

CoreWall and dbSEABED

Chris Jenkins

INSTAAR, University of Colorado,
Boulder USA

(chris.jenkins@colorado.edu)

CoreWall group & dbSEABED
collaboration.



The key aspirations



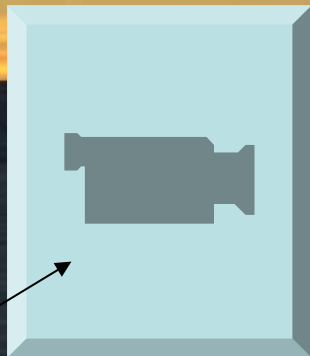
- Work-flow efficiency
 - Data capture and safe keeping
 - Technology: wide compatibility, some uniformity
 - Generational handovers
- Progress debates in science
 - Bring masses of data into play
 - Stronger hypotheses
 - Timeliness
 - Full environmental reach
- Innovation
 - ‘New telescope’ idea
 - New spatial/temporal scales / resolutions
 - Interdisciplinary



Deployments ...

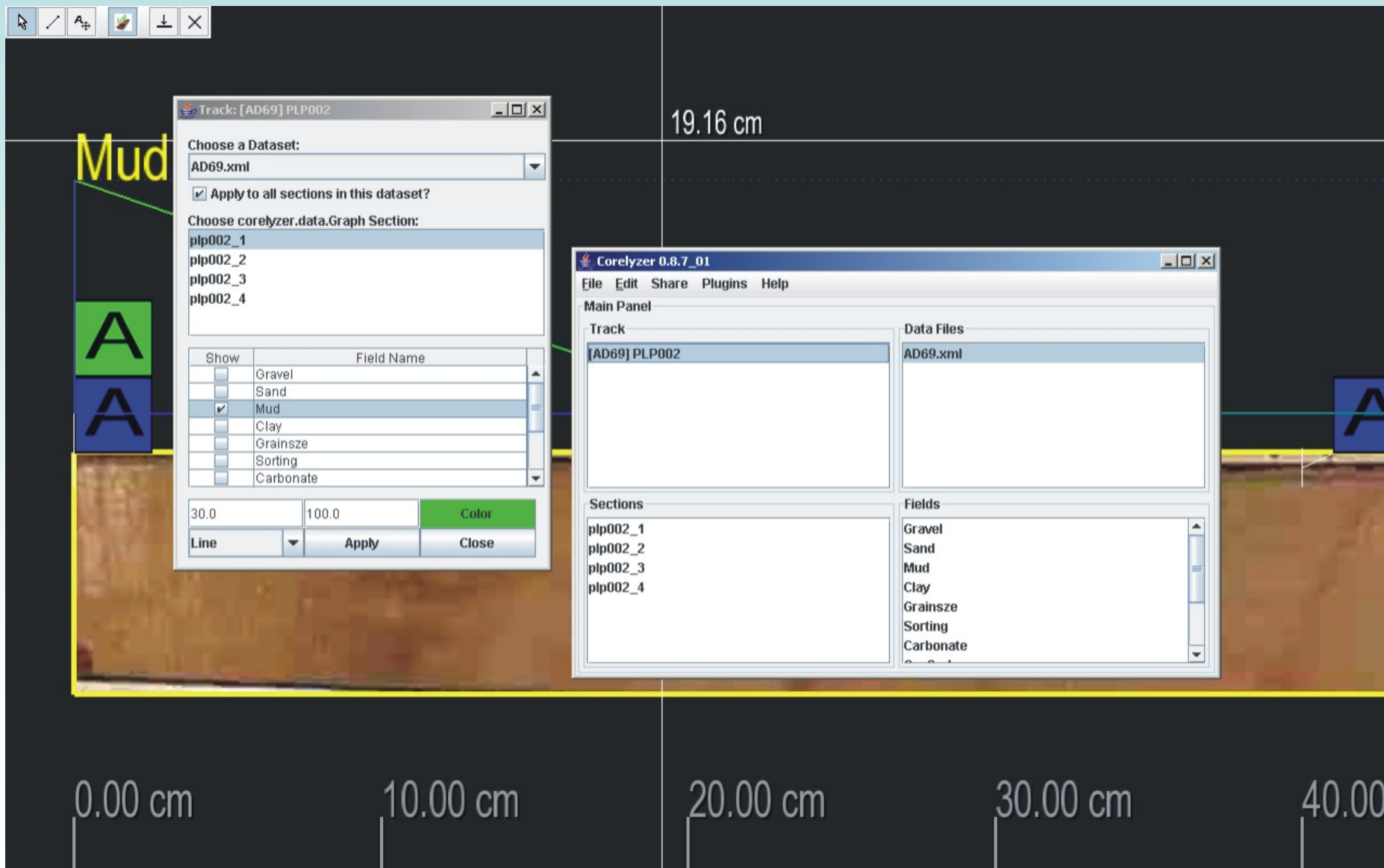
ANTarctic DRILLing and the CoreWall Suite

