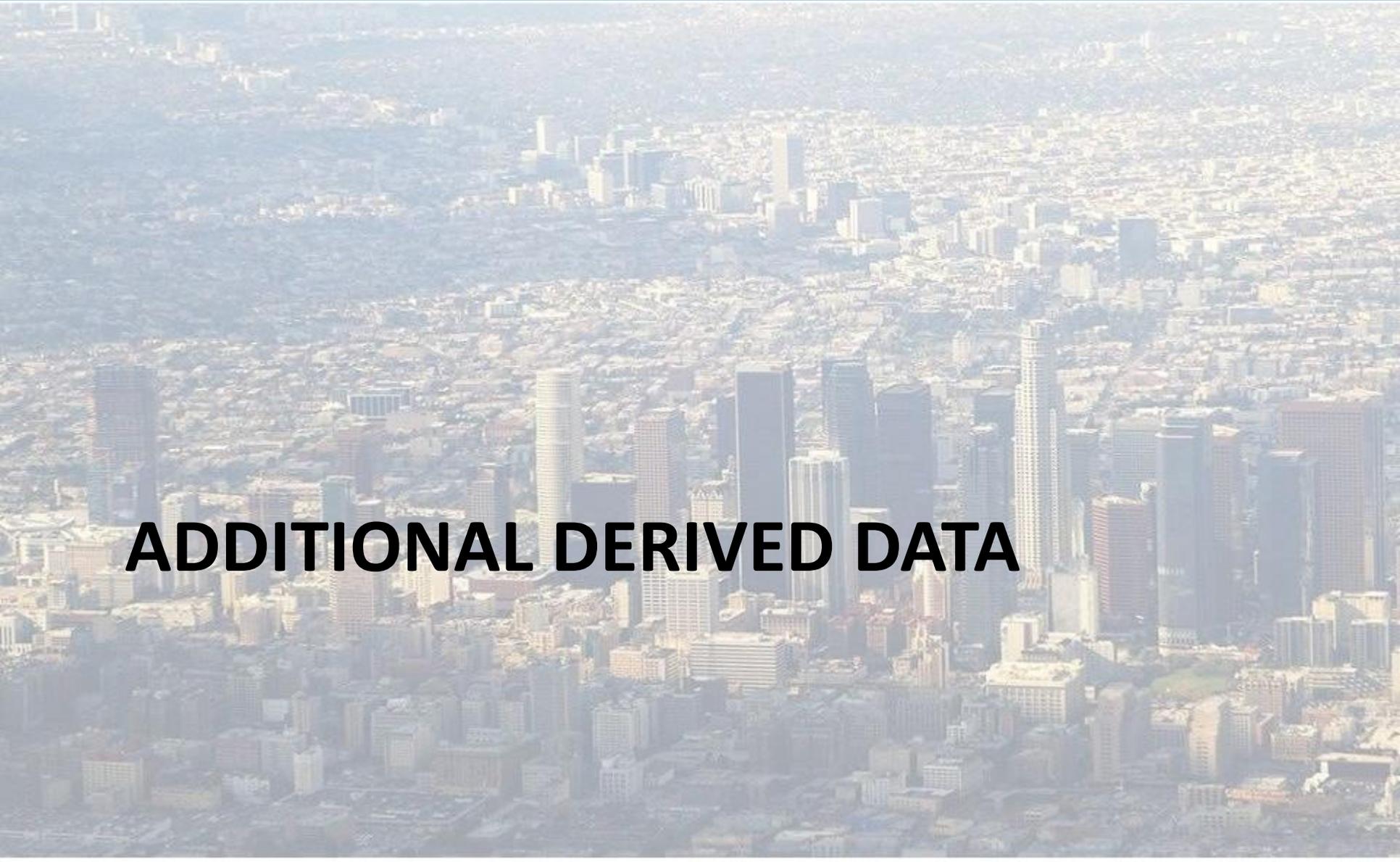
ADDITIONAL DERIVED DATA

Land Cover

- Concept
  - Develop a high resolution land cover dataset for LA County at 1 foot or 4-inch resolution
  - Current national dataset is 30 meter
- Uses
  - Pervious/impervious surface
  - Change detection
  - Habitat modeling
  - Climate Change modeling
  - Flood and water use modeling
  - Tree Canopy Modeling
- See: http://www.mrlc.gov/
- Standards Exist from the USGS

Land Cover Types

- Leverage Standards

Classes sorted into:

- Conifers
- Dedicuous
- Grass/Low-shrub
- Bare Soil/Dry grass
- Urban/Pavement/Rock
- Water
- Shadow
- Unclassified (< 1%)

