

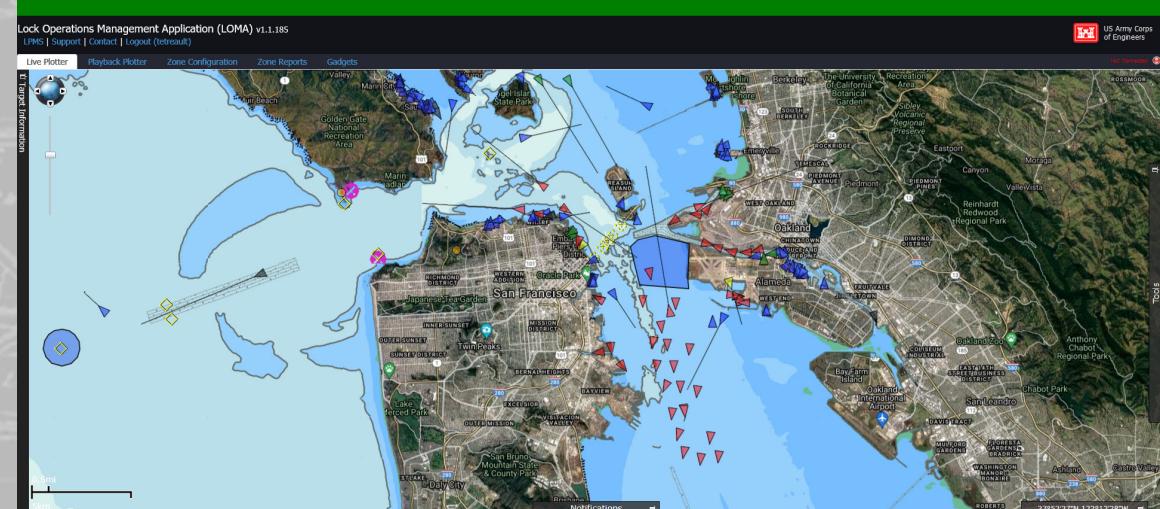
Lock Operations Management Application (LOMA) Introduction

- User set up
- Primary functions
- Additional capabilities

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US Army Corps
of Engineers ®



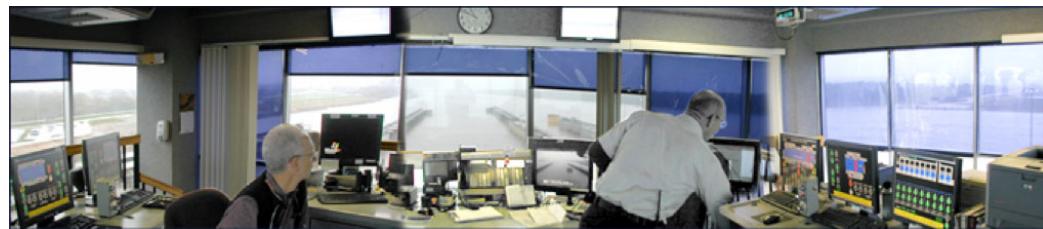
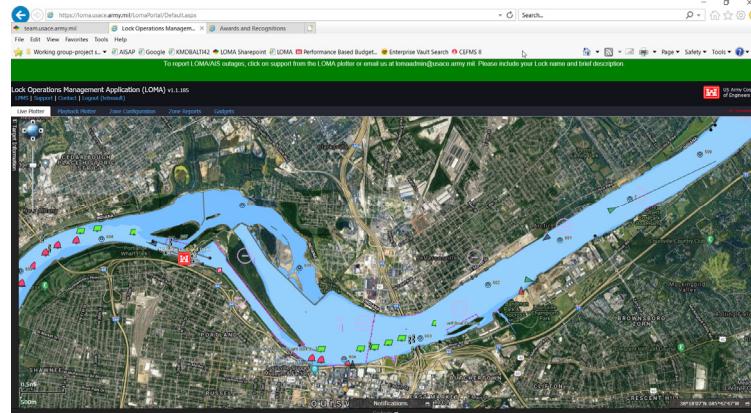


LOMA Introduction

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- LOMA system overview
 - Origin and purpose
 - Field equipment
 - Software
 - User interface
 - Demonstration and hands-on instruction





LOMA Origins and purpose

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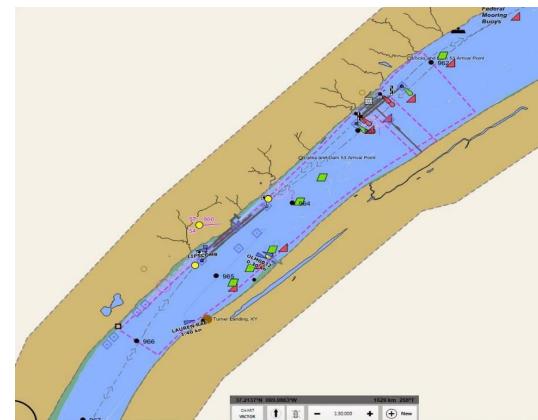
Origin:

- Mid-2000s USACE began investigating use of AIS
 - RTCV, AISEP, analysis in support of project studies
- 2009 ARRA funding
 - “LOMA 1”
 - Primarily aimed at lock operations – hence “LOMA”

