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CSDMS in the news

MARGINS-NSF newsletter, No. 22

CSDMS and What it Means in the MARGINS context

CSDMS, pronounced "Systems", stands for the Community Surface Dynamics Modeling System. CSDMS deals with the Earth's surface—the dynamic interface between the lithosphere, hydrosphere, cryosphere, and atmosphere. CSDMS is the virtual home for a diverse community of experts who foster and promote the modeling of earth surface processes, with emphasis on the movement of fluids, sediment and solutes in landscapes, seascapes and their sedimentary basins. In essence CSDMS is about More...

OpenMI newsletter (Feb. 13th, 2009)

CSDMS to use OpenMI to build a surface dynamics community

The Community Surface Dynamics Modeling System (CSDMS) has chosen the OpenMI interface as a central element in the framework being built. The OpenMI standard will be combined with the Common Component Architecture (CCA) to provide a platform that runs on More...

NCED newsletter (Feb. 2009)

Ongoing Work with CSDMS

NCED provides the research process understanding and initial algorithm development. The Community Surface Dynamics Modeling System (CSDMS), an NSF-funded project, focuses on modeling with an emphasis on large-scale modular numerical modeling. [More...](#)

Colorado News Center (Feb. 4th 2009)

New CU-Boulder Computer Cluster to Aid in Earth-Modeling Research

A new University of Colorado at Boulder-based supercomputer will vastly extend the ability of scientists across the globe in modeling and predicting many important aspects of Earth's surface processes, from glacial melting and flooding to coastal erosion and tropical ocean storms. The \$750,000 cluster will support the National Science Foundation-funded Community Surface Dynamics Modeling System, or CSDMS, a library of computational tools used by scientists worldwide to model and predict natural and [more...](#)

Updates from the director

August 2009



Dear CSDMS members,

I hope your summer is progressing smoothly. CSDMS is now four members short of 300, (with a surprise gift to the 300th member)! So we continue to expand our presence within the community. Below are brief snippets of updates. The [CSDMS 2009 semi-annual report](#) is now posted on our web site, for those wanting technical details. Year 3 continues its focus on:

1. developing the CSDMS architecture and interface standards,
2. [model](#), [data](#) and educational repositories, and
3. members conducting advanced simulations on the new [CSDMS High Performance Computing Cluster \(HPCC\)](#).

Some Technical Update Examples:

1. [CSDMS interface standards](#) that define how model components can be connected are largely in place.
2. The ElementMapper tool in the OpenMI SDK has been employed to pass data from the CHILD TIN-mesh to the SedFlux Raster-mesh, for example. This will soon be implemented as a CCA "MappingTool" component. Many of the other OpenMI service tools will soon be wrapped for CCA compliance.
3. We have extended an open-source application called I2PY so as to better convert IDL code to Python. We are examining whether to develop a similar converter (M2PY) to convert MatLab code, or rather convert MatLab code as platform-specific C library files that can be used on the CSDMS HPCC server running RedHat Linux. These approaches allow the community to continue to use proprietary, high-level languages such as MatLab and IDL, yet incorporate their software as components in the CSDMS plug-and-play framework.
4. The new [CSDMS GUI for Ccaffeine](#) allows CSDMS users to build applications from CSDMS components on their own PCs and then run them on our HPCC server called "beach". Messages and files are passed between the user's PC and our HPCC server via SSH tunneling, while data generated by model runs reside on our server. Work is ongoing to incorporate visualization tools into the new GUI, starting with HPCC-compatible [Visit](#). Our goal is make the CSDMS version of the Ccaffeine GUI be "bullet-proof" as it will serve as the main means for CSDMS users to perform model runs on our supercomputer.

Repository Updates:

1. The CSDMS model repository has doubled in the last 6 months, and members have provided us with indications of substantial growth over the next 6 months. Hundreds of models have been downloaded in the last few months alone, indicating rapid penetration of CSDMS models into the science community.
2. Check out the new repository [data holding](#) . Working with NCED and other labs, we plan to grow the data repository through holdings of flume experimental data, from which models can be benchmarked.
3. Irina Overeem has accepted the new CSDMS Education and Knowledge Transfer position and is offering weekly improvements in the [Educational Repository, including modeling lectures and labs](#), and a new instructive [movie gallery](#). Please support her efforts with new product offerings - keep those contributions coming!

