

LAR-IAC4 Status and User Group Meeting

October 8, 2015



LOS ANGELES • REGION
LAR|AC
imagery acquisition consortium



Agenda

- LARIAC Imagery Update
 - LARIAC Status Update
 - LARIAC Update and Training Schedule
 - LARIAC Data Access Methods
 - Additional Derived Data
- User Presentations
 - DPW Street View Project
 - Participant Presentations
 - DPW LIDAR pilot
- **Lunch**
- **LIDAR**
 - LIDAR Benefits
 - LIDAR and GIS
 - LIDAR Project Plan
 - LIDAR QAQC
- Questions and Discussion




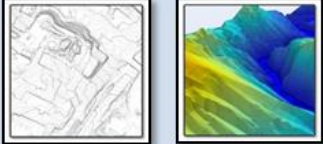
What is LAR-IAC?

- 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

<u>Data Types</u>	<u>LARIAC1</u> 2006	<u>LARIAC2</u> 2008	<u>LARIAC3</u> 2011	<u>LARIAC4</u> 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 <ul style="list-style-type: none"> • Tree Canopy • Solar Insolation • NDVI (Permeability) • Slope • <u>Hillshade</u> • Height 	X			X

Current Status

- Everyone has received data except:
 - LA City
 - MTA
 - Sanitation Districts
 - These should arrive this week or next (Dewberry copying drives now)
- Countywide ECW still processing.

Current Finances

- Current LARIAC4 costs - \$4.4 million
 - Oblique: \$1.2 million
 - Ortho: \$811,000
 - Buildings: \$135,000
 - LIDAR costs: \$1.6 million
 - QAQC: \$600,000
- \$4.6 million in commitments
 - \$3.4 million received
- Summary – estimate a \$200K surplus

What are you getting?

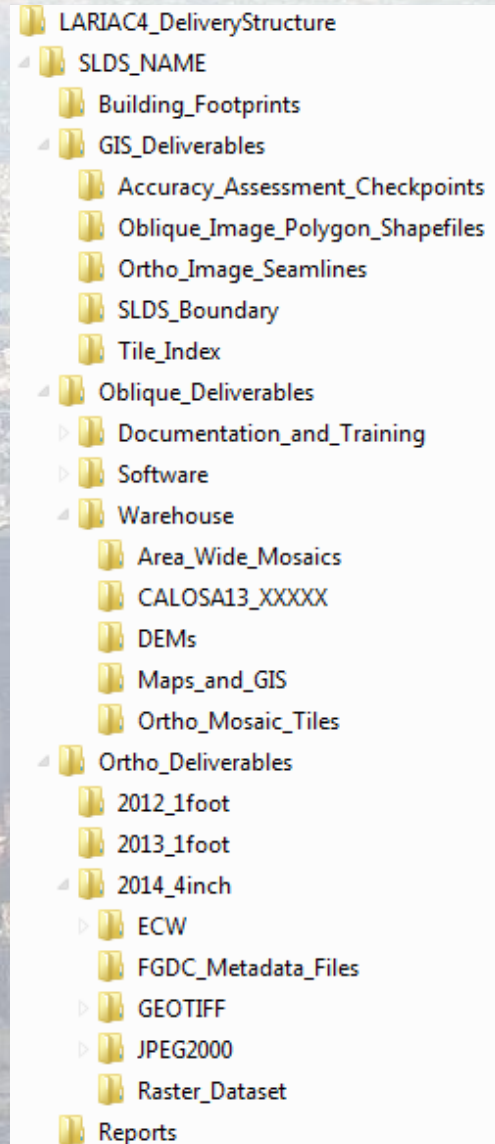
LARIAC DATA DISCUSSION

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	

Folder Structure

- Building Folder
- GIS Folder
- Oblique folder
- Ortho folder
- Reports Folder




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

Oblique Imagery on Disk

- Warehouse and EFS
 - For disconnected situations
 - If you don't join LARIAC5
 - You need EFS software (included) to use.
 - Very large