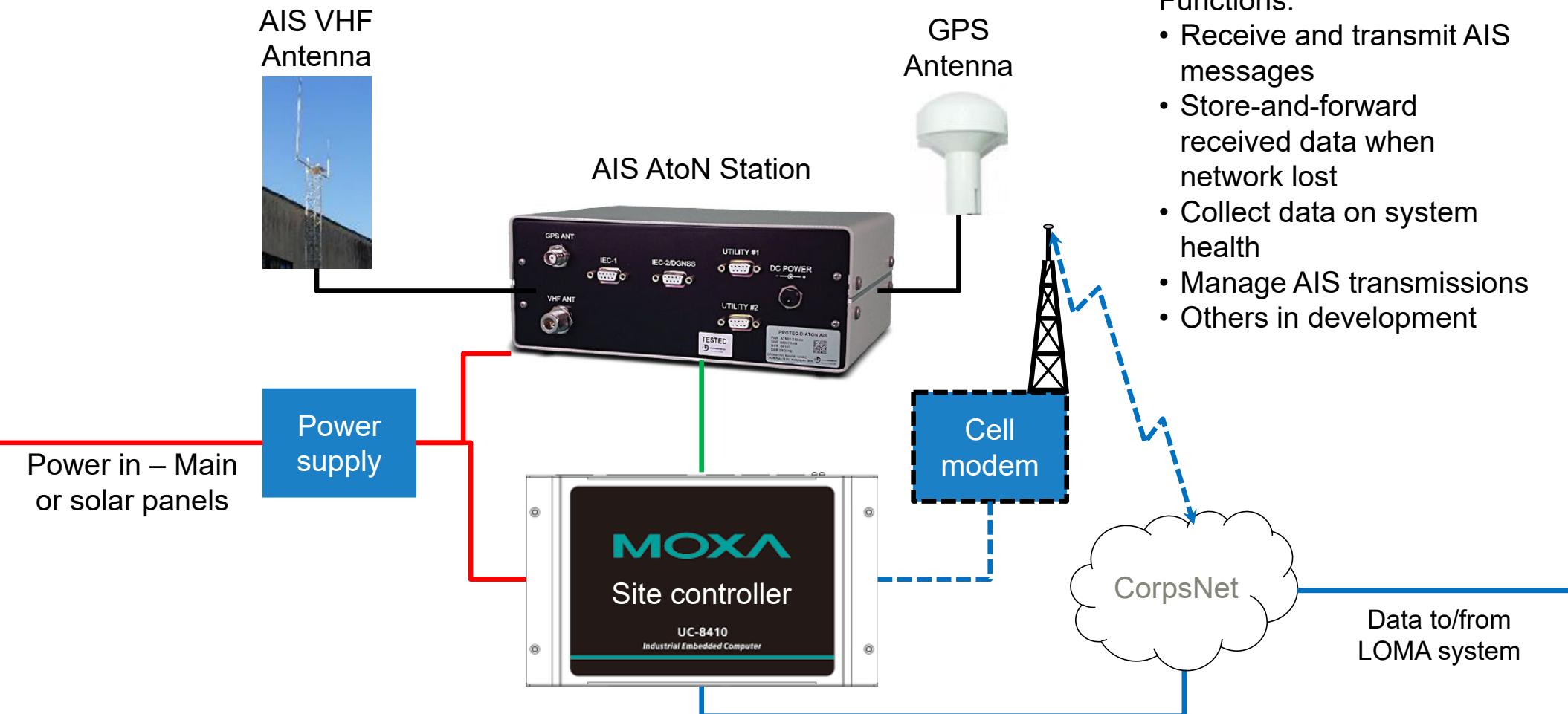


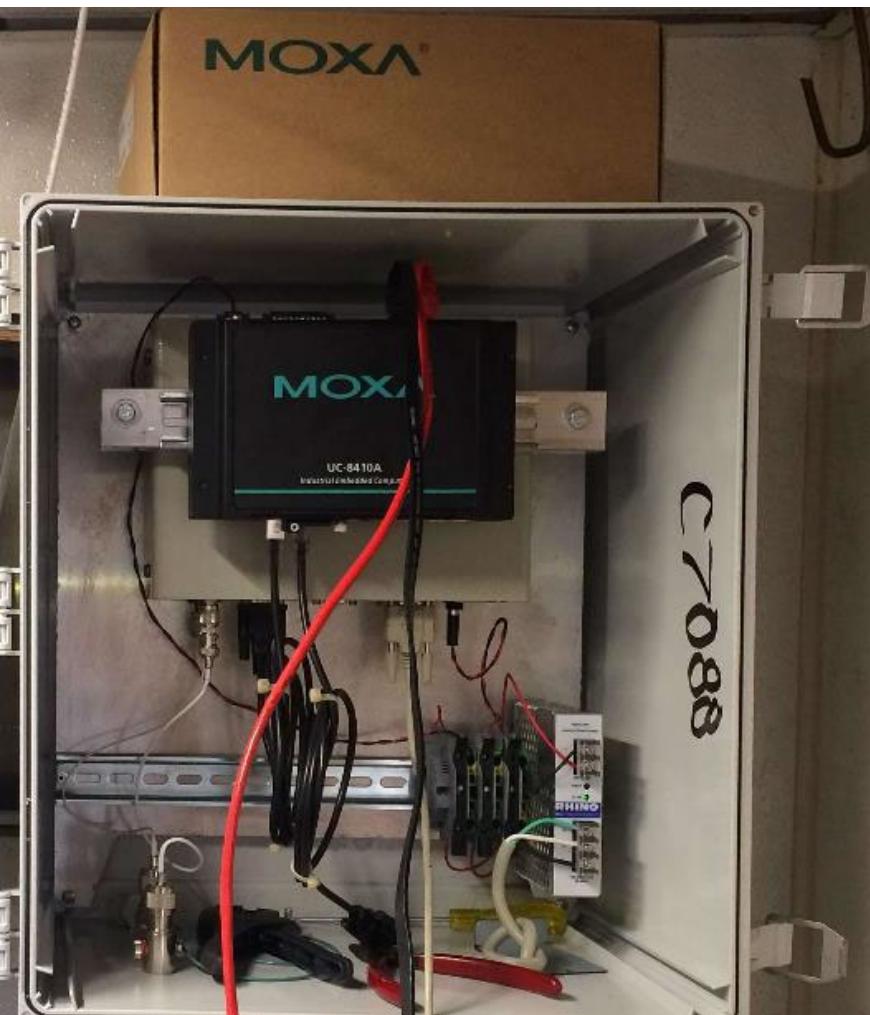
Purpose

- Provide end users information needed for decision support
 - Lock operators
 - Vessel operators
 - Corps management
 - Other systems – internal and external
- Leverage AIS capabilities
 - Vessel tracking
 - Analysis
 - Transmit capabilities



