CoreWall and dbSEABED

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CoreWall group & dbSEABED collaboration.

A lecture at the 30th Core Curator's Group, Estes Park, Colorado, Sep 2007.

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
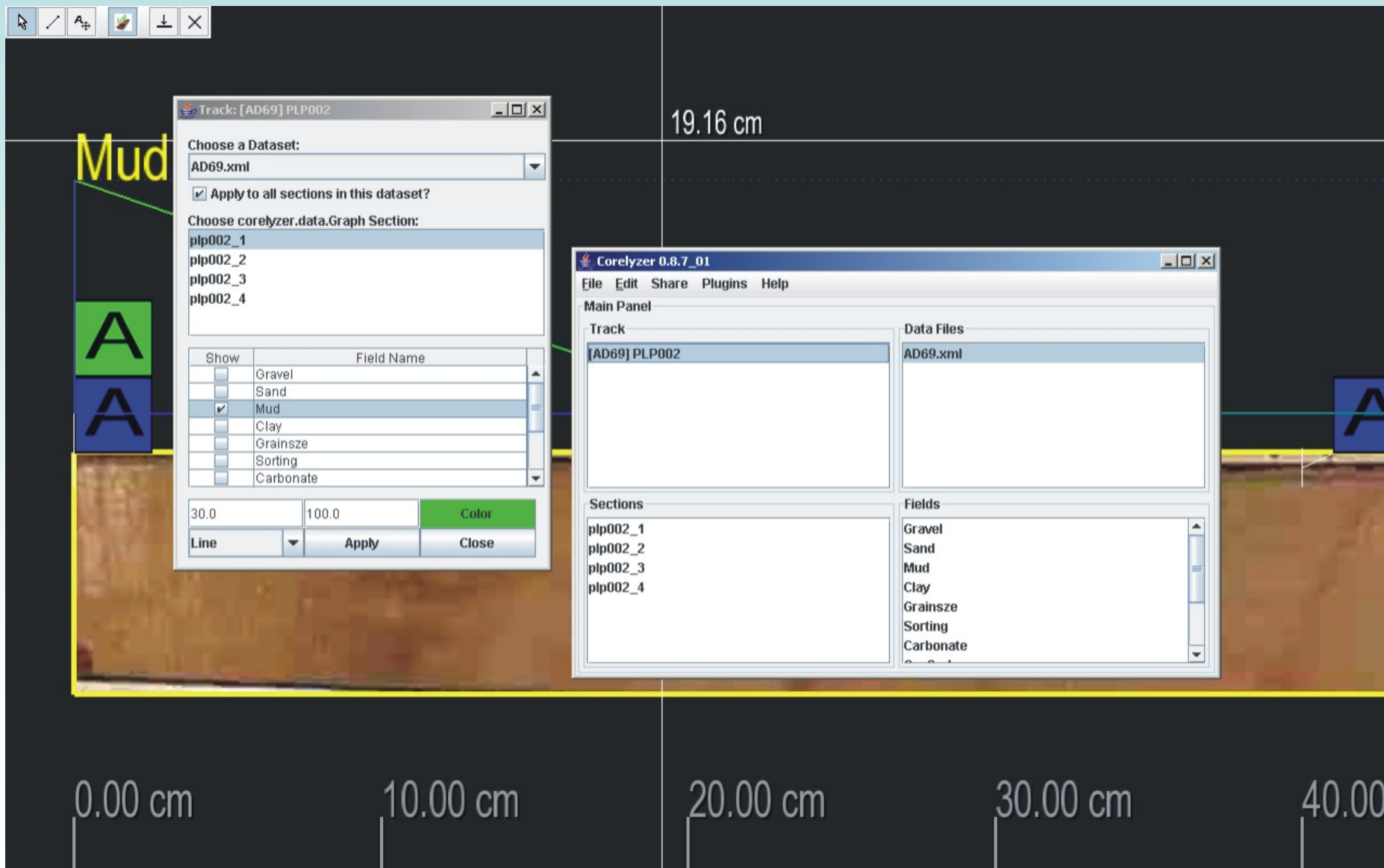 - Interdisciplinary