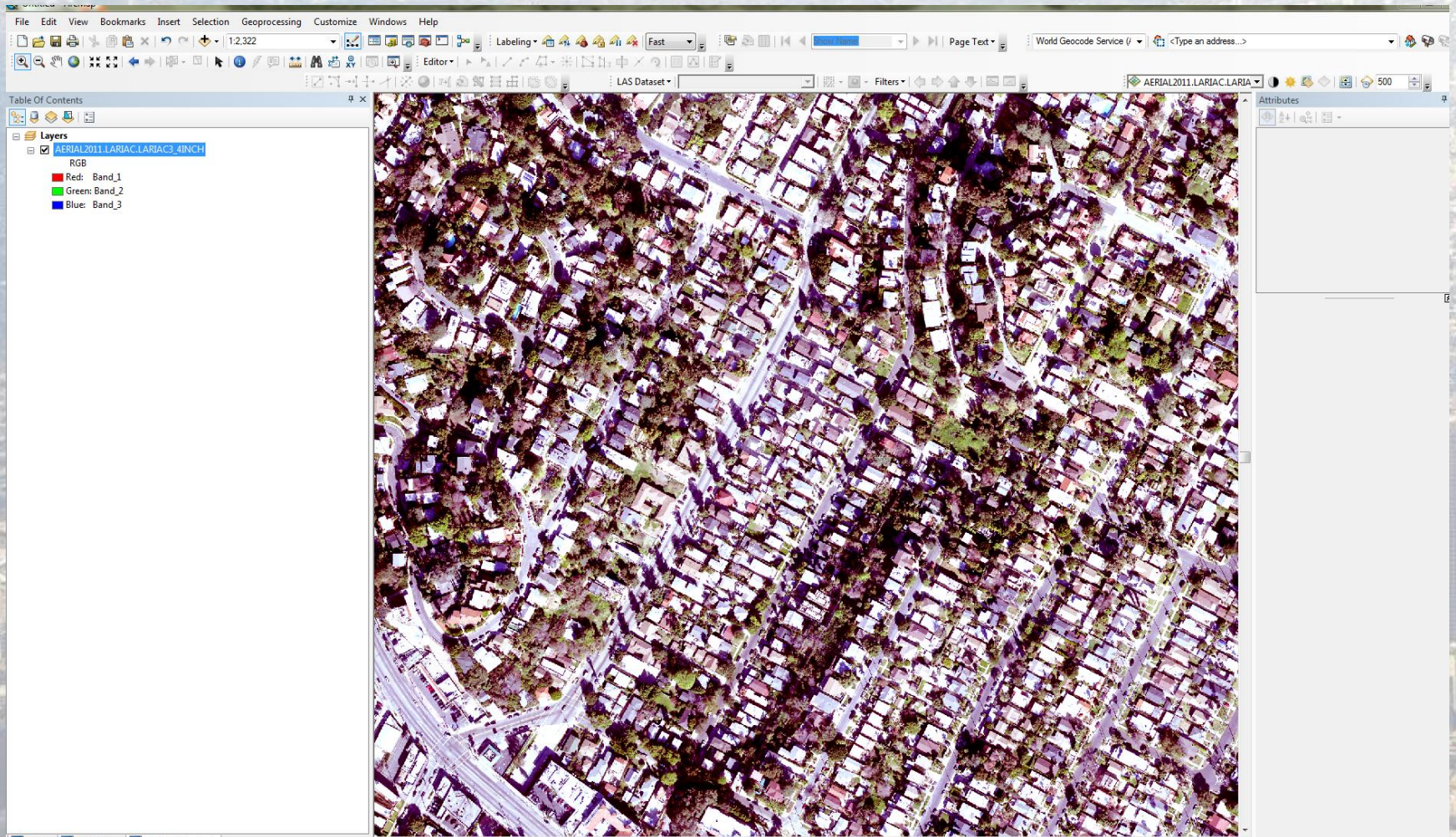
Ortho Imagery

- 
- An aerial photograph of a city skyline, likely San Francisco, with a file explorer window overlaid on the left side. The file explorer shows a directory structure for orthorectified imagery. The background image is slightly hazy, showing a dense urban area with many skyscrapers and buildings.
- Ortho_Deliverables
 - 2012_1foot
 - 2013_1foot
 - 2014_4inch
 - ECW
 - Grid
 - FGDC_Metadata_Files
 - GEOTIFF
 - 1_foot
 - 4_inch
 - JPEG2000
 - 1_foot
 - 4_inch
 - Raster_Dataset

