USACE Geospatial Work Efforts

Tim Pangburn
USACE Remote Sensing/GIS Center
US Army Cold Regions Research & Eng. Lab
Hanover NH

U. S. Geological Survey – U.S. Army Corps of Engineers
Joint Headquarters Meeting

4 October 2012

US Army Corps of Engineers
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Why are we doing this?

- USACE is building EGES solutions to join business lines for a corporate perspective
  - Emergency Management
  - National Levee Database
  - National Inventory of Dams
  - Water Management
  - Regulatory Permitting, etc.

- WRDA 2007 Requirements
  - Section 2017 – USACE will provide access to water resources data and related water quality data to the public and all stakeholders for integrated water resources decision making

Mission

CorpsMap is the USACE nationwide enterprise GIS implementation. As described in EM 1110-1-2909, CorpsMap is the single authoritative source for USACE national geospatial data assets. CorpsMap consists of an operational geospatial database, an open interface, and a web portal. CorpsMap supports data analysis and visualization using a Web Browser, Google Earth, ESRI ArcGIS, C/JMTK, and other off-the-shelf software

CorpsMap - Enterprise Geospatial Data and Services for USACE - Mozilla Firefox

File Edit View History Bookmarks Tools Help

CorpsMap - Enterprise Geospatial Data and ...

army.mil https://corpsmap.usace.army.mil

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US Army Corps of Engineers

CorpsMap

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ABOUT | APPLICATIONS | SERVICES | METADATA | CONTACTS | LINKS

|| CORPSMAP APPLICATIONS

The following applications are available as part of the CorpsMap system

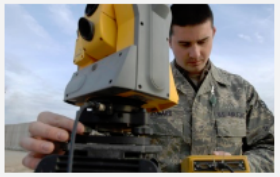
The CorpsMap Viewer

Corps Project Notebook (CPN)

The National Levee Database (NLD)

The National Inventory of Dams (NID)

USACE Survey Monument Archival and Retrieval Tool (U-SMART)

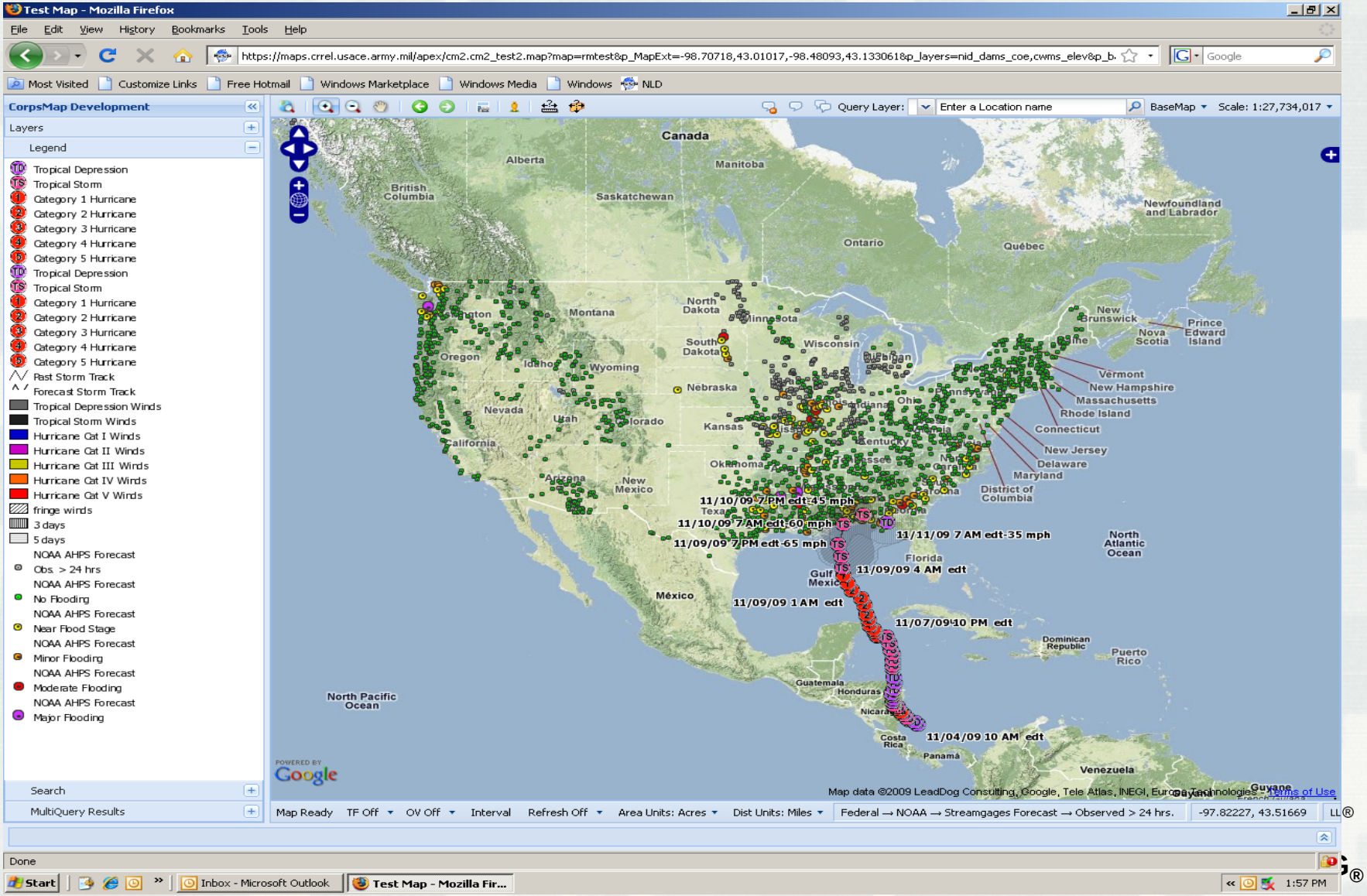


Comprehensive Evaluation of Project Datums (CEPD)

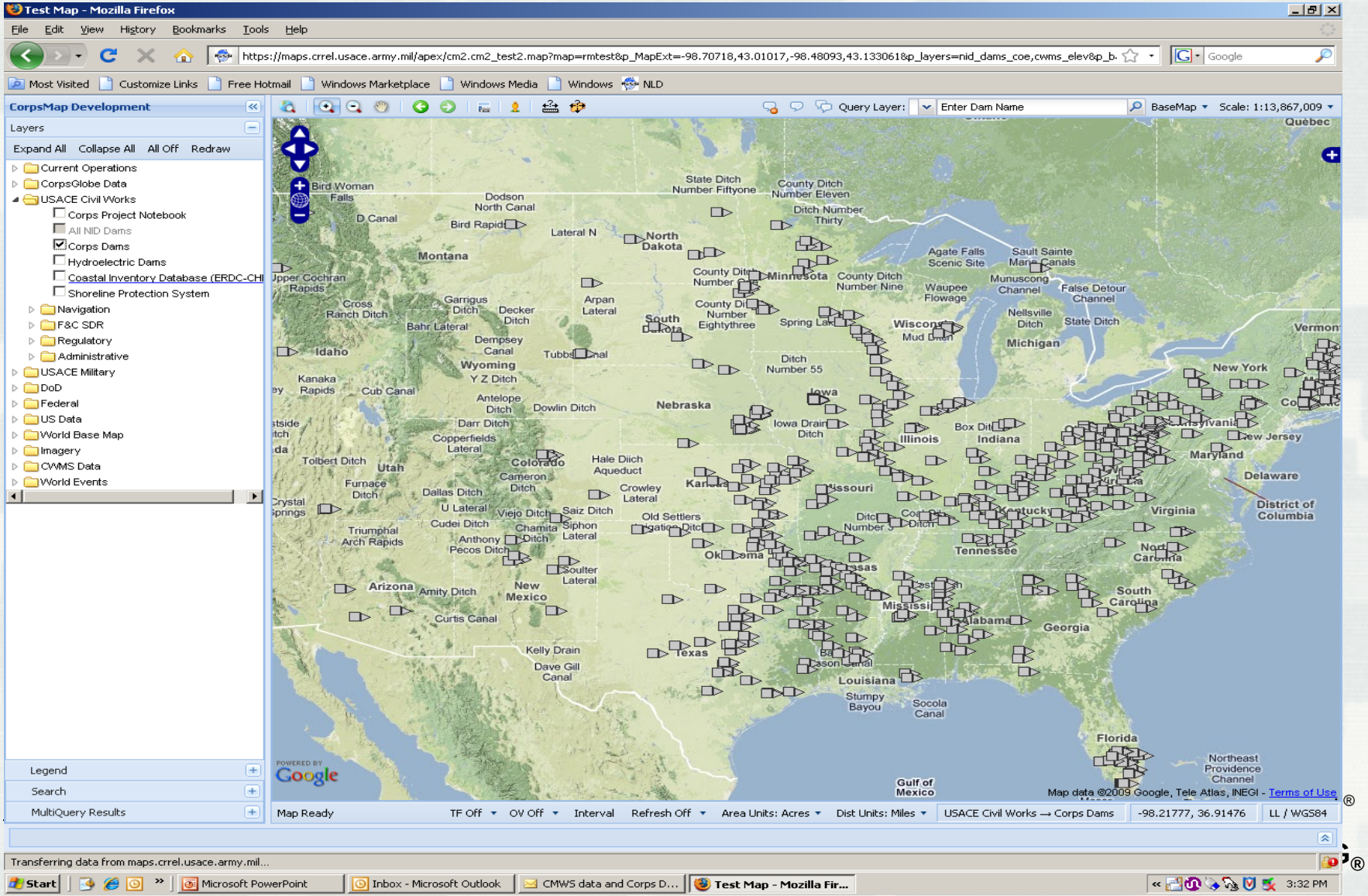
CorpsMap - This page last updated 12-Jan-2011

start Inbox - Microsoft Out... Microsoft PowerPoint ... CongBass.docx - Micr... CorpsMap - Enterpris... 2:26 PM

National Viewer/CorpsMap



USACE Dams



Test Map - Mozilla Firefox
File Edit View History Bookmarks Tools Help
https://maps.crrel.usace.army.mil/apex/cm2.cm2_test2.map?map=rmtest&p_MapExt=-98.70718,43.01017,-98.48093,43.133061&p_layers=nid_dams_coe,cwms_elev&p_b
Most Visited Customize Links Free Hotmail Windows Marketplace Windows Media Windows NLD
CorpsMap Development
Layers
Expand All Collapse All All Off Redraw
Current Operations
CorpsGlobe Data
USACE Civil Works
Corps Project Notebook
All NID Dams
Corps Dams
Hydroelectric Dams
Coastal Inventory Database (ERDC-CHI
Shoreline Protection System
Navigation
F&C SDR
Regulatory
Administrative
USACE Military
DoD
Federal
US Data
World Base Map
Imagery
CWMS Data
World Events
Legend
Search
MultiQuery Results
Query Layer: Enter Dam Name
BaseMap Scale: 1:13,867,009
Map Ready TF Off OV Off Interval Refresh Off Area Units: Acres Dist Units: Miles USACE Civil Works → Corps Dams -98.21777, 36.91476 LL / WGS84
Map data ©2009 Google, Tele Atlas, INEGI - Terms of Use
Transferring data from maps.crrel.usace.army.mil...
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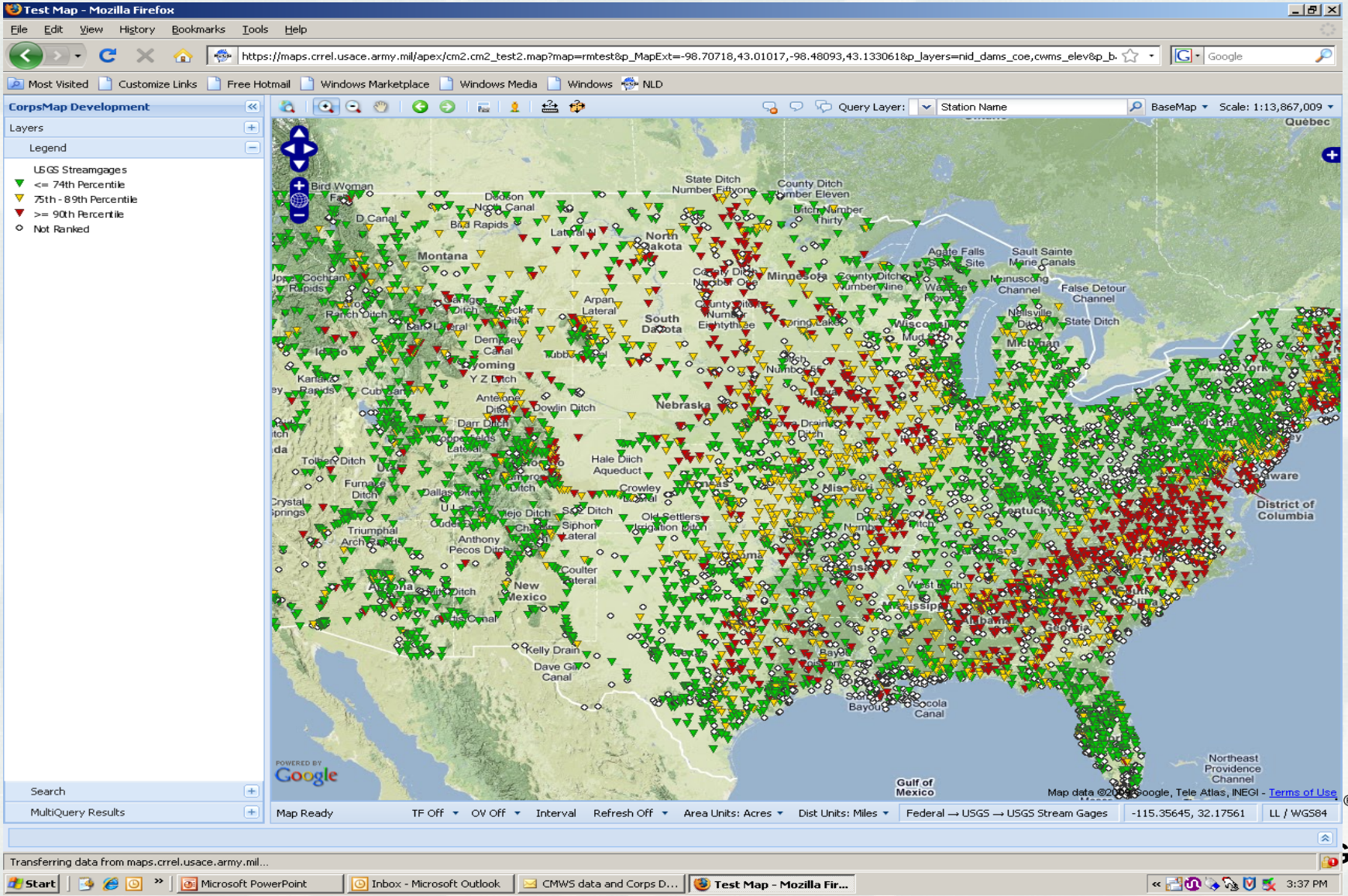
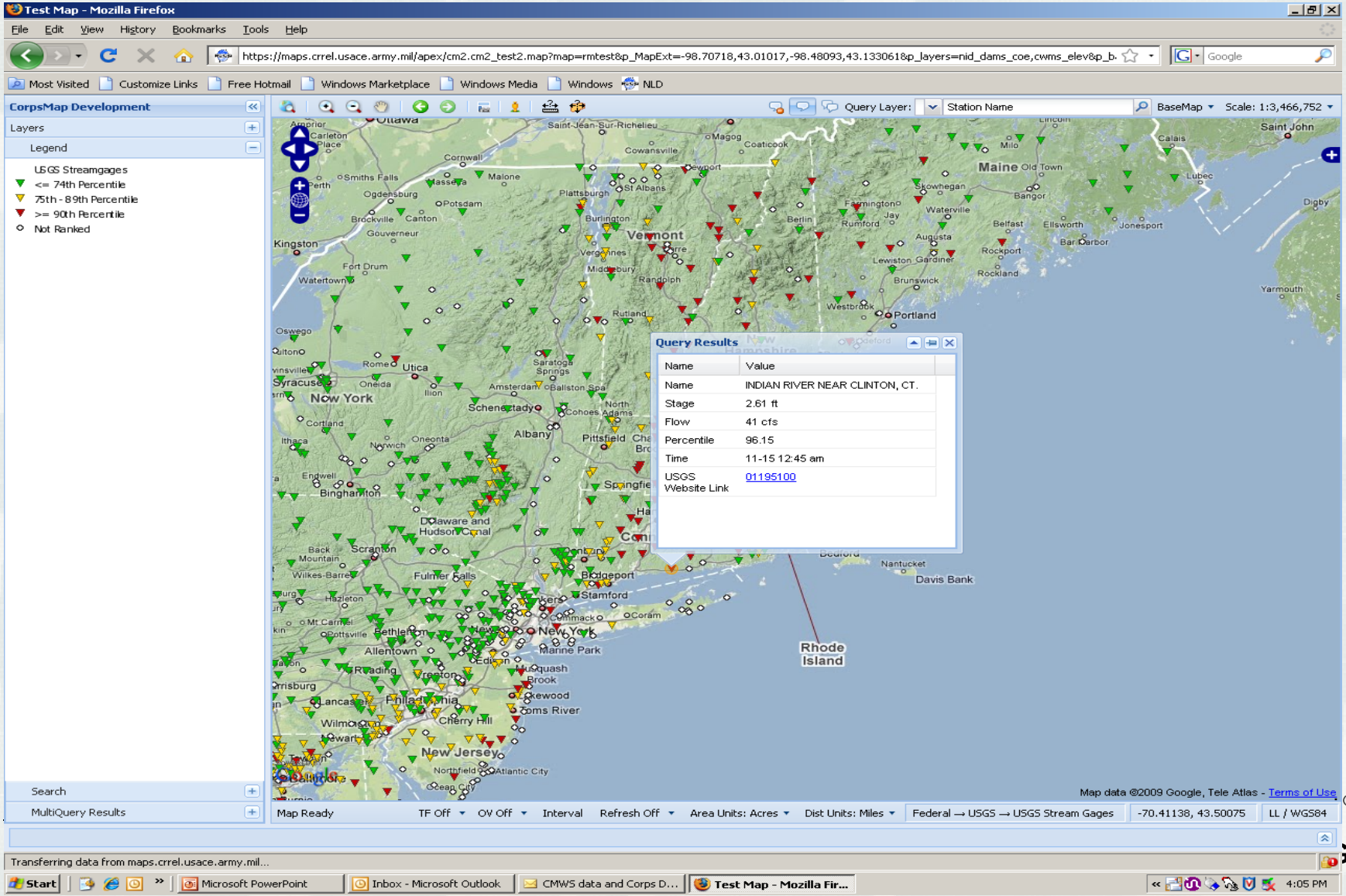
USGS Streamgages