Community Updates:

1. The semi-annual report provides members with summaries from each of the working and focus research groups. The report provides expanded findings of the Terrestrial WG and the Coastal WG. Members might take some time to peruse these findings, and also consider participating in one of the 2009 autumn meetings that are being held at the CSDMS Integration Facility in Boulder Colorado. Each Chair is receiving expanded funding for their respective activities, and more members should be able to receive "partial" travel support. Upcoming group meetings will be held jointly with another group to expand our cross-disciplinary CSDMS mission. For instance, the Terrestrial Working Group and Coastal Working Group are planning a joint workshop to be held October 26th -28th in Boulder. In the next week, dates of other joint workshops. Over the next week, dates of other joint workshops will be finalized and posted on our web site.
2. We encourage members to visit the meeting web site to find timeless content from [past meetings](#), and to see of the many sponsored CSDMS [upcoming meetings](#). CSDMS is co-sponsor of the upcoming:

◆ IAMG Computational Methods for the Earth, Energy and Environmental Sciences;

- ◆ RCEM symposium on River, Coastal and Estuarine Morphodynamics,
 - ◆ Fall AGU session: Computational Modeling of Landscapes and Seascapes: Models, Data Sets, and Applications (EP03);
 - ◆ Fall AGU session: Quantifying the Sensitivity of Landscapes to Climate-Change (U07);
 - ◆ Fall AGU session: Challenges in Achieving Integrated Earth System Modeling (IN11), and
 - ◆ ISC Special Session: Recent advances in numerical model on morphodynamics, sediment transport and stratigraphy, in Mendoza Argentina. Please submit abstracts soon, to this last one, as this meeting in 2010 will allow CSDMS members to shine internationally and greatly influence the direction of our science.
3. The Semi-annual Report 2009 also contains two CSDMS-specific papers as appendices. The first is *Morphodynamic Models: An Overview* that integrates overviews from each of the CSDMS Chairs. The second Producing CSDMS-compliant Morphodynamic Code to Share with the RCEM Community sets the scene on how models will be linked.
 4. A number of outstanding proposals have been submitted to NSF and other agencies, from CSDMS members over the last six months. Keep those collaborations going! Two recently funded examples include:
 - ◆ Professor Galewsky leading an NSF-funded Cyberinfrastructure for a Western Consortium of Idaho, Nevada, and New Mexico to allow users to specify, maintain and update, through a central user interface and a common methodology, a collection of software and interconnection tools, needed to accomplish climate research tasks. The project will follow CSDMS protocols to couple surface process and hydrologic models with WRF.
 - ◆ Leaders in community modeling and cyber-infrastructure (Community Climate Systems Model; Community Surface Dynamics Modeling System; National Unified Operational Prediction Capability; Earth System Modeling Framework; Earth System Grid; and Common Metadata for Climate Modelling Digital Repositories) have received Cyber-Enabled Discovery and Innovation (CDI) funds to enable virtual organizations (VOs) in the Earth sciences to scale to massive interdisciplinary ?communities of communities.? A key project element is commodity governance, which encodes social and technical aspects of governance in cyberinfrastructure to create virtual units that can operate, aggregate, and coordinate in a decentralized fashion. CDI is NSF's bold five-year initiative to create revolutionary science and engineering research outcomes made possible by innovations and advances in computational thinking.