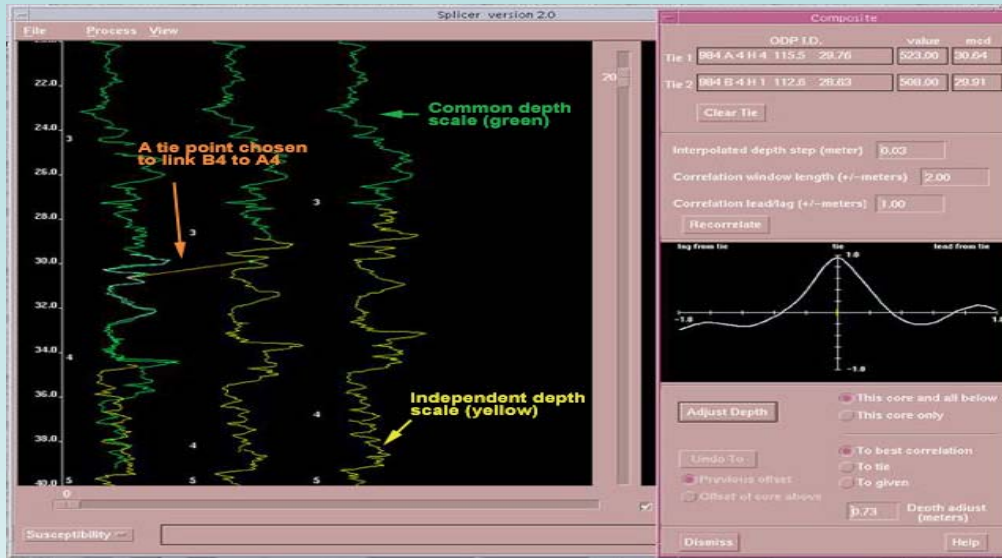
Richard Levy
ANDRILL Science Management Office
Univ. of Nebraska-Lincoln



(Richard Levy photo)

Main user elements...





