RTI Amanzi™
a product of RTI International

RTI Amanzi™

THE RTI AMANZI STORY

RTI International's Center for Water Resources (CWR) has a long history of implementing streamflow forecast systems. We have supported large and small government agencies and commercial clients in using and creating flow forecasts ranging from a few hours to many months into the future to help decision-makers in reservoir operations, hydropower generation maximization, and flood warning. We developed our own RiverTrak® Forecast system and have also implemented forecast systems developed by other agencies and organizations.

Based on our expertise and experience in developing, deploying, and supporting flow forecast systems and our understanding of their strengths and weaknesses, we designed and developed the RTI Amanzi Forecast System on CWR's web-based RTI Amanzi data and modeling management platform (RTI Amanzi - Water Resources Framework | RTI). RTI Amanzi combines the best from existing solutions in a licensed, cost-free, state-of-the-art modular, flexible, and universally accessible tool that serves new and experienced forecast system users alike.

RTI Amanzi combines the best from existing solutions in a licensed, cost-free, state-of-the-art modular, flexible, and universally accessible tool.

ABOUT RTI'S CENTER FOR WATER RESOURCES

RTI is an independent, nonprofit research institute dedicated to improving the human condition. For more than 60 years, clients have relied on RTI to answer questions that demand an objective and multidisciplinary approach—one that integrates expertise across the social and laboratory sciences, engineering, and international development. Built on a foundation of rigorous science and engineering expertise, RTI's CWR offers tailored, innovative, end-to-end water management solutions to help you strategically manage dynamic environmental challenges. We are committed to improving water management decision-making and promoting the long-term security and sustainable use of water for all communities.

Why RTI Amanzi Makes Flow Forecasting Easy and Efficient

EMPLOY YOUR ESSENTIAL DATA

Download common publicly available forecast and observation data sets as timeseries or grids.

Import your own or other available data.

- Acquire data from spreadsheets, ASCII files, File Transfer Protocols (FTPs), or Application Programming Interfaces (APIs) – the possibilities are endless.
- Develop new data imports easily using standardized templates or custom scripting.
- Process your data using pre-defined methods.
- Perform data aggregation, lookups, and statistical analysis.
- Complete geospatial processing of gridded data.

Use custom scripting to develop and integrate your own data processing methods.

Host and manage your data via the PostgreSQL database or continue to use your existing data management system.

MODEL YOUR CRITICAL PROCESSES

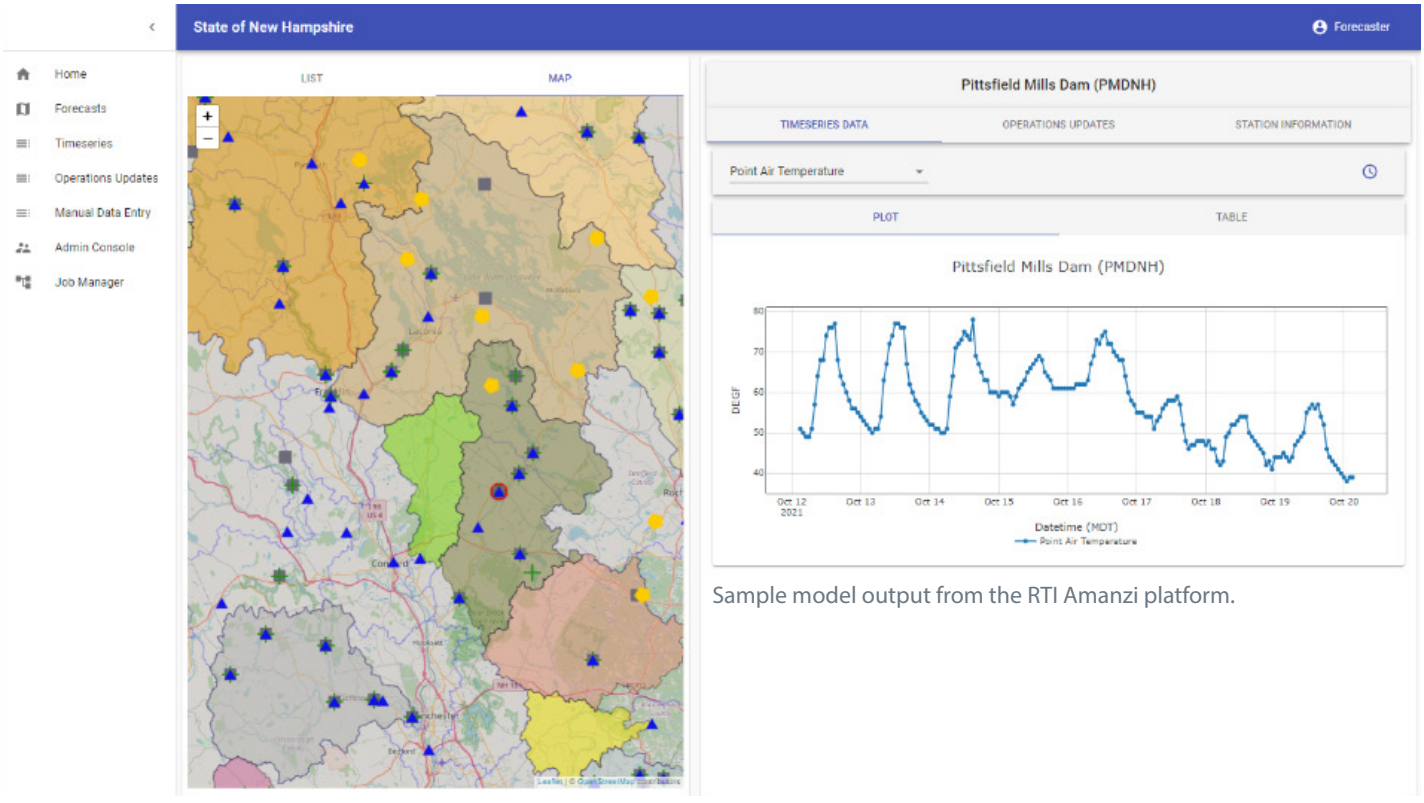
Use a suite of common hydrologic and basin operations models:

- HEC-HMS, SAC-SMA, SNOW-17, Unit Hydrograph
- HEC-ResSim, RES-J
- Coming soon: HEC-RAS, WRF-Hydro, RiverWare, WEAP

Integrate your own models, from existing spreadsheets to traditional conceptual models to Machine Learning/ Artificial Intelligence.

