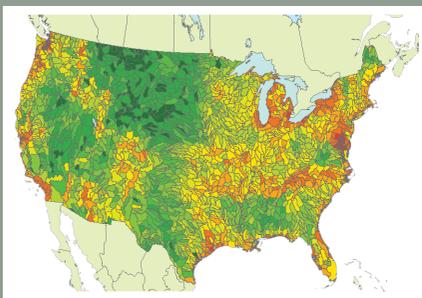


## CRREL's Water Resources Geospatial Applications Mission

To improve data collection, analysis, and decision support through remote sensing and geographic information system applications.

WRGA develops software tools and methods to improve the use of geospatial technologies across the Corps business areas to effectively manage water resources, emergency situations, real estate, environmental restoration, regulatory activities, navigation, and operations projects and programs.



Nationwide Analysis of Regulatory Program by Watershed

### Uses spiral development model to:

- Guide multi-stakeholder concurrent engineering of software-intensive systems.
- Ensure interoperability and extensibility.
- Be "Relevant, Ready, Responsive, Reliable."

## CRREL's WRGA Research Facilities



The Remote Sensing/Geographic Information Systems Center of Expertise provides mission-essential support to all components of the Army Corps of Engineers, Department of Defense, states, and regulatory agencies, as well as non-governmental organizations and private industry.

## The Cold Regions Research and Engineering Laboratory (CRREL)

The Cold Regions Research and Engineering Laboratory (CRREL) in Hanover, New Hampshire and Anchorage and Fairbanks, Alaska is part of the US Army Corps of Engineers Engineer Research and Development Center (ERDC). Our mission is to solve interdisciplinary, strategically important problems of the US Army Corps of Engineers, Army, Department of Defense, and the Nation by advancing and applying science and engineering to complex environments, materials, and processes in all seasons and climates, with unique core competencies related to the Earth's cold regions.



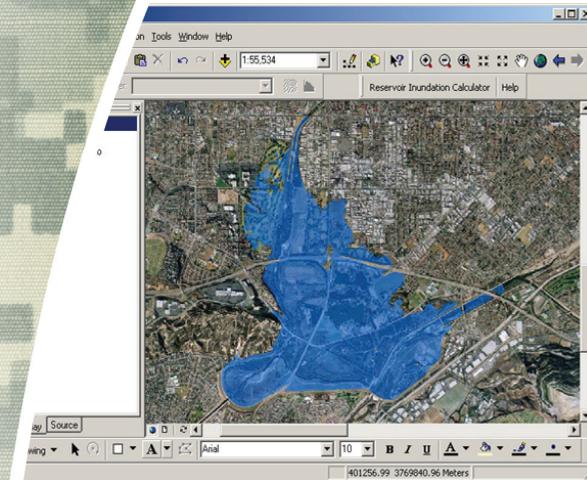
**BUILDING STRONG®**

### Contact

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**US Army Corps of Engineers®**



Geospatial Portals

•  
Geospatial Analytics

•  
Wetlands Research

U.S. Army Engineer Research and Development Center  
Cold Regions Research and Engineering Laboratory

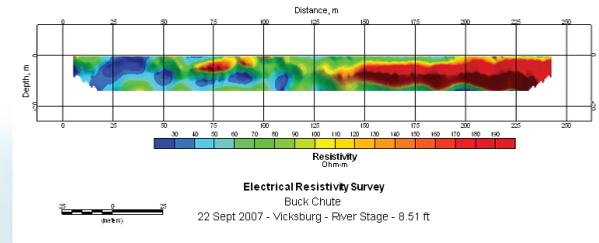
WATER RESOURCES GEOSPATIAL APPLICATIONS

### Geospatial Portals

- Provide customer-focused solutions in an enterprise geospatial framework.
- Use CorpsMap and Web Services to provide real-time data analysis.
- Assist with regulatory actions and marine sanctuaries or critical habitats.
- Provide Department of Defense with strategic maps and geospatial data resources.
- Manage the National Levee Data Base for future asset management risk analyses.

### Geospatial Analytics

- Develop real-time data collection technologies that streamline field data collection and analysis efforts through database integration, analysis, and dissemination.
- Integrate geospatial data with business process data in the development of applied tools.



Levee Seepage Early Warning System

### Wetlands Research

- Assist in wetlands delineation studies and training.
- Understand vegetation-soil relationships at a wetland boundary.
- Conduct strata analysis and develop strata definitions.
- Assist in increasing the reliability of wetland plant indicator statuses.
- Model “ordinary” discharge events in arid channels.



Real-time View of Nationwide Regulatory Activity using Google Earth



Rapid Deployable Flood Protection System



- Develop state-of-the-art ground, aerial, and marine-based LiDAR technologies and applications for terrain reconstruction and analysis.
- Manipulate project-scale and/or temporal-scale datasets spatially for characterization, evaluation, and remediation.
- Use remote sensing of the physical environment to identify and analyze holistic-scale information and disseminate it to stakeholders efficiently.



Wetland Plant Training



®