Data Loading – Lessons Learned

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LOS ANGELES REGION
LAR|ac
imagery acquisition consortium

Overview

- Main Tasks (Project)

- Planning – Including Setup of Data Loading Procedures

- Testing

- Loading Data

- Full Production Mode

- Lessons Learned

Main Tasks (Project)

- Load 1-foot, 1-meter, and 2-meter imagery datasets of the entire County

- Serve the imagery to our staff via an intranet web application

- Approximately 300 GB of data

- This was 1st and 2nd Qtrs. of 2002 – over 4 years ago!

Coverage Area

- Notice we did not have color balancing among the collection areas

- This is not the actual imagery after loading (this is just a screen-shot)

Planning & Setup of Loading Procedures

- Server setup (Windows 2000, SQL 7, & ArcSDE 8.1.2)
- Fiber channel disk arrays, RAID 5
- For raster data, we created the following:
  - Mosaics (by collection area)
  - Pyramids
  - LZ77 compression (no JPG compression at the time)
  - Statistics

Planning (Cont'd)

- Vector data
  - Batch loading where possible
  - Calculating grid sizes
  - Setting up indexing for attribute fields
- Database administration (no DBA on staff)

Testing

- Initially loaded a few test areas
- Tested batch commands (created by ESRI staff)
- Determined original file size vs. size-as-loaded in ArcSDE (including pyramids and compression) – the latter was 5% greater on average
- Determined loading speed – about 1 GB per hour
- Checked loaded data in ArcMap (a small issue arose)
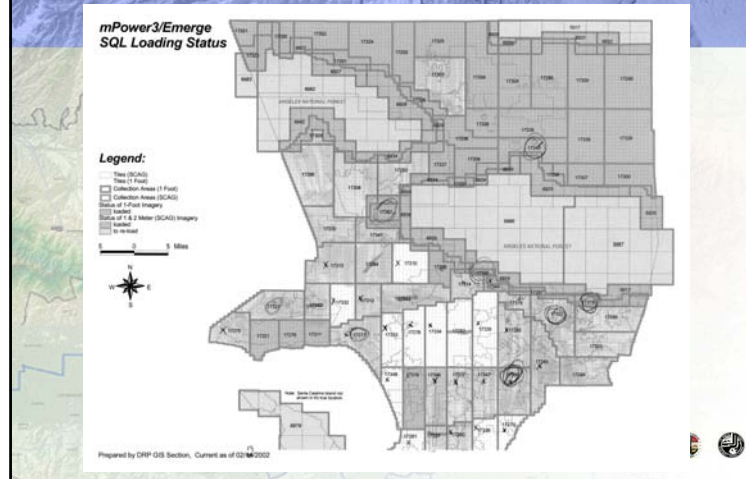- Did not check in ArcIMS until later, but it worked

Script for Batch Loading

- The script performs the following:
  - Obtains the tiles
  - Builds pyramids
  - Updates Statistics
  - Compresses the imagery (LZ77)

How We Tracked Loading Progress

Stretching Could Effect the Appearance in ArcMap
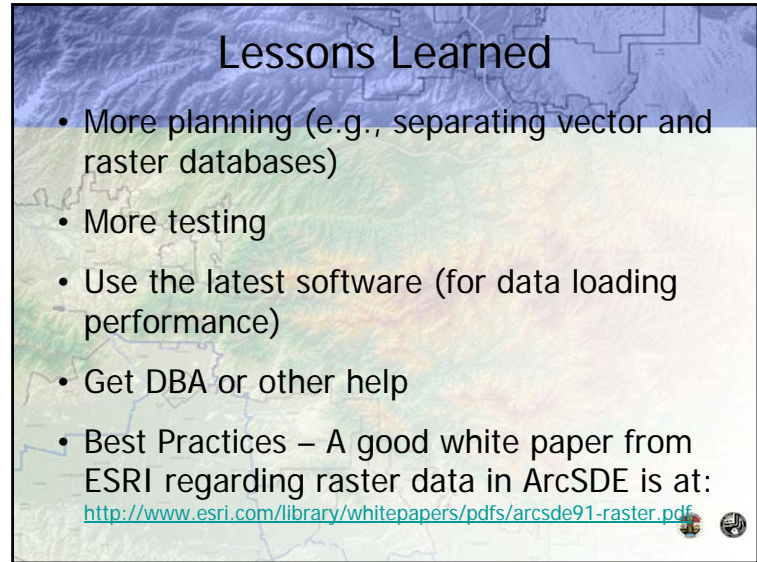

Loading Data

- Once the procedure was setup, processing was relatively easy (but time consuming)

- A few areas had issues (e.g., 1-2 tiles were missing)
  - We had to reprocess areas at first (from scratch)
  - A script was provided to fill in missing areas (thanks to Technical Marketing Group!)
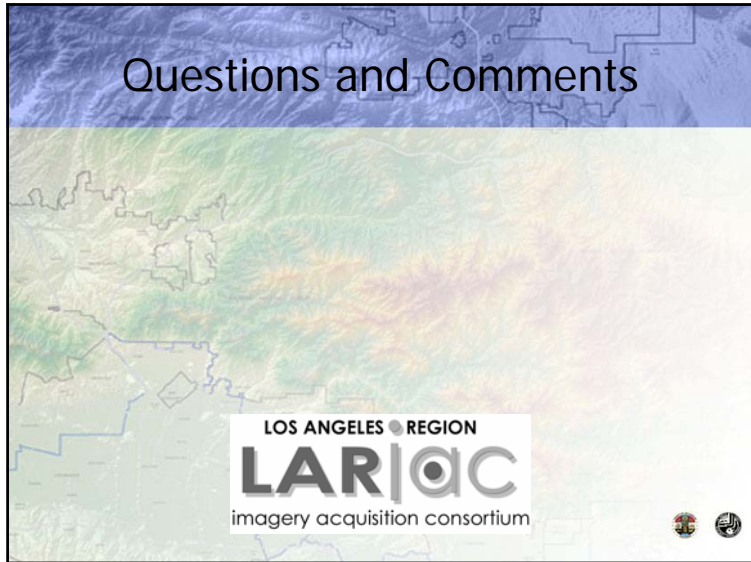
Full Production Mode

- Data available in ArcSDE

- Our GIS Section users have access through ArcMap

- Most users have access through our internal ArcIMS web site

3

Lessons Learned

- More planning (e.g., separating vector and raster databases)

- More testing

- Use the latest software (for data loading performance)

- Get DBA or other help

- Best Practices – A good white paper from ESRI regarding raster data in ArcSDE is at: http://www.esri.com/library/whitepapers/pdfs/arcsde91-raster.pdf

Questions and Comments

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