LOMA AIS equipment

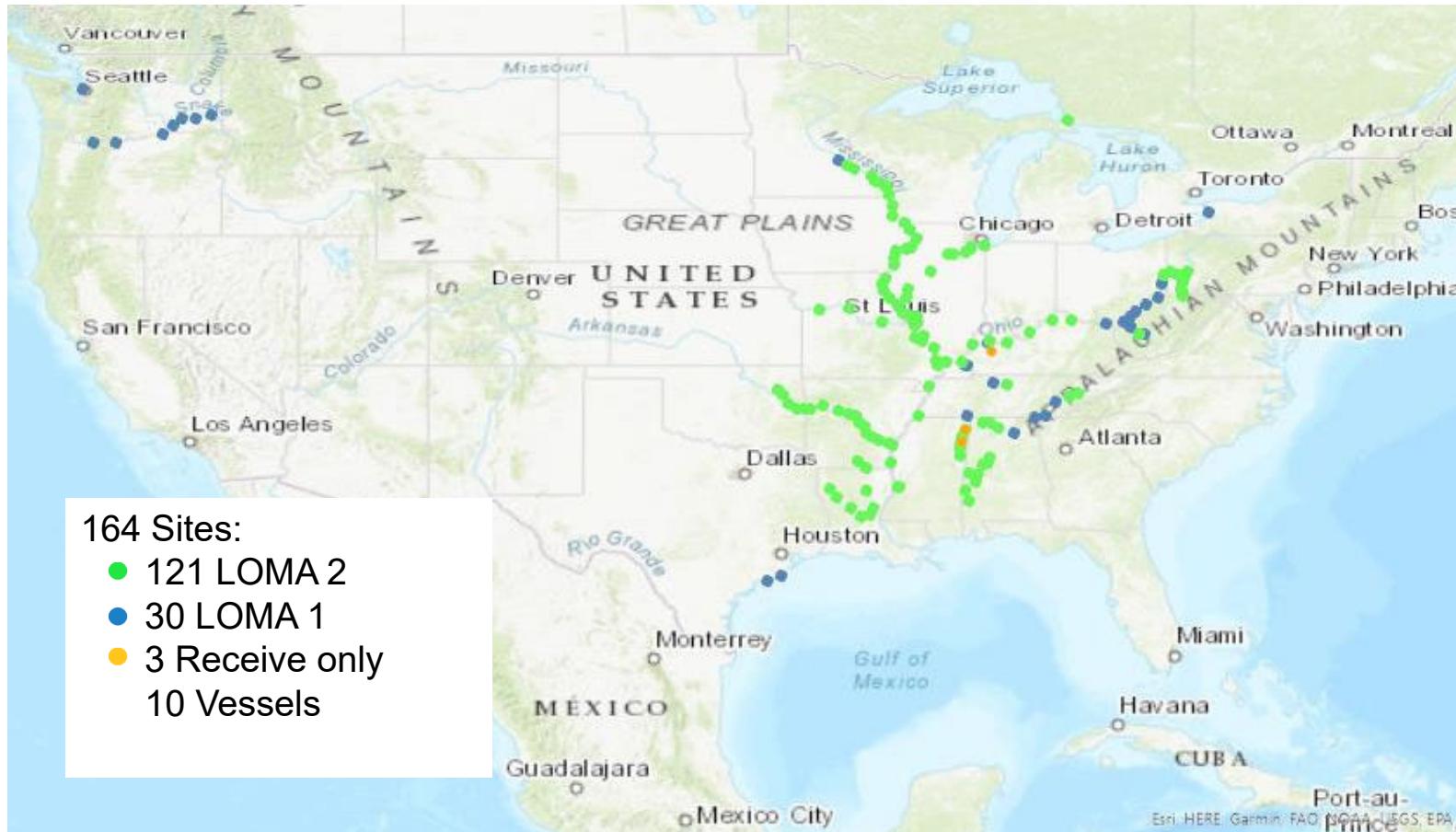






LOMA AIS equipment locations

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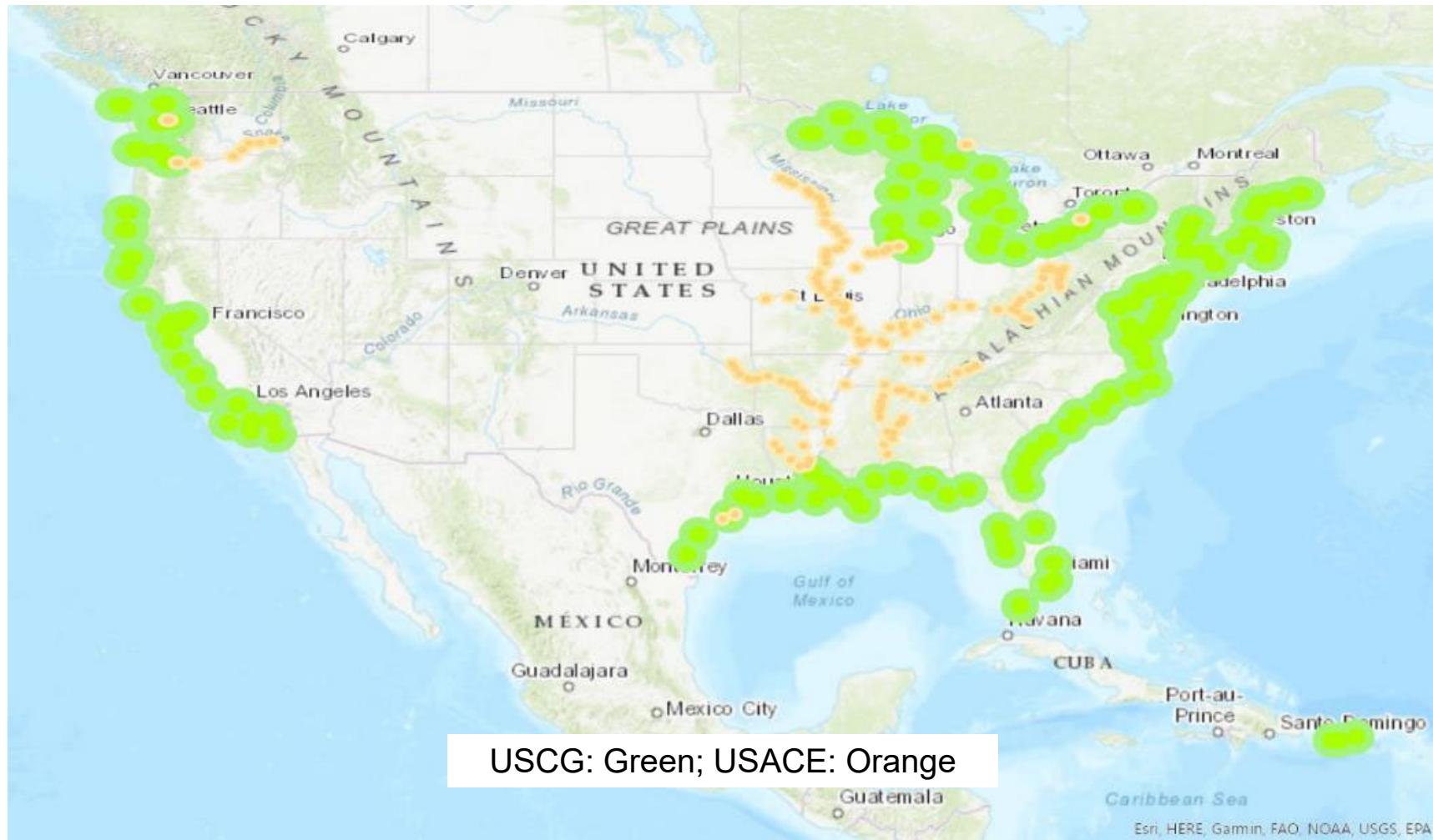




