Fall 2009 CSDMS WG Update

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CSDMS
COMMUNITY SURFACE DYNAMICS MODELING SYSTEM

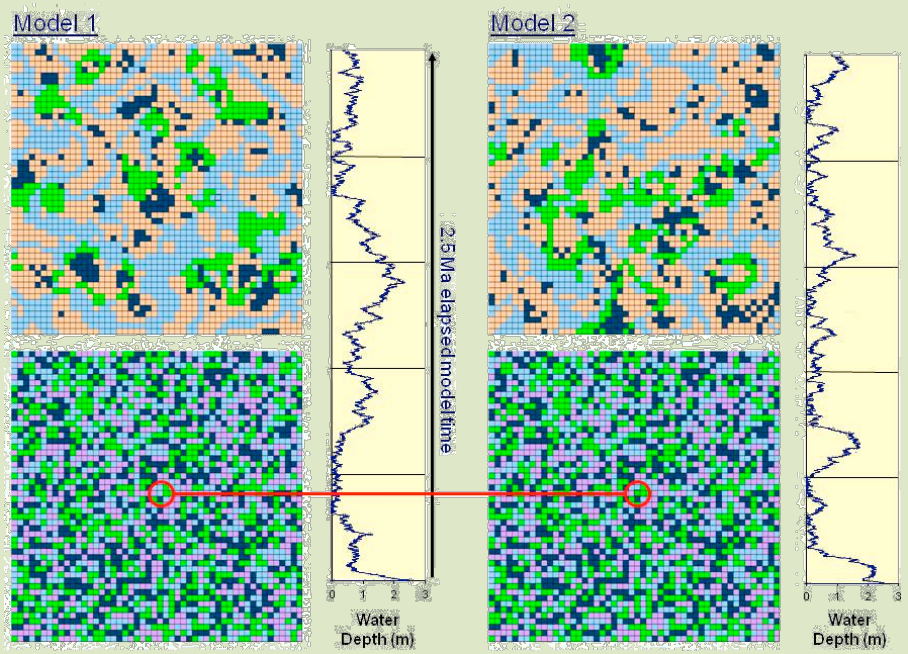
CSDMS Updates

- Community: 320+ members

Terrestrial	150
Marine	76
Coastal	100
EKT	28
Cyber	65
Carbonate	22
Chesapeake	13
Hydrology	53

Carbonate Discussion page Example

I agree that it is the challenge, But check out this model result



The image shows output from two runs of my carbonate cellular automata. The two models start off with the same random distribution of three facies in map view (lower images) differing only in one cell in the 50x50 grid, highlighted by the read circles. The upper map shows …

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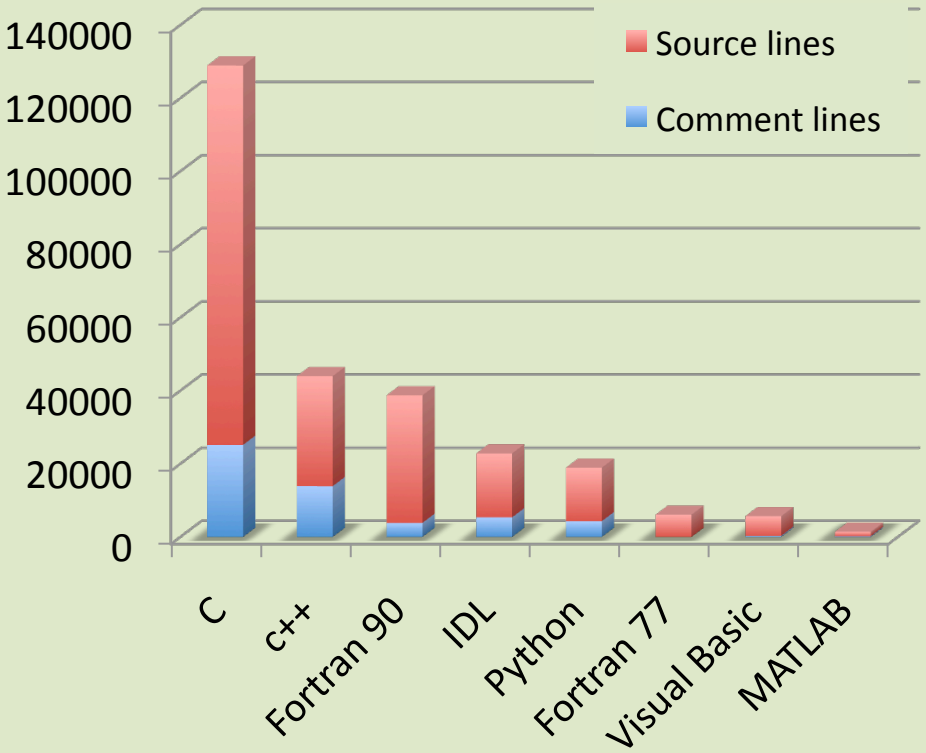
CSDMS Updates