Deployments …

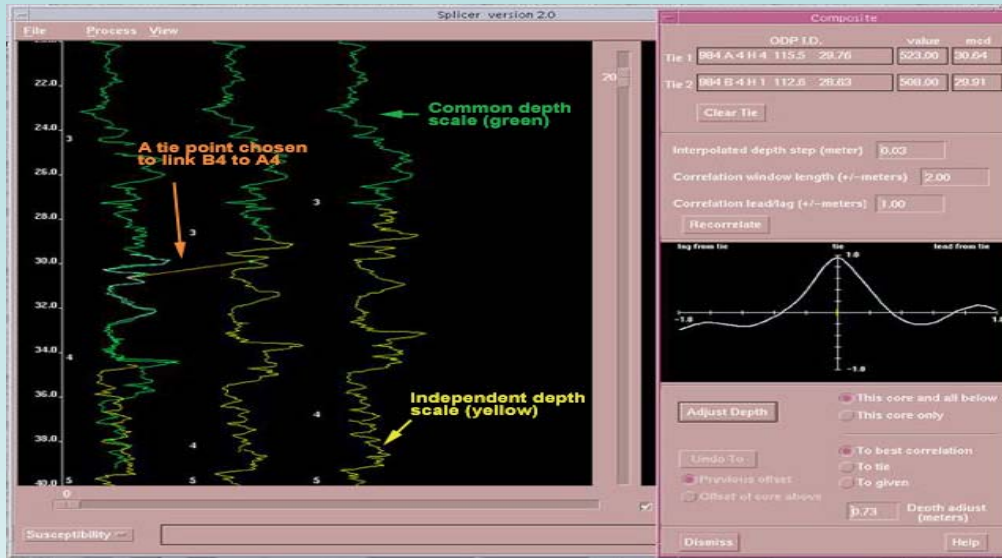# ANtarctic DRILLing and the CoreWall Suite

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

(Richard Levy photo)