Approximate AIS coverage

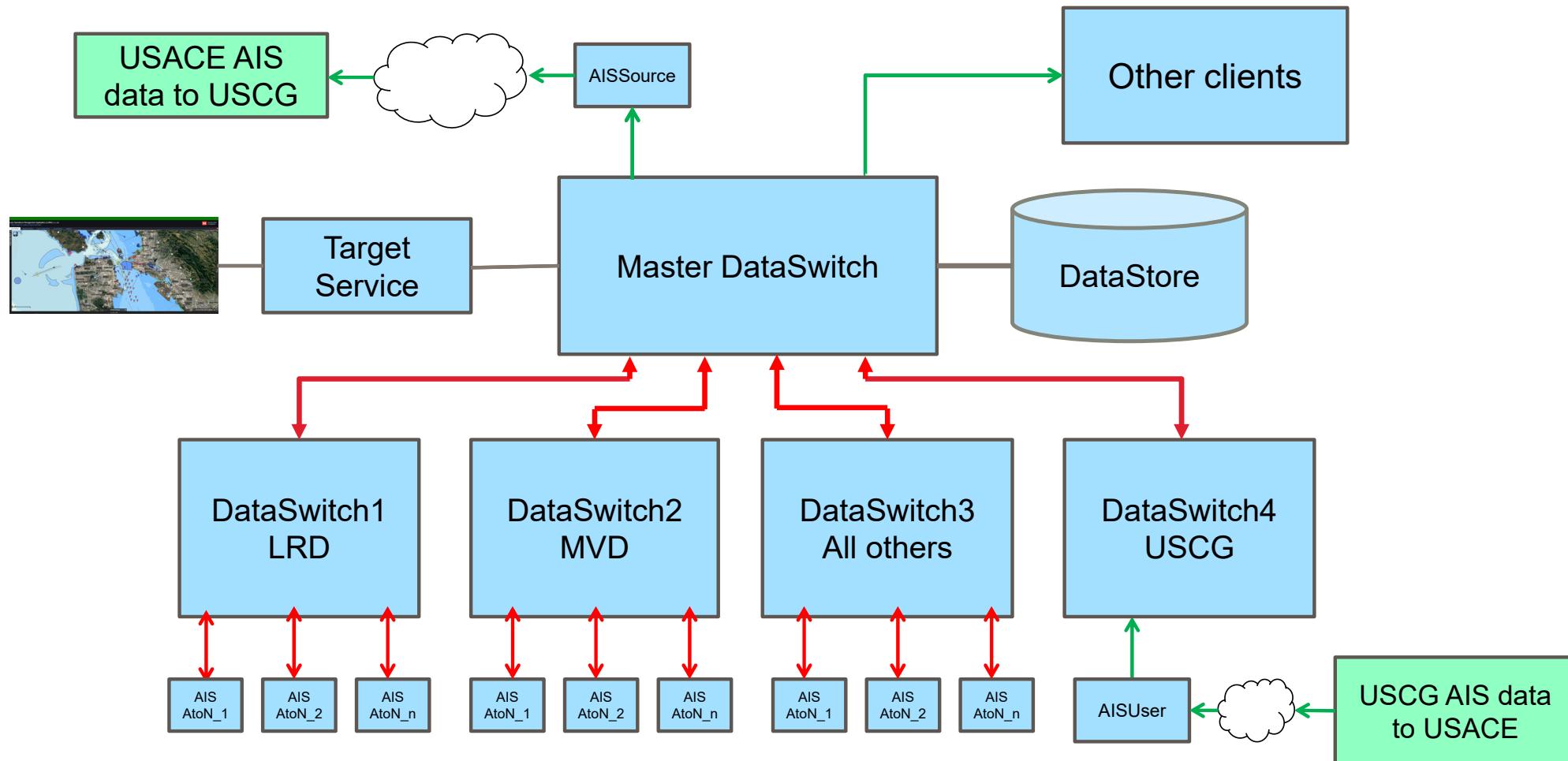


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LOMA software





Demonstration and hands-on instruction



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- Initial set up
 - Log in
 - User Settings
 - Default view
- Overview of the user interface (Plotter)
 - Tools overview – quick reference sheet
 - Ways to move around – cursor, mouse, Locations
- Primary functions
 - Imagery and symbology
 - Getting vessel information
 - Target Tags
 - Target Data window
 - Find a vessel
 - Marker creation
 - Zone creation
 - Zone alerts, notifications
 - Zone reports
- Additional functions (if time and interest)
 - Filters
 - All, Active, Filtered, or No AIS
 - ENC Query
 - Measuring distance
 - ETA
 - Playback (currently unavailable)
 - Others?

But first – any questions?

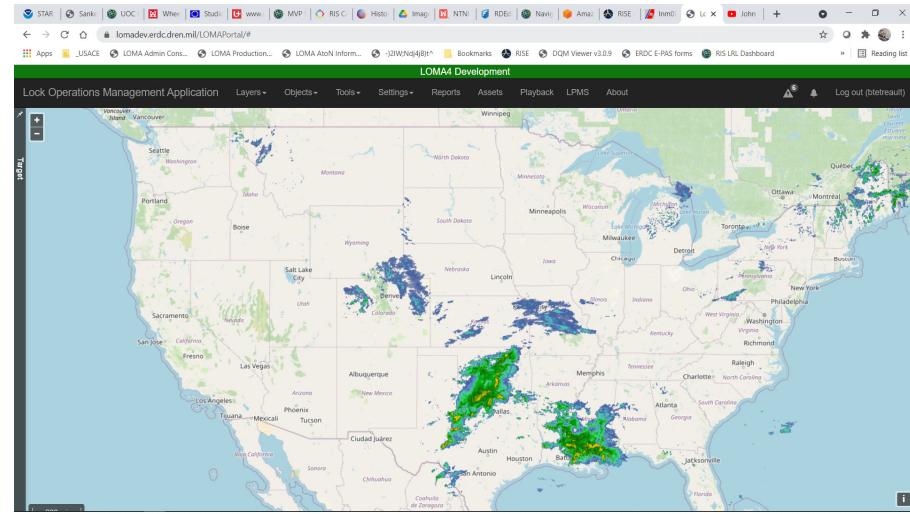
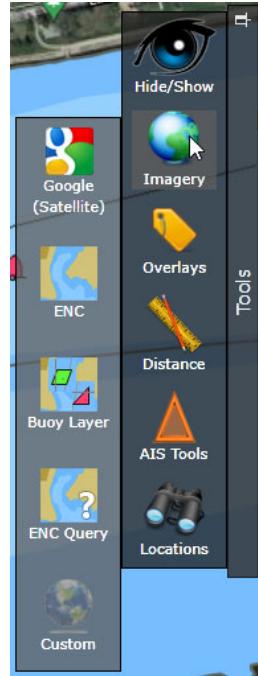


LOMA Day 2 - Review

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- Questions or issues?
- Additional functions:
 - Filters
 - All, Active, Filtered, or No AIS
 - ENC Query
 - Measuring distance
 - Others?
- LOMA updates:
 - New sites
 - Coverage analysis
 - Updated software - LOMA4
 - Demonstration
 - User testing



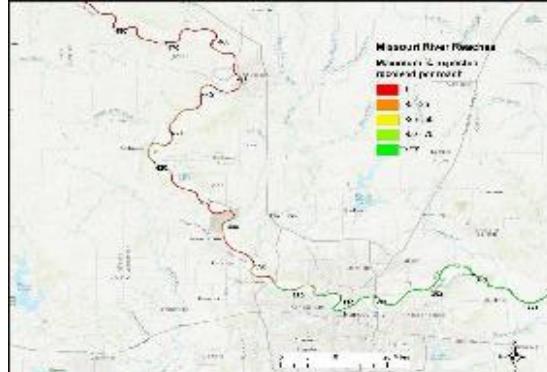


LOMA UPDATE – 2020 ACTIVITIES

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- New sites: Vicksburg Bridge, USACE PATHFINDER
- 2nd generation equipment
 - Deployed to 131 of 164 sites
 - LRD install trip 17-31 May 2021
- Coverage analysis
 - Identify gaps
 - System monitoring
- LOMA4 software development update



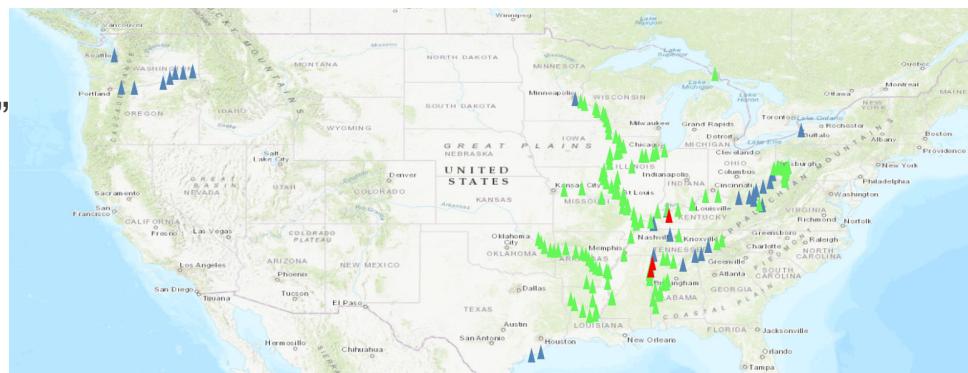
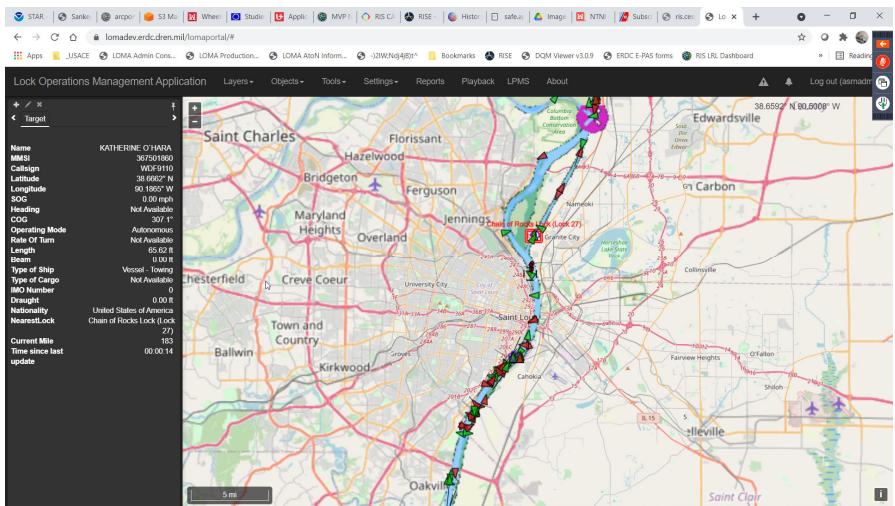
- Additional capabilities
 - ▶ Store-and-forward data
 - ▶ “Scatter hoarding”
- Cell Modem capability
 - ▶ For non-lock locations