Download free publicly available or subscription-based forecast products, and compare their performance.

Develop and integrate other critical processes via custom coding or scripting.



Sample model output from the RTI Amanzi platform.

CREATE THE DATA INTELLIGENCE YOU NEED

Post-process your forecast data to create the specific information you need for reporting or decision-making.

Use a suite of pre-defined RTI Amanzi tools to adjust your own or external forecast data, summarize the data, or extract relevant information.

Employ custom processing and scripting to compute what is important to you.

VISUALIZE WHAT YOU NEED

Use the RTI Amanzi standard web-interface to enter or review data and to operate the system.

Add web-interfaces (such as dashboards) to meet your specific needs.

BE ALERTED WHEN NEEDED

Set up and manage the processing of timeseries against your custom thresholds to identify times when warnings or alerts should be triggered.

Manage the recipients of alerts.

Receive notifications and alerts via display messages, email, or text/SMS.

MAXIMIZE YOUR FORECAST PERFORMANCE

Create forecasts automatically or manually as needed.

Manually enter or modify data to add information that is not acquired automatically.

Assimilate observed data into the forecasting process.

Download current forecast data and models to inspect and improve the processing off-line.

DEPLOY AS YOU WANT

Install the RTI Amanzi software components on your physical or virtual local servers.

Deploy at your preferred cloud provider, such as MS Azure or AWS.

Adapt the RTI Amanzi architecture to your specific IT needs and resources.

ACCESS YOUR INFORMATION FROM ANYWHERE

Access the RTI Amanzi interface from within your organization or anywhere with Internet access.

No need to install software to operate the system – your standard browser is enough.

PROTECT YOUR DATA

Integrate RTI Amanzi directly with your existing authentication system (such as MS Single-Sign-on) or use the RTI Amanzi internal authentication management.

Define and manage a variety of RTI Amanzi roles and users to organize fine-grained access to only those who need it.

Take advantage of encrypted data transactions (when deploying in the cloud).

Use the RTI Amanzi security-fortified API.

TRACK SYSTEM HEALTH FROM ANYWHERE

Schedule processes using the RTI Amanzi workflow manager.

Review upcoming scheduled processes.

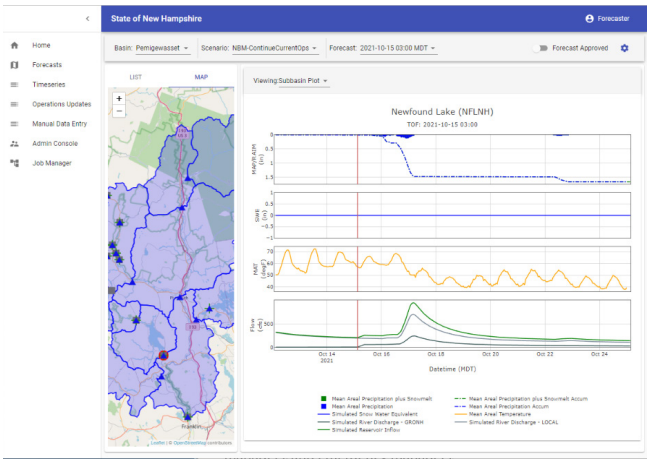
Investigate processes that failed and address the causes.

Download and troubleshoot any model run locally.

LICENSED COST-FREE AND SUPPORTED

Save on license fees.

Enjoy targeted support through hosting or maintenance agreements.



WHY RTI AMANZI IS DIFFERENT

Several flow forecast systems are currently available for the water sector. These include DelftFEWS from Deltares, Mike Customised/Operations from DHI, and HEC-RTS from the U.S. Army Corps of Engineers. The optimal system for use should be chosen based on needs, expertise, and resources. DelftFEWS is a fully functional forecast system that can be run locally or on a server and is very customizable. Developed in the early 2000s and licensed cost-free, it is used worldwide. Mike Customised/Operations, also developed in the 2000s, features an all-in-one architecture, custom scripting, and full integration of DHI models. Mike Customised/Operations, is licensed and requires a Windows operating system (OS). HEC-RTS will be a full flow forecast system, primarily for use with HEC models. The license-free tool is a pure desktop application.

RTI Amanzi was designed specifically as a web-based application that does not require any local software installation and can be accessed from virtually any device. With utmost integration flexibility and customization support, it includes the functionality to connect with any water sector models running on any OS. RTI Amanzi is licensed cost-free.

GETTING STARTED

RTI Amanzi™ - Water Resources Framework

We will explore your needs, resources, and constraints and will propose the best fitting RTI Amanzi implementation for you.

RTI INTERNATIONAL | **Center for Water Resources**

EMAIL
AMANZI@RTI.ORG

Matthew Denno: mdenno@rti.org

RTI International
2950 East Harmony Road, Suite 390
Fort Collins, CO 80528
USA