

Audit of STAC Modeling Recommendations

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Presentation to STAC

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Purpose of this presentation

- ~~Full Audit of STAC modeling recommendations~~
- High-level view of breadth of recommendations
- General history of responses

- Start an argument
- ~~Finish an argument~~

- Recommendation **to** STAC

Color Code

- Complete or SOP
- In Process
- Considering
- No plans to implement

Modeling - General

- Compare to observed data (2011)
- Continual Evolution (2011)
- Open Source Models (2011, 2006)
- Assist with local TMDLs by providing models and boundary conditions (2006)

Modeling - General

- Use Multiple Models (2012, 2011, 2010)
- Regular Peer Review (2011, 2010)
- Improve public understanding (2011)
- Access to inputs and outputs (2011, 2006)
- Community Models (2011)
- Better documentation (2006)
- Integrate modeling and monitoring (2009, 2008, 2006, 2005)

Modeling - General

- Select through skill assessment (2011)
- Form a modeling lab (2011, 2008, 2006)
- Estimate Uncertainty (2011, 2008, 2006, 2005)
- Communicate Uncertainties (2010)
- Proactively identify threats (2008)
- Independent verification (2006)
- Run in near real-time hindcast (2006)

Land Change Model

- Land use sensitivity analysis (2010)
- Land use scenario development (2010, 2008)
- Use market dynamics in land use modeling (2010)
- Develop land and population change model (2006)

WSM

- Implement team to test new models (2008)
- Document Model and calibration (2008)
- Validation method(2008)
- Cross-Training of team members (2008)
- Improve monitoring (2008)
- Further explore hydrology calibration (2008)

WSM

- Use to target implementation (2008)
- Major software engineering (2008)
- Streamline scenario process (2008)
- Dynamic nature of BMPs (2008, 2005)
- Develop Geodatabase (2008)
- Interaction with atmospheric models (2006)
- Triple modeling budget (2008)

WSM

- Incorporate BMP effectiveness from CEAP (2011)
- Incorporate data from CEAP (2011)
- Continually update documentation (2008)
- Improve channel erosion (2008, 2005)
- Interaction with meteorological models (2006, 2005)
- Model climate change (2006)

WSM

- Next Generation (2008)
 - Not HSPF
 - Process-oriented Process-oriented
 - Distributed parameter
 - Local
- Low-order stream effects (2005)
- Lag Times (2011, 2005)
- County soil test data (2008)

WSM

- Improve deposition assessment (2009)
 - Integrate modeling and monitoring
 - Investigate near-field traffic deposition effects
 - Target BMPs to deposition
- Alternative calibration method (2008)
- More simulation of BMPs rather than efficiencies (2008)
- Use representative small basins to scale to larger basins (2005)

Estuarine

- Examine multiple estuarine models in workshop (2006)
- Use models to predict change due to land use, population, and climate change (2006)

Estuarine

- Living resource modeling (2006)
 - Higher trophic levels in CBP estuarine model
 - Feedback mechanisms
 - Toxics
 - Clarity
 - Shallow Water
- Improve wind data (2006)
- Multiple Models (2012)
 - Direct funding (2012)
 - M3 in shallow water pilot program (2012)

Estuarine

- Improve SAV with CDOM, chlorophyll, and sediment processes (2010)
- Habitat Suitability models (2009)
- Post-Audit (2006)
- Couple estuarine models to coastal models (2006)

How did we do?

90%



- Complete or SOP 20
 - In Process 20
 - Considering 12
 - No plans to implement 6
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- For continued success:
 - CBP needs to listen and consider
 - STAC needs to make reasonable recommendations and follow up

Recommendation Database

- STAC: create and maintain the database
- CBPO: populate activity
- Benefits
 - formalize the process beyond the response letter
 - long-term record of progress made on every recommendation
 - revisit recommendations previously not considered feasible
 - Show relationships between recommendations:
 - support, contradict, or supersede
 - Resource for CBP groups
 - STAC workshops could begin with related recommendations
 - GITs, ATs, WGs, and panels would better find resource materials