

# EKT Breakout Summary

**We are in the business of developing and transferring CSDMS tools and knowledge to the following groups:**

- **Researchers who use model and visualization tools**
- **Planners who use decision-making tools to run scenarios**
- **Government outreach programs (e.g., Science on a Sphere)**
- **Educators who use lesson plans and pre-packaged models**

For our educational materials, develop quantitative skills, and critical evaluation of model assumptions and outputs

# Education and Research: Long Term

***For instructors who want to introduce students incrementally to applications of mathematics and code development:***

incremental stepping up of complexity in quantitative exercises, from chalkboard calculations to spreadsheets to simple code

***For instructors and researchers who want to use packaged programs, or CMT components, to allow exploration of concepts and processes***

- Executable packages that include CSDMS-required metadata, equation explanation, and help files
- Simple 1D to complex grid-based models
- researchers who are seeking relatively simplified versions of more complicated models, such as discussions of ROMS-Lite, in the Marine Group.

# Specific Goals over next one to three years:

## Year One: CSDMS Course Materials

- Call to CSDMS community for contribution of exercises and assignments with modeling focus at a range of educational levels, with goal of at least one contribution per group WG.
- Polish and post products
- Develop simple assessment rubrics
- Distribute to pilot team of at least one person per WG for classroom use, with assessment
- Compile results and experiences and prepare/submit paper to Journal of College Science Teaching, with plan authors and testers as co-authors
- Hold a clinic at CSDMS 2014: “Bringing CSDMS to the classroom”.

## Specific Goals over next one to three years:

### **Years One-Two: education and research for non-specialists**

Develop Streamlined model packages for classroom and researcher use, as binaries or simple CMT implementations

Query CSDMS community to identify target models

Componentize and/or prepare stable executables for offline use, including visualization tools

Prepare test cases submitted by user groups or developers

### **Year Two and farther out: Coupling between GRASS and CMT.**

Seek out and advertise the existing proof-of-concept examples

Develop generic tool to couple GRASS GIS and CMT (bidirectional)

Query end-users to identify key modeling tools for future implementation