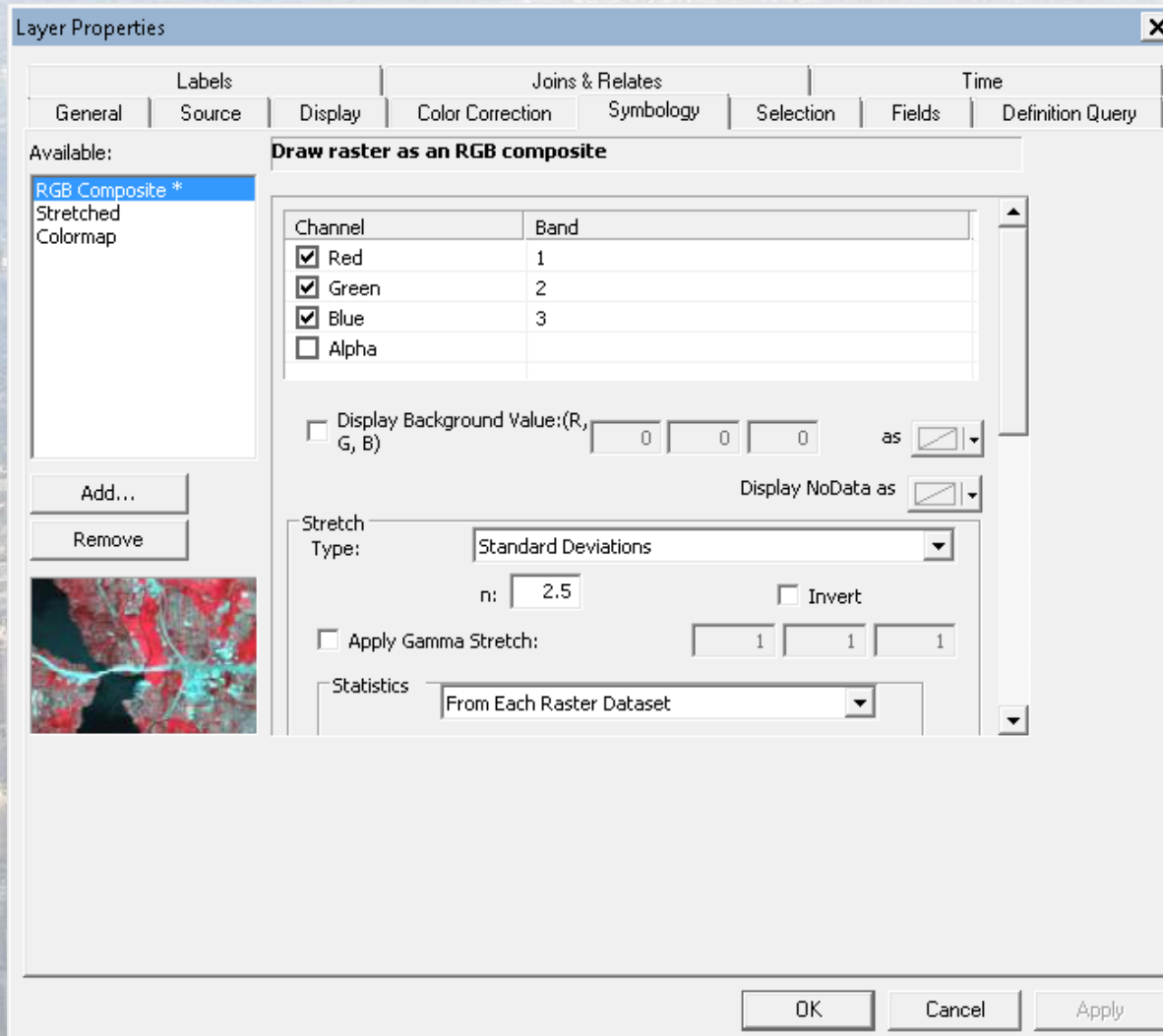
Orthogonal Imagery

- Raw imagery
 - .tiff files – the source data
 - JPEG 2000 files
- Compiled format
 - Raster Dataset (60% JPEG compression)
 - Combined to look like one image
 - Use right away
- Compressed format
 - ECW compression (20:1) for in vehicle use, etc.
- Online access from LA County
 - ESRI map service for inclusion in web sites ([example](#))

