

# GEOSPATIAL SERVICES AND SOLUTIONS

USING GIS AND REMOTE SENSING FOR TODAY'S GLOBAL CONCERNS

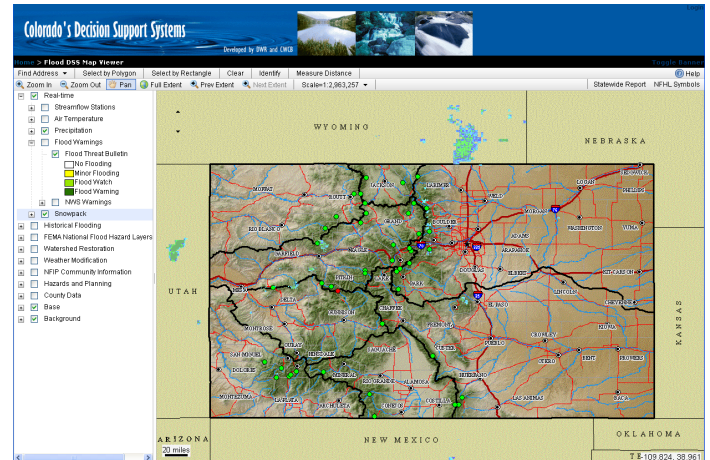
Riverside Technology, inc. (Riverside), founded in 1985 and headquartered in Fort Collins, Colorado, USA, is an international environmental science, engineering, and information technology consulting firm. Riverside provides global science solutions in hydrology, meteorology, energy, natural resources, and the environment.

Riverside has completed projects in hydrologic modeling, flood forecasting, reservoir operations and planning, water and irrigation management, climate change, agricultural monitoring, natural hazards mitigation, emergency management, and land use planning.

Riverside supports complete project lifecycles encompassing data collection, management, analysis, and dissemination using state-of-the art tools and methodologies.

Geospatial services are provided as integral parts of Riverside's solutions and systems including decision support systems, collaborative knowledge portals, and database management systems.

Riverside employs a staff of geospatial experts and partners with industry-leading geospatial technology providers like Esri®, Microsoft®, and ERDAS. Our expert toolkits include ArcGIS Desktop, ArcGIS Server, ArcIMS, ArcSDE, Spatial Analyst, 3D Analyst, IMAGINE, SQL Server® 2008, .NET, Visual Studio®, Python™, and web-mapping platforms like Bing™ and Google™.

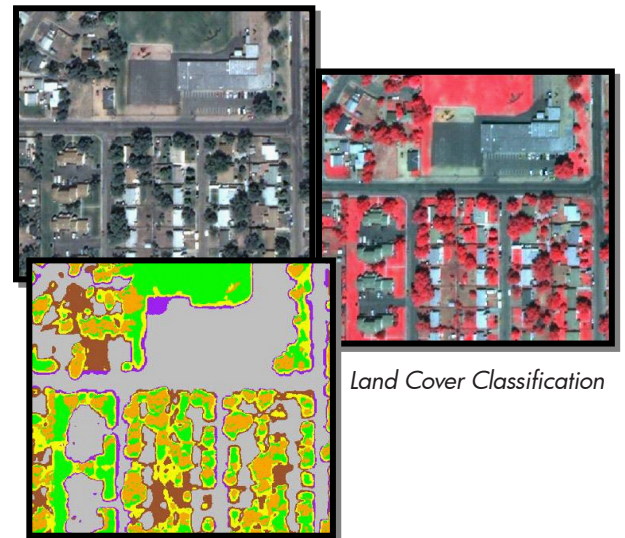


Colorado Flood Decision Support System

## THE SPECTRUM OF EXPERT GEOSPATIAL SERVICES

### Collect and Process

- Identification, acquisition, and integration of maps and imagery
- Reformatting and re-projection of maps and imagery
- Imagery compression
- Vector dataset creation
  - Map digitizing
- Attribute database compilation
- Field data collection and verification
  - GPS and handheld data units
  - Ground control points
  - Attribute data
  - Geo-tagged photos
  - Ground truthing
- Automated data collection and processing
- Imagery correction
  - Atmospheric
  - Radiometric
- Imagery mosaics and balancing
- Imagery georeferencing and orthorectification



Land Cover Classification

### Management

- Enterprise GIS development
- Geodatabase design, development, and maintenance
- Relational database design, development, and maintenance
- Database applications development
- Custom programming and scripting
- Document and photo management and geospatial integration
- Incorporation of real-time data feeds
- GIS, database, and applications hosting