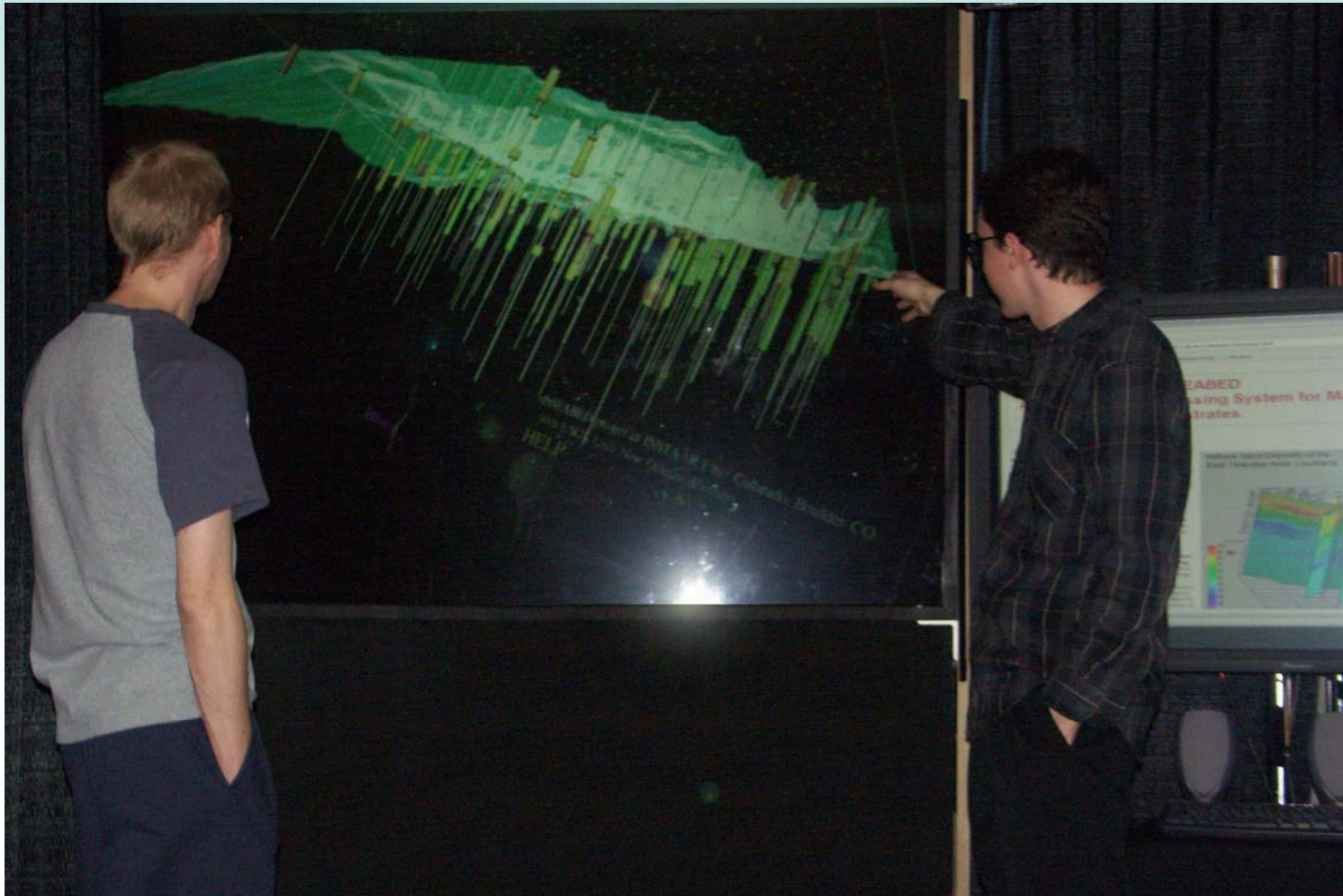
Splicer screen

- Corewall database
- Corelyser workbench
- Splicer adjustor
- Sagan merger
- CoreNavigator geography
- Psicat graphical corelog
- Chronos age systems

Building Blocks of Corewall

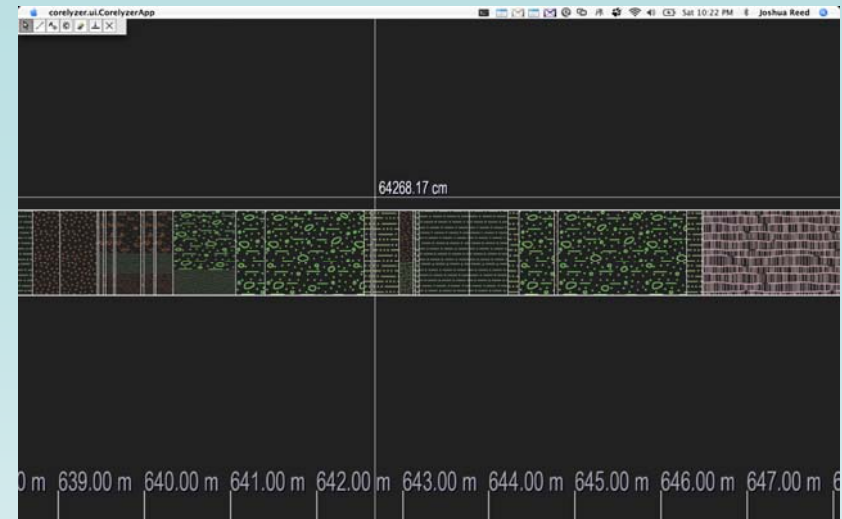
Example: TAMU Gulf of Mexico Coreset

Connect to: <http://instaar.colorado.edu/~jenkinsc/dbseabed/corewall/>



CoreNavigator screen in Geowall

The to-do List for Corewall



Prototype Psicat-in-Corelyzer screen

- For the teenagers: 'iCores' (RSS)
- More operational datasets
- Image strip preparation – efficiencies needed
- Collaborative tools (e.g., Annotation window, Psicat)
- Associated database structures
- On-the ice / barge / ship / truck / derrick; in the labs / repositories
- Integrated, easy to use, software releases