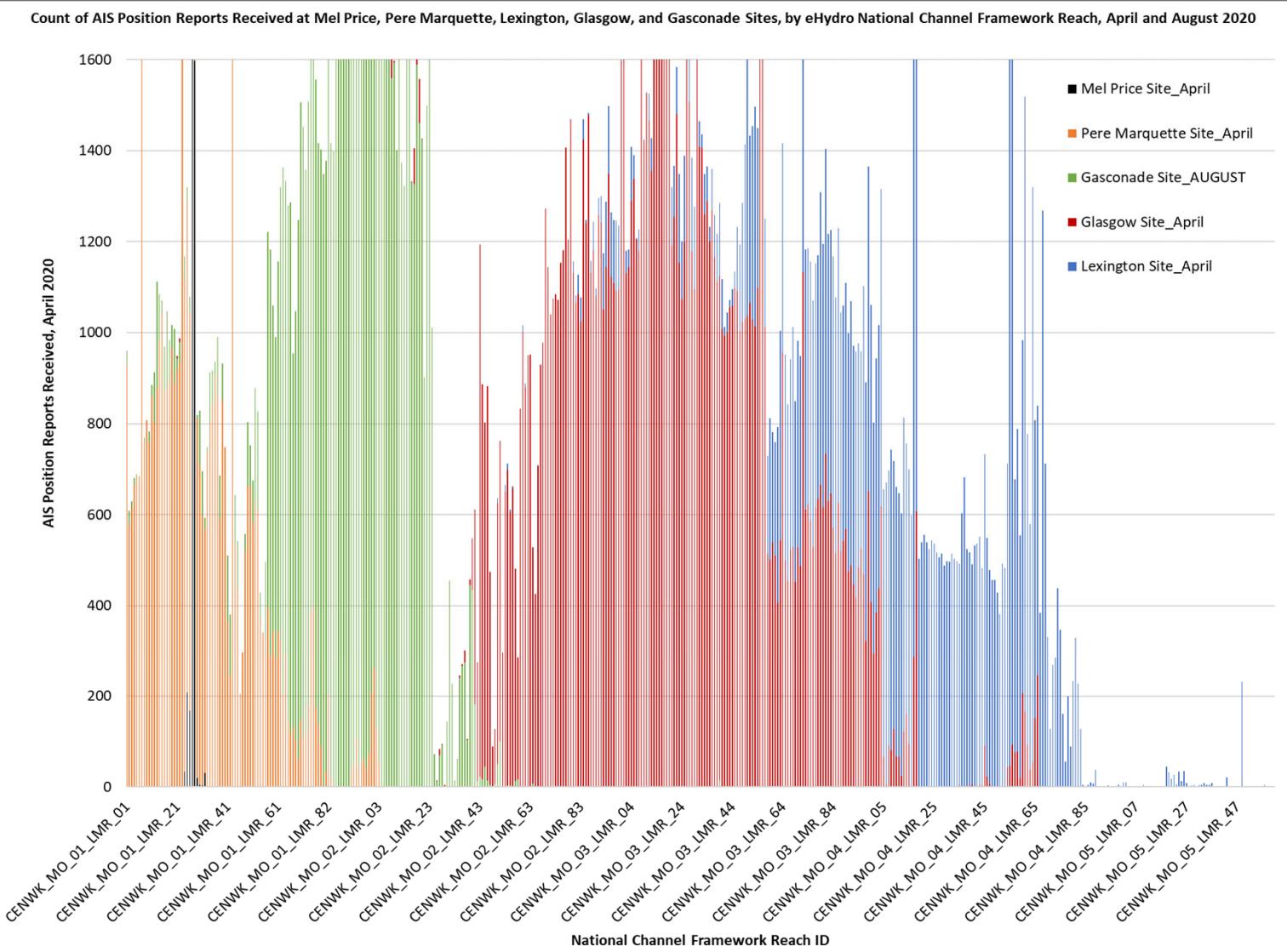


AIS COVERAGE ANALYSIS

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- Initial deployment was lock-centric – support LOMA real-time operation
- More reliance on AIS data – historical analysis
 - Travel time analysis (Patty Dijoseph)
 - Density maps (Dan McBride - MVR)
 - AISAP (coming up next)
- Need for better coverage info
 - Identify and fill gaps
 - Monitor system performance
 - Metadata for historical analysis
- Different ways to define and measure “coverage”
- 2 methodologies:
 - Count of position reports received per reach
 - Predicted reception vs Actual reception