New CSDMS staff:

1. **Jisamma Kallumadikal** is our new CSDMS Computer Scientist (Industrial Consortium). Jisamma received her Bachelors in Computer Science & Engineering, Cochin U. of Science & Technology, India, and her Masters in Computer Engineering, U. Duisburg ? Essen, Germany. Her work experience includes being a systems engineer or software developer for T Systems Enterprise Services, Bonn, Germany; Fraunhofer SCAI, Sankt Augustin, Germany; Nokia Networks R&D, Düsseldorf, Germany; Teles Computer Systems, Bangalore, India; & BNS Solutions, Trivandrum, India.
2. **Beichuan Yan** joins CSDMS as a software engineer. Beichuan received his B.E. and M.S. in Civil Eng. from Tsinghua U., Beijing, China and his Ph.D. in Civil Eng. from the University of Colorado ? Boulder. His research experience includes work on stress-strain and consolidation simulation (FEM) and discrete element modeling of granular materials and coupling with FEM.
3. **Carl Friedrichs** is the new Chair of CSDMS Chesapeake Focus Research Group. Carl received his B.A from Amherst College, his Ph.D. from MIT/WHOI and is presently a Professor of Marine Sciences at the Virginia Institute for Marine Sciences. Carl's long-term research goals are to better understand the fundamental aspects of coastal and estuarine physics, which control sediment and

other material fluxes at time-and length-scales important to geology, biogeochemistry, and ecology.

Learn more about them and their backgrounds in the [semi-annual report](#).

Remember:

- Submit your abstracts to one of the [AGU or ISC CSDMS sessions](#),
- Participate in upcoming CSDMS Working Group and Focus Research Group meetings and activities,
- Submit your latest advances to the CSDMS model, data, and educational repositories,
- [Visit the CSDMS website](#) for the latest information about upcoming meetings, new models and available educational products.

Again thanks for your efforts!

James P.M. Syvitski?
CSDMS Executive Director
August 6, 2009

February 2009

Dear CSDMS members,



Every 4 months I try to stay connected to our now >250 members, providing brief updates. Like you I do not like getting too many emails, our web site is always up to date, however.

Year 1 & 2 largely dealt with logistics, organization, governance and communication (e.g. wiki). Year 2 & 3 has its focus on middleware (architecture, frameworks, and interface standards) and [model](#) and [data](#) repositories). Year 3-5 will be focused on members conducting advanced simulations, on the new [CSDMS High Performance Computing Cluster](#) (HPCC).

We have initially focused on community leaders, to get their many models into our repository, along with their metadata, all the models from the Slingerland book, the Pelletier book, and soon, the Parker e-book. We heartily thank the many individuals who have taken the time to submit [their models](#) along with their metadata, test cases, example input and output files. This is so important to our effort, and your favorite funding managers are noting which members are fulfilling their requirement to make their models and modeling tools

publicly available.

We are hoping that members will become familiar with the concept of ?Initialize, Run, Finalize? or IRF that is so important for component modeling. Details can be found in the CSDMS Handbook, and to further help we will soon issue a very short How To help letter. AND if needed, please contact one of the software engineers (Beichuan Yan, Eric Hutton or Scott Peckham) to ask to schedule individual help.

The NSF program managers are hoping that CSDMS members will flood their offices with CSDMS-related proposals. These can be individual efforts, or more collaborative with other working group members. They can be cyber-related, or advancing science through HPCC simulations, or provide new module connectivity, development of new algorithms, or be related to or in support of field programs. My only advice is for you to pay attention to the deliberations that are found in the CSDMS Strategic Plan, or information on the CSDMS web site, or the reports from Working or Focus Research Group meetings (see past meetings and their ppts or pdfs). The appropriate Chair, or I, or both, would be happy to provide letters of support for your CSDMS efforts. The proposals will be looked at NSF with favor, but still must pass the muster of panels, if applicable, and peer-review, who will continue to look to see if your proposals are indeed coherent and transformative.

The CSDMS high performance computing cluster (HPCC) is up and running. We will soon, through our web site, be offering members access to the system, with accounts and login instructions. The HPCC is for members who have submitted code into the CSDMS Model Repository, to either run their models in advance of science, or to advance developing modeling efforts that will ultimately become part of the Repository. This is the pay to play rule. The HPCC is also for members who wish to apply compliant CSDMS models developed by others within the CSDMS framework, to help them advance their science. The caveat here is that many of the models in the Repository are still not CCA/OpenMI compliant. Finally the HPCC is for members who wish to experiment with new data systems in support CSDMS models, or visualizations of the model runs. You can read more about the HPCC and the ribbon-cutting ceremony held February 4, 2009 by visiting this link.

