

Knowledge Systems for Sustainability meeting summary
Knoxville, TN – Nov 26-28, 2012

Kevin Sellner and Gary Shenk attended a meeting of partners committed to the program 'Knowledge Systems for Sustainability' (KSS). This is a group of people within universities, agencies, private foundations, and other organizations that have large and previously established capacities derived from other missions and responsibilities. The goal of the organization is to mobilize information resources to provide sustainable solutions at the land/food/energy nexus. In an initial meeting at PSU over a month ago, a group associated with KSS expressed interest in applying those capacities towards science needs for the Chesapeake Bay Program Partnership.

As part of the Nov 26-28 meeting at Oak Ridge National Lab, Kevin and Gary were invited to lay out the CBP partnership's organizational and scientific structure and its needs that might be addressed by this large spectrum of skills and infrastructure. Our presentation was well received with ample discussion, and two breakouts followed to discuss options for the NAS-identified Modeling Laboratory and with less attention, other needs we had identified (including social science, higher spatial resolution of land use effects at small scales, models linking WQ to fisheries). Following some dinner discussions after the first day, the Oak Ridge National Laboratory (ORNL) was offered as a possible modeling capacity to assist modeling needs in multiple geographic regions that KSS covers, with specific initial focus on the Chesapeake and Australia's Great Barrier Reef (Australia's CSIRO and Bureau of Meteorology are active KSS members).

Although we were excited about the ORNL-KSS offer, the offer should be viewed only as a possible option for the Modeling Laboratory at this point. The KSS partners will join us in a meeting of a larger CB constituency (TBD) early in 2013 at a meeting here in Annapolis. The goal of that meeting would be for the KSS leadership and ORNL modelers and database managers to 1) listen to the needs of the regional management and science community and 2) provide better detail on what an ORNL-CB Modeling Laboratory might be.

Specific questions for the arrangement would include:

- 1) Is the ORNL Modeling Laboratory a 'service organization'? Service organization implies task-driven, with ORNL staff completing R&D on management-identified needs submitted by a KSS region.
- 2) Governance of the ORNL Modeling Laboratory: How would CB and other KSS regions direct tasks to be undertaken at the Laboratory? How would the Laboratory prioritize its tasks?
- 3) Can an ORNL Modeling Laboratory include modelers from the CB region in completing these tasks? If so, by what mechanism?
- 4) Is the ORNL Modeling Laboratory funded through existing ORNL sources or expansion of those sources through KSS leader advocacy, and can it be a sustained (long-term, >10 year) project?

5) If the expansion of funding by KSS leadership occurs, need it be directed to ORNL or alternatively to another organization that could undertake region-specific modeling R&D?

The KSS-ORNL-CB workshop should include key management, policy, modeling, and science representatives from the Chesapeake region. This is an exciting opportunity, considering that within-region funding of a Modeling Laboratory seems unlikely in the near-term. However this discussion is still in the very early stages and it is difficult to even estimate the probability of success at this point.