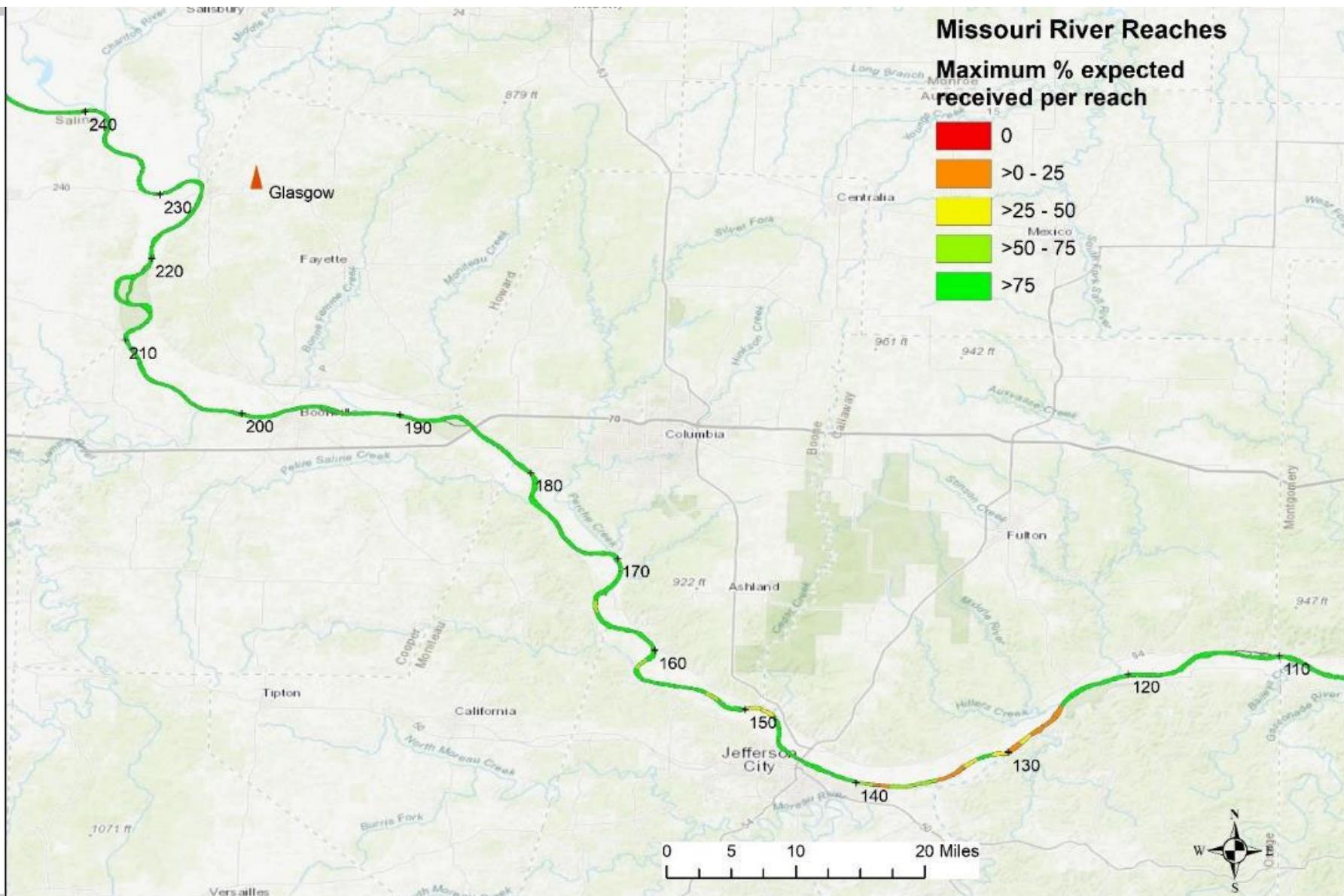






Missouri River Reaches

Maximum % expected received per reach





Thank you for your attention!

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Brian Tetreault ERDC-CHL

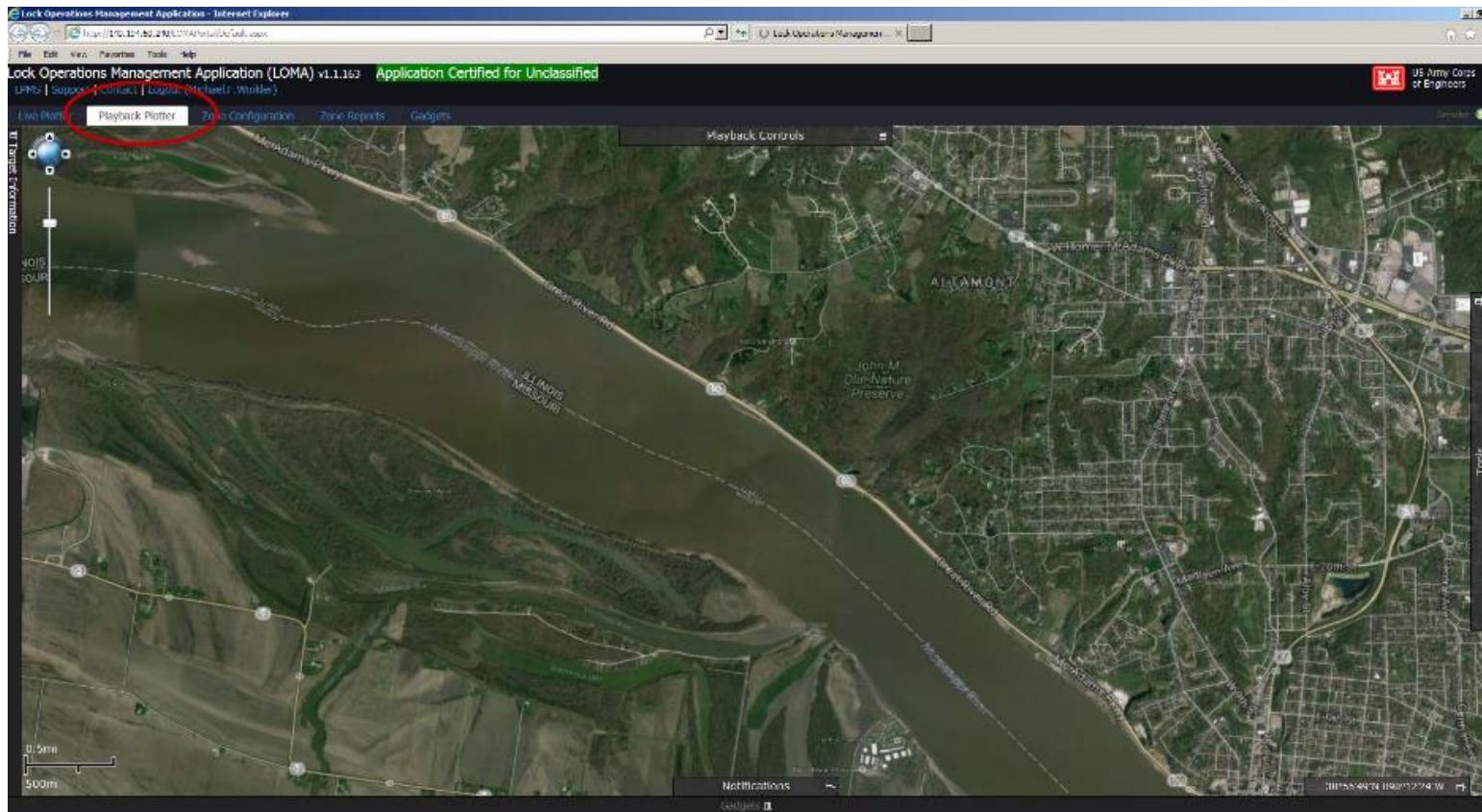
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LOMA PLAYBACK PLOTTER