Depending on the size and maturity of the CSDMS Group, between \$8K and \$9K is made available to Chairs in support of their annual meeting. This money is obviously not enough to cover the attendance of all members. Partial support is the norm for active members; so don?t forget to budget for travel cost in your research grants. Also, for those that cannot attend in person, you may be able to attend via Skype or similar connection, for some of the meetings. All ppts presented can be found on the CSDMS Wiki page under past meetings. I will also be working with NSF directors to see if we can find the funds for an all-hands meeting, likely near the end of Year 3 or beginning of Year 4.

I will soon be attending the S2S MARGINS meeting, as it looks to its future, representing CSDMS. If you would like to influence the site selection for this program or the sampling strategy related to CSDMS models or efforts, please send me an email ASAP, with your thoughts, as I will be presenting in NZ on this issue in early April.

Finally, reminders:

1. Get your Wiki account (it is easy and fast through our CSDMS web site), and always log in through your account, to participate in on-line group discussions, or to add or edit on-line material.
2. Periodically check out upcoming CSDMS related meetings, and sponsored workshops, and participate where possible. We are supporting AAPG, IAMG, RCEM, and Turbidity Current workshops over the next few months. Please participate.
3. Download the CSDMS handbook from our web site, and learn about component modeling. Get familiar with IRF!

Again thanks for your efforts!

Yours sincerely,

James P.M. Syvitski
CSDMS Executive Director.
February 24th, 2008

November 2008

Dear CSDMS members



Below I provide some brief updates on CSDMS developments (Fall 2008 quarterly missive).

1. Those of you attending AGU, please plan on attending the CSDMS Town Hall Meeting
 1. When: Thursday, December 18, 2008, 6:15 PM
 2. Where: San Francisco Moscone Convention Center, West, Room 3016
2. There will be a buffet and cash bar provided. Come and meet CSDMS Staff, Working Group and Focus Research Group Chairs, program managers, and industry representatives. We will present updates and demonstrations of our modeling efforts. We will also be presenting the winner of the first annual CSDMS Student Modeler Award!
3. The Hydrology Focus Research Group will be meeting January 20-21, 2009, in Boulder CO. All interested members should contact the Chair, Professor Jay Famiglietti, or Marlene Lofton to sign up for the meeting, and enquire about travel support.
4. The Carbonate Focus Research Group will be meeting January 26-27, 2009, in Boulder CO. All interested members should contact the Chair, Professor Peter Burgess, or Marlene Lofton to sign up for the meeting, and enquire about travel support.
5. The Terrestrial Working Group will be meeting Feb. 2-4, 2009, in Boulder CO. All interested members should contact the Chair, Professor Greg Tucker, or Marlene Lofton to sign up for the meeting, and enquire about travel support.
6. The CSDMS Education and Knowledge Transfer Meeting met on Oct. 10, 2008, in Boulder CO. Working Group members elected Karen Campbell as Chair of the EKT Working Group. Karen is located at the National Center of Earth-surface Dynamics, University of Minnesota. Researchers prioritized their goals and set future priorities, and updated each other on progress to date. For more information, including meeting notes and ppt/pdf presentations CSDMS members may go to EKT

wiki page.

