Non-Point Source Priority Dashboard

eRAMS

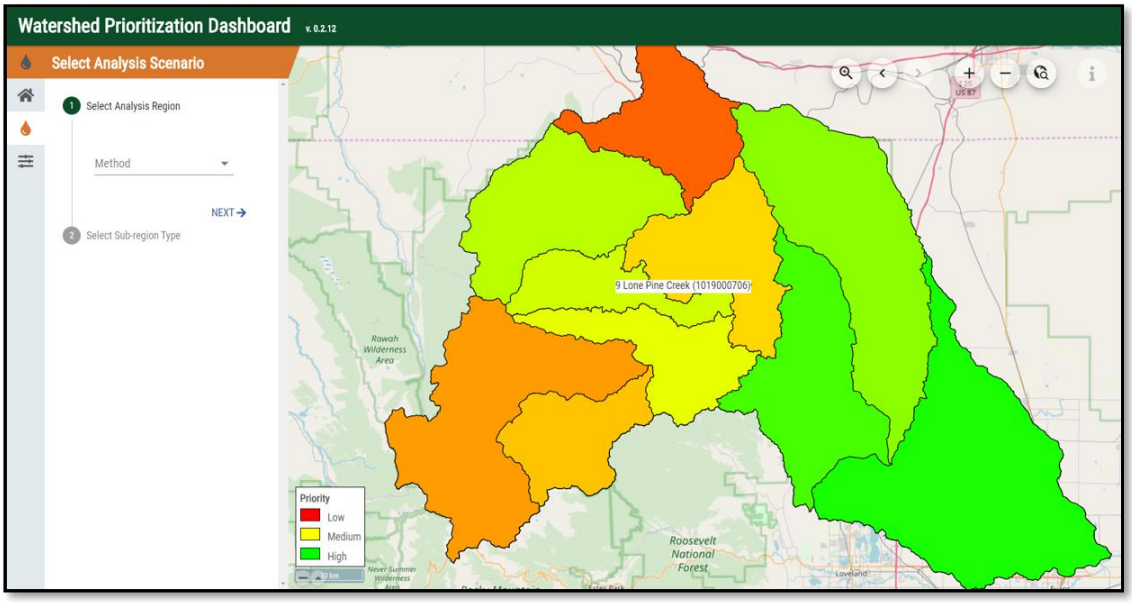
The **Environmental Resource Assessment and Management System (eRAMS)** is an open source technology that provides cloud-based software solutions as online services and a platform for development and deployment of online tools.

Version control and platform requirements are often barriers to widespread adoption of new technologies.

We develop platform independent software to access analytical and "big" data management systems. eRAMS streamlines access to publicly available databases and simplifies workflows.

Our software holistically integrates data and models to comprehensively assess water, land, energy and other linked systems.

Our services are used to assist with strategic and tactical decision making for sustainable management of land, water, energy and other connected resources.



The Non-Point Source Priority Dashboard (NPSPD) was developed to assist the Colorado Department of Public Health and Environment (CDPHE) prioritize watersheds for conservation, restoration, and preservation. This tool allows users to explore Colorado water systems and prioritize or rank particular watersheds or locations within them, based on a range of user-selected criteria to assist with decision making at the state-or-local level.

The Dashboard uses a Multi-Criteria Decision Analysis (MCDA) approach to assist with tactical decision making by allowing users to build customized analysis scenarios and identify critical watersheds in the specified region. Using a geospatial interface, a user can select from three pre-populated analyses with default values to reflect a variety of indicators including those identified by the U.S. Environmental Protection Agency (EPA) Health Watersheds Assessment Program and the CDPHE.

Users can customize the level of importance and either maximize or minimize the significance of numerous assessment criteria ranging from landscape and biological condition to water quality and contamination, to land use and climate change. Multiple analyses can be conducted and compared within the dashboard. Results and raw data can be exported as a spreadsheet and the interactive graphing features help visualize the model outputs.

CATENA ANALYTICS

Catena Analytics provides powerful platforms for building accessible and scalable analytical tools and simulation models that can be accessed via desktop or mobile devices.

Our **Environmental Resource Assessment and Management System (eRAMS)** and **Cloud Services Integration Platform (CSIP)** present several options for developing collaborative projects and integrating geospatial data, analytics, and modeling engines.

ACCESSIBLE

Your documents, data and tools can be accessed from commonly used web-browsers on mobile or desktop devices.

SCALABLE

Our sophisticated distributed storage and computing techniques provide the scalability and availability necessary to serve a broad range of needs.

SECURE

We provide state-of-the-art data protection solutions and instant access to digital resources using a secure user account.

Key Features

The Non-Point Source Priority Dashboard is hosted using the novel eRAMS technology, an open platform supporting development of geospatially-enabled web applications for sustainable management of land, water, and energy resources. eRAMS harnesses open source technologies to provide geospatial data analysis, presentation, processing, and visualization to build custom analytical tools that incorporate model and data services. The NPSPD provides a user-friendly, open-access interface for CDPHE and other stakeholders to prioritize watersheds for conservation, restoration, and preservation across the state of Colorado.

DATA

The Dashboard uses publicly accessible data available through the following open-source providers:

- EPA Environmental Dataset Gateway
- USGS National Land Cover Dataset (NLCD)
- USDA-NRCS Snow Telemetry (SNOTEL)
- USGS National Transportation Dataset (NTD)
- EPA WQX/STORET Water Quality Data Portal
- CDPHE Water Quality Control Division GIS Data
- USGS National Water Information System
- LANDFIRE Program

RESULTS

The NPSPD uses Multi-Criteria Decision Analysis (MCDA) to build customized analysis scenarios and identify critical watersheds in a user-specified region. A user can select from three pre-populated analyses:

- EPA Healthy Watershed Assessment Program
- Protect
- Restore

Once any optional changes have been made to the analysis type and/or the default indicator values the MCDA will be performed. After the run is complete results of the analysis will be displayed in the "MCDA Results" tab. Multiple analyses can be performed and displayed simultaneously to compare results.

Raw data used in an analysis can be exported as a .csv or excel file and the corresponding graph can be downloaded as an image or .pdf by selecting the horizontal bars in the upper right corner of the table. The MCDA results can also be downloaded as an excel spreadsheet.

System Requirements

A modern web-browser is required to connect and run the web-tool. Browser options include: Google Chrome v.69, Mozilla Firefox v.62, Safari v.11.1, and Microsoft Edge v.17.

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