FY14 Data Center Workplan

FY13 Key accomplishments

1. *Data Enterprise*
    a. DUET deployed for tidal and nontidal WQ monitoring data

DUET is the revised version of the Data Upload and Quality Assurance Tool (DUQAT). DUET enables the submission, review, transformation and archival of water quality data and the related metadata for the Non-tidal Water Quality Monitoring (NTWQM) Program and the Tidal Water Quality Monitoring (TWQM) Program. DUET supports submissions from six agencies, collected by fifteen sources. The resultant water quality data and related metadata then will be archived in Chesapeake Information Management System (CIMS) as a reviewed water quality database, and an associated metadata database, respectively, by water year.

    b. MOAD designed

MOAD will be the reviewed water quality database that receives data from DUET. CBP is modernizing its water quality monitoring data from the existing legacy water quality databases into new, standards-based, environmental monitoring data repository. This requires the mapping of data entities and attributes from the legacy water quality monitoring system to the newly defined, logically modeled, ESAR-based environmental data repository. Quality assurance processes will be implemented to ensure data integrity.

    c. Data visualization products finalized

http://www.chesapeakebay.net/visualization/baygrasses/ (project lead: Mike Land)
http://bit.ly/1eToVLB (project lead: John Wolf)

2. *Infrastructure*

CBP's Data Center performed a number of activities in FY13 to stabilize and enhance our CIMS infrastructure. Key accomplishments include:

    a. Linux environments (supporting our modeling team) were stabilized;
    b. security assessment for FISMA compliance was completed, and recommendations implemented
    c. many systems were developed and enhanced, including Scenario Builder; *and*
    d. award for the establishment of a Chesapeake Center for Collaborative Computing was made.

FY14 Plans and priorities

1. *Establish Chesapeake Center for Collaborative Computing (C4)*

Establishment of a cloud environment for our CIMS operations will have two key benefits: maintaining access for our partners during periodic outages beyond our control (government shutdowns, hurricanes, *etc.*); and supporting an ever-increasing storage and capacity burden from our modeling team. A grant has been awarded to UMCES, who is currently interviewing candidates for the C4 administrator. Their tasks will be to develop, administer, and support cloud infrastructure to:

    a. host a variety of technically complex partnership websites;
    b. develop a collaborative platform to allow for co-authoring and co-development of modeling and monitoring platforms and applications; *and*

c. develop the infrastructure to support document- and file-sharing across the partnership.

2. *Add Data Architect/SME position to onsite IT contract*
   This "data guru" will help us address an increased portfolio, and more effectively manage our previously contracted-out suite of TMDL support tools. Currently, many of CPB's data systems are managed by different contractors. Bringing our data systems in-house will allow CBP to more effectively manage partnership data in a comprehensive way. We can more easily communicate our data processes with our partners when they are consistent across the program, and we can achieve better data system integration and modernization by approaching our management of assets at the enterprise scale. This position will be tasked to:
   a. manage CBP's data assets on an enterprise scale (including MOAD, point source, *etc.*);
   b. achieve better data system integration and modernization; *and*
   c. update key scientific/decision support systems (including BayTAS, Data Hub, *etc.*).

3. *Develop enterprise point source database*
   Consistent with CBP's approach to managing data assets on an enterprise scale, the point source database will undergo redesign and modernization. Data will be migrated from existing databases into a standards-based repository. While some preliminary work has been done on this effort, the Data Center hopes to develop and implement an updated point source database design, and determine a consistent approach for data submission, review, transformation and archival. The point source database is key to supporting our modeling efforts, and information from the database will feed decision support systems, such as BayTAS and ChesapeakeStat, as well as our Data Hub.

4. *Implement upgrades to Scenario Builder*
   A number of enhancements are anticipated for Scenario Builder in FY14, though some final details are pending finalized state requirements for support of the updated model. Infrastructure improvements are planned to modernize the system, including software upgrades and conversion of codes and controls to improve processing functions. Additionally, Scenario Builder will be designed to better integrate directly with the Watershed Model, and to allow for single-state processing of results.