

SLAMM VERSION AND DEVELOPMENT HISTORY



SLAMM 1-- 1986-1989 UNEP CONFERENCE AND ARMENTANO ET AL.

The Sea Level Affecting Marshes Model (SLAMM) was developed with EPA funding in the mid 1980s (Park et al. 1986)

SLAMM 2 -- 1989-1991 EPA REPORT TO CONGRESS AND RELATED PAPERS

SLAMM2 was used to simulate 20% of the coast of the contiguous United States for the EPA Report to Congress on the potential effects of global climate change (Park et al. 1989a, Park et al. 1989b, Park 1991, Titus et al. 1991); the results were quoted by President Clinton ten years later.

SLAMM 3-- 1992-1993

Park, R.A., J.K. Lee, and D. Canning. 1993. Potential Effects of Sea Level Rise on Puget Sound Wetlands. *Geocarto International* 8(4):99-110.

Lee, J.K., R.A. Park, and P.W. Mausel. 1992. Application of Geoprocessing and Simulation Modeling to Estimate Impacts of Sea Level Rise on the Northeast Coast of Florida. *Photogrammetric Engineering and Remote Sensing* 58:11:1579-1586.

SLAMM 4 & 4.1 1998-2006, MAPPING COMPONENT ADDED, 30 BY 30 METER CELLS

SLAMM Version 4.1 was developed in 2005 and based on SLAMM 4.0. SLAMM 4.1 provides additional sea level rise scenarios based on the latest IPCC findings (IPCC 2001) and additional data examination tools to ensure that data quality is acceptable.

Galbraith, H., R. Jones, R.A. Park, J.S. Clough, S. Herrod-Julius, B. Harrington, and G. Page. 2003. Global Climate Change and Sea Level Rise: Potential Losses of Intertidal Habitat for Shorebirds. In *Ecological Forecasting: New Tools for Coastal and Marine Ecosystem*

Management. NOAA Technical Memorandum NOS NCCOS 1 (Vallette-Silver and Scavia eds). Silver Springs, MD.

Galbraith, H., R. Jones, R.A. Park, J.S. Clough, S. Herrod-Julius, B. Harrington, and G. Page. 2002. Global Climate Change and Sea Level Rise: Potential Losses of Intertidal Habitat for Shorebirds. *Waterbirds* 25:173-183.

National Wildlife Federation et al., An Unfavorable Tide: Global Warming, Coastal Habitats and Sportfishing in Florida 4, 6 (2006).

SLAMM 5: 2007, SALINITY COMPONENT ADDED

STAR grant modeling entire coast of Georgia and South Carolina.

National Wildlife Federation funded study of Puget Sound WA and the Columbia River Basin.

SLAMM 6: DECEMBER 2009

Accretion Feedback Component: Feedbacks based on wetland elevation, distance to channel, and salinity may be specified.

Salinity Model: Multiple time-variable freshwater flows may be specified. Salinity is estimated and mapped at MLLW, MHHW, and MTL. Habitat switching may be specified as a function of salinity.

Integrated Elevation Analysis: SLAMM will summarize site-specific elevation ranges for wetlands as derived from LiDAR data or other high-resolution data sets.

Flexible Elevation Ranges for land categories: If site-specific data indicate that wetlands range beyond the SLAMM defaults a different range may be specified within the interface.

Improved Memory Management: SLAMM no longer requires contiguous memory which improves memory management considerably.

OpenGL 3D rendering of SLAMM landscapes including rendering of tide ranges. Important for understanding sites and QA of spatial inputs.

File Structure: SLAMM now saves all model parameters and user choices in new *.SLAMM6 file-structure and includes a “recently-used files” menu.

GUI improvements: Integration of site and sub-site parameters into a single matrix that may be edited, exported to Excel, or pasted into the GUI from Excel.

Backwards Compatibility to SLAMM5 – you may import SLAMM5 file structures into the new interface quickly.

[Complete SLAMM 6 Release Notes](#)

SLAMM 6.2: 2014

Native 64-bit version of SLAMM.

SLAMM now includes a Monte-Carlo uncertainty-analysis module and sensitivity-analysis module.

Elevation histogram interface is included.

SLAMM 6.3:

New Functionality for Predicting Changes in Distribution of Submerged Aquatic Vegetation. Linkage to salinity models incorporated.

SLAMM 6.4: USFWS ROADS MODULE INCORPORATED.

SLAMM 6.5: PARALLEL PROCESSING OF SLAMM SIMULATIONS.

Updated accretion-feedback model for better model-linkage compatibility.

SLAMM 6.6: ESRI SHAPE-FILE INTEGRATION FOR ROADS AND INFRASTRUCTURE.

SLAMM 6.7: JULY 2016

Ongoing updates on Git Hub: <https://github.com/WarrenPinnacle/SLAMM6.7>

Includes many California-specific updates as well as a significant upgrade to the marsh-erosion component. See page 3 of the technical documentation for a full accounting of new features

The latest SLAMM versions may be downloaded at the following URL:

http://warrenpinnacle.com/prof/SLAMM/SLAMM_Versions.pdf