USGS Streamgages



ORM2 Home Page

US Army Corps of Engineers

Regulatory Community of Practice

OMBIL Regulatory Module (ORM)

Applications

Production	**ORM2**
	ORM2 Reports
	Quarterly Performance Measures
	RIBITS
	Regulatory Information eXchange
	Emergency Permits
	Cumulative Effects Analysis (Prototype)
Training	ORM2 - not available
	ORM2 Reports - not available

Announcements

- **The RIBITS connection has been restored, mitigation bank data entry is now available (17-JUN-2012).**
- Bulk Upload Templates have been revised. Latest versions can be downloaded from the Documents region.
- WebDAV is available! It has been updated to utilize a new FTP process! To help guide you through the initial process, please reference the "Windows 7-WebDAV Test Scripts" available in the Documents table. Stay tuned for more information on this capability.

ORM2 Updates

- ORM2 Code last updated: **09-AUG-12** Get Release Notes
- ORM2 Reports Code last updated: **09-AUG-12** Get Release Notes
- ORM2 Reports data as of: 03-OCT-2012 12:00 AM EDT

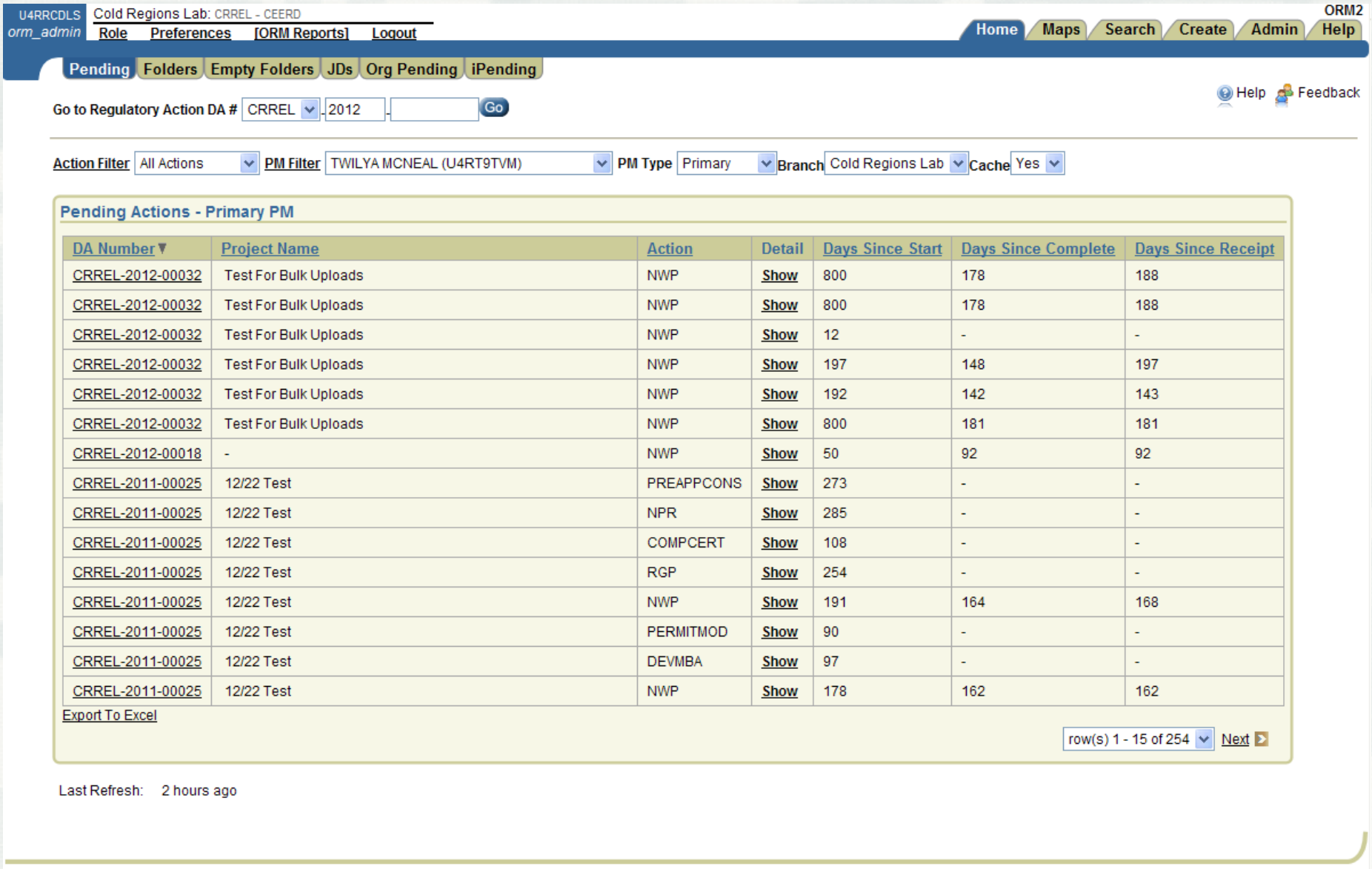
Documents

Title	Last Updated ▼	File
Available Reports in ORM2 Spreadsheet - 08102012	10-AUG-12	Download
Bulk Upload Templates	08-MAR-12	Download
Windows 7 - WebDAV Test Scripts	13-FEB-12	Download
ORM2 User Manual - 12/23/11	23-DEC-11	Download
Cumulative Effect Analysis (CEA) Prototype User Guide -12/23/11	23-DEC-11	Download
ORM2 Appeals User Guide	23-DEC-11	Download
ORM2 SOP Changes at v1.2	17-MAY-10	Download
ORM2 SOP v1.2	17-MAY-10	Download
Performance Measures Explained	01-APR-10	Download
Connecting to ORM with ArcGIS	26-MAY-09	Download
Introduction to the New Mapping Tools (7mb)	30-DEC-08	Download
Interactive Reports User Guide (10mb)	30-DEC-08	Download
Access ORM2 Documents as Windows Network Drive	12-DEC-08	Download
VPN Instructions	11-AUG-08	Download
ORM2 JD Instructions	07-AUG-08	Download

1 - 15

Administrator Login

ORM2


U4RRCDLS
orm_admin
Cold Regions Lab: CRREL - CEERD
Role
Preferences
[ORM Reports]
Logout
ORM2
Home
Maps
Search
Create
Admin
Help
Pending
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PM Type
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Cold Regions Lab
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Pending Actions - Primary PM
DA Number
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CRREL-2012-00032 Test For Bulk Uploads NWP Show 800 178 188
CRREL-2012-00032 Test For Bulk Uploads NWP Show 800 178 188
CRREL-2012-00032 Test For Bulk Uploads NWP Show 12 - -
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CRREL-2012-00018 - NWP Show 50 92 92
CRREL-2011-00025 12/22 Test PREAPPCONS Show 273 - -
CRREL-2011-00025 12/22 Test NPR Show 285 - -
CRREL-2011-00025 12/22 Test COMPCERT Show 108 - -
CRREL-2011-00025 12/22 Test RGP Show 254 - -
CRREL-2011-00025 12/22 Test NWP Show 191 164 168
CRREL-2011-00025 12/22 Test PERMITMOD Show 90 - -
CRREL-2011-00025 12/22 Test DEVMBA Show 97 - -
CRREL-2011-00025 12/22 Test NWP Show 178 162 162
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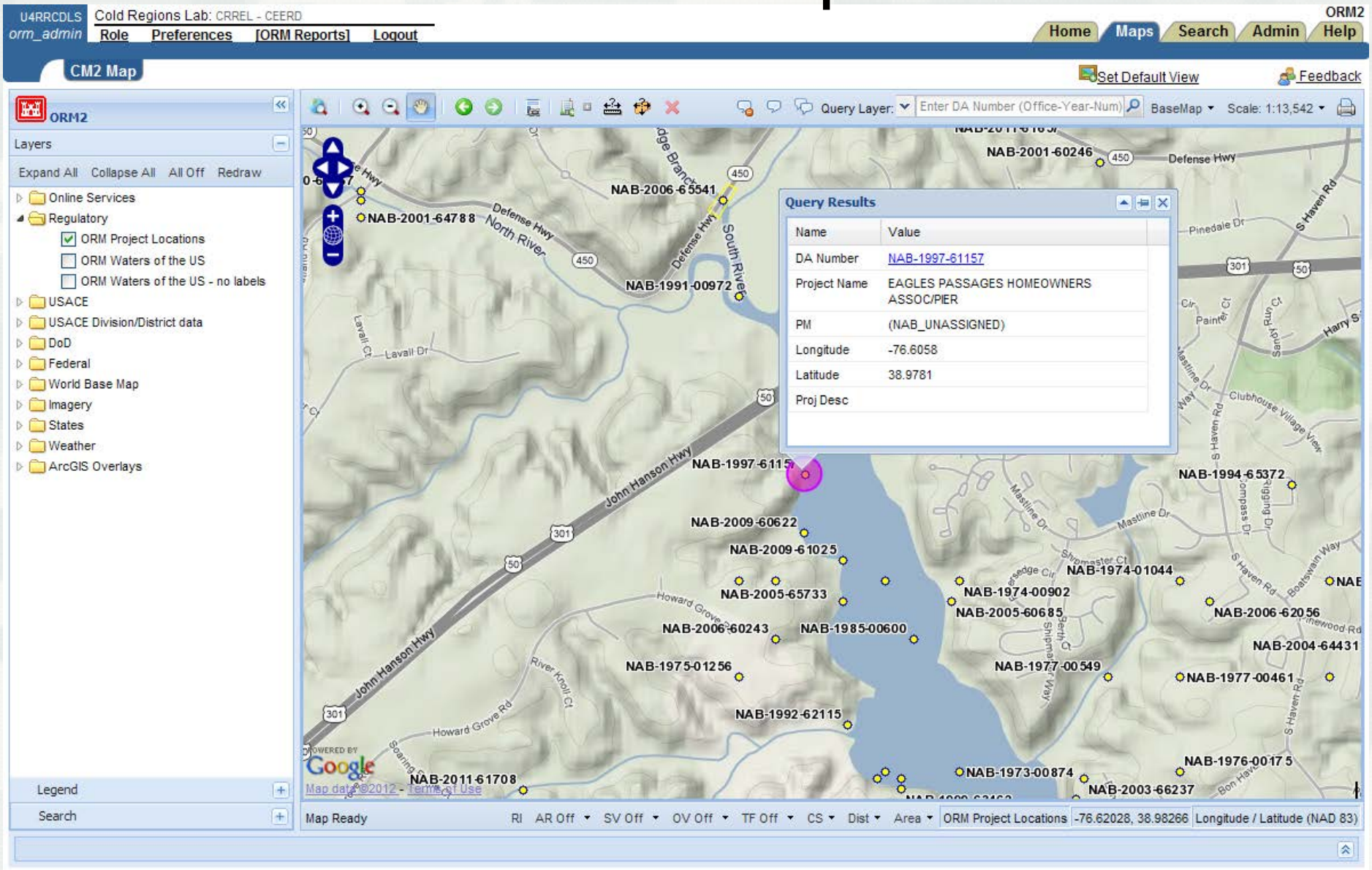
Next
Last Refresh: 2 hours ago

