Chesapeake Commons

Shared knowledge and data solutions for a vital Chesapeake Bay

Data Management

Chesapeake Commons does more than let you make simple maps and charts. It also provides a powerful solution for storing, sharing, and revising rich datasets, complete with tools for crowdsourcing and mobile data collection. It all starts with a flexible backend storage architecture that provides support for both vector and raster geospatial data, along with a full complement of typed data fields, including images and enumerated data types. This universal storage system also supports many different data interchange formats, and makes it simple to add new ones.

Layered on top of this is a versioning scheme at both the record and dataset level, allowing the system to track every version of every object stored. You can always trust that data won't "change out from under you" in an unpredictable way; you choose whether to use a particular revision of a dataset, or use the most recent available version.

This revision management system lies at the heart of a data collection capability pioneered by our system engineers at Rhiza Labs called *controlled crowdsourcing*. The owner of a dataset can allow anyone to contribute new records to a draft version of that dataset. But the owner retains the sole ability to publish new revisions from the draft. This strikes a useful balance: it allows for many individuals to easily work around one common data set while keeping editorial control over the content of that data.

Chesapeake Commons also supports mobile data collection. Any dataset in the system can be converted to a simple form and downloaded to a smartphone, allowing authorized users to collect data in the field. Data records can be collected even if a network isn't available, and later synced back to the server. The dataset owner can review and vet records collected in the field before publishing them.

Social Data and a Community of Practice

No one works in a vacuum. Chesapeake Commons not only provides you with light tools for analysis, it also provides an environment where groups can build a community of practice around data, whether within your organization or reaching out to the entire Bay watershed. To that end, Chesapeake Commons makes your data social. Chesapeake Commons allows users to comment on and rate datasets and visualizations. It also provides rich linkages between objects in the system. It's easy to get data out of Chesapeake Commons, as well; you can export any dataset in a variety of formats for easy integration with other systems.

Although the system was built to be public by default, all data can be made fully encrypted and stored to private work groups. This allows for organizations to control who sees what data on an individual by individual basis. Data is fully secure and requires a username and password for authentication.