



# Developing a Decision Support Engine to Enable Irrigation Modernization - Poster

December 2020

*Changing the World's Energy Future*

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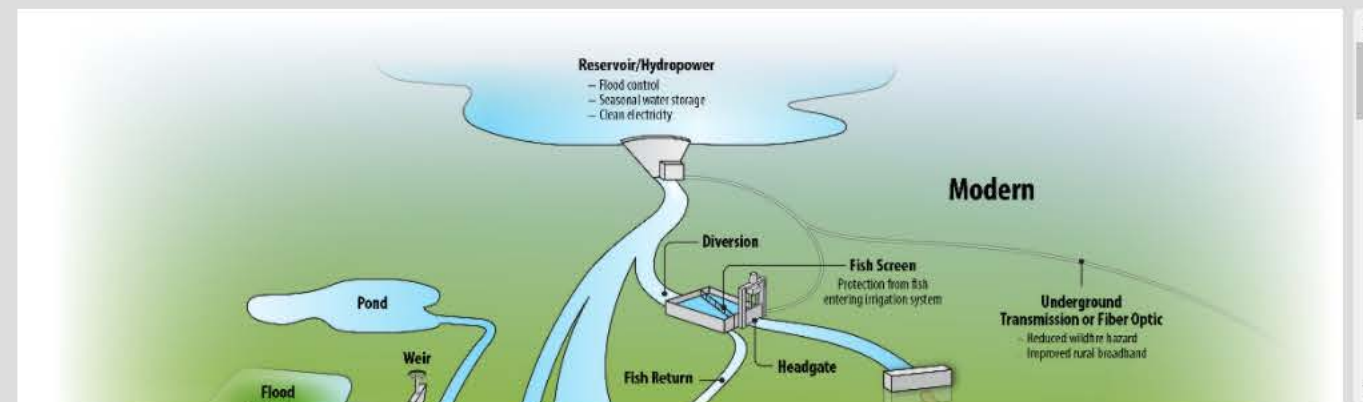


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Idaho National Laboratory, Pacific Northwest National Laboratory, Farmers Conservation Alliance, and Dept. of Energy's Water Power Technology Office

## What is Irrigation Modernization?



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## Visualization Tool

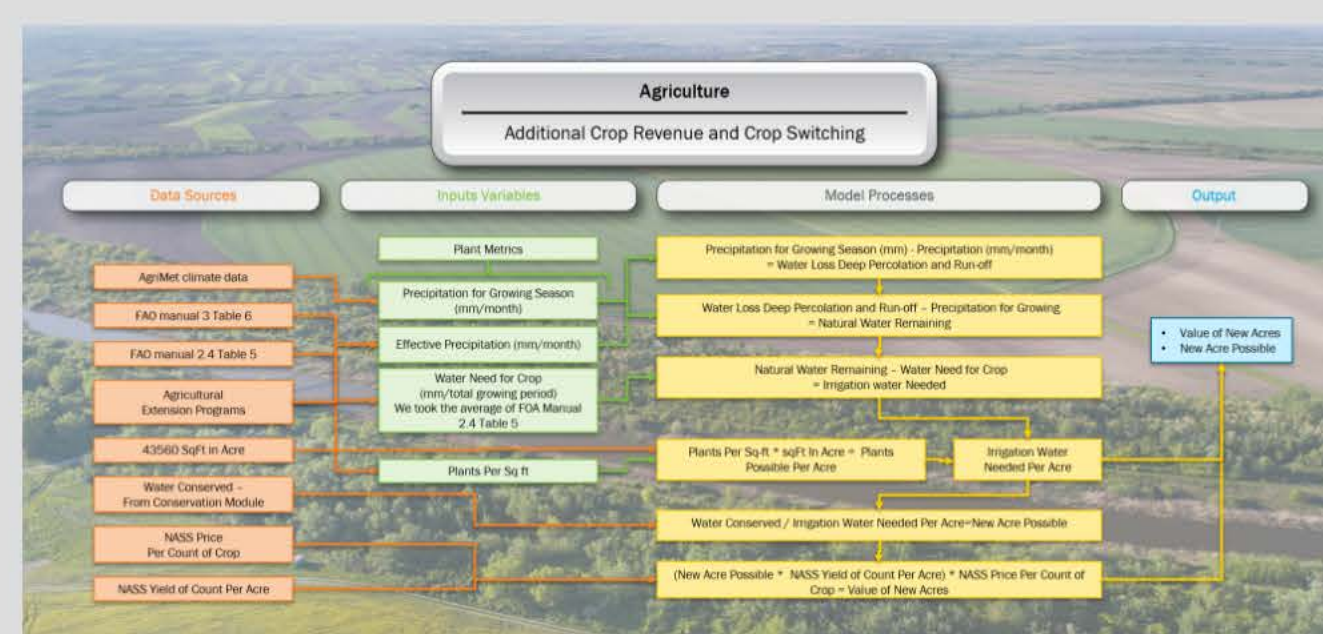


Figure 1 (Depiction of module workflow)