ORM2 Maps


U4RRCDLS
orm_admin
Cold Regions Lab: CRREL - CEERD
Role
Preferences
[ORM Reports]
Logout
ORM2
Home
Maps
Search
Admin
Help
CM2 Map
Set Default View
Feedback
ORM2
Layers
Expand All
Collapse All
All Off
Redraw
Online Services
Regulatory
ORM Project Locations
ORM Waters of the US
ORM Waters of the US - no labels
USACE
USACE Division/District data
DoD
Federal
World Base Map
Imagery
States
Weather
ArcGIS Overlays
Legend
Search
Query Layer:
Enter DA Number (Office-Year-Num)
BaseMap
Scale: 1:13,542
Query Results
Name
Value
DA Number
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Project Name
EAGLES PASSAGES HOMEOWNERS ASSOC/PIER
PM
(NAB_UNASSIGNED)
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Latitude
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NAB-1973-00874
NAB-2003-66237
Defense Hwy
North River
South River
John Hanson Hwy
Howard Grove Rd
Lavall Dr
Mastline Dr
Clubhouse Village View
Pinedale Dr
S Haven Rd
Map data ©2012 - Terms of Use
Map Ready
RI
AR Off
SV Off
OV Off
TF Off
CS
Dist
Area
ORM Project Locations
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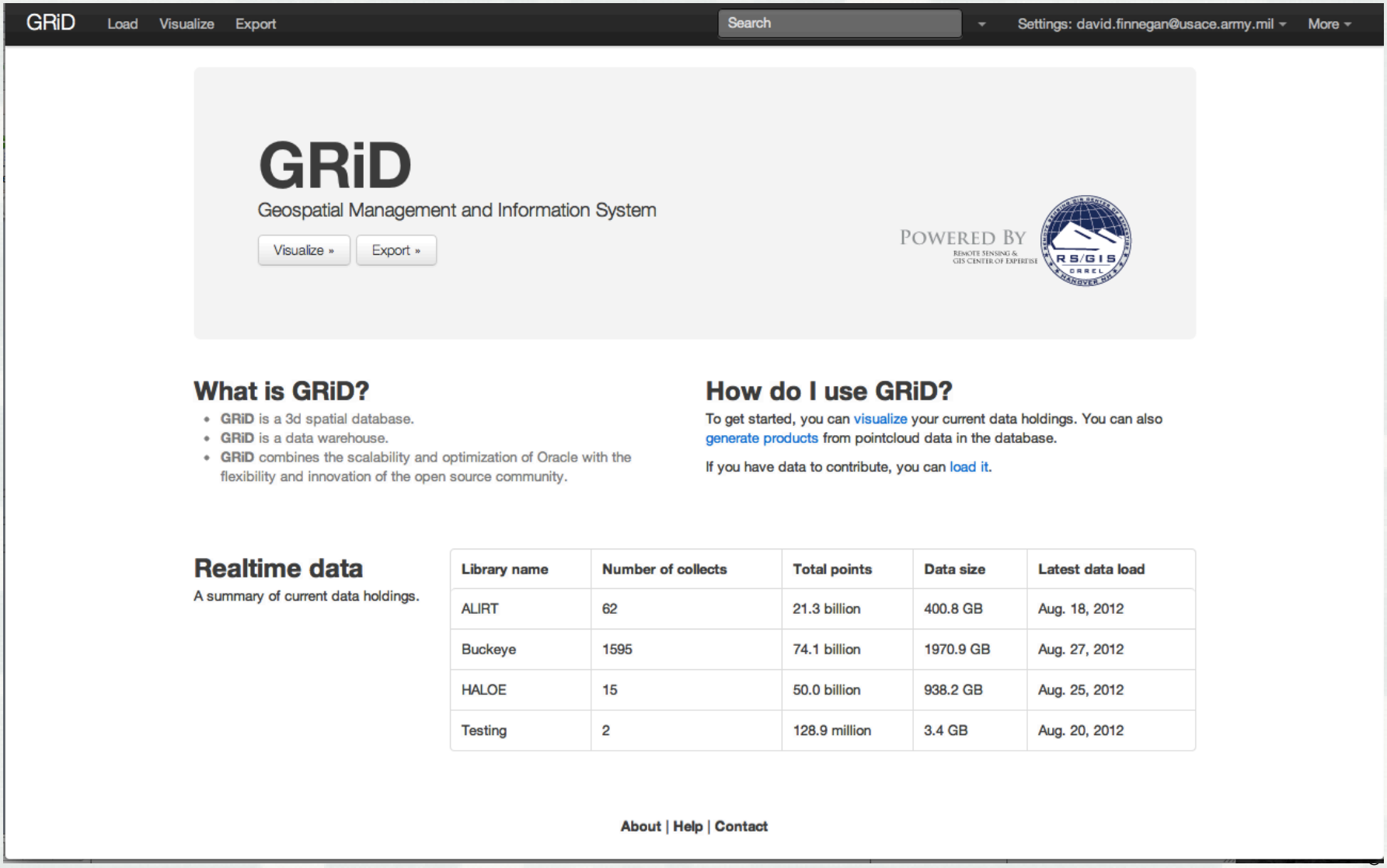
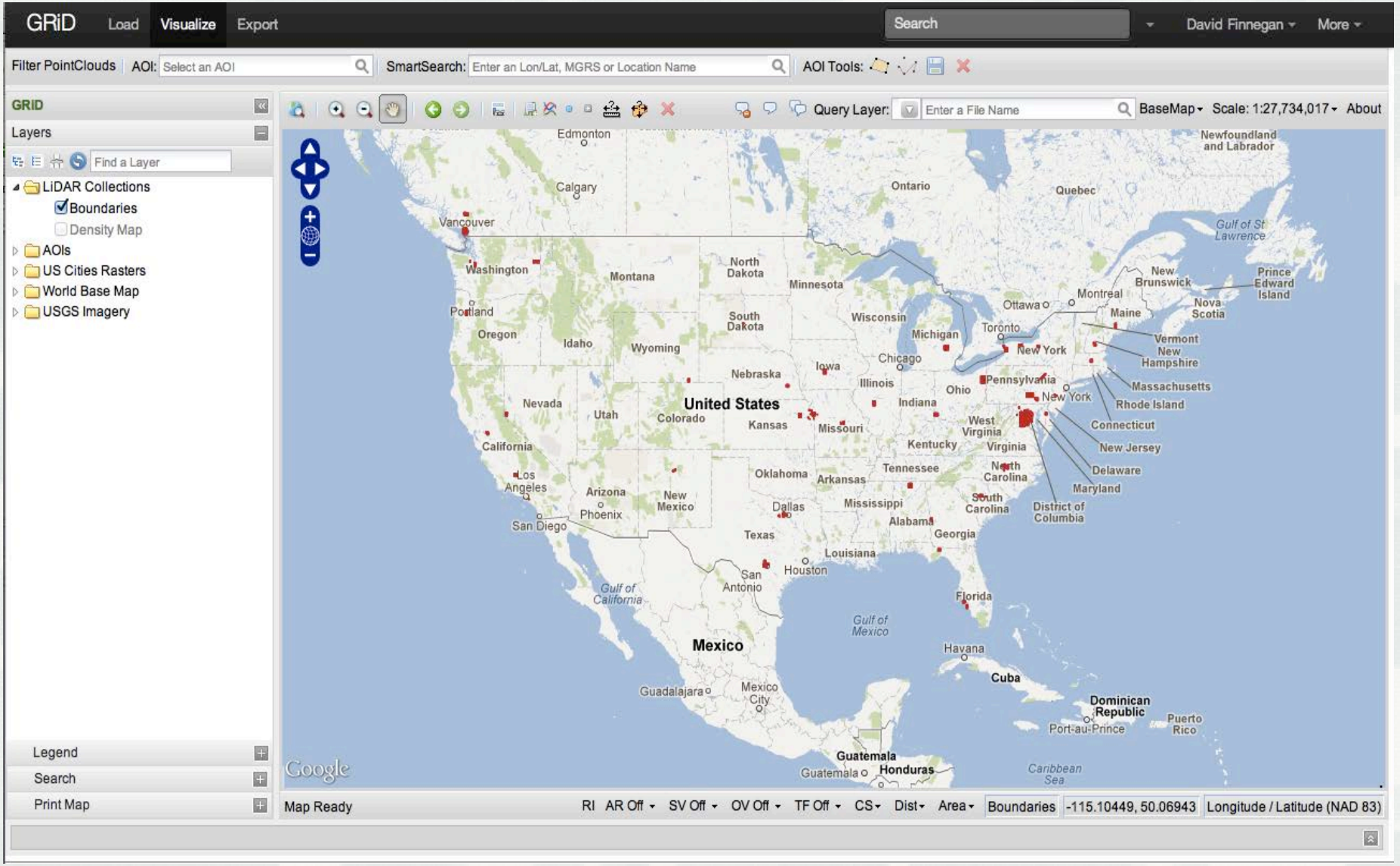
Longitude / Latitude (NAD 83)

GRiD

Geospatial Management and Information System (GRiD)



GRiD


GRiD
Load
Visualize
Export
Search
David Finnegan
More
Filter PointClouds
AOI:
Select an AOI
SmartSearch:
Enter an Lon/Lat, MGRS or Location Name
AOI Tools:
GRiD
Layers
Find a Layer
LiDAR Collections
Boundaries
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AOIs
US Cities Rasters
World Base Map
USGS Imagery
Legend
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Print Map
Query Layer:
Enter a File Name
BaseMap
Scale: 1:27,734,017
About
Edmonton
Calgary
Vancouver
Ontario
Quebec
Newfoundland and Labrador
Gulf of St Lawrence
Washington
Montana
North Dakota
Minnesota
Portland
Oregon
Idaho
Wyoming
South Dakota
Wisconsin
Michigan
Ottawa
Montreal
Toronto
Maine
New Brunswick
Nova Scotia
Prince Edward Island
Vermont
New Hampshire
New York
Chicago
Iowa
Nebraska
Illinois
Pennsylvania
Ohio
Massachusetts
Rhode Island
Connecticut
New Jersey
Delaware
Maryland
District of Columbia
Nevada
Utah
Colorado
Kansas
Missouri
Indiana
West Virginia
Kentucky
Virginia
North Carolina
South Carolina
Tennessee
Oklahoma
Arkansas
Mississippi
Alabama
Georgia
Florida
Louisiana
Texas
California
Los Angeles
San Diego
Arizona
Phoenix
New Mexico
Dallas
Houston
San Antonio
United States
Mexico
Gulf of California
Gulf of Mexico
Havana
Cuba
Dominican Republic
Port-au-Prince
Puerto Rico
Guadalajara
Mexico City
Guatemala
Honduras
Caribbean Sea
Google
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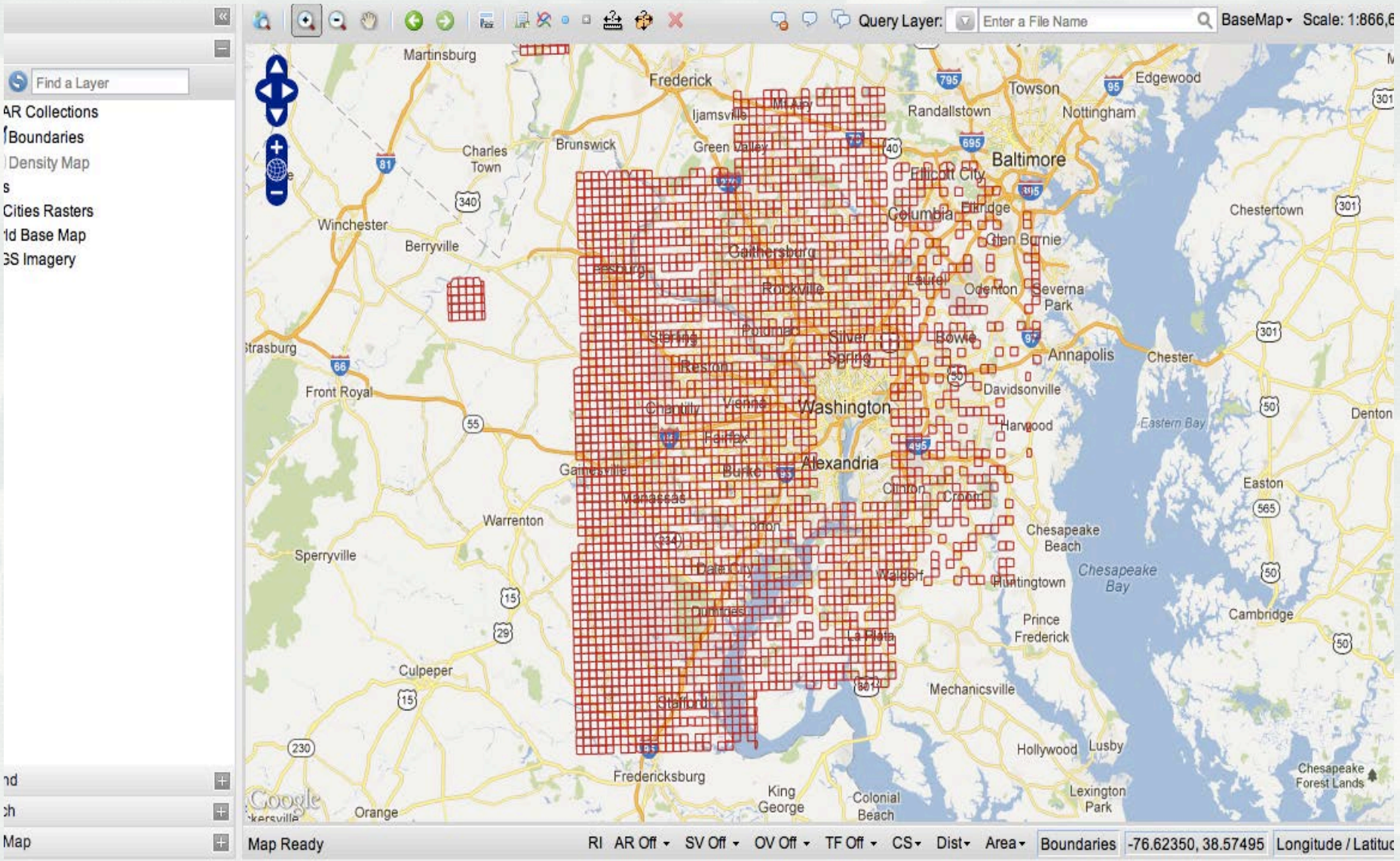
-115.10449, 50.06943
Longitude / Latitude (NAD 83)

