

Edge of Field Conservation Planning Tool

eRAMS

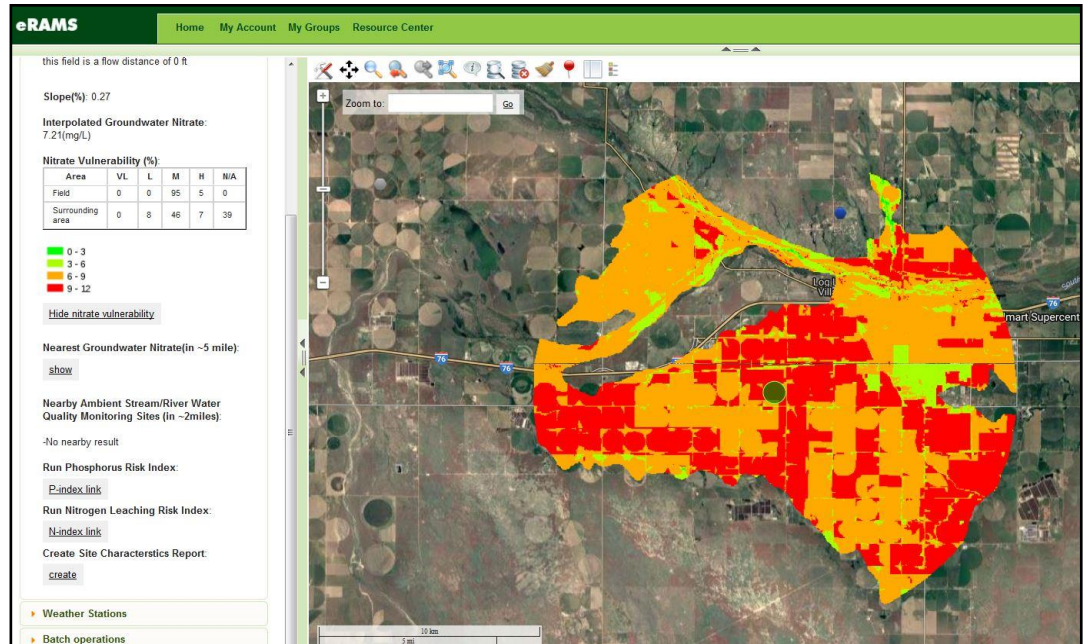
The Environmental Resource Assessment and Management System (eRAMS) is an open source technology that provides cloud-based software solutions as online services and a platform for development and deployment of online tools.

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 Edge of Field Conservation Planning tool (EOFCP) allows producers, their advisers, scientists, and engineers to compare potential and modeled water quality and crop yield impacts from the implementation of agricultural nutrient, irrigation and tillage conservation best management practices (BMPs).

The Edge of Field Conservation Planning tool also provides additional information on BMP implementation and calculates nutrient recommendations with user inputs. Users can also use the N-Index and P-index risk modules to evaluate fields for N and P losses. Once a field is mapped, EOFCP provides information on site characteristics that can show how nutrient management practices may impact water resources.

The EOFCP utilizes various technologies including open source Geographic Information Systems (GIS), Terrain Analysis Using Digital Elevation Models (TauDEM; Tarboton, 2013) and Soil and Water Assessment Tool (SWAT; Arnold et al. 2012) to provide information to help plan conservation practices for a field and to assess the effectiveness of various agricultural conservation practices.

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 Edge of Field Conservation Planning tool provides users various field parameters that affect the potential movement of nutrients to surface and groundwater. These parameters include proximity to surface water, field slope, interpolated groundwater nitrate, groundwater nitrate vulnerability, nearest actual groundwater nitrate, nearby ambient stream/river water quality monitoring sites, which are provided within a site characteristics report. More information is available at: <https://erams.com/catena/tools/nutrient-control/>

DATA

Soil data is retrieved from the USDA – Natural Resources Conservation Service (NRCS) [Soil Survey Geographic Database \(SSURGO\)](#).

Users can also choose climate data sources from:

- [Parameter Elevation Regression on Independent Slopes Model \(PRISM\)](#)
- [Global Historical Climatology Network – Daily \(GHCND\)](#)
- [Colorado Agricultural Meteorological Network](#)

EOFCP integrates the [Phosphorus Index](#), Nitrogen Index, Soil and Water Assessment Tool (SWAT) model, [Water Irrigation Scheduler for Efficiency \(WISE\)](#), Land Use and Agricultural Management Practice Service (LAMPS), and other technologies into a single geospatial application for comprehensive analysis.

RESULTS

A site characteristics report can be generated which includes the essential field information including location (centroid), size (acres), soil type from SSURGO, and the slope of field. For each soil type, the report provides erosion class, runoff class, saturated hydraulic conductivity and the ratio of sand, silt, clay of each soil

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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ANALYTICS

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