dbSEABED

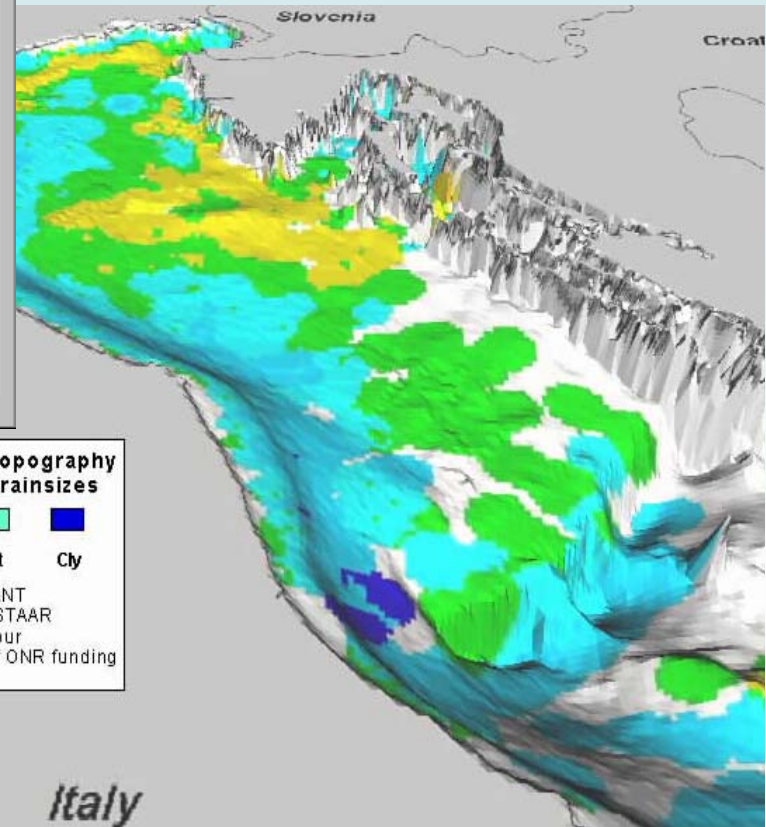
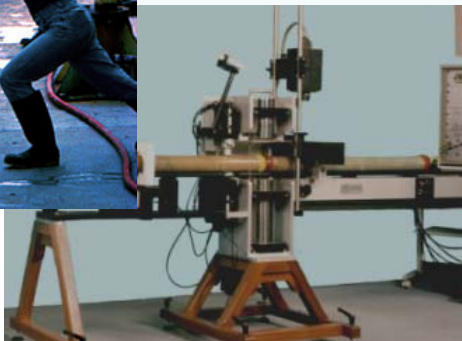
- Collaborative project – entry by data, skills, effort, funding
- One agreed framework of integration – then the software will work worldwide
- Word-based plus analytic data – resolution, information richness
- Vendor independent
- Data management efficiencies
- A software approach to QC – error traps
- Complete from (Metadata &) Data to Visualisation

Inputs and Outputs

- Sediment character, physical properties, grain types, benthos and structures
- Inputs sample, diver, image, probe data

Shape	Point
Latitude	-12.75700
Longitude	129.16000
Waterdepth	69
Sampletop	0.00
Samplebase	0.22
Site name	V-61
Datasetkey	2
Sitekey	261
Samplekey	307
Sampler	-
Datatypes	PPP*PPPPPC*xxxxCCPC*
Gravel	50
Sand	50
Mud	0
Clay	-99
Grainsize	-0.3
Sorting	0.9
Seabedcls	Shell
Clsmshp	50
Shepardcode	GRAVELLY SEDIMENT
Rockmshp	0
Weedmshp	0
Carbonate	-99
Munslcode	-
Orgcarbon	-99
Lgshearstr	-99.0
Porosity	43
Pwavevel	1869
Roughness	0.0
Lgcritshstrs	-0.37
Samplephase	-

- Textures, composition, geoacoustic and sediment transport properties, feature and grain types
- Outputs point and grid maps for any application - GIS, modeling, database



Adriatic Sea 3D Topography and Sediment Grainsizes

Gvl
 Snd
 Slt
 Cly

Topography: SACLANT
 Sediment types: INSTAAR
 with the support of our
 collaborators and of ONR funding

Italy

Example: DSDP Data Hypercube

The screenshot displays the Google Earth interface with a focus on DSDP (Deep Sea Drilling Project) data. The main view shows a globe with numerous green pins representing data points, primarily clustered in the Atlantic Ocean. A pop-up window for a specific core, 'DSDP:14:142:-', is visible, providing links to 'View a dbSEABED DATALOG' and 'View dbSEABED output data', along with directions. The left sidebar shows a 'Places' list with several DSDP core identifiers, each with a checked status and a link to its data. The bottom of the interface includes a navigation toolbar with various controls like 'Lodging', 'Dining', 'Roads', 'Borders', 'Terrain', and 'Buildings', as well as a status bar showing coordinates and altitude.