GRiD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BaseMap
Scale: 1:866,6
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Frederick
Towson
Edgewood
Randallstown
Nottingham
Baltimore
Charles Town
Brunswick
Winchester
Berryville
Columbia
Chestertown
Glen Burnie
Rockville
Laurel
Odenton
Severna Park
Annapolis
Chester
Front Royal
Washington
Davidsonville
Harwood
Eastern Bay
Denton
Alexandria
Warrenton
Sperryville
Chesapeake Beach
Chesapeake Bay
Huntingtown
Easton
Cambridge
Prince Frederick
Culpeper
Mechanicsville
Hollywood
Lusby
Fredericksburg
King George
Colonial Beach
Lexington Park
Chesapeake Forest Lands
Orange
Google
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Area
Boundaries
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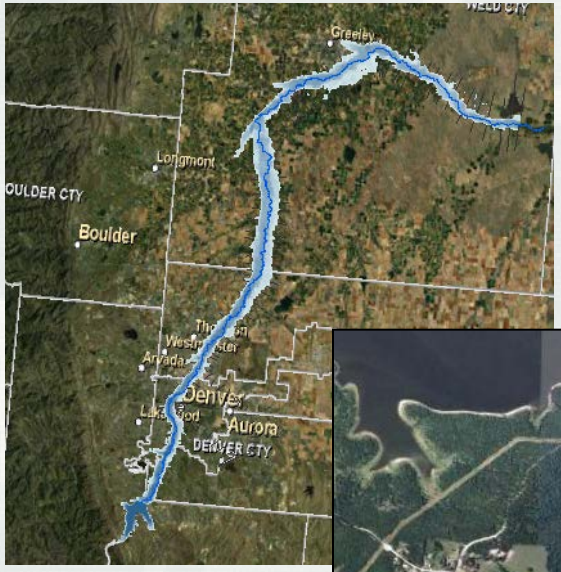
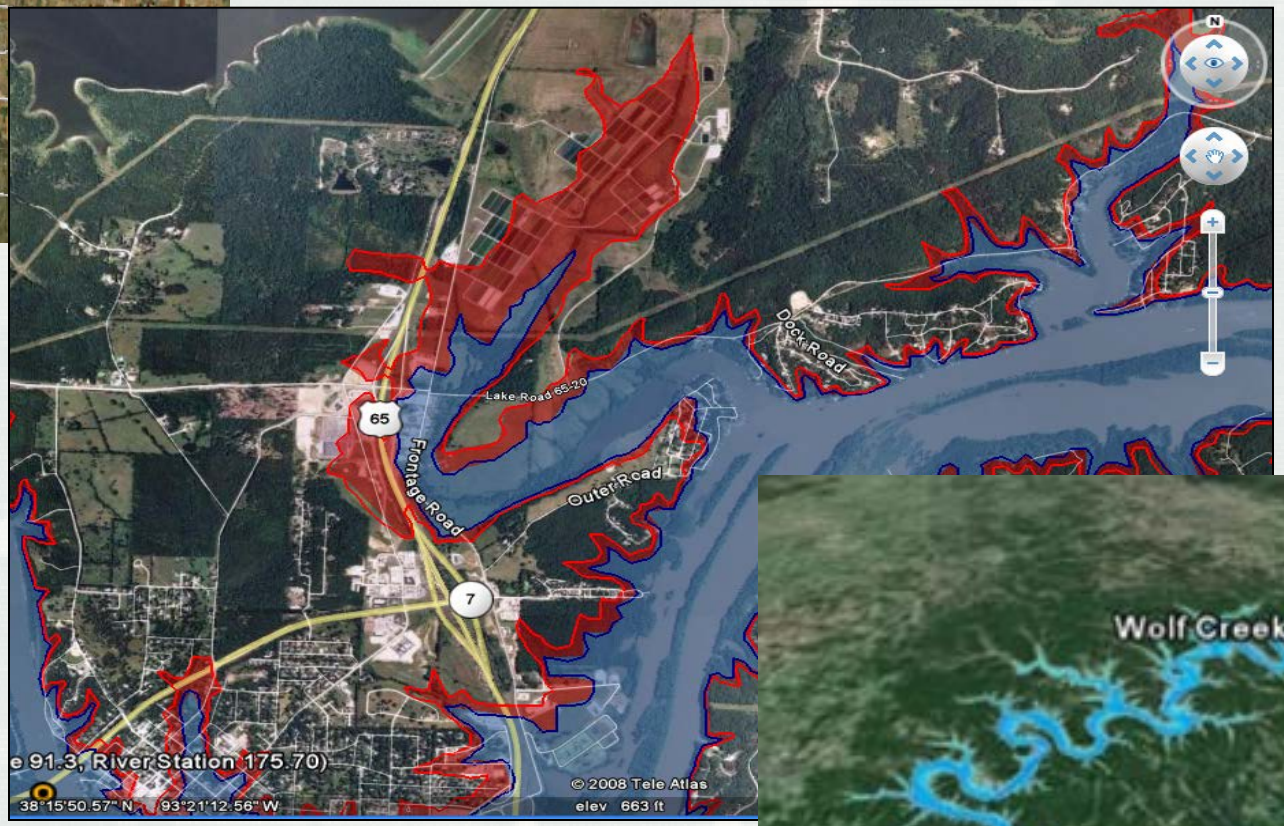
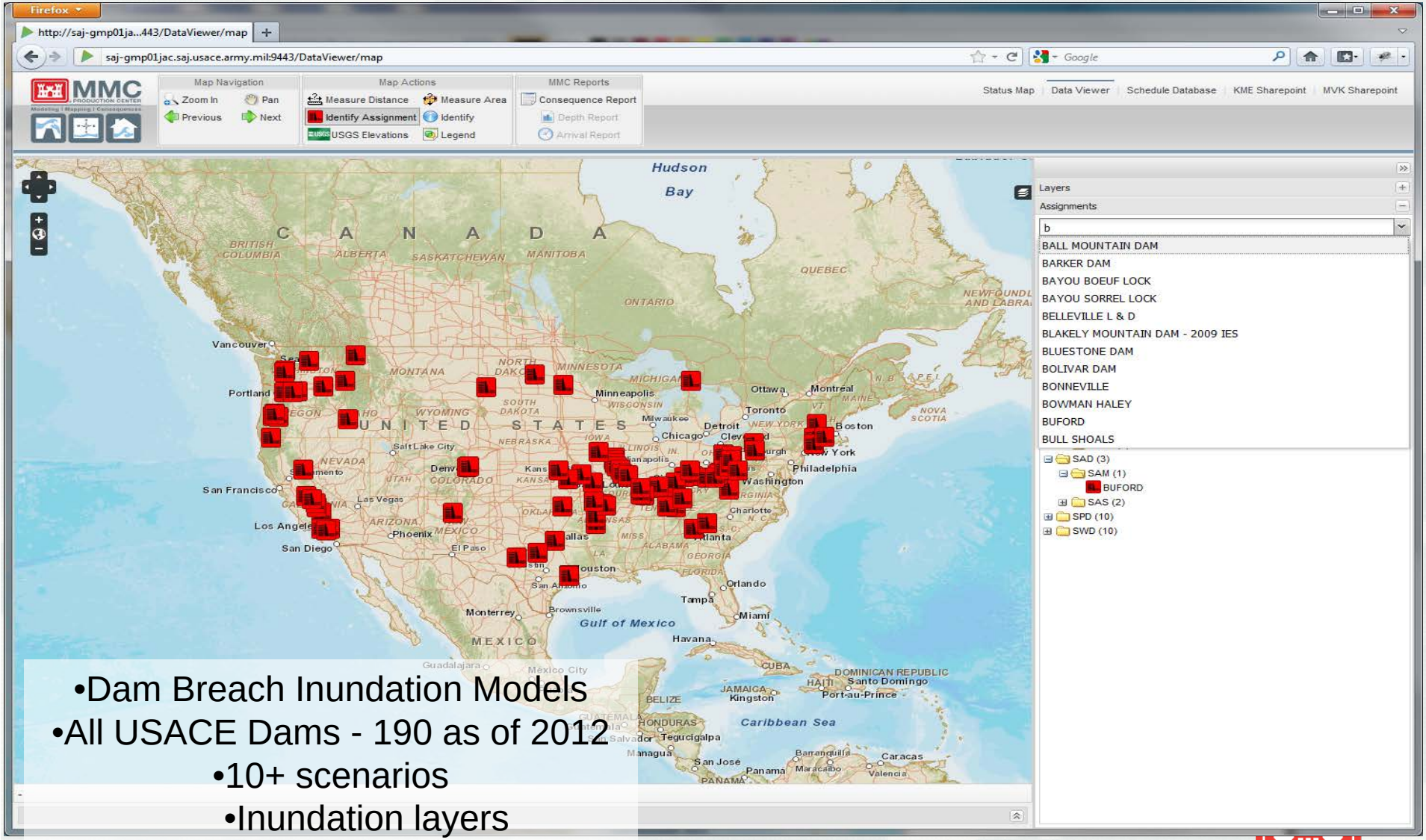
Longitude / Latitud

Geo-Referenced Hydraulic Models Inundation for Mapping

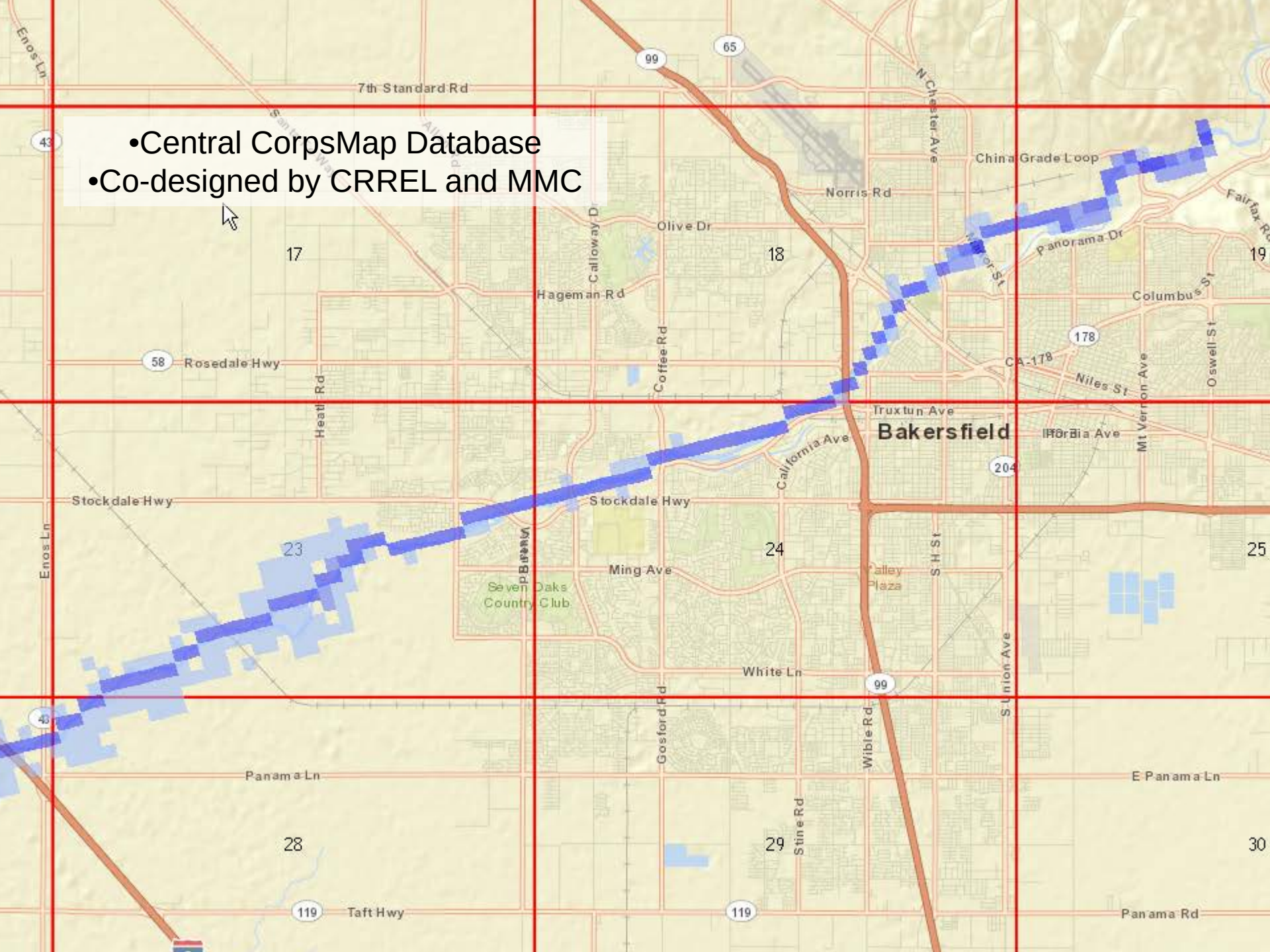




MMC Production Center CorpsMap



- Dam Breach Inundation Models
- All USACE Dams - 190 as of 2012
- 10+ scenarios
- Inundation layers
- Depth maps
- User-defined animations
- Interactive hydrographs


