

LISS SWEM UPDATE MEG MEETING 3

July 11, 2013

Marine Sciences

University of Connecticut

Objective 1: Revise and assess SWEM

Task 1a: *Remove mixing limitation and revise algae/DO system*

-COMPLETED

Task 1b: *Quantitative skill and sensitivity analysis.*

-UNDERWAY

Objective 2: Modify SWEM to facilitate access to the model, data and solutions

Task 2a: *Make Documentation available on the website*

- COMPLETED

Task 2b: *Add NetCDF IO capability*

-COMPLETED

Task 2c: *Create Project Wiki*

-COMPLETED

Task 2d: *Initiate model revision management*

- UNDERWAY

Task 2e: *Install and test Model Coupling Toolkit*

-Not Started

Objective 3: Evaluate Assimilation Strategies

Task 3a: *Assess assimilation FVCOM*

-Not Started

Task 3b: *Assess effect of assimilation on DO skill*

-Not Started

Objective 4: Assess sensitivity to meteorology

Task 4a: *Repeat 6 years with revised SWEM*

-COMPLETED

Task 4b: *Nutrient scenario assessment*

- UNDERWAY

Task 4c: *Climate change scenario*

-Not Started

Task 4d: *High Resolution ECOM+RCA*

-Not Started

Task 4e: *High Resolution FVCOM*

- COMPLETED

Objective 5. Add mechanistic approach to modeling shellfish and kelp

Task 5a. *Implement Chesapeake Bay Filter Feeder Model (CBFFM)*

- COMPLETED

Task 5b. *Test revisions and document code changes*

-Not Started

Task 6. Reporting

-UNDERWAY

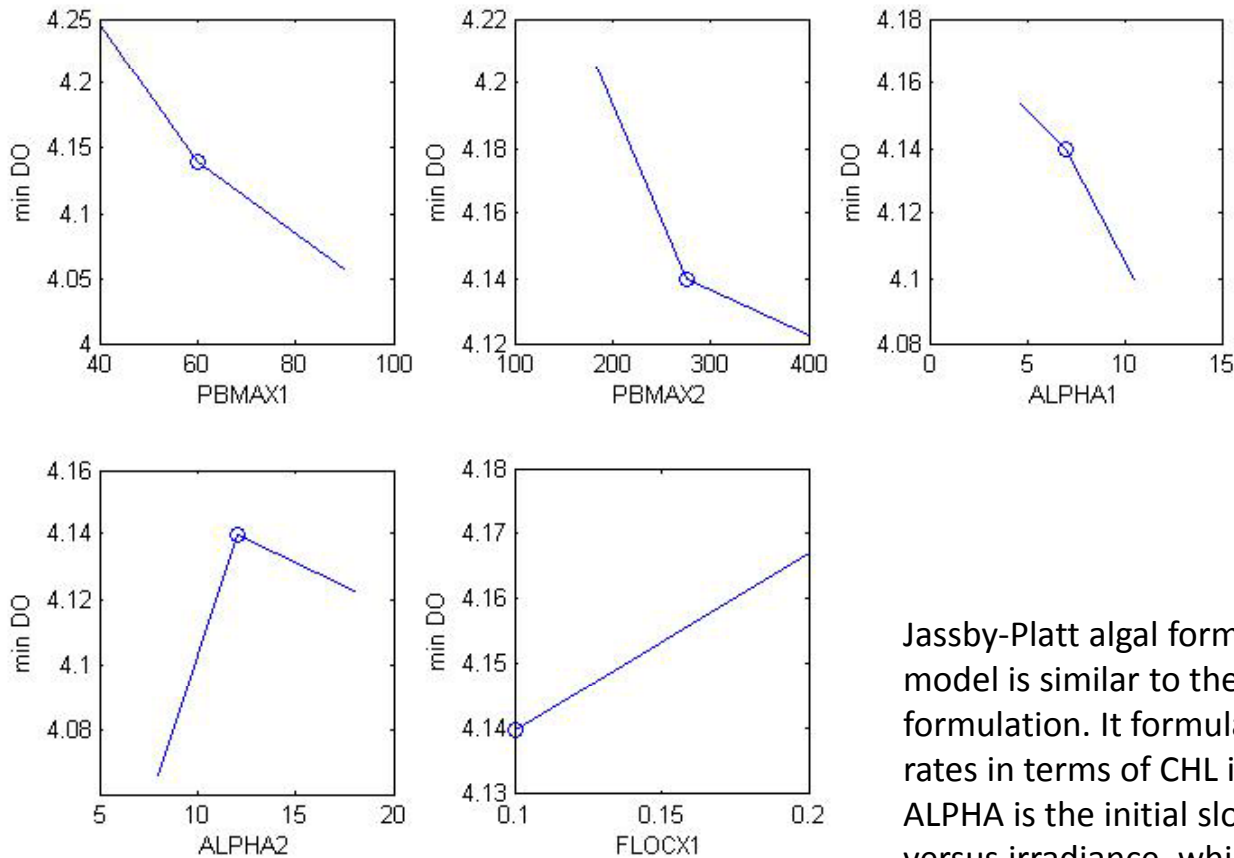
Revised Project Schedule	12/28/2011	1/31/2012	2/28/2012	3/31/2012	4/30/2012	5/31/2012	6/30/2012	7/31/2012	8/31/2012	9/30/2012	10/31/2012	11/30/2012	12/31/2012	2/28/2013	3/31/2013	4/30/2013	5/31/2013	6/30/2013	7/31/2013	8/31/2013	9/30/2013	10/31/2013	11/30/2013	12/31/2013	1/31/2014	2/28/2014	3/31/2014	
	Project Month																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
Task 1: Revise and assess SWEM																												
1a. Fix mixing & revise algae/DO system																												
1b. Quantitative skill and sensitivity analysis																												
Task 2: Initiate Transition of SWEM																												
2a. Put documentation on website																												
2b. Add NETCDF IO capability																												
2c. Create WIKI for model																												
2d. Initiate model revision management																												
2e. Test the Model Coupling Tool																												
Task 3: Evaluate Assimilation Strategies																												
3a. Assess assimilation FVCOM																												
3b. Assess effect of assimilation on DO skill																												
Task 4: Assess sensitivity to meteorology																												
4a. Repeat the 6 years with revised SWEM																												
4b. Nutrient scenario assessment																												
4c. Climate change scenario																												
4d. High Resolution ECOM+RCA																												
4e. High Resolution FVCOM																												
Task 5: Add shellfish and kelp sub model																												
5a. Implement CBFFM and test																												
5b. Update Wiki with CBFFM and code changes																												
Task 6: Reporting																												
6a. Quarterly report 1																												
6b. Quarterly report 2																												
6c. Quarterly report 3																												
6d. Quarterly report 4																												
6e. Quarterly report 5																												
6f. Quarterly report 6																												
6g. Quarterly report 7																												
6h. Quarterly report 7																												
6i. Final report																												

Shading Code

Response to MEG-2 Comments

- Skill - Von Storch and Zwiers (1999), Statistical Analysis in Climate Research, Cambridge Univ. Press.
 - Chapter 18, Forecast Quality Evaluation\
- Currently assessments are focusing on getting hypoxia
- Not yet analyzed all the inter-annual variations
- We will look at the NS variations.

Parameter Sensitivity Example



Jassby-Platt algal formulation. This algal model is similar to the original SWEM formulation. It formulates the growth rates in terms of CHL instead of C. ALPHA is the initial slope of production versus irradiance, while PBMAX is the maximum production rate.