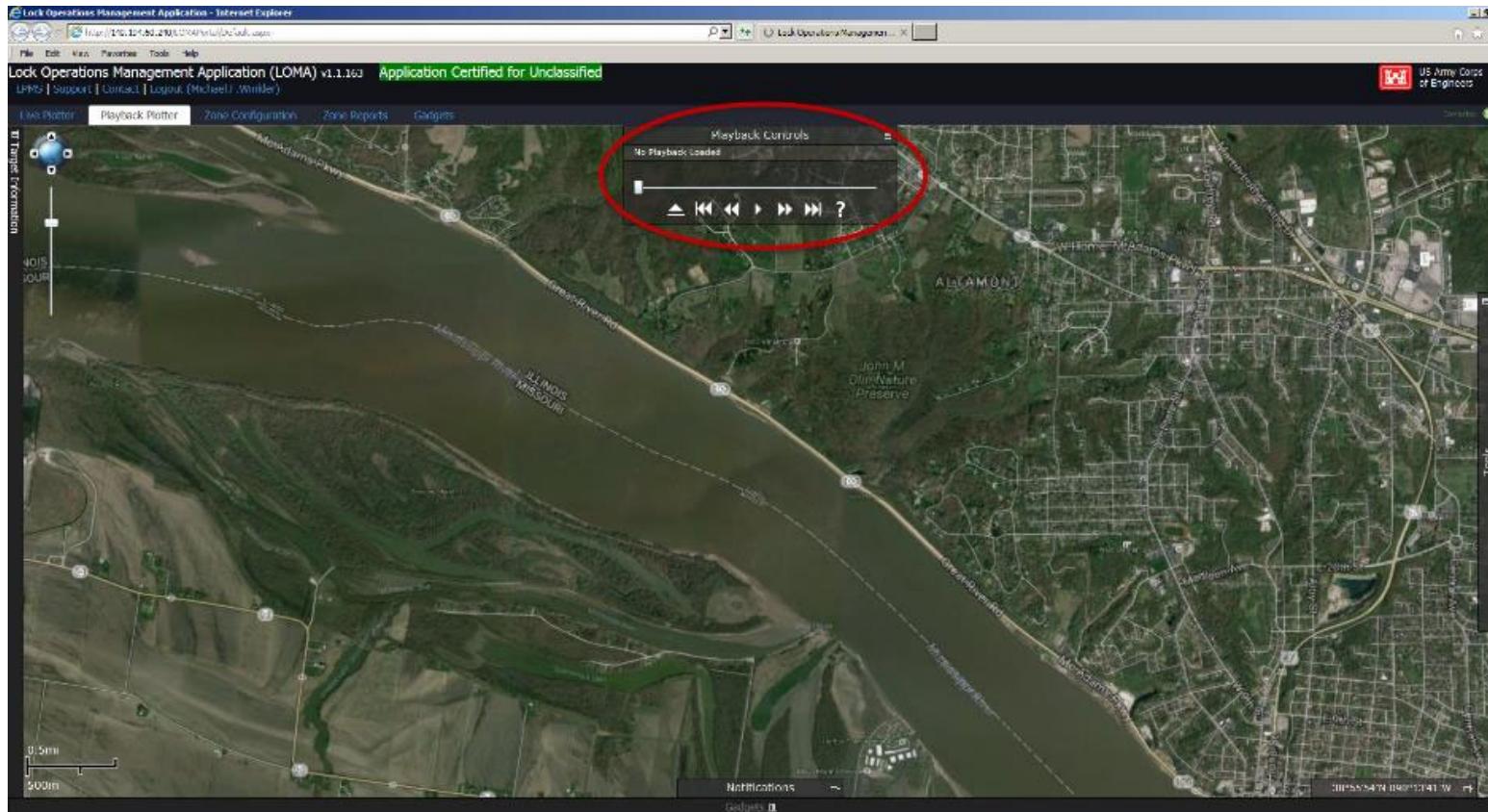
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LOMA PLAYBACK CONTROLS

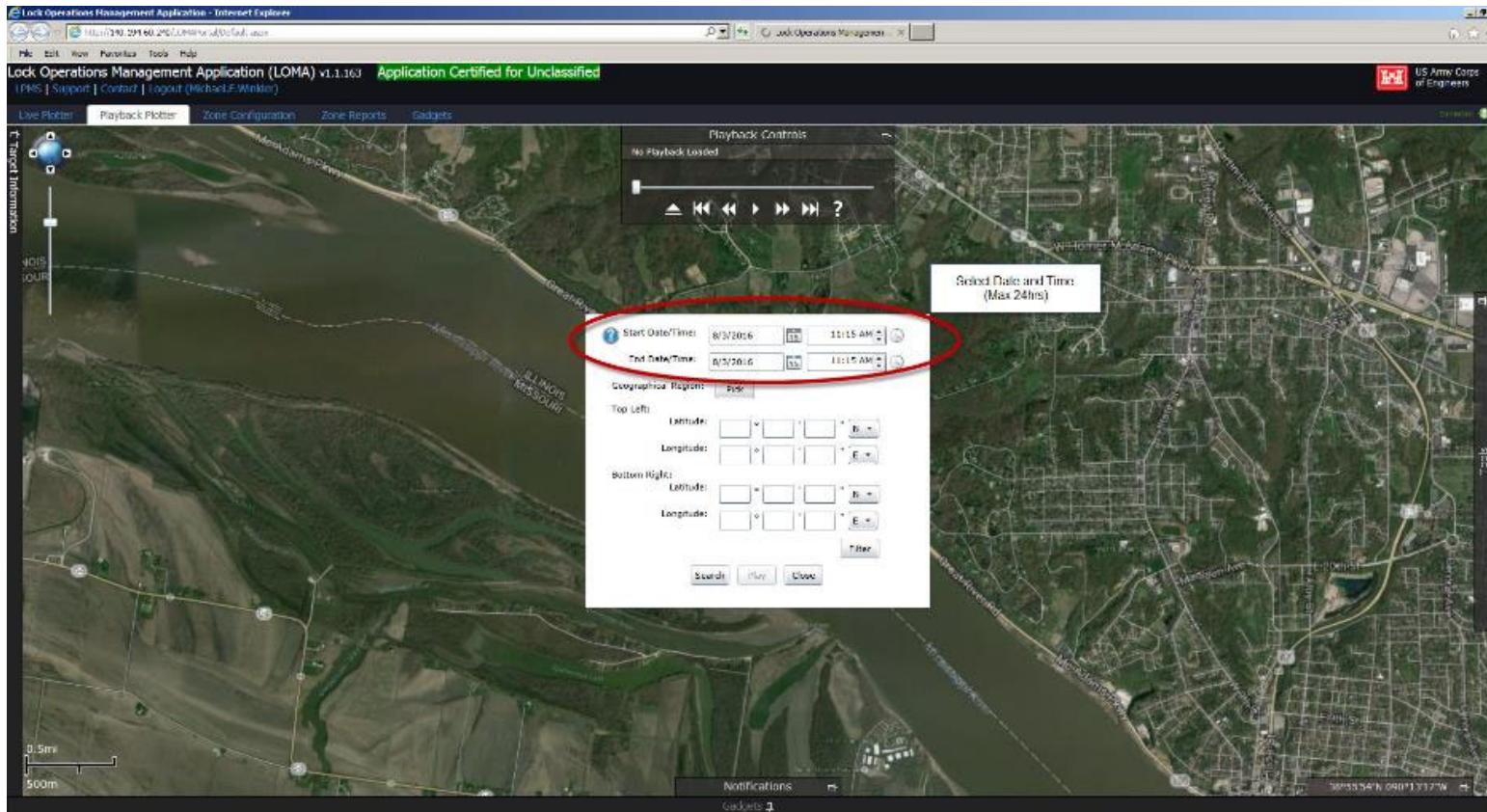
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LOMA PLAYBACK QUERY