•Central CorpsMap Database
•Co-designed by CRREL and MMC
7th Standard Rd
Norris Rd
China Grade Loop
Olive Dr
Hageman Rd
Rosedale Hwy
Stockdale Hwy
Ming Ave
White Ln
Panama Ln
E Panama Ln
Taft Hwy
Panama Rd
Bakersfield
Truxtun Ave
California Ave
Niles St
Columbus St
Oswell St
Mt Vernon Ave
Panorama Dr
Fairfax Rd
Coffee Rd
Calloway Dr
Heath Rd
Enos Ln
N Chester Ave
S Union Ave
Wible Rd
Gosford Rd
Stine Rd
Seven Oaks Country Club
Valley Plaza
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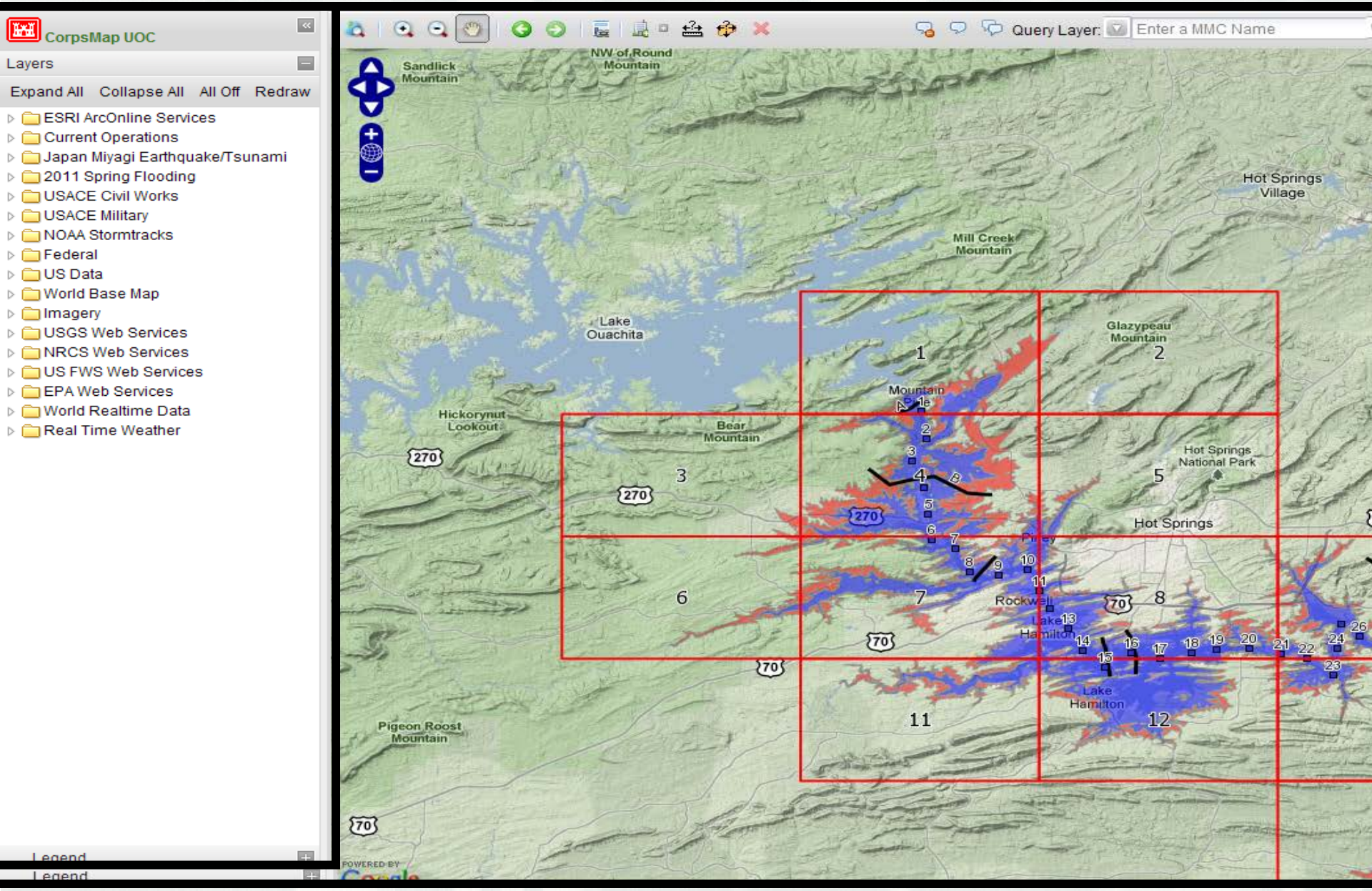
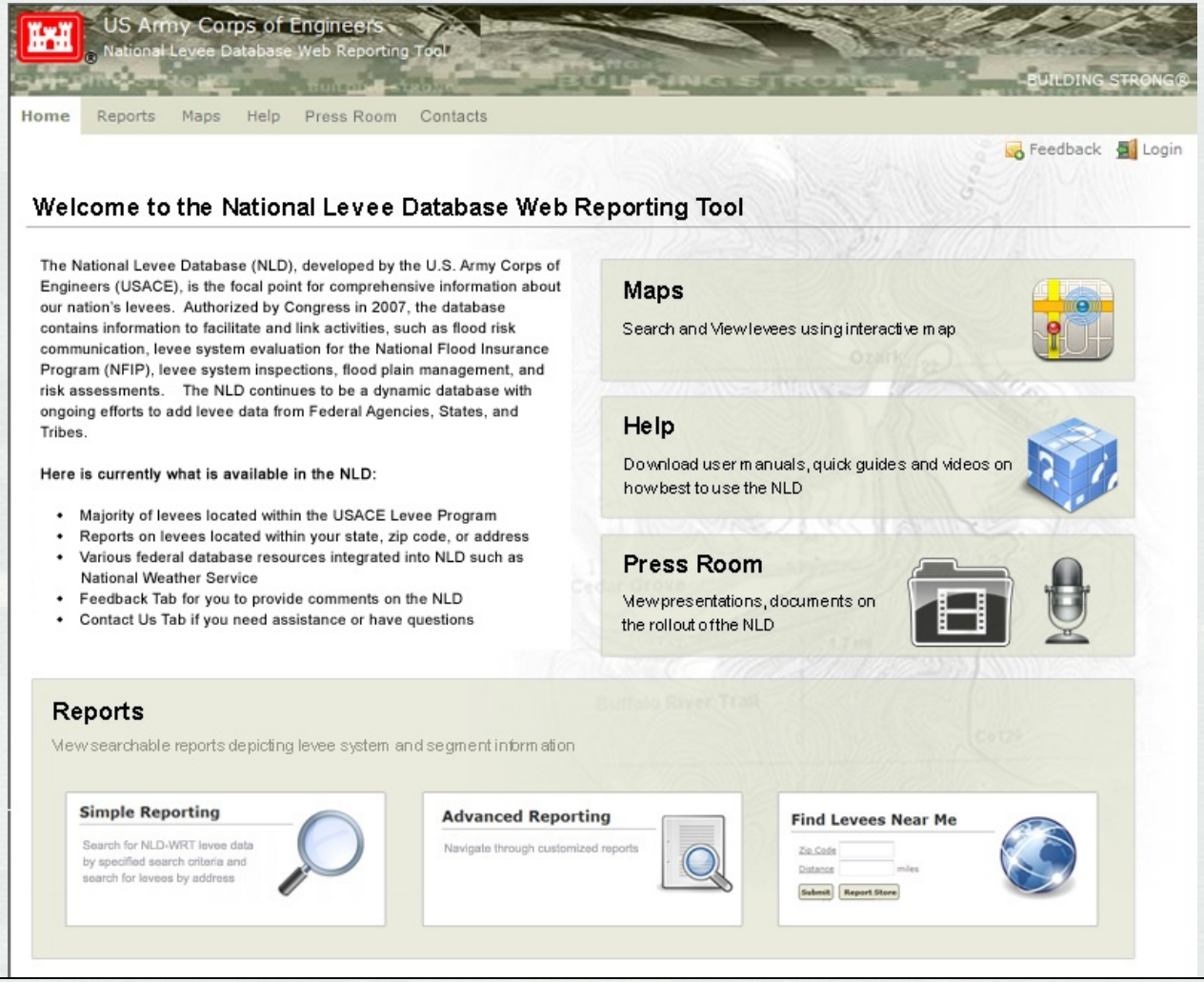
119

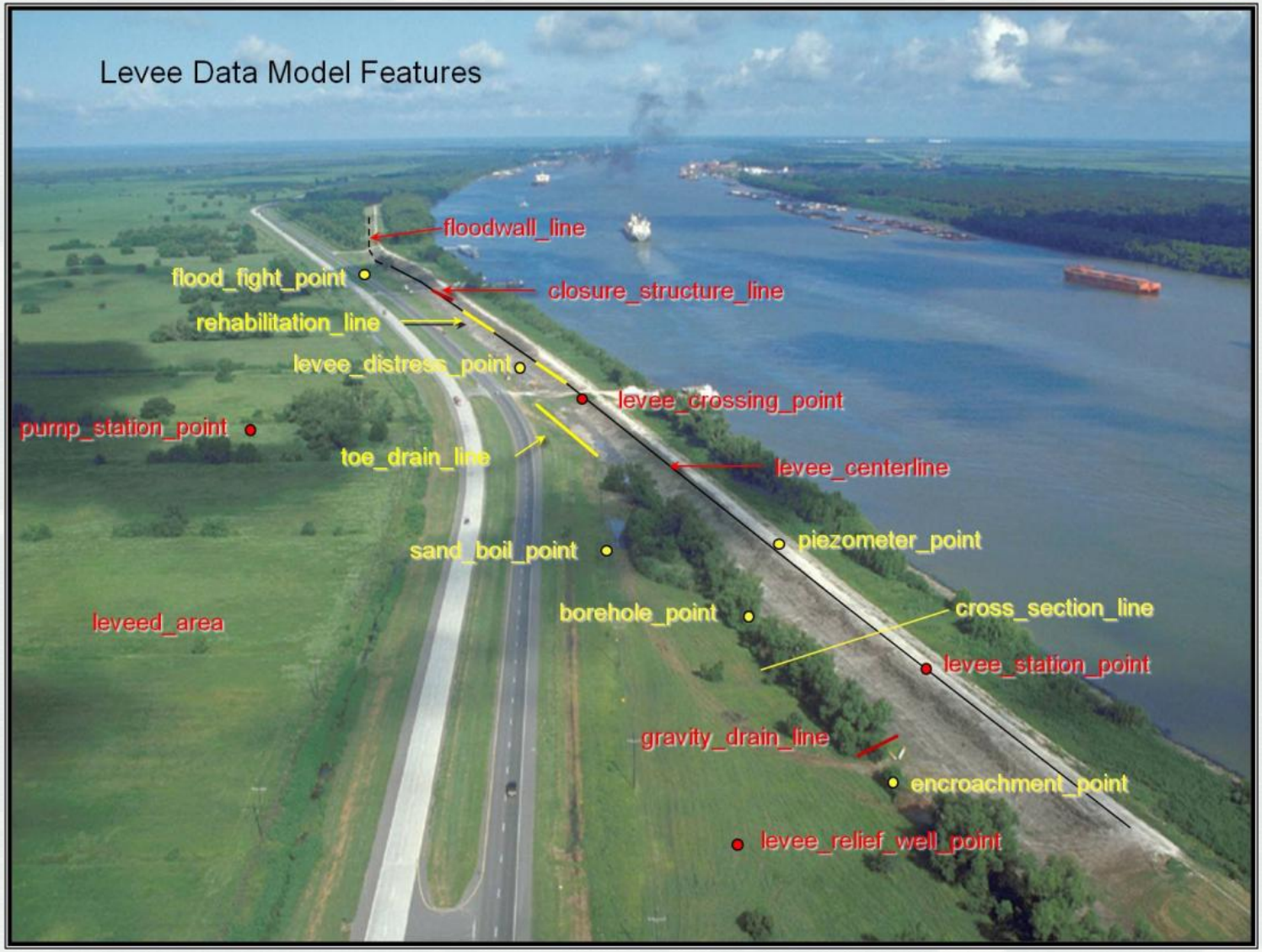
Emergency Operations-CorpsMap USACE EOC



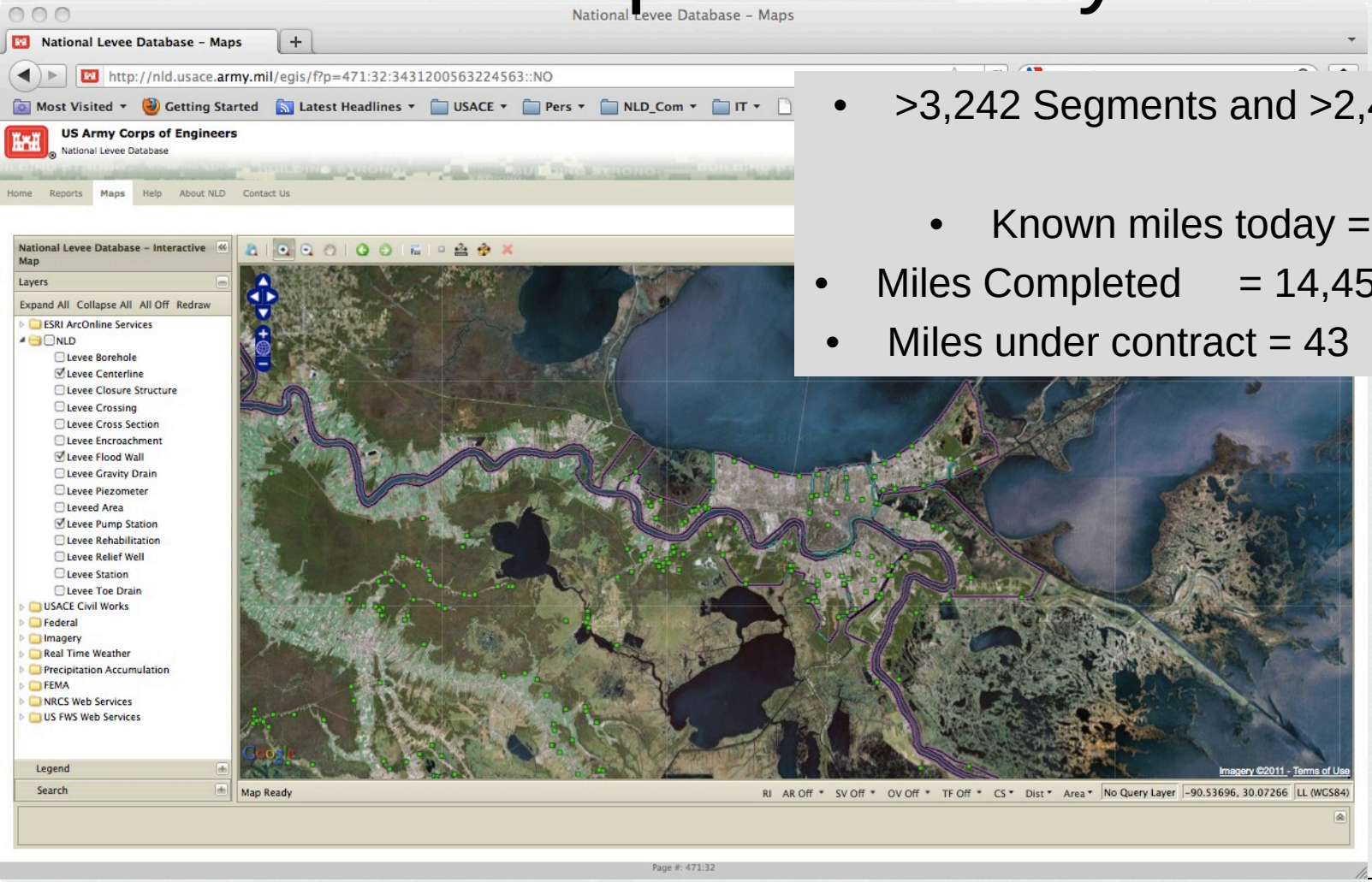
National Levee Database
http://nld.usace.army.mil



