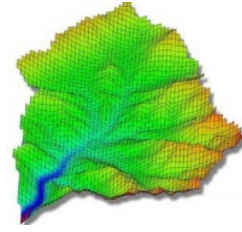


AFI Modeling Group

April 2016 Newsletter



Issue 1

Aquavit Goes Live

Fish Habitat Decision Support Tool

In early March, Dr. [[Collaborator(Todd Petty)]] gave a webinar on the [Fish Habitat Decision Support Tool](#), which is developed by [Downstream Strategies](#), an environmental consulting firm, with support from the North Atlantic Landscape Conservation Cooperative, US Fish and Wildlife Service, and Atlantic Coastal Fish Habitat Partnership. Dr. Petty is the project's Principal Investigator and professor of Aquatic Science at West Virginia University.

He provided an overview of how to use the tool to identify restoration projects that are most likely to benefit brook trout and associated species in the context of land-use and climate change.

The HUBzero-based collaboration portal for the AFI project has been gradually coming on-line for the past few months.



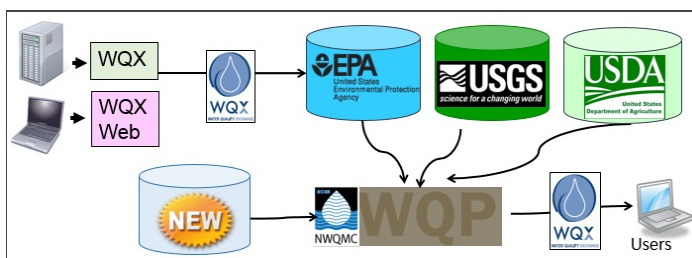
The portal is called *Aquavit* and can be found at <https://wvaquavit.marshall.edu>. All AFI project team members (currently at 70) have been added to the portal and assigned to various Groups and Projects consistent with the Strategic Plan.

After a few glitches, the portal has been integrated with Google Docs to provide collaborative editing and sharing of documents, and it has been secured with CA-signed SSL certificates. Shibboleth Service Provider (SP) software has been installed on the server to provide Single-Sign-On (SSO) access using institutional credentials authenticated through their respective implementations of Shibboleth Identity Provider (IdP) software or through InCommon/CILogon for those institutions that are members of InCommon (currently only WVU and Marshall).



The Workspace Tool has been implemented, providing personal containers for Linux-based application development and execution, including personal file storage with import/export capabilities, and a variety of Open Source development tools. The Open Source GRASS GIS system has been integrated into the Workspace for the development, deployment, and sharing of GIS-based applications from within the portal.

HUBzero Extensions (Components, Modules, and Plugins) are currently being developed to exchange data with the USGS/EPA [Water Quality Portal](#) (WQP) using the EPA's [Common Data eXchange](#) (CDX) formats and Web Service (WS) protocols. A first pass at a [WV Water Quality Portal](#) Component has been implemented, which includes all the USGS/EPA monitoring *Stations* in WV and all the *Results* from the USGS [NWIS](#) and EPA [STORET](#) databases for 2015. The table schema are derived from those used by the USGS/EPA WQP database, and the data was extracted from there as well. This Component also contains a REST API for web applications, and it will be made to conform with EPA's CDX.



Other Extensions are being developed to facilitate project management in a manner consistent with NSF EPSCoR's planning and reporting procedures that have been adopted for this project. To facilitate regular (weekly) project reporting, Activities from the AFI Strategic Plan have been added to the three AFI projects (Detection, Complexity, and Modeling) as special ToDo items within each project. These are now accessible (for those assigned responsibility) by adding the *My Project Assignments* Module to their *Aquavit* Dashboard. Comments to these special ToDo items (which are marked as Milestones internally) are being used to gather regular updates to these Activities. A web report has also been created to view these update summaries across the AFI project. This report can be accessed via a link at the bottom of the activities list in the *My Project Assignments* Module or a 15-day report can be accessed directly at http://wvaquavit.marshall.edu/activity_report.php. See additional reporting options in the *My Project Assignments* Module. This will all eventually get integrated into a more comprehensive *Project Management* Component.

A physical server has been ordered from Dell to replace the VM currently being used to host *Aquavit*. This is being done in preparation for the portal's anticipated growth and planned migration to a [Science DMZ](#) currently being established at Marshall (under an NSF CC*DNI grant [award](#)) to house the HPC cluster ([Big Green](#)), a [Globus](#)-enabled [Data Transfer Node](#) (DTN), various data-intensive laboratory instruments on campus, and the [Visualization Lab](#) - with low-friction access to the Wide Area Network (WAN) and [Internet2](#).