- Repositories: 130 models
  220 downloads/mo excluding exterior sites



Top model downloads

does not count offsite downloads

child,	*135*
topoflow,	*92*
sedflux,	*86*
midas,	*81*
2dflowvel,	*52*
bing,	*49*
Gc2d,	*44*
adi-2d,	*41*
Plume,	*27*
Storm,	*25*
lithflex,	*25*
Waveref,	*24*
Bedrock-Er,	*24*

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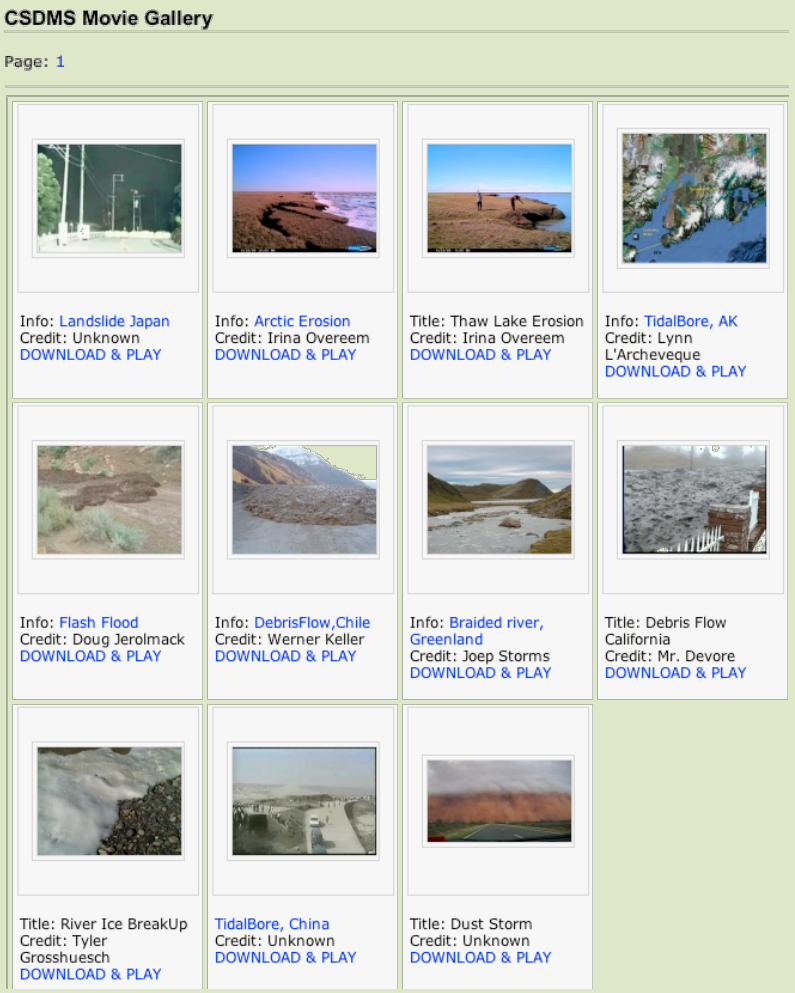
CSDMS Updates

•**Repositories:** 61 (global) databases for model initializations; >100 ppt presentations, lecture materials, movies & simulations.

Database	Number
Topography	11
Bathymetry	3
Climate	6
Hydrography	5
River discharge	3
Cryosphere	3
Geology	2
Soils	2
Sea level	2
Land Cover	2
Population	3
GIS Tools	12
Network Ext	7



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CSDMS protocols for contributed compliant code:

1) Properly **licensed** (GPL2 compatible; OSI approved);
2) Community **vetted** (e.g. Working or Focus Research Group);
3) **Open** source and **stored** in the CSDMS Model Repository;
4) Written in a CCA supported open-source **language** (C, C++, any Fortran, Java, Python), (Note: IDL & Matlab can be made compatible)
5) **Refactored** with a programming interface compatible with CSDMS (e.g. initialize, run, finalize),
6) Source code **annotated** using special keywords within comment blocks to provide basic metadata for the model and its variables.
7) Model **description** with **test files** (input, output),
8) Provides all input & output ***exchange items***
9) Clean code that is properly **documented**.