NLD Features



National Levee Database
Corps Inventory



- >3,242 Segments and >2,486 Systems
  - Known miles today = 14,501
- Miles Completed = 14,458 > 99.9%
- Miles under contract = 43 < .1%

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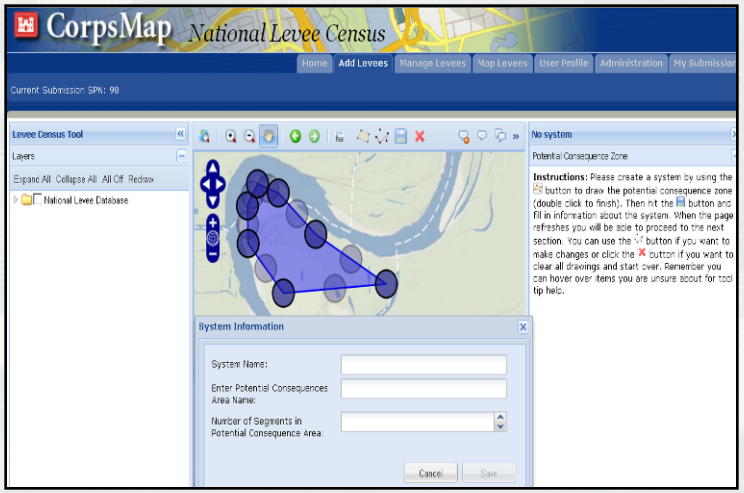
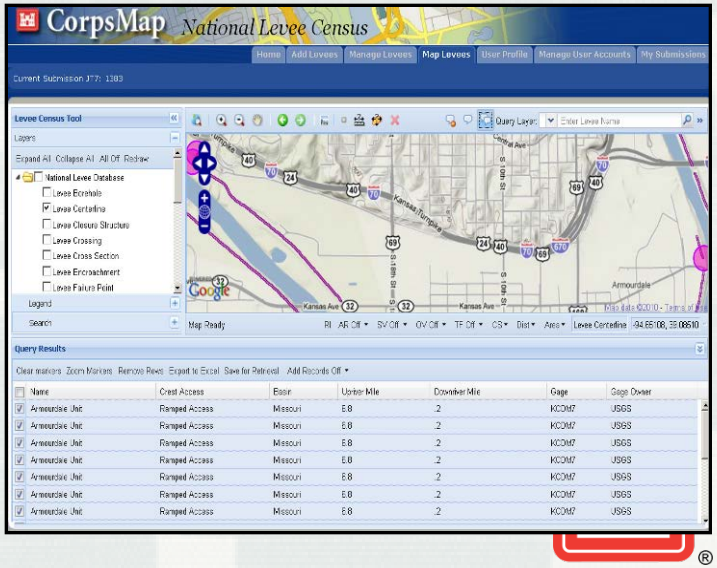
Universe of Levees

- "USACE Program" Levees in the NLD
  - 14,500 miles = 5 times across the US.
- FEMA Mid-Term Levee Inventory (MLI):
  - 35,339 miles = 12 times across the US.
  - Overlaps NLD.
- All Levees in the Country:
  - National Committee on Levee Safety Estimate
  - 100,000 miles = 5 times around the world.

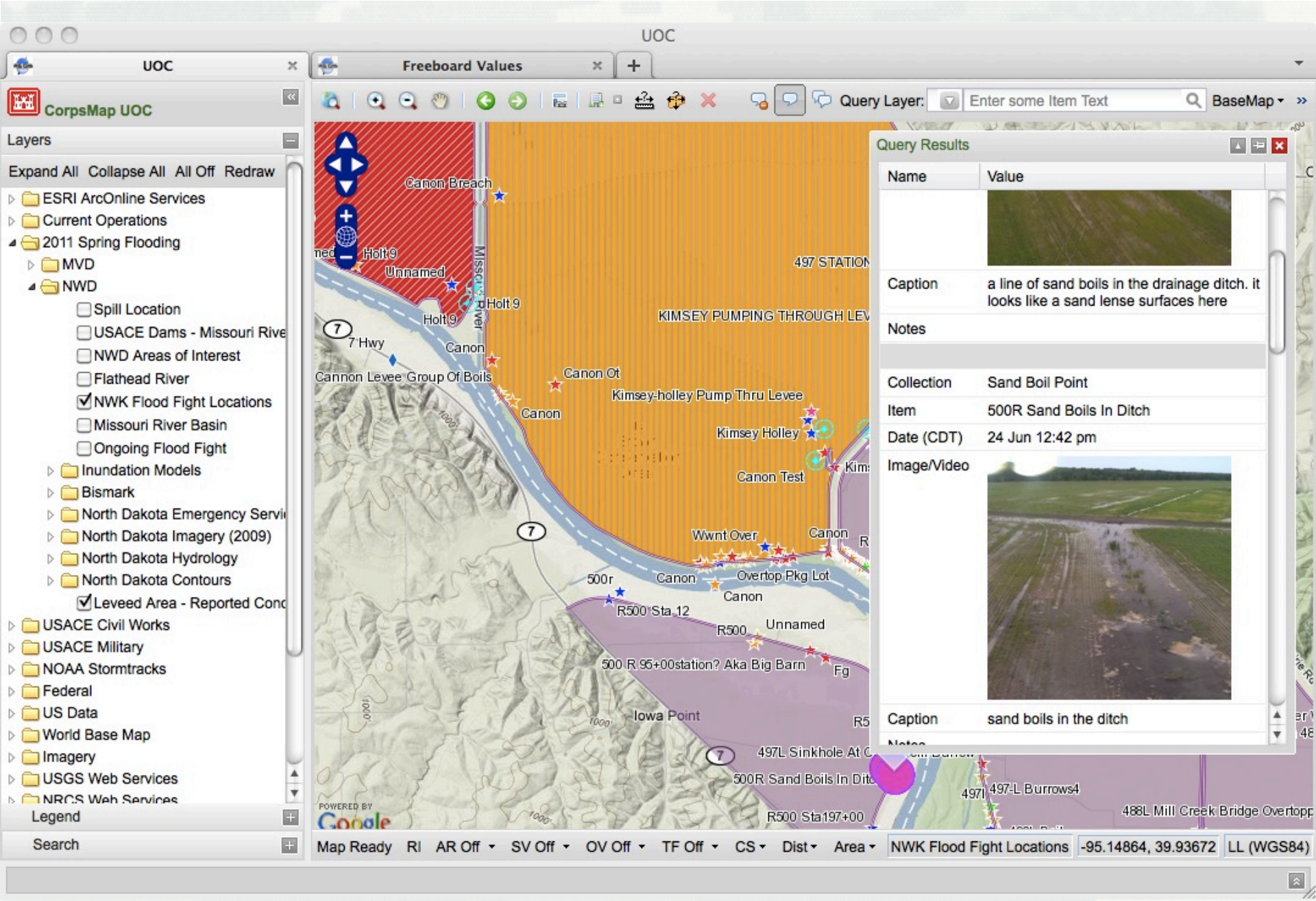
Data Management Tool

Developed as a tool to allow external stakeholders the ability to contribute and manage their levee data to establish a comprehensive levee inventory





- **Target State**
  - ► Real-time data integration with NLD
  - ► Allow users to import levee data from existing data sets (e.g., .shp and PGDB files)
  - ► Provide auditing and change management capability for user submissions
  - ► Standardized review/approval process



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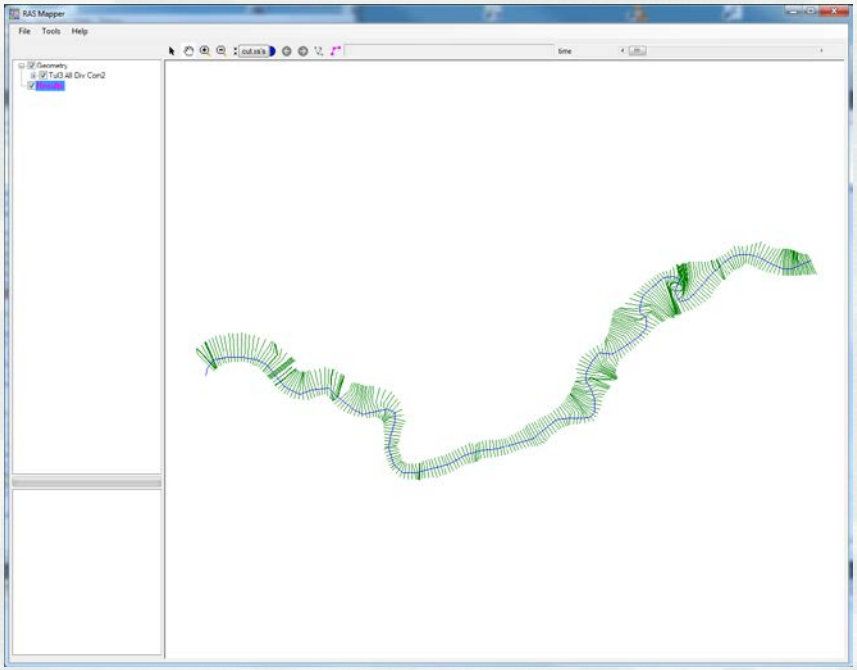
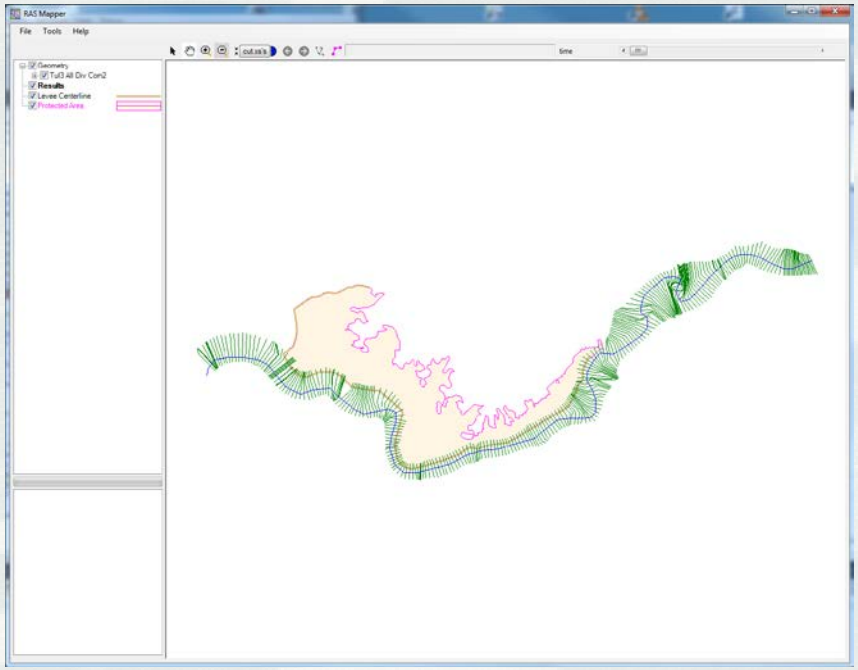
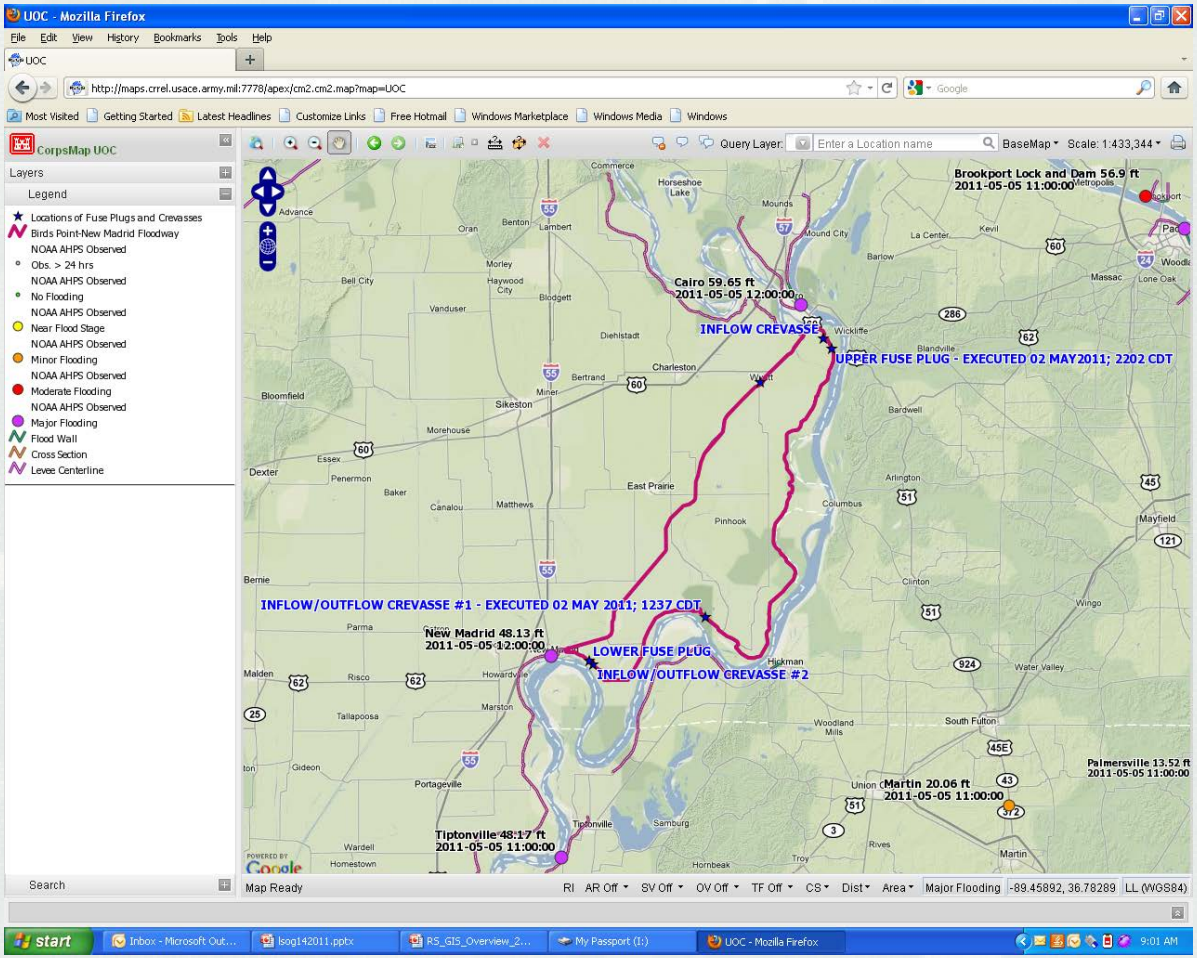
HEC-RAS In-Progress Implementation of NLD