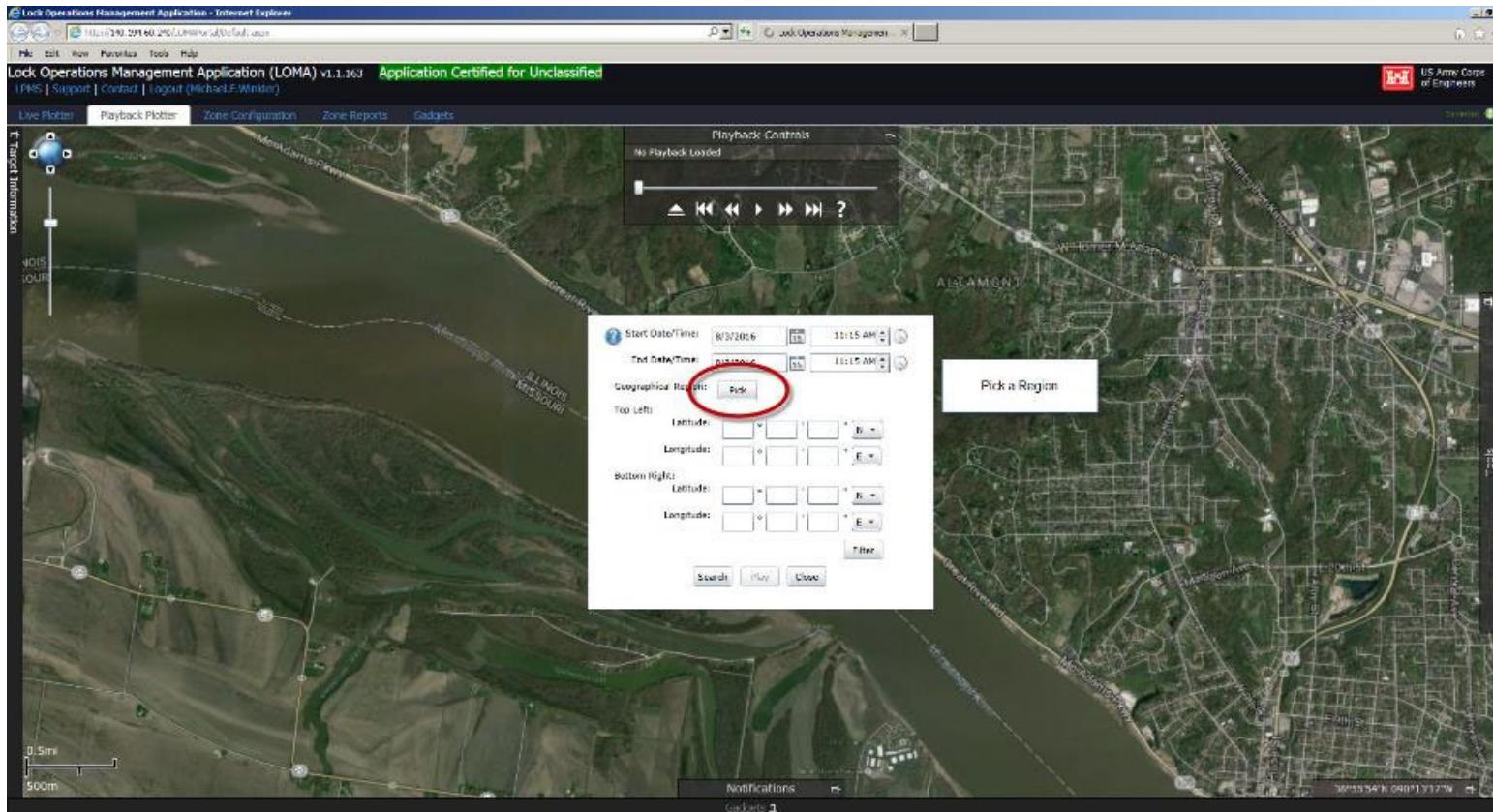
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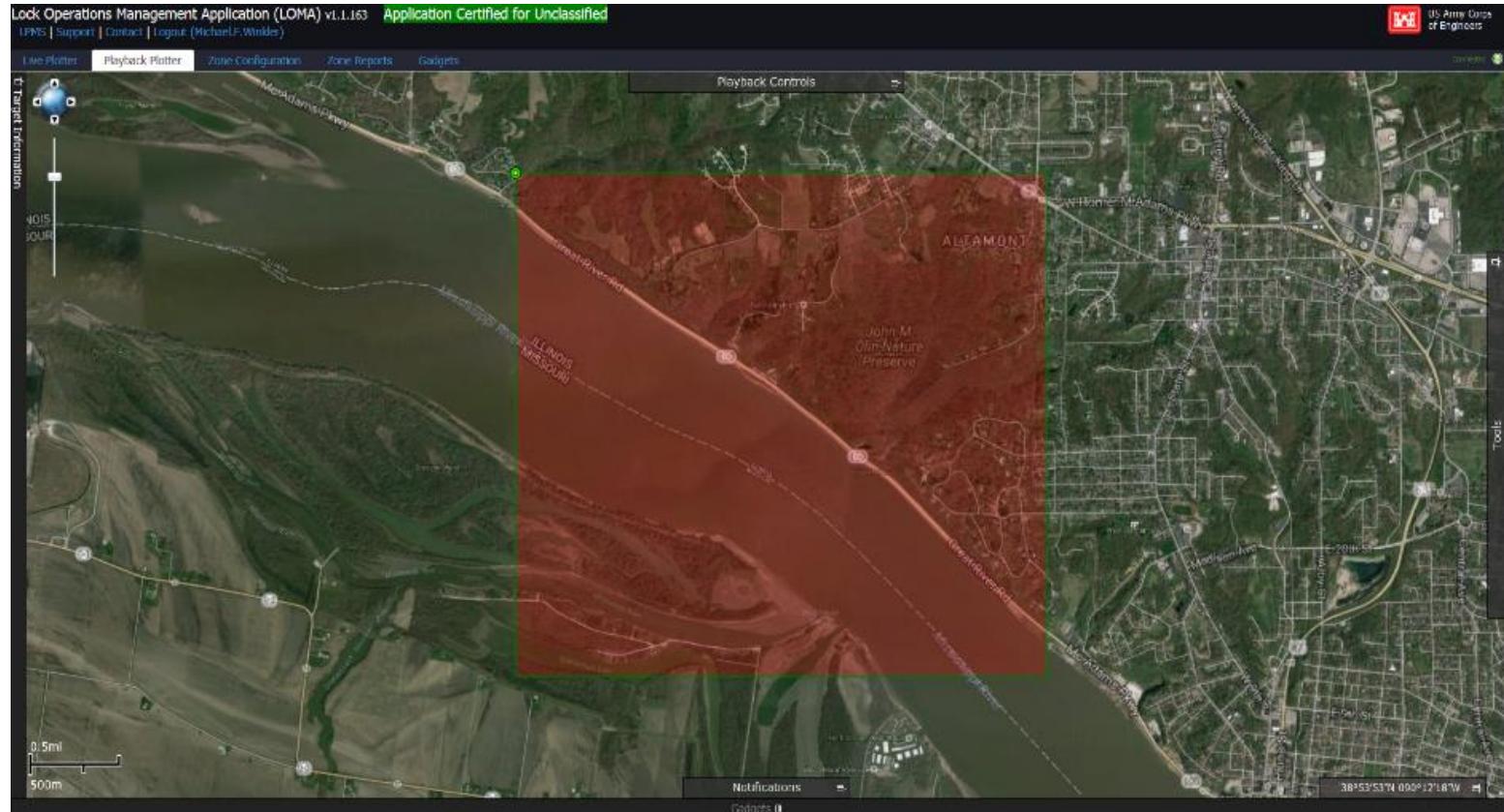
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LOMA PLAYBACK QUERY

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Playback: Grounding – Upper Mississippi River



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