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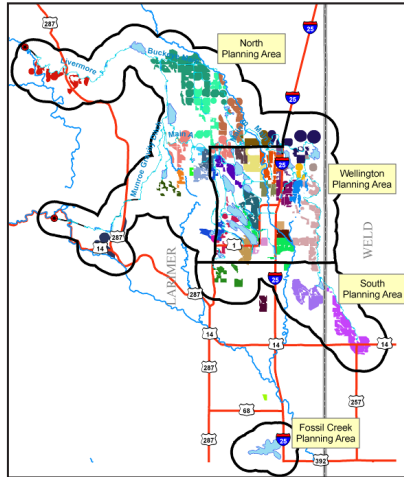
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## Analysis

- Vector analysis
  - Proximity
  - Network
  - Overlay
  - Buffer
- Raster analysis
  - Viewshed
  - Terrain modeling
    - Digital terrain development
    - Watershed analysis
    - Hydrologic flow analysis
  - Map algebra
  - Volumetrics
- Image classification
  - Unsupervised
  - Supervised
- SAR analysis
  - Coherent change Detection
  - Interferometry
  - Subsidence
  - DEM creation
- Feature extraction
  - Automatic
  - Heads-up
- Change detection
- Image analysis
  - Evapotranspiration
    - METRIC
  - NDVI
  - Crop identification
  - Land use/land cover
  - Vegetation, forest cover, and wetlands mapping
  - Change detection
  - Pervious/impervious surface mapping
  - Fuels mapping and fire risk assessment
- Vector modeling
  - Time series analysis
  - Risk mapping
  - Floodplain mapping
- Custom tools
  - Desktop spatial analysis tools
  - Automated geoprocessing
  - Web map interfaces with custom functionality



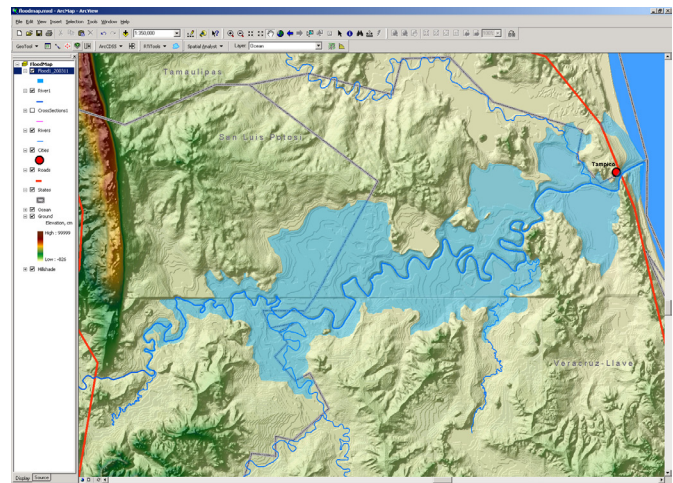
Feasibility Planning

## A WEALTH OF INNOVATIVE SOLUTIONS

With scientific expertise, industry knowledge, and an innovative approach to environmental challenges, Riverside's team of engineers, IT professionals, and geospatial experts are highly skilled at obtaining relevant data, processing it efficiently, and producing meaningful solutions for managers and policy makers who need to make strategic and informative decisions about today's global issues.

Riverside's geospatial team has delivered solutions for satisfied customers including:

- Colorado Water Conservation Board Flood and River Decision Support Systems
- Country of Honduras Flood Forecasting System
- South Platte River Basin Irrigated Lands Monitoring
- Regional Municipality of York Wastewater Analysis and Modeling
- North Poudre Irrigation Company Water Management System
- Country of Ethiopia Flood Risk Mapping
- South Adams County Water Sanitation District Urban Irrigation Monitoring and Enterprise GIS Development
- Platte River Recovery Implementation Program Portal
- Country of Morocco Water Consumption and Irrigation Management
- FEMA Flood Levee Inventory
- Colorado Springs South Central Region Mapbook Development



Flood Inundation Mapping

## Dissemination

- Creation of cartographic products and map books
- Documentation and training
- GUI design and creation
- Website design, development, and maintenance
- Web mapping design and implementation
  - ArcGIS Server
    - Javascript API
    - Flex API
  - Bing Maps API
  - Google Maps™/Earth™ API
- Collaborative knowledge portal development
- Decision support systems design and development

