Rebecca Evans, E.I., M.S.
Water Resources Engineer,
DiNatale Water Consultants

Mrs. Evans is a water resources engineer with experience in modeling and water resources since 2014. At DiNatale Water Consultants, Rebecca performs water supply system operations, water accounting, and surface water modeling.

Mrs. Evans has experience with logical modeling in multiple programs, including Excel, HEC-RAS, Python, RiverWare, MatLab, R, and SAS. She has used these programs to create models, perform water accounting, and generate forecasts.

Mrs. Evans obtained her Hydrologic Sciences Master's Degree through Boise State University. She worked with the National Resources Conservation Service (NRCS) to create a model that forecasts key water management dates based on trends in the mountain snowpack for several snow-dominated watersheds in Idaho. The output of the model she built is one of the key forecasts generated for the NRCS in their predictions for irrigation season.

Experience
Water Resource Engineer,
DiNatale Water Consultants, Inc.
2017-present

Graduate Student Researcher
National Resources
Conservation Service
Boise State University
2014-2017

Certifications
Engineer Intern, State of Illinois

Education
M.S. Hydrologic Sciences
Boise State University
2017

B.S. Geological Engineering
Olivet Nazarene University
2013

Relevant Project Experience

United Water and Sanitation District, Water Supply Planning, Modeling and Operations. DiNatale Water Consultants assists United Water and Sanitation District in planning, modeling, and operations to provide water for metropolitan districts in the Denver area. The planning in the modeling incorporates collaboration in determining long- and short-term goals for United and its partners. Mrs. Evans performs water accounting with advanced spreadsheets and submits these spreadsheets to the respective water commissioners on a monthly basis. The planning and modeling ties into operations to perform the accounting and operations on a daily basis. Mrs. Evans also performs the daily operations, which involve tracking pumping, well augmentation, reservoir storage, and ditch operations along the South Platte River system and communicating with United and the water commissioners throughout this process.

U.S. Army Corps of Engineers and Fort Collins, Halligan Daily Disaggregation Modification. Fort Collins and the U.S. Army Corps of Engineers contracted DiNatale Water to modify a daily disaggregation model for the North Fork of the Cache la Poudre River. The post-processing takes output from an existing model and accounts for additional operations controlled by Fort Collins that cause changes in flows at several points along the Cache la Poudre. These changes in output values are incorporated without modification of monthly flow volumes. The final deliverable included a spreadsheet that generates output of daily flow values for different points along the Cache la Poudre River, a dynamic chart that displays the input and output daily values, and a summary table of changes from the post-processing procedure based on the initial model's output.

U.S. Army Corps of Engineers – Fort Worth, Hydrologic Modeling Guidelines. DiNatale Water Consultants was contracted with Carollo Engineers to develop Hydrologic Modeling Guidelines that assist Corps project managers and applicants for the process of reviewing and applying for water supply permits, respectively. The guidelines break down the data needs of the Corps depending on the complexity of each application and provide examples of a wide range of past applications and the data needs for the Corps. The deliverables in this project were both a final technical document and a checklist of data/analysis needed for each level of complexity of modeling. In this project, Rebecca developed the initial checklist and summarized the case studies, which detailed how prior modeling and applications could have been more streamlined in route to the granting of a water supply permit by the Corps.

U.S. Department of Agriculture: National Resources Conservation Service – Snow Survey in collaboration with Boise State University Hydrologic Sciences M.S. Program, Statistical Modeling and Forecasts of Water Supply. The U.S. Department of Agriculture (USDA) and Boise State University Hydrologic Sciences collaborated on the development of statistical tools for streamflow and regulatory forecasts in semi-arid mountainous watersheds. Mrs. Evans, with Boise State University at the time, developed a model for the USDA that used snowpack data to predict when the water supply from snowmelt would be less than the irrigation demand in each respective year, indicating that river calls would occur, and that water must be released from reservoirs to meet demands. This modeling was performed for three individual watersheds in Idaho that have high irrigation demands. The models generate predictions each year by using the amounts of snowpack for the water year. The yearly results of these models are implemented into the spring and summer forecasts of the USDA-NRCS in Idaho.

Florida Atlantic University, Modeling Climate Effects on South Florida's Coastal Marine and Estuarine Ecosystems. Mrs. Evans performed modeling for Florida Atlantic University as a volunteer. She used Regional Ocean Modeling System (ROMS) to model different scenarios of salinity for the waters in the Everglades of Southern Florida. The results of this model are helping to develop a plan for the Central Everglades Planning Project in relation to the overall health of South Florida's marine ecosystem.

Professional Activities

American Water Resources Association, Colorado Section