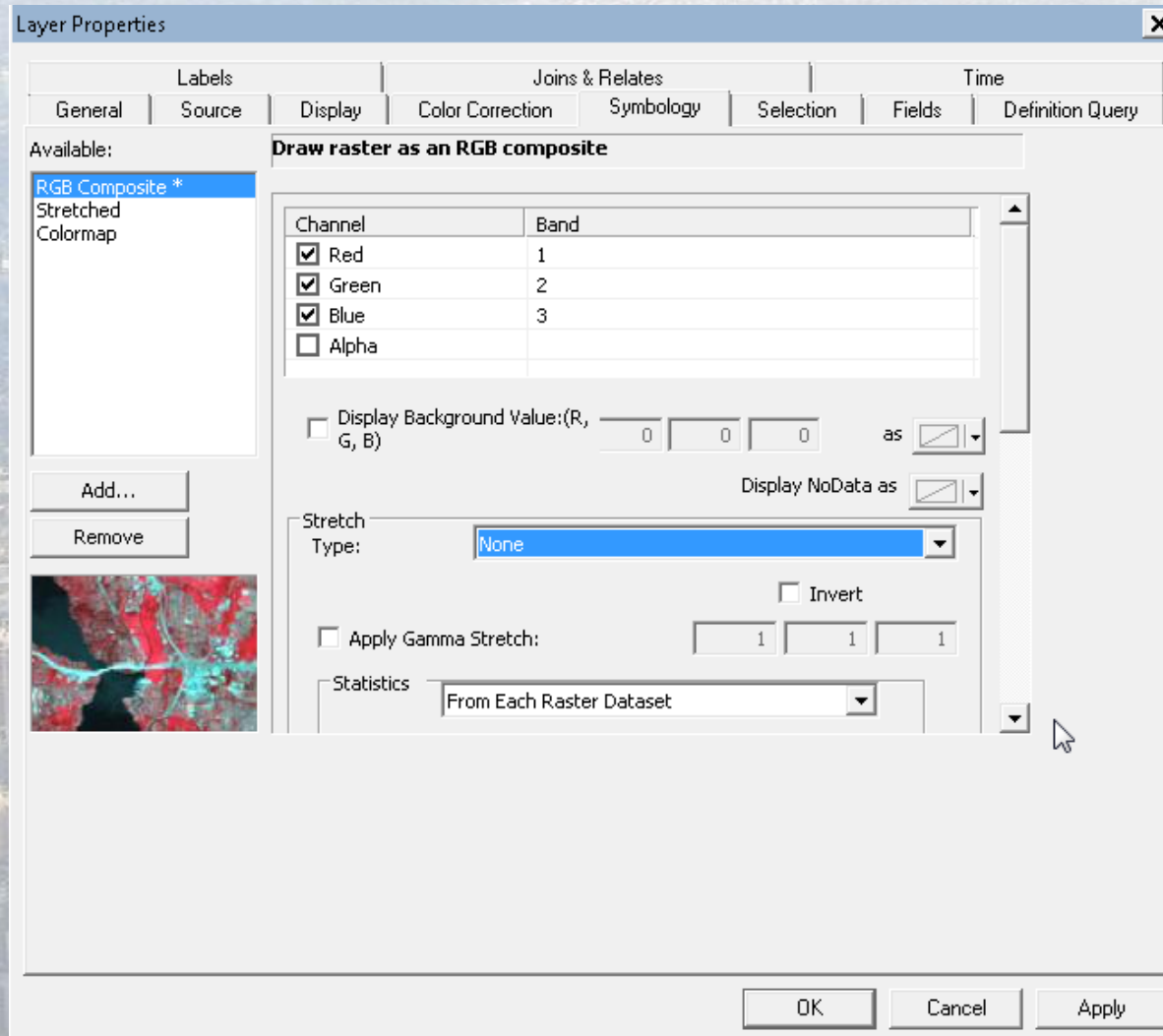
Image tone



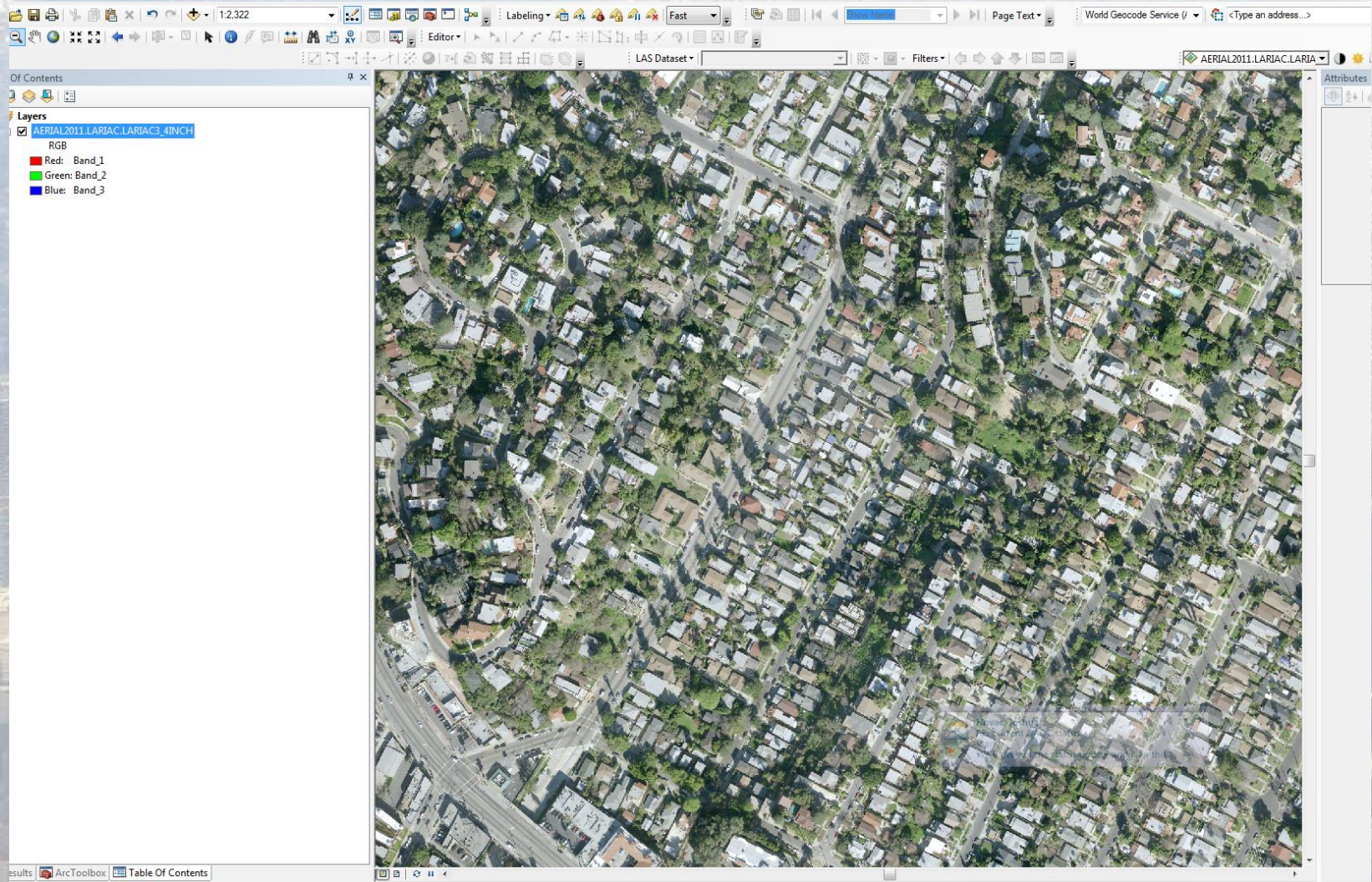
Don't use a stretch



Set to "None"



See – all nice!



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

Building Outlines

- Two shapefiles
 - Current buildings
 - Deleted buildings
- Current Building Data Structure
 - CODE (Building or courtyard)
 - BLD_ID – Unique ID
 - HEIGHT (Height in feet)
 - Elevation (Ground elevation)
 - Area (Building roofline in Square Feet)
 - Source (which provenance)
 - Date (data acquired)
 - AIN (Parcel ID)
 - Status (Unchanged, New, Replacement, Modified)
 - OLD_BLD_ID (connects to the Deleted Buildings ID)

Building Outlines

- Deleted Building Data Structure
 - CODE (Building or courtyard)
 - BLD_ID – Unique ID
 - HEIGHT (Height in feet)
 - Elevation (Ground elevation)
 - Area (Building roofline in Square Feet)
 - Source (which provenance)
 - Date (data acquired)
 - AIN (Parcel ID)
 - Status (Destroyed, Modified)
 - NEW_BLD_ID (connects to the Current Buildings ID)