Google Earth
File Edit View Add Tools Help

Fly To Local Search Directions
e.g. 1600 Pennsylvania Ave, 20006

Places

- DSDP:14:142:-**
For this core:
[View a dbSEABED DATALOG](#)
- DSDP:14:143:A**
For this core:
[View a dbSEABED DATALOG](#)
- DSDP:14:144:-**
For this core:
[View a dbSEABED DATALOG](#)
- DSDP:14:144:A**
For this core:
[View a dbSEABED DATALOG](#)
- DSDP:14:144:B**
For this core:
[View a dbSEABED DATALOG](#)
- DSDP:15:146:-**
For this core:
[View a dbSEABED DATALOG](#)
- DSDP:15:146:A**
For this core:
[View a dbSEABED DATALOG](#)
- DSDP:15:147:-**
For this core:
[View a dbSEABED DATALOG](#)
- DSDP:15:147:A**
For this core:
[View a dbSEABED DATALOG](#)
- DSDP:15:147:B**
For this core:
[View a dbSEABED DATALOG](#)

Layers

DSDP:14:142:-
For this core:
[View a dbSEABED DATALOG](#)
[View dbSEABED output data](#)
Directions: [To here](#) - [From here](#)

COLUMBIA UNIVERSITY
IN THE CITY OF NEW YORK

INSTAAR

DSDP
The National Science Foundation

Image © 2007 NASA
Image © 2007 TerraMetrics

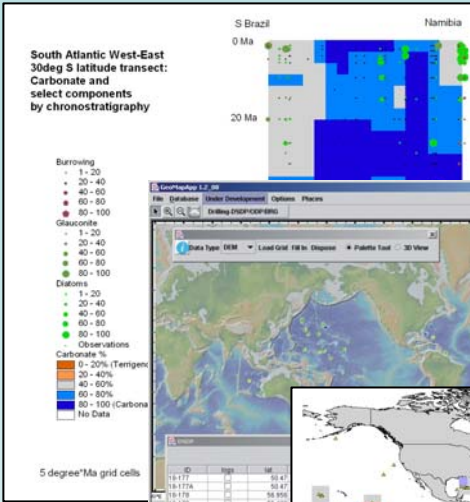
© 2008 Google

Pointer 0°00'00.00" N 0°00'00.00" E Streaming | 100% Eye alt 8448.65 mi

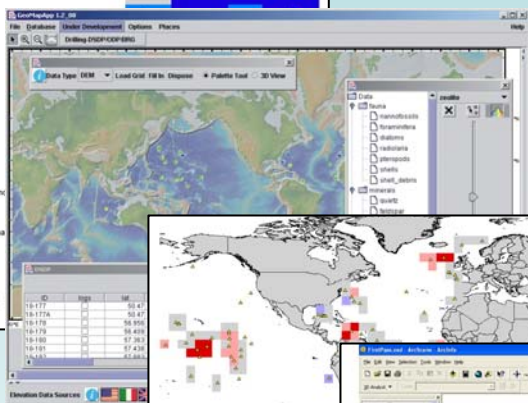
Lodging Dining
 Roads Borders
 Terrain Buildings

Start C:\dbSEABED_... C:\dbSEABED_... OD9_WWD.KML... instaar.colorado... Google Earth 12:00