7. *The CSDMS Inter-Agency Committee* met at NSF Headquarters and discussed the congressional mandate requirement for all Federally funded PIs to make their software code publicly available, along with supporting metadata and documentation. Exceptions to the rule were all discussed. Discussions also centered on minimum standards needed to be met by individual PIs, and the role the CSDMS Integration Facility and its 200+ member community in supporting this effort. The CSDMS IF is working with the Agencies in supporting this mandate. The community is advised to be aware of the mandate and to work with CSDMS in helping them achieve this goal.
8. A CSDMS handbook is now available that provides much information on the background of model integrations, modular modeling concepts and other cyber-infrastructure concepts (see below for outline of the handbook). The CSDMS architecture being developed is explained in this document.
9. The CSDMS community is extending into Australasia. James Syvitski, CSDMS ED, met recently with Taiwanese scientist at an International Workshop on Sediment Transport in Taiwanese Rivers - Coastal Seas and Other Coastal Systems (Nov 3-5, 2008). Plans are underway to have appropriate Taiwanese scientists to join the CSDMS effort. The CSDMS Integration Facility is hosting for AY2008/09 Visiting Scientist Yun-zhen Chen from Nanjing University to work on model simulations of the Yellow River and its delta environment. Professor Syvitski will also soon be meeting with interested academics from the Sydney regional community and later with New Zealand representatives in Wellington and Christchurch.
10. Presentations from the CSDMS co-sponsored SEDIBUD workshop are now available online at the SEDIBUD wiki page.
11. CSDMS is co-sponsoring the River Coastal and Estuarine Morphodynamics (RCEM) 2009 Meeting, September 21 - 25, 2009 to be held in Santa Fe City, Argentina. In addition to sponsorship, James Syvitski and Eric Hutton from the CSDMS Integration Facility will be presenting a 7 hour short course on Earth-surface Dynamic Modeling and Model Coupling to include modules such as
 1. S2S process-response modeling: S2S Modelers checklist, example, definitions; From Concept to Model; Constraints, Sensitivity & Scaling
 2. Modeling discharge and Sediment Flux DEM to flow paths; Climate to discharge; Paleo-discharge; Hydrological Modeling; Sediment Delivery;
 3. Landscape Evolution Modeling Weathering Module, Mass Wasting Module, Fluvial Transport Module,
 4. Nearshore Modeling: Coastal modeling approaches; Delta lobe avulsion 2D & 3D; Littoral sediment transport modeling: along shore; off shore;
 5. Plume modeling: Hyperpycnal Models, Hypopycnal Models; Shelf Sediment Transport Modeling
 6. Sediment Failure and Sediment Gravity Flow Modeling (turbidity currents, debris flows)
 7. Whole Basin Modeling

Gary Parker will be providing a short course on Morphodynamics of Lowland Rivers

So all the best to everyone, thanks for all of your hardwork ----- and see you soon at AGU!!!!!!

James P.M. Syvitski
CSDMS Executive Director.
November 9th, 2008

August 2008

Dear Community here are some recent highlights



- The CSDMS community continues to grow. While the main body of membership approaches to 200 Working Group members, our Executive Committee has authorized the establishment of two Focus Research Groups (FRG), that cut across our Environmental Working Groups:

1. Carbonate Modeling Community-FRG,
2. Hydrology Modeling Community-FRG, the later to be co-sponsored by CUAHSI.

A third Geographically-Focused Research Group (GFRG) is being developed with co-sponsorship with the Chesapeake Community Modeling Program (CCMP). Details are still being worked out with the co-sponsors, and eventually chairs of the FRG's will be appointed, CSDMS-wiki web pages developed, and FRG membership lists and activities established. Stay tuned.

- Members should create an account (its free) on the CSDMS web site by clicking on the "create account" link on the Mississippi image, and thereafter sign in with the "log in" link also found on the Mississippi image. This will allow the user to enter the wiki side of the CSDMS web site and edit pages appropriately and take in community discussions. Not all pages can be changed, and there are still a few hiccups. But get used to logging in through the wiki.
- The CSDMS Integration Facility is hiring one (possibly two) computational and/or geophysical post-doctoral fellow with experience in software development, to work in a team as a software engineer in the development of an integrated framework for the modular modeling of Earth-surface dynamics. For more information go to <http://csdms.colorado.edu/wiki/index.php/Jobs>.
- A CSDMS Industrial Consortium is being established after a successful launch meeting associated with the AAPG/SEPM 2008 San Antonio meeting. The first priority will be to hire a dedicated software engineer to speed in the development of the CSDMS framework and interface standards and work as a liaison with the Consortium and the CSDMS community.
- The CSDMS architecture is to be the DoE Common Component Architecture (CCA) that employs SIDL (Scientific Interface Definition Language) to allow rapid communication of various component models through its language neutral compiler (BABEL). As an aid to users the BOCCA GUI allows ease in this operation. A "idiots guide" is being developed and will be soon released to the community as a how to guide. Most importantly is for users to get their code written in the IRF method: Initialize, Run, Finalize. This typically takes less than a day to get completed.
The CSDMS interface standard will be based on OpenMI. OpenMI also comes with a Windows based framework that will not be employed (rather we will use the CCA architecture and framework). OpenMI allows for 1D and 2D models to be coupled, smoothing and interpolation routines to be used