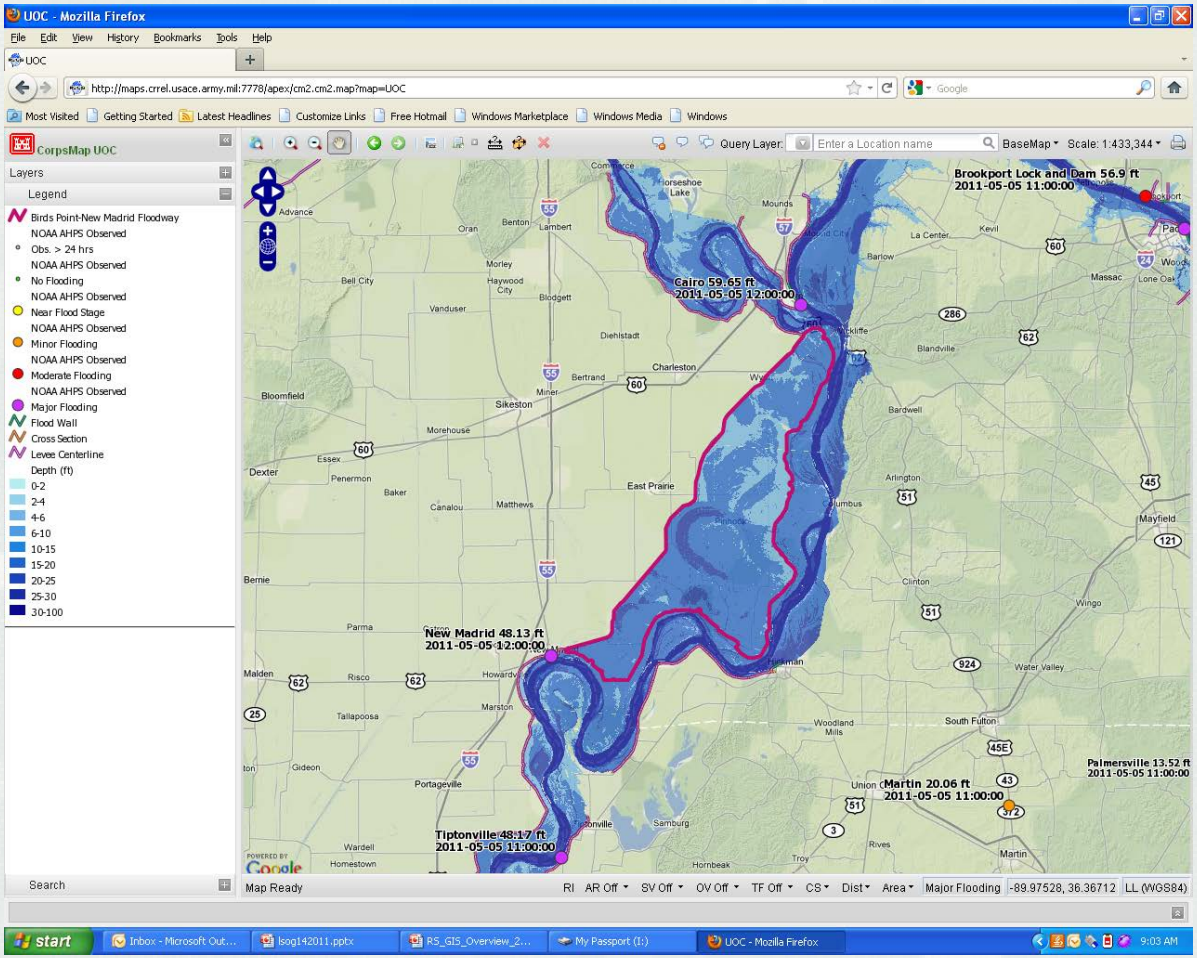


NLD Webservice Request

Inundation Forecasts for Project Operation



Inundation Forecasts for Project Operation



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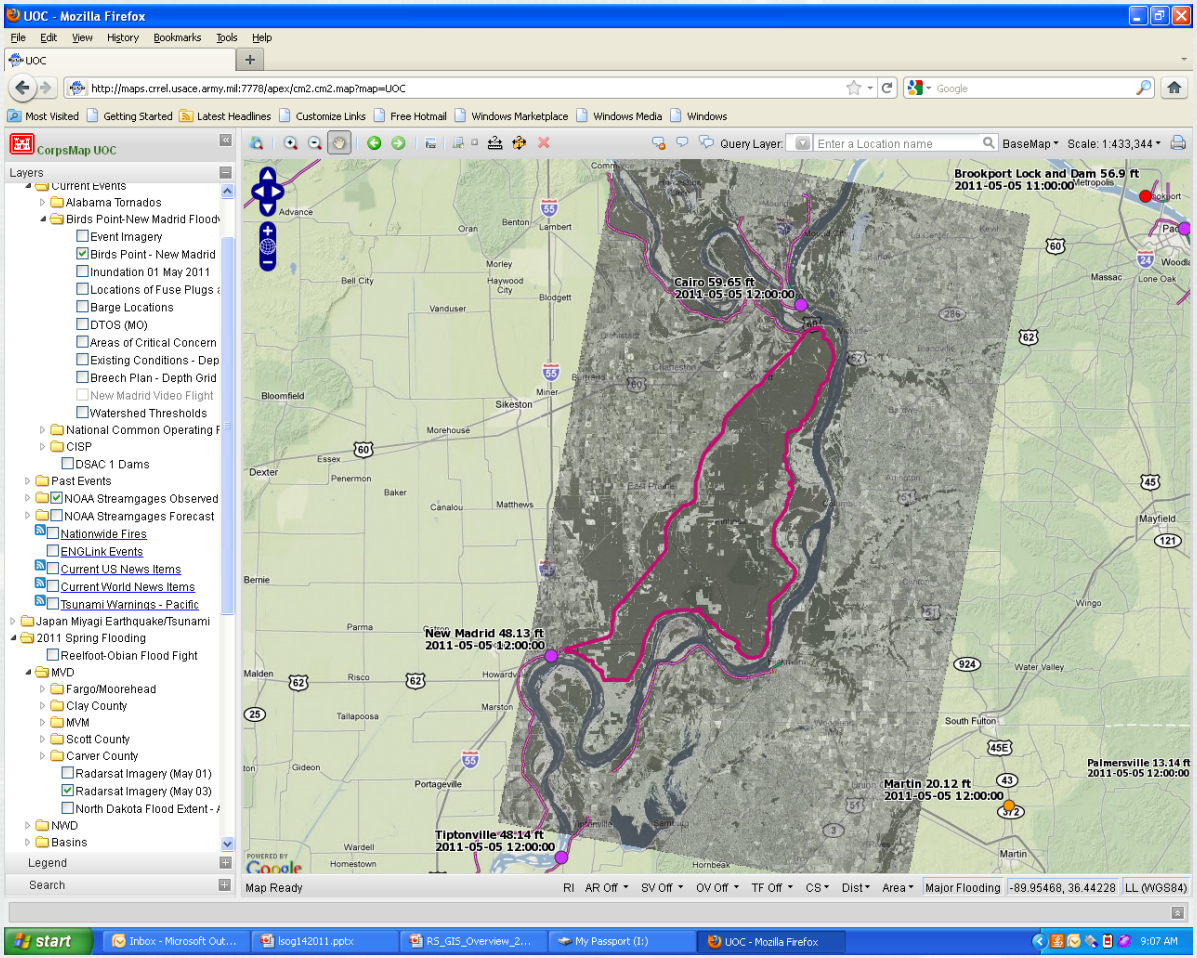
Validation with RADARSAT Imagery



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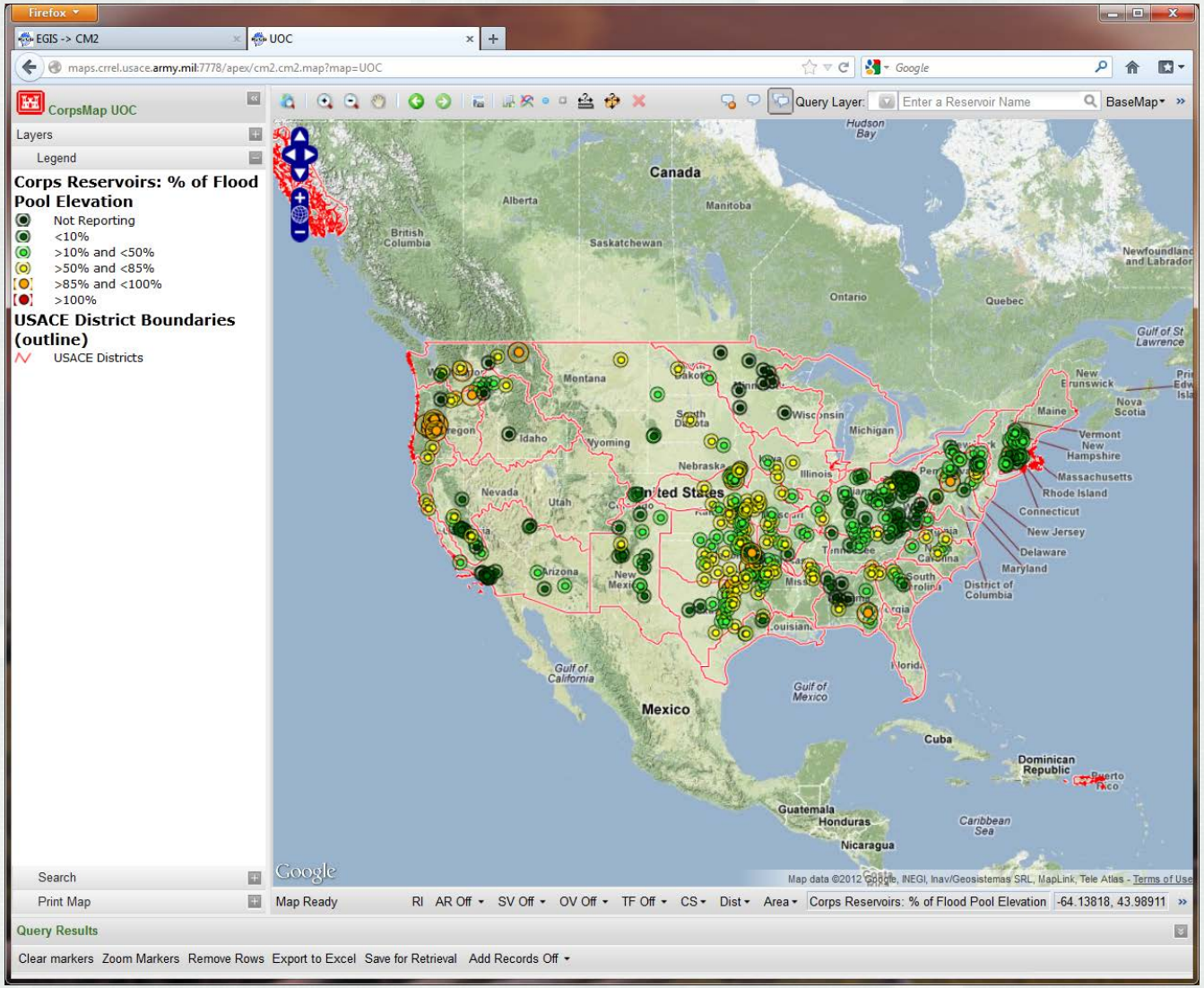
Access to Water Resource Data to Support Watershed Management

- Provide public access to water resources and related water quality data in the custody of USACE
  - Include section 404 of the Federal Water Pollution Control Act
  - Appropriately employ geographic information system technology and linkages to water resource models and analytical techniques