An aerial photograph of a dense urban area, likely a city center, featuring numerous skyscrapers and a high concentration of buildings. The image is slightly hazy, suggesting a high-altitude or long-distance perspective. The text 'COUNTY GIS REPOSITORY' is overlaid in the lower-left quadrant of the image.

COUNTY GIS REPOSITORY

LA County GIS Repository

- A new feature of LARIAC
- Provide direct, read-only access to the County Enterprise GIS Repository.
- Enable participants to access our authoritative data directly – no need to download data from our data portal
- Eliminate duplicate effort.

What is the Repository

- 13 databases
- Organized by FGDC Theme
- Over 400 GIS data layers
- Many different sources



EGISDBP1 - AERIAL2011 as viewer.sde
EGISDBP1 - eGIS_Addressing as viewer.sde
EGISDBP1 - eGIS_Basemaps_Grids as viewer.sde
EGISDBP1 - eGIS_Boundaries_Admin as viewer.sde
EGISDBP1 - eGIS_Boundaries_Political as viewer.sde
EGISDBP1 - eGIS_Cadastral as viewer.sde
EGISDBP1 - eGIS_Demographic as viewer.sde
EGISDBP1 - eGIS_Elevation as viewer.sde
EGISDBP1 - eGIS_Environmental as viewer.sde
EGISDBP1 - eGIS_Hazards as viewer.sde
EGISDBP1 - eGIS_Hydro as viewer.sde
EGISDBP1 - eGIS_Infrastructure as viewer.sde
EGISDBP1 - eGIS_Services as viewer.sde
EGISDBP1 - eGIS_Transportation as viewer.sde

An aerial photograph of a dense urban area, likely a city center, showing a vast expanse of buildings and skyscrapers. The foreground is dominated by tall, modern skyscrapers, while the background shows a more densely packed residential or commercial area that fades into a hazy horizon. The overall scene is a high-angle, wide-area view of a major city.

COUNTY GIS SERVICES TO CITIES

GIS Services

- County maintains a GIS infrastructure and GIS expertise
 - Cities may not have the resources to fully leverage GIS
 - Are there opportunities for the County to support cities with standard GIS tools and services?
 - Leverage collaboration to reduce cost to cities.
- Cities can subscribe to LARIAC capabilities (slightly lower cost, less access)

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

Questions/Comments?



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