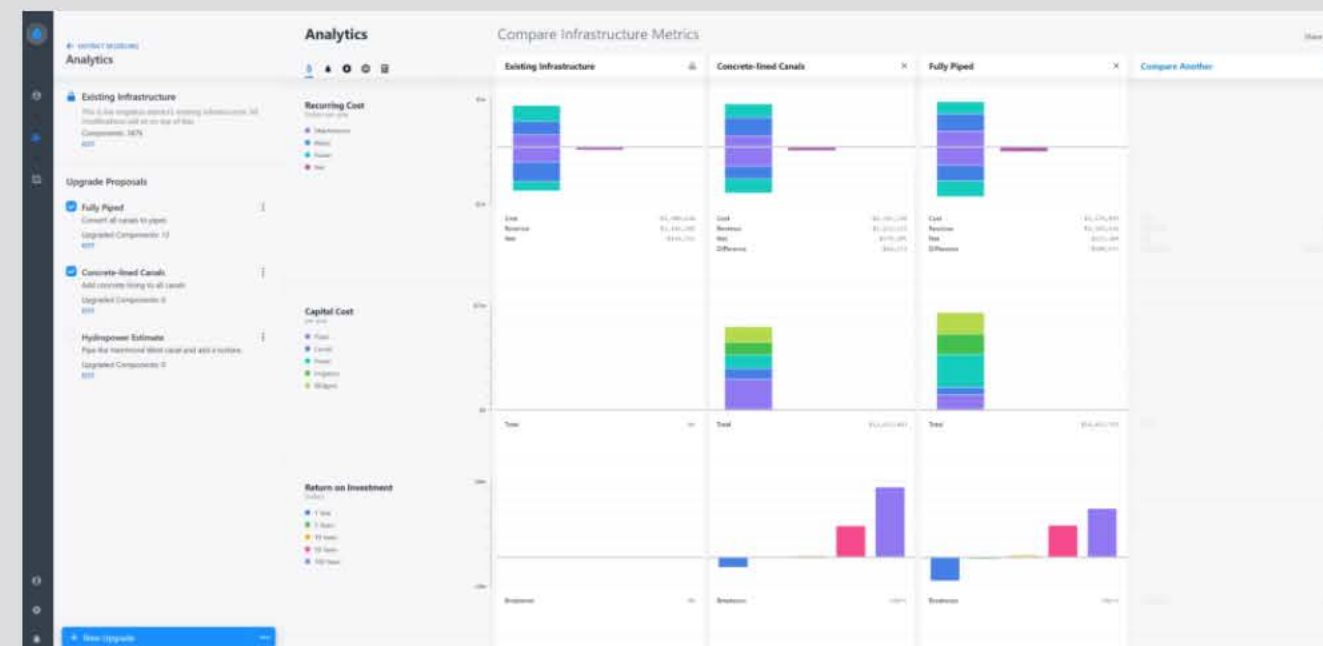


Figure 2 (Visualization Tool Analytics Page)



## Year One Capabilities

### User Interface:

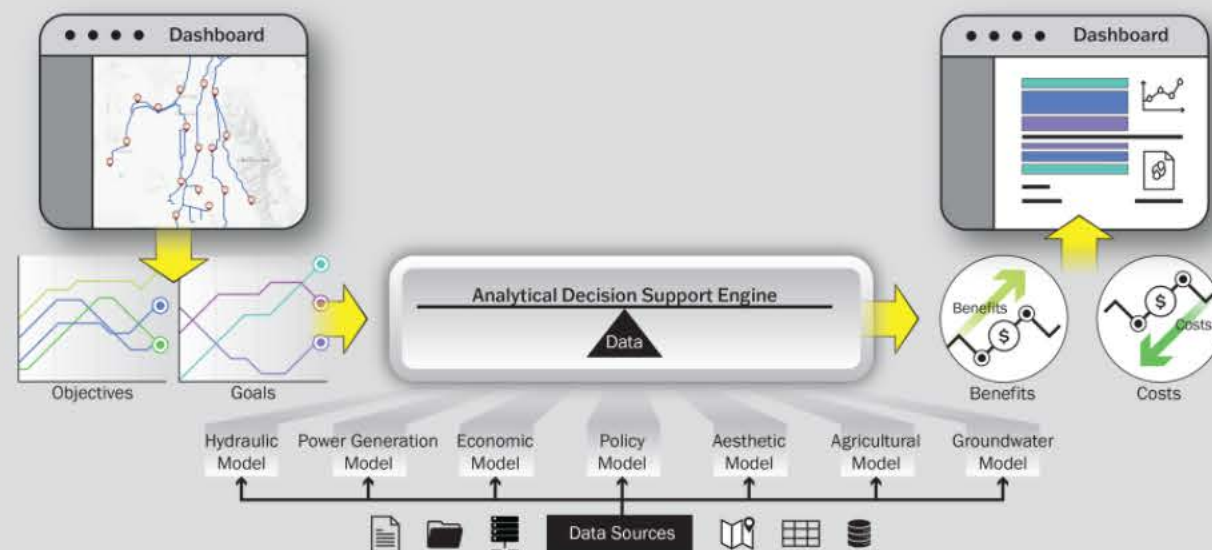
- Beta User Interface deployment
- Ability to build interactive complex modernization scenarios.
- Ability to provide comparative analytics for different modernization scenarios.

### Analytics Engine Modules:

- *Agricultural Potential*—Determines the predominant crops in an irrigation district's service area and, based on the amount of water conserved through modernization, calculates the potential opportunities for increased planting of identified crops.

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## Quantifying Irrigation Modernization



Analytics Engine's Workflow

### 1. Identify mechanisms of modernization.

- What is the current state of an irrigation district? What modules do we need to determine that state (e.g., water loss)?

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## What is Next?

Year two activities will consist of two case studies with participating irrigation districts. These case studies will determine the current state of the irrigation district's infrastructure in relation to modernization efforts and possible modernization scenarios suitable for both districts. The team will also work to optimize and enhance existing Analytics Engine modules while researching and developing new modules for the Analytics Engine. Additionally, the team will work to expand the user interface capabilities.



Analytics to Modernization