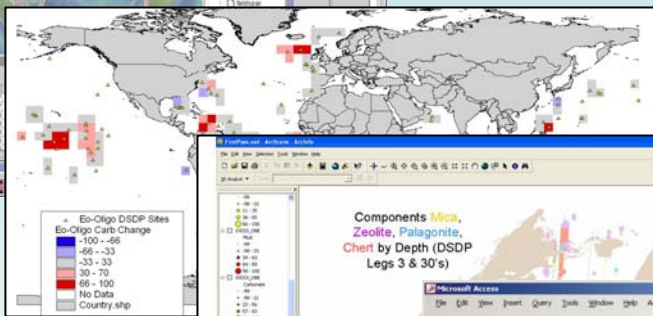
Hypercube advantages



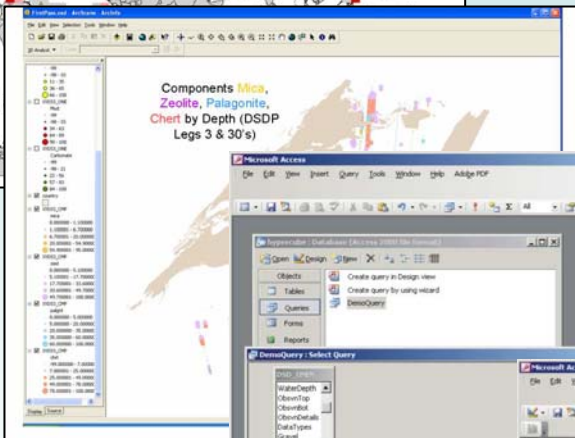
Publication



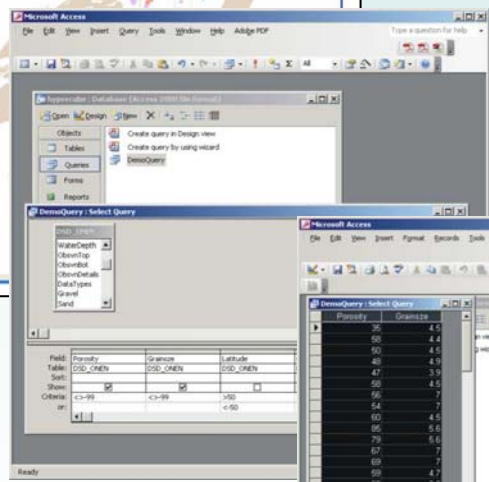
Web services



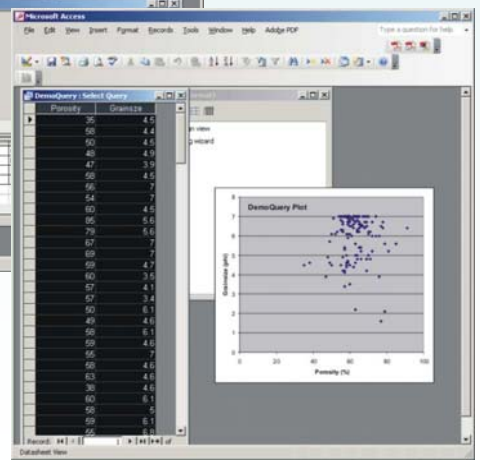
GIS



Visualization



Database

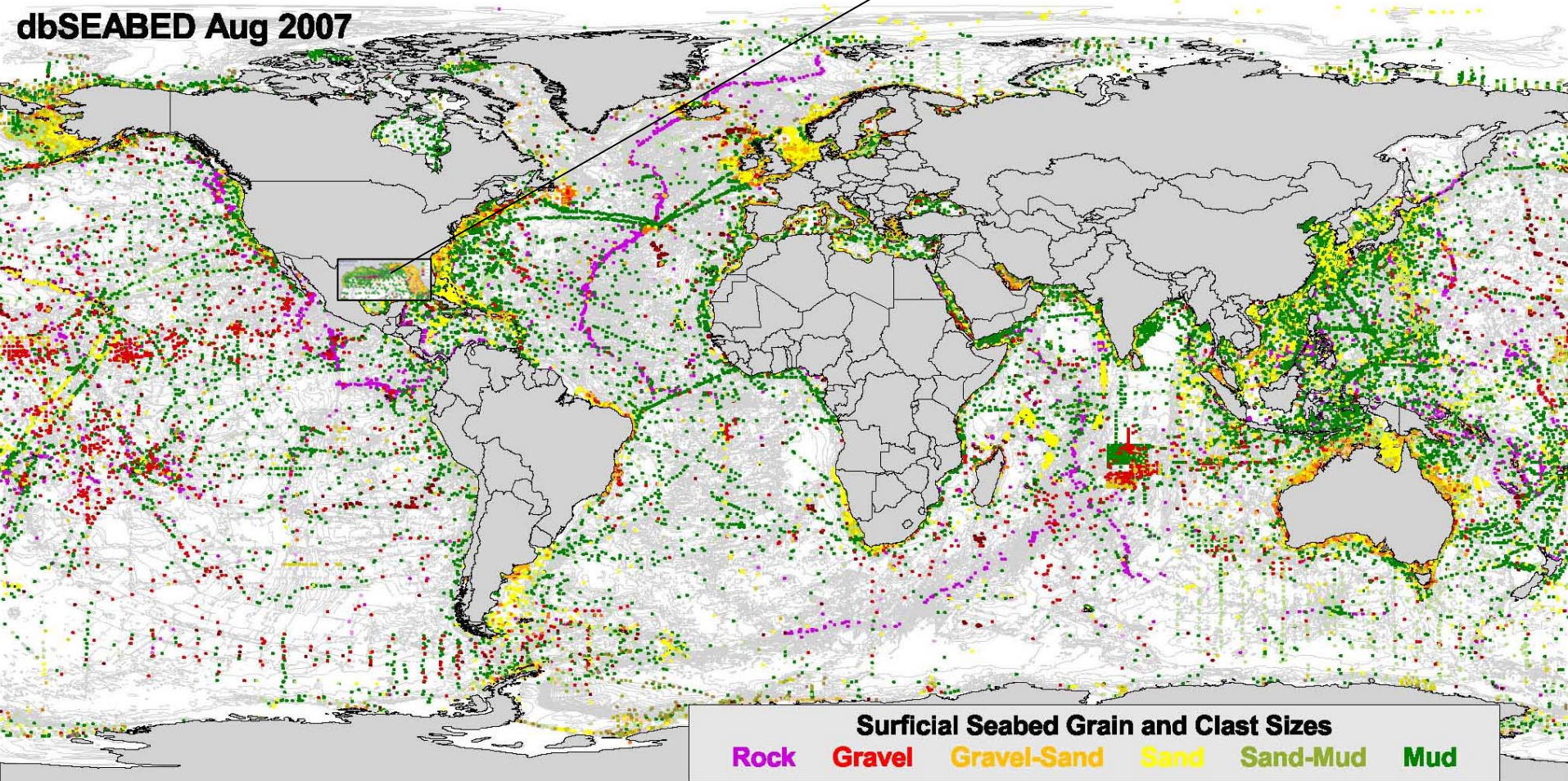


