

CSDMS

COMMUNITY SURFACE DYNAMICS MODELING SYSTEM



Coastal and Terrestrial Working Groups Joint Meeting October 26-27, 2009

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“The Community Surface Dynamics Modeling System (CSDMS) deals with the Earth's surface - the ever-changing, dynamic interface between lithosphere, hydrosphere, cryosphere, and atmosphere. We are a diverse community of experts promoting the modeling of earth surface processes by developing, supporting, and disseminating integrated software modules that predict the movement of fluids, and the flux (production, erosion, transport, and deposition) of sediment and solutes in landscapes and their sedimentary basins.”

CSDMS is now in year 3

Coastal Working Group: 107 members, 14 countries

Terrestrial Working Group: 151 members, 12 countries

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FIVE-YEAR STRATEGIC PLAN

APRIL 1, 2008 TO MARCH 31, 2013

TERRESTRIAL GOALS

- Enhance the CSDMS library to include a healthy inventory of computer models and related tools ... the number of CSDMS-compliant modules is expected to grow.
- Describe and evaluate models according to scale, applicability, and validation.
- Break up one or two of the larger existing terrestrial models into individual components ...

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TERRESTRIAL GOALS

- Develop a first-generation set of standard interfaces between component modules ...
- Design prototypes for ways to represent a landscape that are generic enough to swap in and out various transport laws on a surface ... and its subjacent stratigraphy, with the ability incorporate a dynamic shoreline.
- Make progress in implementing proof-of-concept applications.
- Make modeling tools available for educational use.

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COASTAL GOALS

- Persuade the modeling community to begin adopting the Cyber Infrastructure Working Group's recommendations
- **Gather together the available models ...**
- Evaluate and describe the uses, intended goals, and limitations of the available models ...
- Identify what development tools would be most valuable to researchers developing new models; what model building blocks (e.g. equation solvers, gridding modules) are needed ...

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COASTAL GOALS

- Identify which of the available models are best suited to be linked to [other] models ...
- Encourage ... community to [link] models of different environments ... to include scientific questions we don't currently entertain, and to write proposals to address such questions ...
- Encourage the coastal science community to propose ... projects that will help fill gaps in knowledge and gaps in modeling capabilities.

Objectives of this meeting:

- Bring group up to speed
 - Recent CSDMS activities and developments
 - How to run and visualize coupled models
- Code submission:
 - Questionnaire
 - Componentize code, etc.
- Proof-of-Concept projects
 - Make progress on existing collaborations
 - Identify, stimulate new ones
- Distribute follow-up tasks to meet CSDMS goals
 - Write proposals, encourage others
 - Identify needed models, EKT material, encourage submission

Agenda

- **Day 1: October 26th Agenda**

- 9:45 Presentations of Proof of Concept projects underway
- 10:45 Very short presentations of P. of Concept ideas
- 11:45 Discussion, brainstorming, and charge for Tuesday
- 12:30 *Lunch*, very short presentations on CSDMS-related topics
- 2:00 Presentation of basic code-submission procedures + Q&A
- 2:45 Working time; tutorial help with code-submission tasks
- 6:30 *Dinner*: Laudio Italian Restaurant

- **Day 2: October 27th Agenda**

- 9:00 Organization of sub groups to work on projects, ideas
- 9:30 Sub-group meetings
- 11:30 Presentations of ideas and progress, discussion
- 12:30 *Lunch*
- 1:30 In Parallel:
working on/writing about projects (for meeting reports, proposals, etc.)
Time to work more on model submission for those who need/want it

Popups

- 3 minutes or less, 3 slides or fewer
- Two sessions:
 1. Proof-of-concept projects/ideas (10:45)
 2. More general popups (lunch time)

Morning session: volunteers!

- Scribe & Photoscribe
- Time Keeper
- Popup Maestro #1 (Proof of Concept)
- Popup Maestro #2 (General)

Questions for participants:

1. WHAT CAN CSDMS DO FOR YOU?
2. WHAT WOULD YOU LIKE TO CONTRIBUTE TO CSDMS?
3. HOW WOULD YOU LIKE TO SPEND THE OPEN PARTS OF THIS MEETING?