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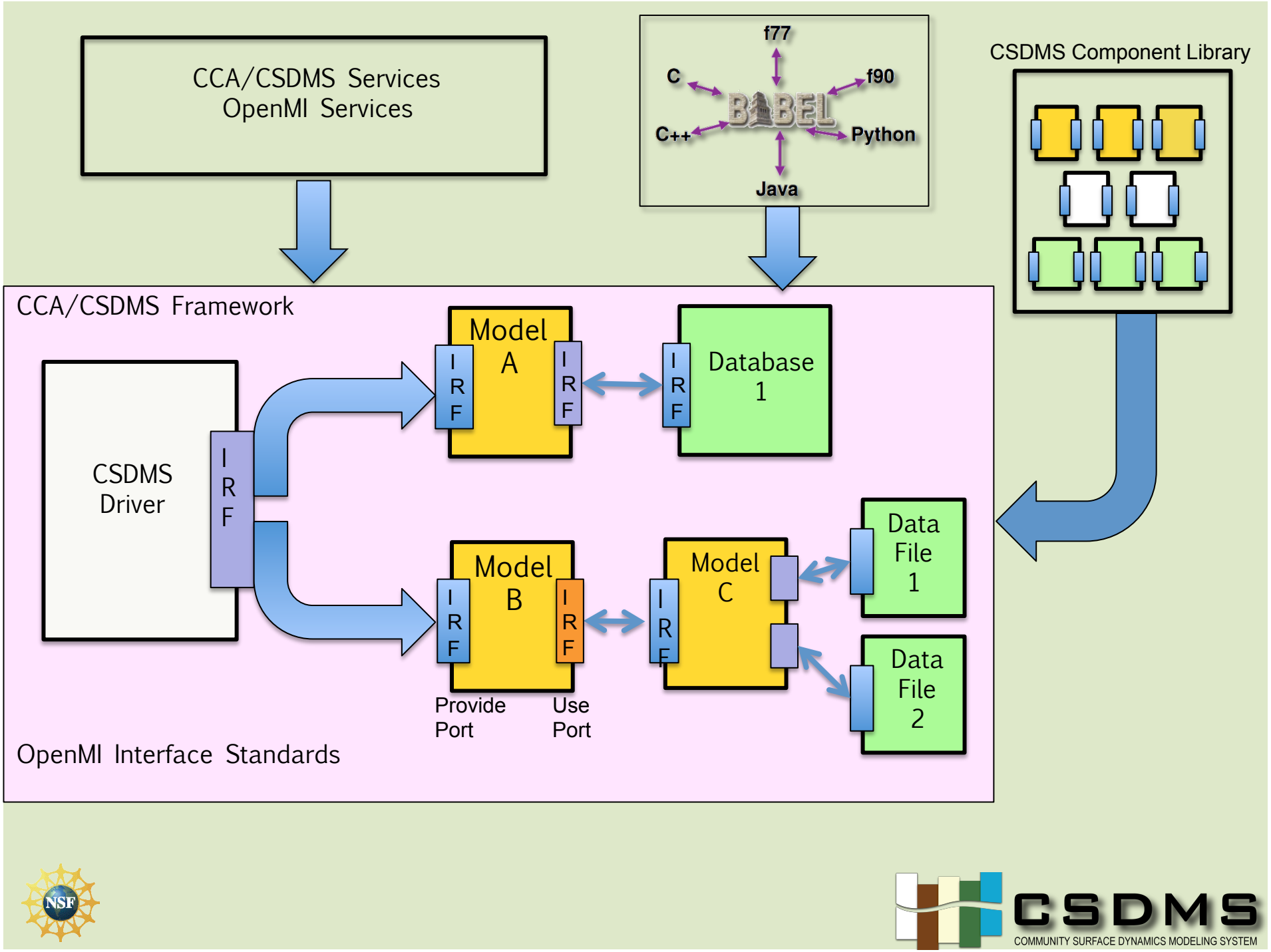
CCA/CSDMS Services
OpenMI Services
f77
C
f90
C++
Python
Java
CSDMS Component Library
CCA/CSDMS Framework
CSDMS
Driver
IRF
Model
A
Database
1
Model
B
Model
C
Data
File
1
Data
File
2
Provide
Port
Use
Port
OpenMI Interface Standards
NSF
CSDMS
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Yr2/3 Deliverables Completed:

1. CSDMS Interface Standards
2. Framework proof-of-concept: i) CHILD & SedFlux; ii) GC2D & TopoFlow; iii) HydroTrend & CEM
3. Investigation of ROMS, WWIII, Delft3D (unique licenses) – ongoing
4. NCED/CCED & RCEM Training Courses
5. HPCC & HPC support (PETSc, VisIt, Torque, MPI)
6. Wiki/RSS
7. Sponsorship: TCW; IAMG; RCEM; SediBud; TBD — AGU, AAPG; IAS
8. CSDMS proposals (active)
9. Ccaffine GUI (done being refined)
10. Repositories (ongoing)

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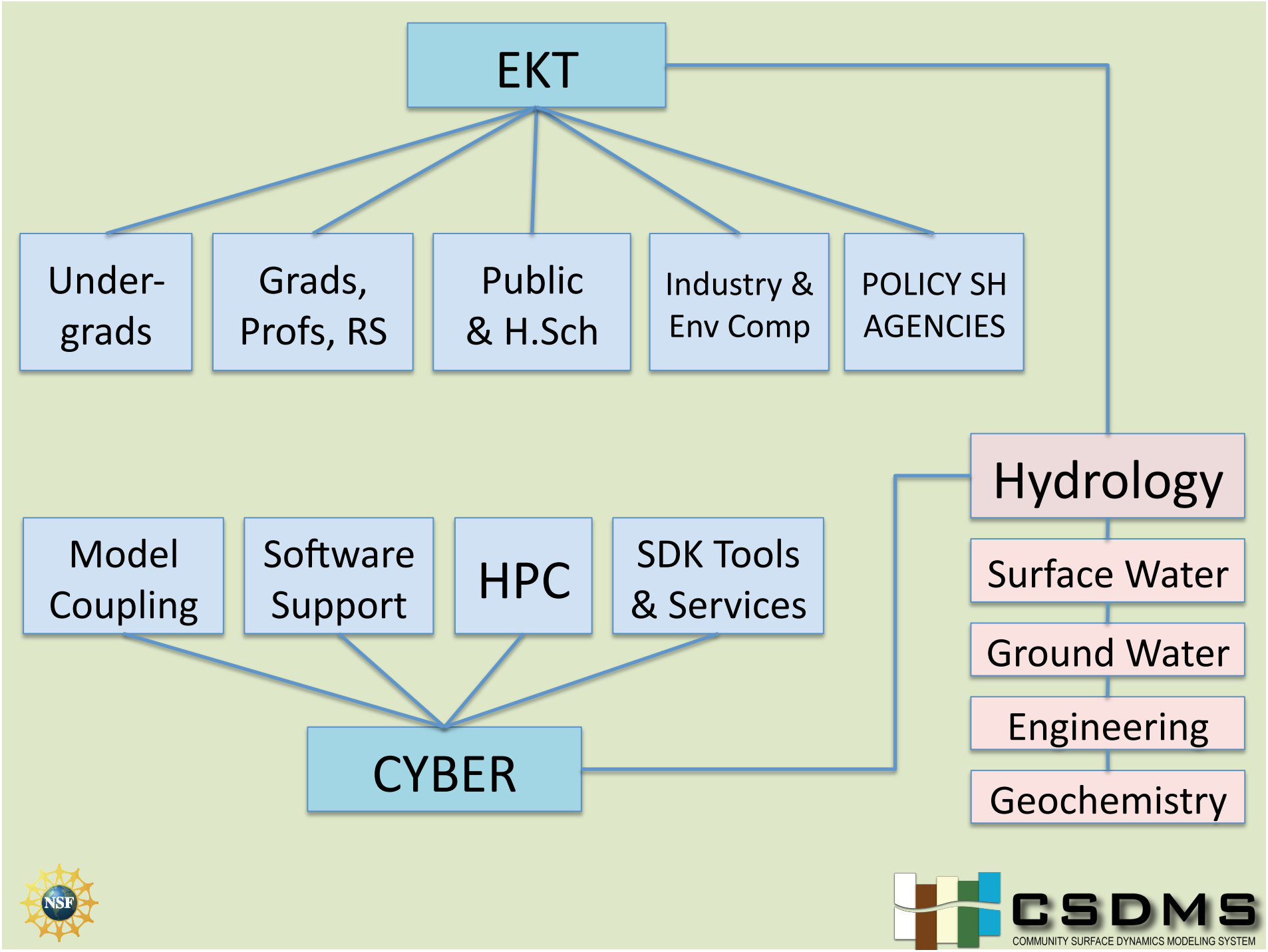
EKT
Under-grads
Grads, Profs, RS
Public & H.Sch
Industry & Env Comp
POLICY SH AGENCIES
Hydrology
Surface Water
Ground Water
Engineering
Geochemistry
Model Coupling
Software Support
HPC
SDK Tools & Services
CYBER
NSF
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