Analysis

**Unified data, same format,
known semantics, verified
quality**

(next slide)

dbSEABED Aug 2007



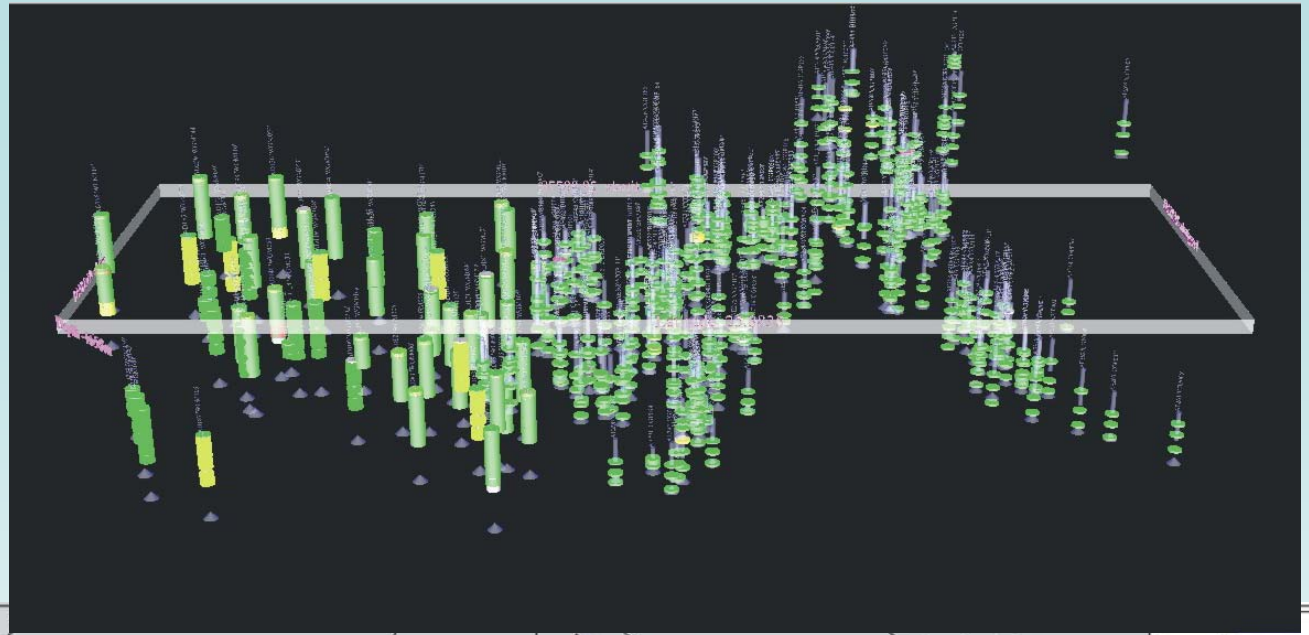
Sate of the dataset: over 2,500 datasets, about 2 million sites, 40,000 cores

The data entry burden:

Worse for regions...