Flood Status Mapping



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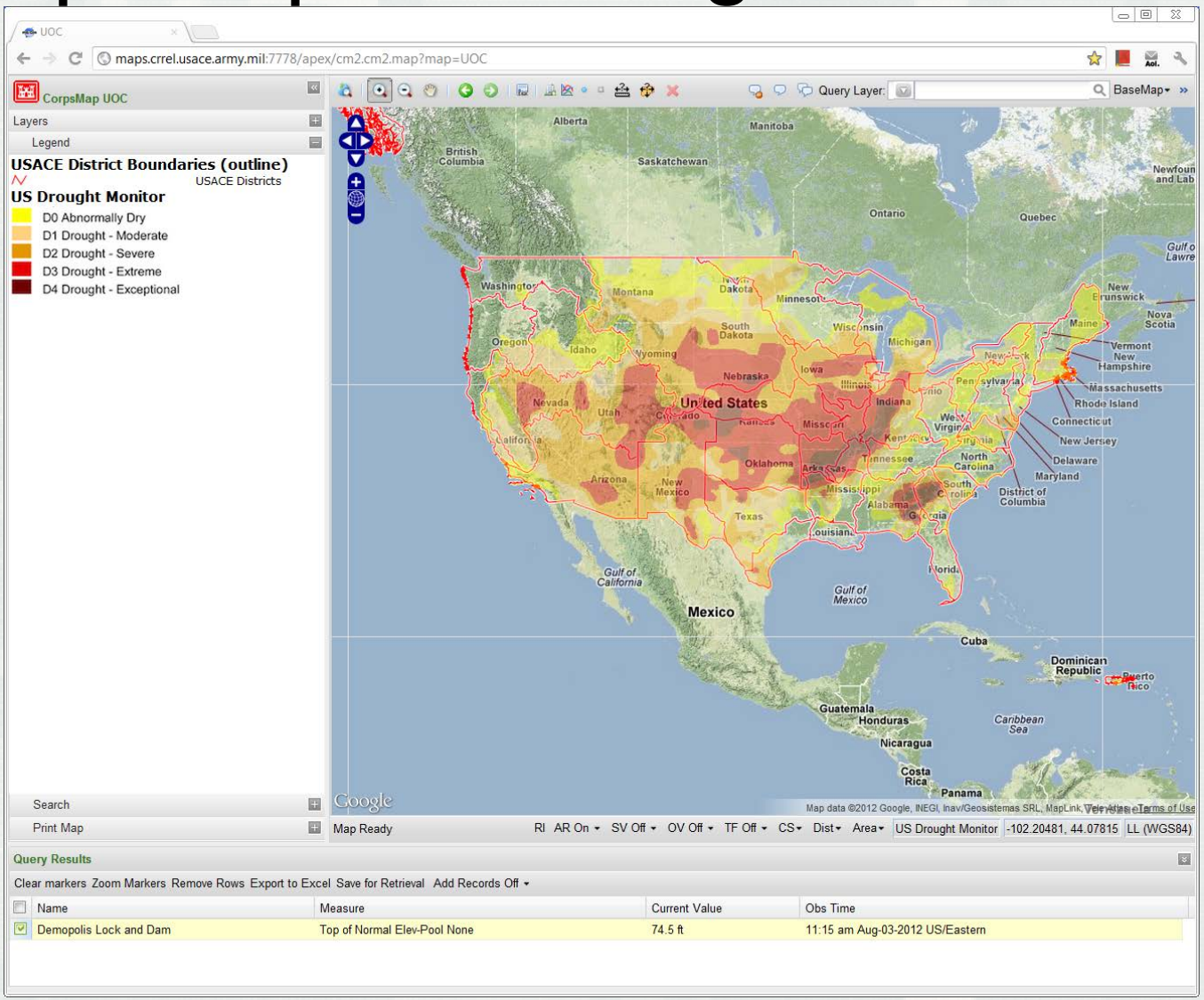
CorpsMap2 – Drought Monitoring



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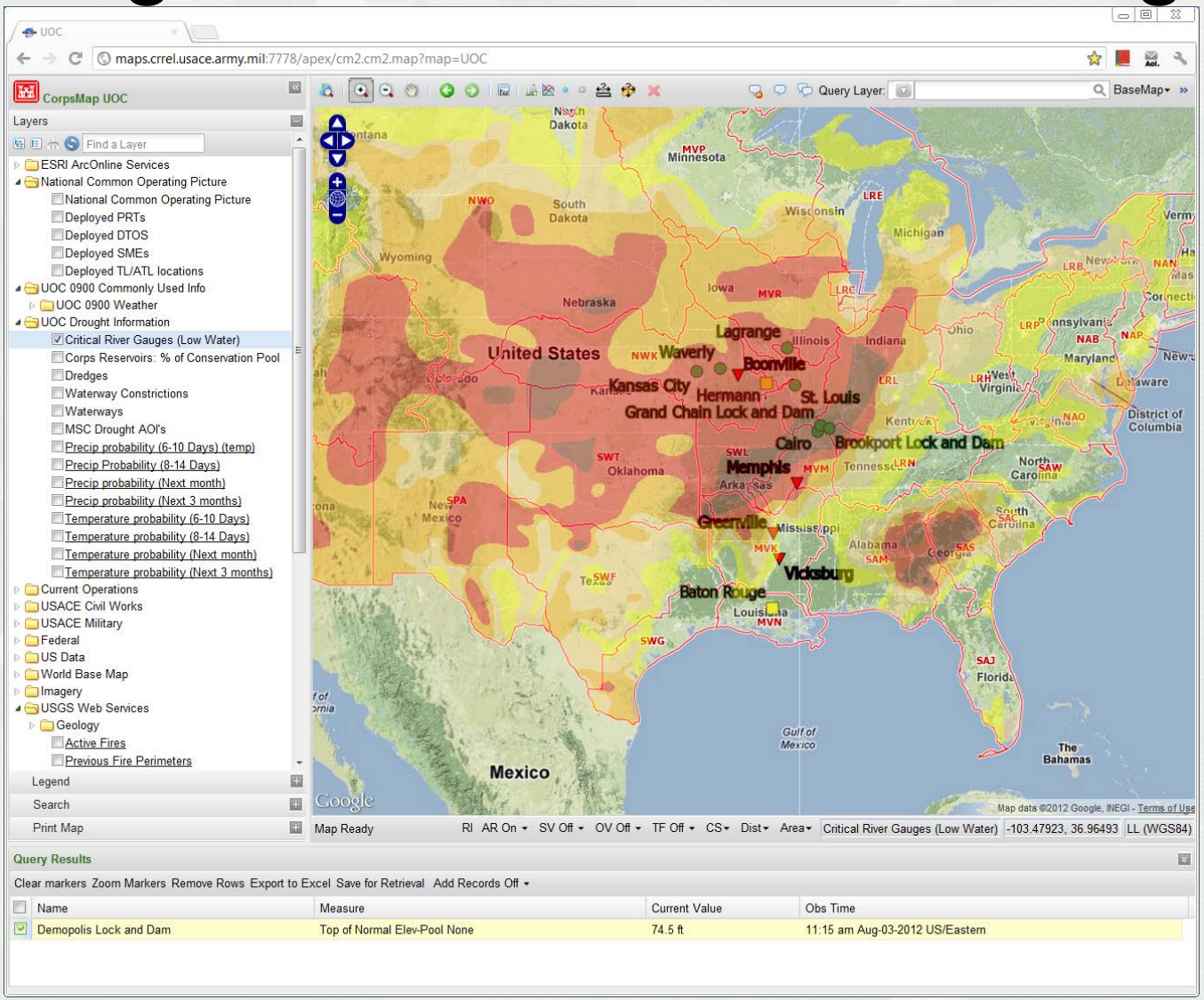
Drought w/ UOC Critical Gauges



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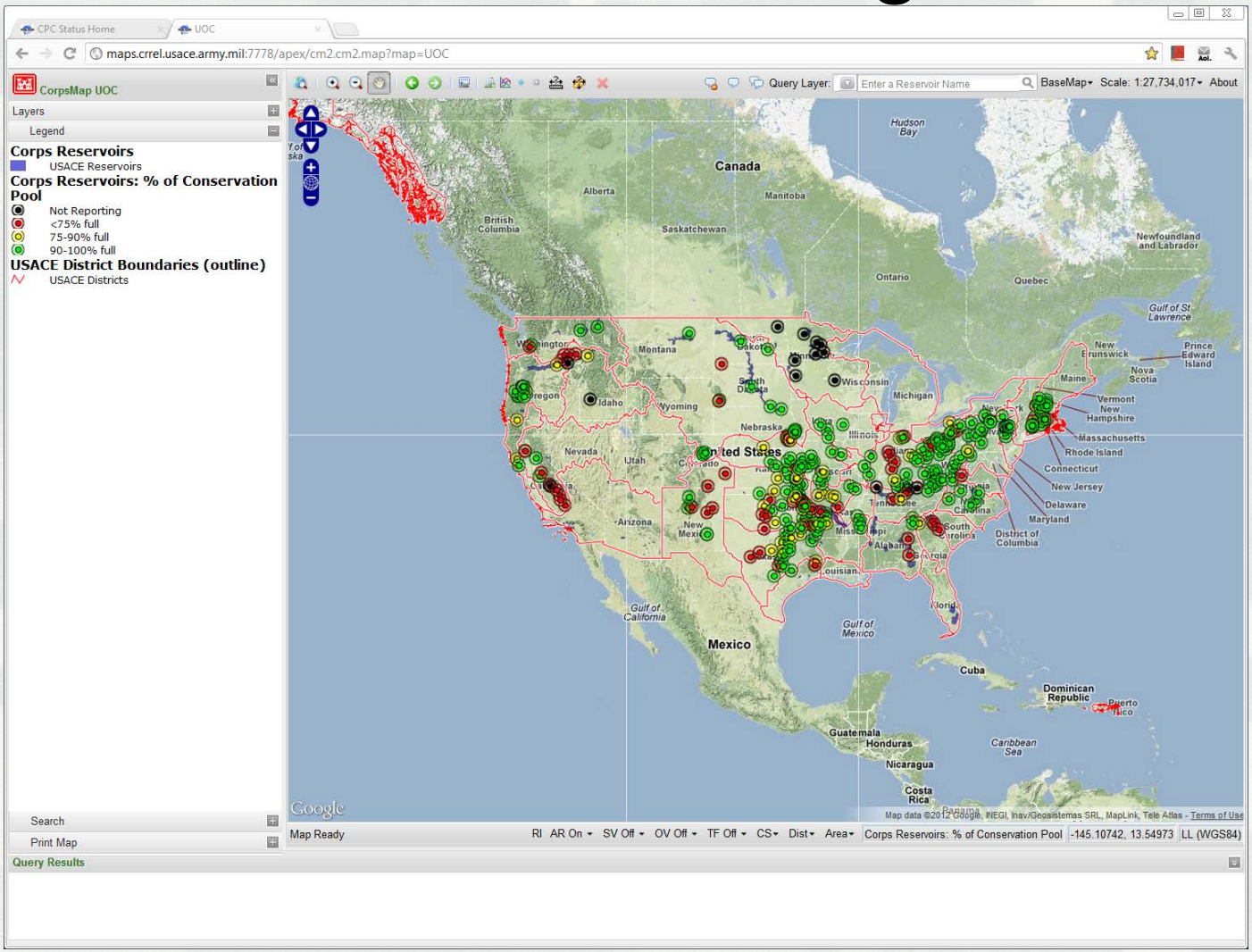
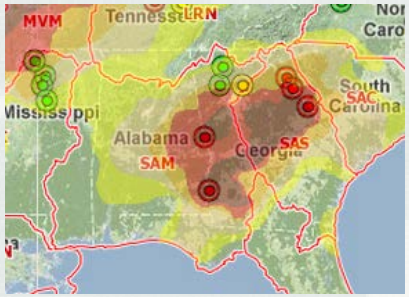
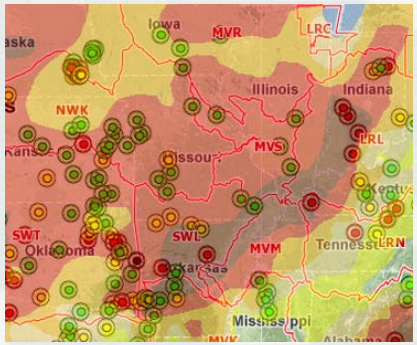
% Pool vs. Drought Conditions







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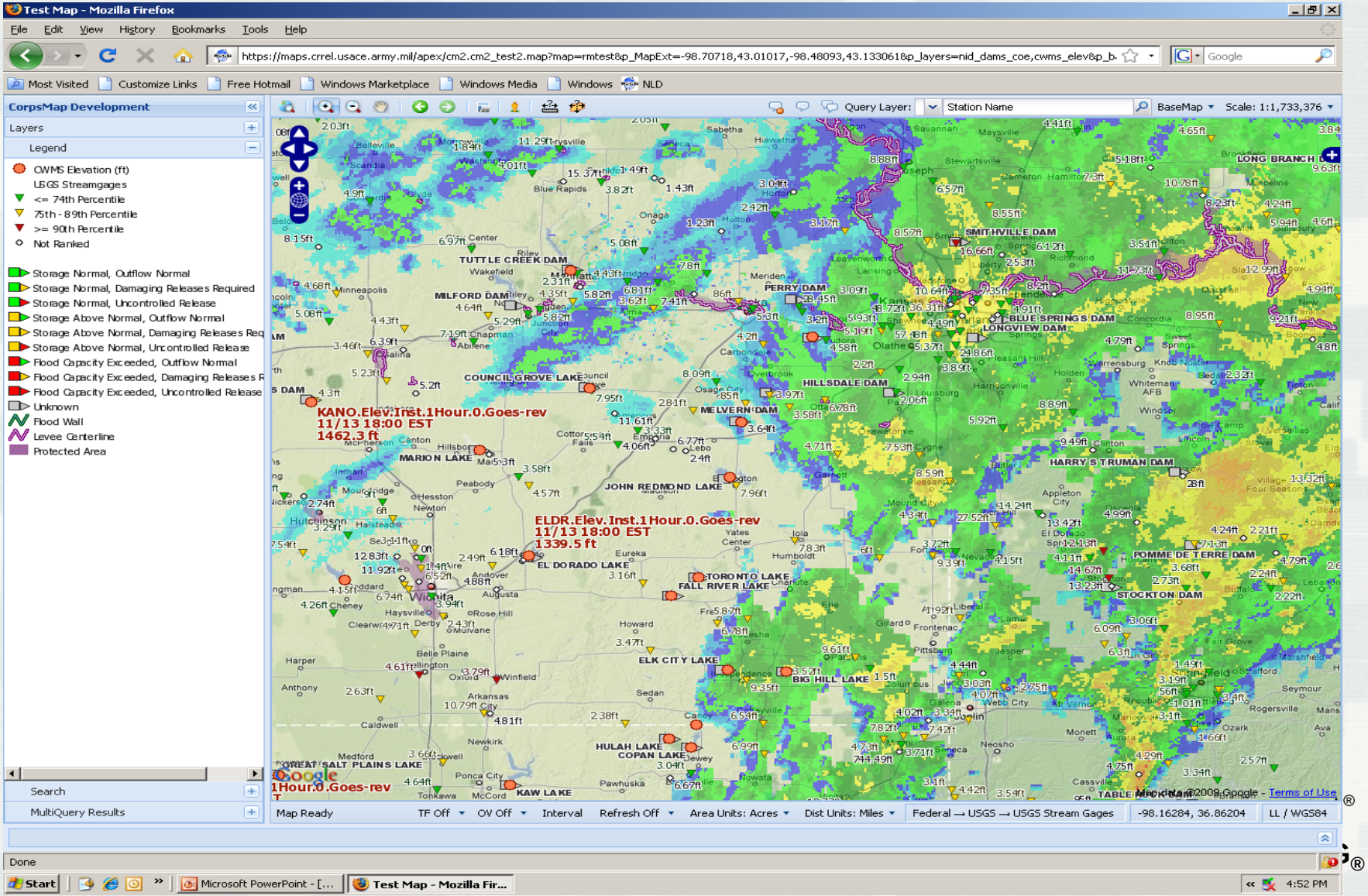
Comprehensive View of Water Resources



Summary

- USACE Geospatial CoP and USACE Leadership are committed to development of open standards for sharing of authoritative data sources with our federal partners and the public