NLCD Land Cover Classification Legend

- 11 Open Water
- 12 Perennial Ice/ Snow
- 21 Developed, Open Space
- 22 Developed, Low Intensity
- 23 Developed, Medium Intensity
- 24 Developed, High Intensity
- 31 Barren Land (Rock/Sand/Clay)
- 41 Deciduous Forest
- 42 Evergreen Forest
- 43 Mixed Forest
- 51 Dwarf Scrub*
- 52 Shrub/Scrub
- 71 Grassland/Herbaceous
- 72 Sedge/Herbaceous*
- 73 Lichens*
- 74 Moss*
- 81 Pasture/Hay
- 82 Cultivated Crops
- 90 Woody Wetlands
- 95 Emergent Herbaceous Wetlands
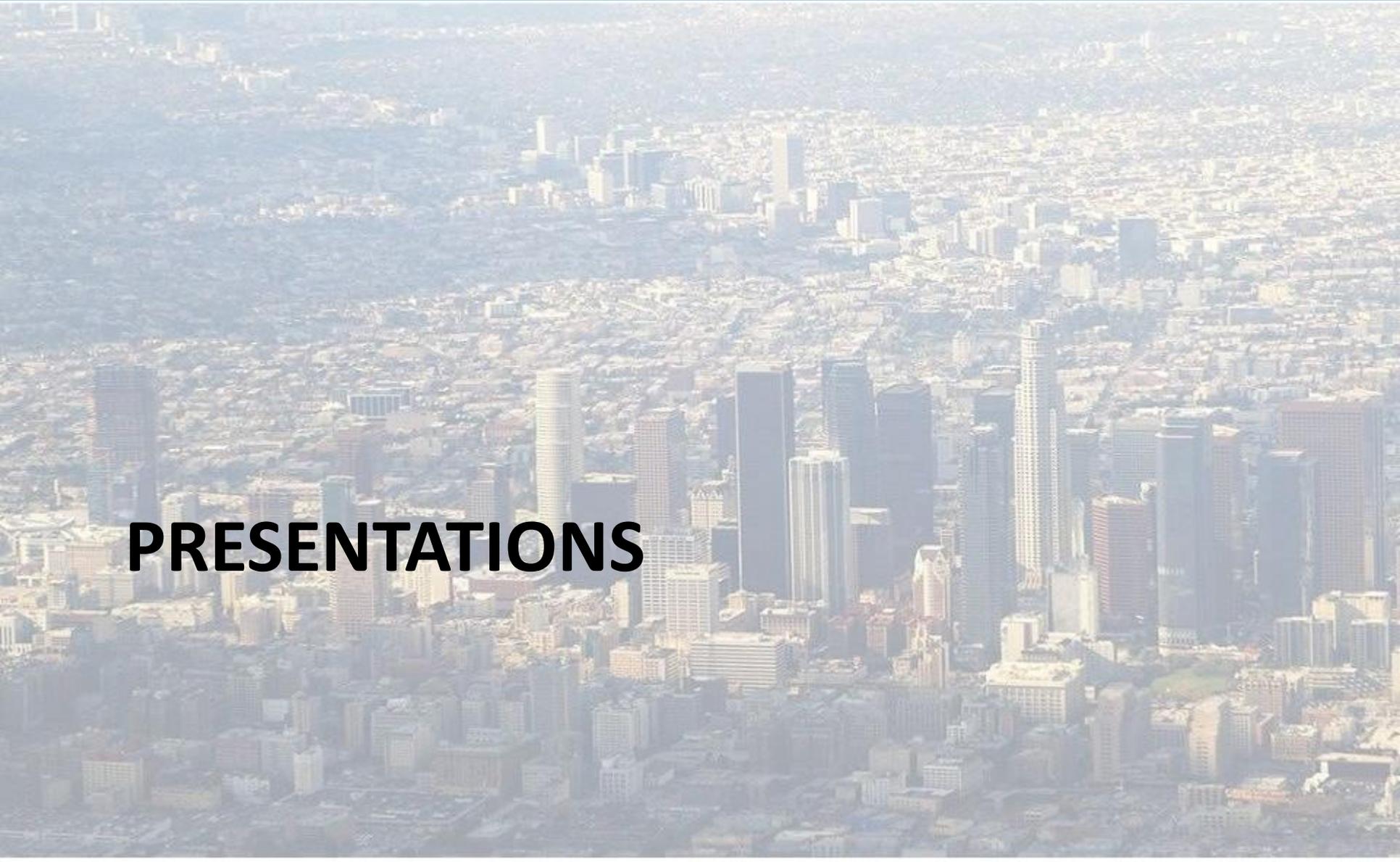
* Alaska only

Status

- Determine the data sources and methods
  - NAIP, LIDAR, Imagery, Building outlines, etc
  - Determine method (ENVI, ArcGIS, eCognition, etc)
- ~~Look at a pilot to do this.~~
- Fortunately Loyola Marymount did our Pilot
  - Assessment of Green Infrastructure in LA's Coastal Zone
  - Presentation later today
- Plan to execute and get Land Cover from 2006 and 2014
  - We have the budget to do this already.
- Include in future LARIAC flights as well.

Los Angeles Region – Imagery Acquisition Consortium (LAR-IAC4)

Questions/Comments?

Prepared by:
Los Angeles County

PRESENTATIONS