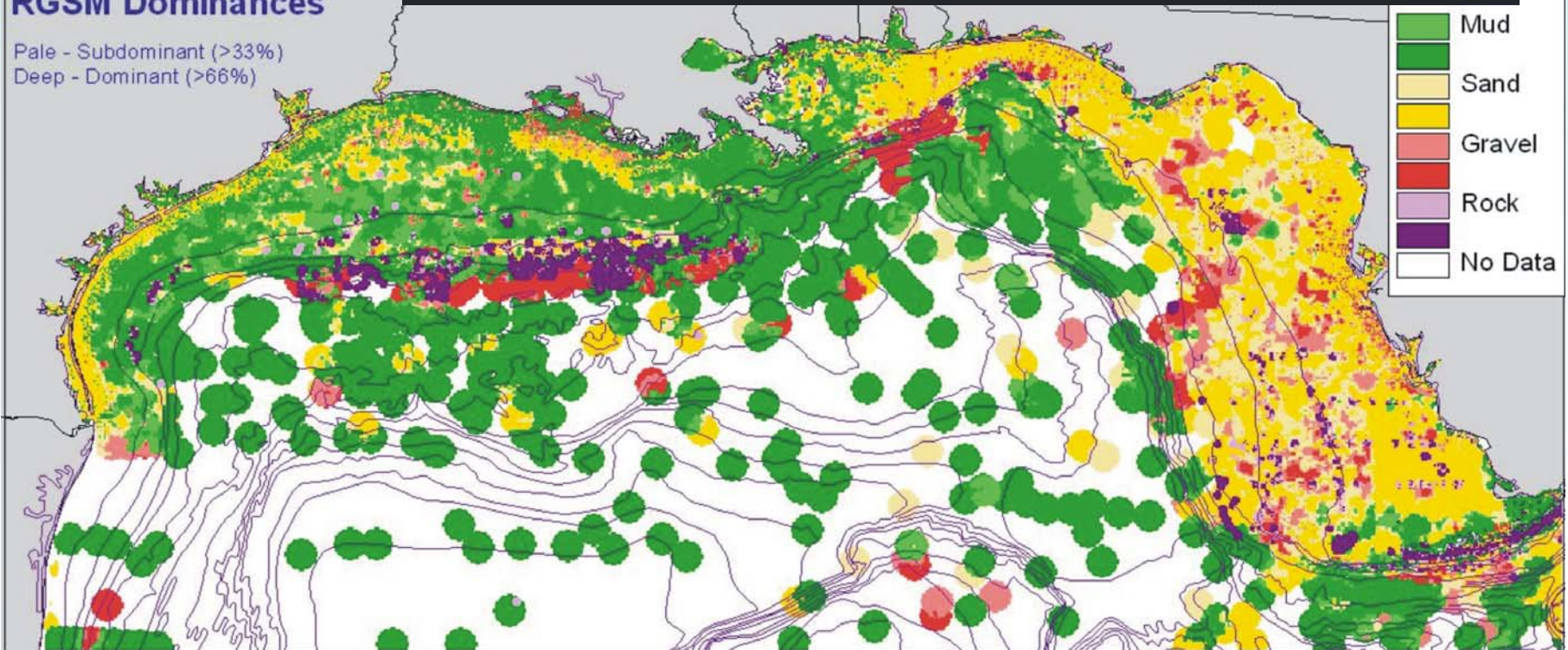
Even worse for cores...

CoreWall will help.

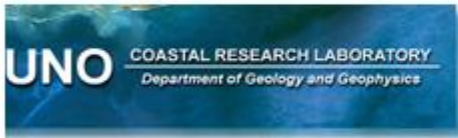


RGSM Dominances

Pale - Subdominant (>33%)
Deep - Dominant (>66%)



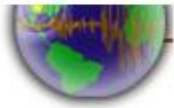
dbSEABED is a multi-institution research project based at The University of Colorado, but with ideas, funding, software, data and applications shared across the group



National Geophysical Data Center

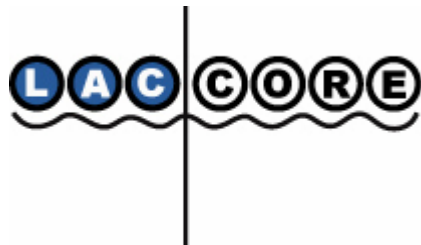


UT Austin



DEFENCE Science and Technology Organisation

Many other people and organisations have contributed seafloor datasets



END