and shared with component models of different grids and time stepping. Documentation on its use will be part of the "idiots guide" being developed. Most importantly for users is to learn how to write up their "get values" routines, to allow models to communicate through CCA.

- The Integration Facility is busy learning to do the coupling and writing the glue code. As a proof of concept they are taking a glacier model (GC2D) written in MATLAB and to be combined with a flow routing model (TopoFlow) written IDL. To accomplish this the MATLAB and IDL code had to be each re-written in Python (to make the code open-source and CCA compliant), each had to be refactored, made OpenMI compliant and tested. The IF is also combining a 2D landscape evolution model (CHILD) written in C++ using tins, with a sedtrans-strat model (SedFlux2D) written in C that is raster-based. Again the models needed to be made CCA and OpenMI compliant, and tested (the models were already refactored). The lessons learned from these exercises will be shared with the community on the CSDMS web site and idiots guide.
- We say goodbye to Andrew Svec who has been terrific but for a variety of considerations has moved back to U. Minnesota @C to become the combined Director of Communication and Marketing. We wish Andrew all the best in his new position. The new Executive Assistant for CSDMS is S. Marlene Lofton who has a graduate degree community psychology and another in business administration, much experience in running workshops and retreats, and was once a computer science teacher. She joins CSDMS on Aug. 1.
- The Chairs of the Working Groups will be working with Marlene on their next meetings and agendas. Stay tuned.

I hope your summer is going well! All the best

James P.M. Syvitski
CSDMS Executive Director.
July 30th, 2008

April 2008

Dear CSDMS members



1. What a first year, with much accomplished, and a membership growing faster than anticipated. We now exceed 175 Working Group members, and this is a doubling of members within the first year. First I would like to thank all who have helped to shepherd this initiative to where we are today. You know who you are --- Kudos. This thanks extends to members of the Executive Committee, our

Working Group Chairs, members of the Steering Committee, industrial and government partners, and particularly the local Integration Office staff, who have been putting in long hours to keep us all on track.

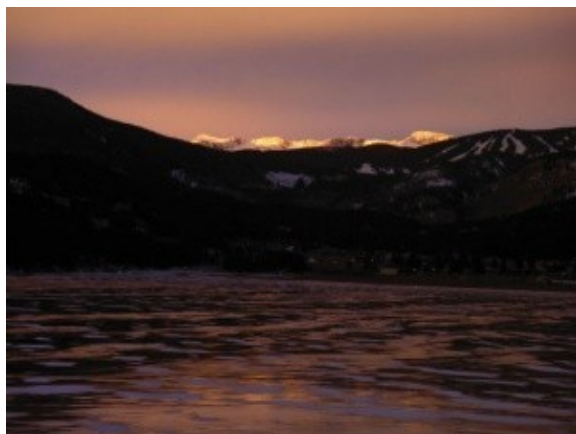
2. Our web site is now a Wiki. To participate in the on line discussion, we ask that you open up an account, thus allowing you to edit on-line material. To do that, please locate the *create account* link (just above the Mississippi delta image). Once done you will need to log in to contribute and edit. You can easily set this up so that you log in from your computer automatically. CSDMS staff can only edit a few of the structural pages, but our members can edit much. The Working Group Chairs will be conducting more and more business with their members on line.
3. The CSDMS Five Year Strategic Plan has been uploaded to the CSDMS website on the CSDMS Documents page: http://csdms.colorado.edu/wiki/index.php/CSDMS_docs. You will be getting a shiny version in the mail, so you don't need to print it out. However feel free to pass on the PDF version to colleagues and program managers. The Strategic Plan will be updated every year, some things dropped & some things added, so this is the evolving blueprint of our initiative. Please take the time to familiarize yourself with the plan.
4. Year 2 begins to day. We will be planning our next meetings, our five Working Groups, our management meetings, our science Workshops, and a coding camp. Stay tuned and stay in contact with your WG chairs.

Again thanks for your efforts!

James P.M. Syvitski
CSDMS Executive Director.
April 8th, 2008

February 2008

Dear CSDMS Members



Annual Report: Enclosed please find the first CSDMS annual report. We were caught off guard in finding out that the NSF Annual Report is due 90 days before the end of our fiscal year (April 1). Most organizations issue their annual report after the end of the FY. The enclosed report, while informative, lacks graphics / photos. To better reflect all of our participants 2007 surface dynamic modeling efforts, we plan on releasing a FY annual report in April. Therefore would you please send in (to csdms@colorado.edu):

1. full references for any 2007 peer-reviewed CSDMS-related papers that you wish to highlight to the community and our program directors, and
2. figures/photos (e.g. cool-model simulations etc) that you own the copyright to and wouldn't mind seeing them displayed in CSDMS publications.

Strategic Plan: The CSDMS ExCom is busy working to complete the first draft of the CSDMS 5yr Strategic Plan. When asked, please offer your insight.

Workshops and Meetings: The Cyber-informatics and Numerics WG recently met for two days and accomplished much on the CSDMS cyberinfrastructure (see enclosed annual report for details). Tao Sun and members are greatly thanked for their effort. Next up is the Community Sediment Model for Carbonate Systems, Feb. 27-29, 2008, Golden, CO; followed by the Coastal WG and Marine WG startup meetings, Orlando, FL, March 8, 2008. CSDMS is a co-sponsor with SEPM for the research conference Clinoform sedimentary deposits: The processes producing them and the stratigraphy defining them, Aug. 15-18, 2008, Rock Springs, WY. We encourage interested parties to participate in these efforts.

Dedicated CSDMS Experimental Supercomputer: Great News!! The CSDMS Integration Facility is securing funds, largely through the University of Colorado, but with additional support from the U.S.G.S and possibly NOAA, to acquire a CSDMS-operated and dedicated Experimental Supercomputer (ES). The CSDMS ES is dedicated to support modeling efforts of our community. CSDMS choice of DOE's Common Component Architecture (CCA) with its supporting tools (e.g. Babel, Bocca, Ccaffeine) provides a mature high-performance computing (HPC) framework. ES details are in flux, but initial estimates suggest it will comprise between 256 - 400 cores, offering 3 to 5 teraflops of computing power, and configured with two HPC approaches - 1) massive shared memory among fewer processors, and 2) the more typical parallel configuration - each running Linux with Fortran, C and C++ compilers. Plans have the CSDMS ES linked to an NSF-proposed Front Range HPC with 7000 core, >100 teraflops, which in turn would be linked to the US TerraGrid, and/or the proposed Cheyenne NCAR/UCAR Petascale HPC dedicated to support the NSF Geoscience Collaboratory. To find out more please read the enclosed Annual Report. When up and running, we will provide CSDMS members information on how to access (free!) time on the ES for their CSDMS-related research and simulations.

CSDMS Compliant Repository: CSDMS has developed a wiki-based website that is home to the CSDMS-CCA development project (<http://csdms-cca.googlecode.com>) to present CSDMS latest developments on model protocols, model components, and instructive information about how scientists can use CCA in this environment. The website allows CSDMS members to easily add information to the website, to stay current and to further foster community around the project. The website presently contains a description on how to install the CCA development tools on various platforms (platforms include fedora, ubuntu, OSX10.5, and Solaris 8).

Coding Camps: We are looking into running coding camps for both training in the use of the Common Component Architecture and its related tools, and for migrating code over to use in an HPC environment. More info as it develops.

James P.M. Syvitski
CSDMS Executive Director.
February 14th, 2008