http://www.evl.uic.edu/cavern/corewall/media/movies/Corewall_720x480_20070117.wmv
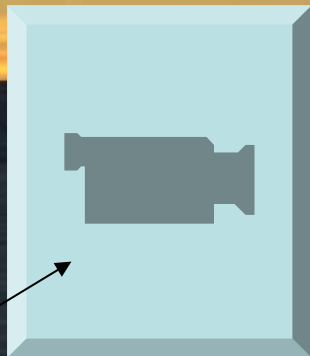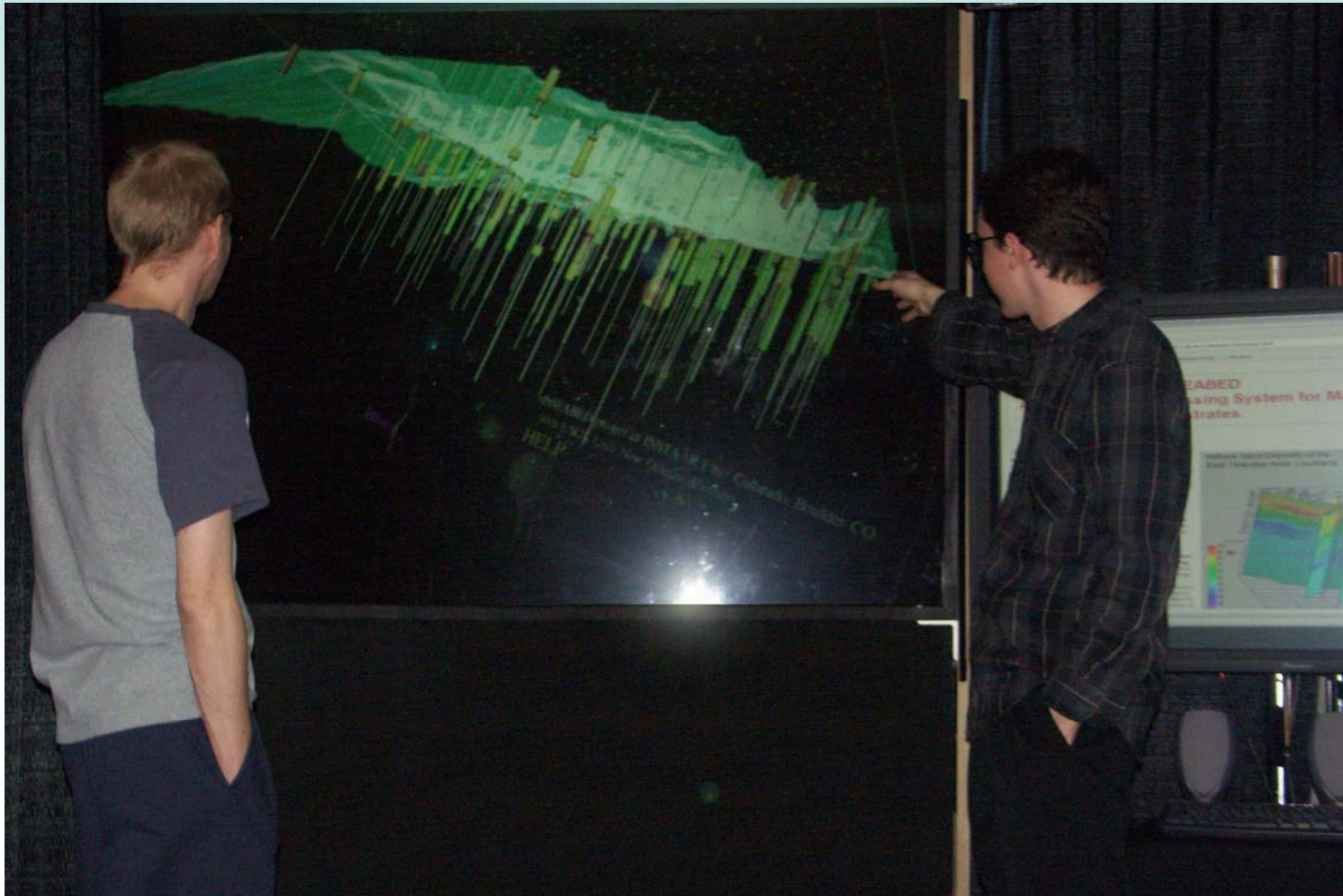
Main user elements…

Splicer screen

Building Blocks of Corewall

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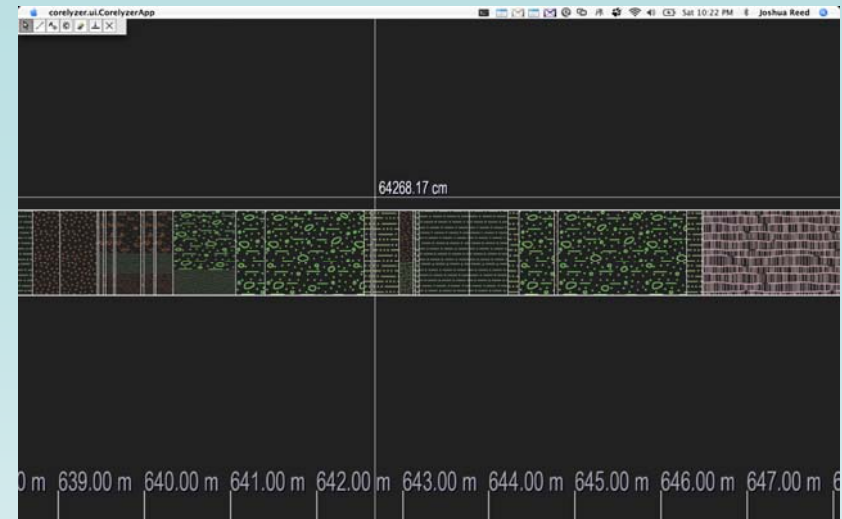- Psicat graphical corelog
- Chronos age systems

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-Corelyser 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
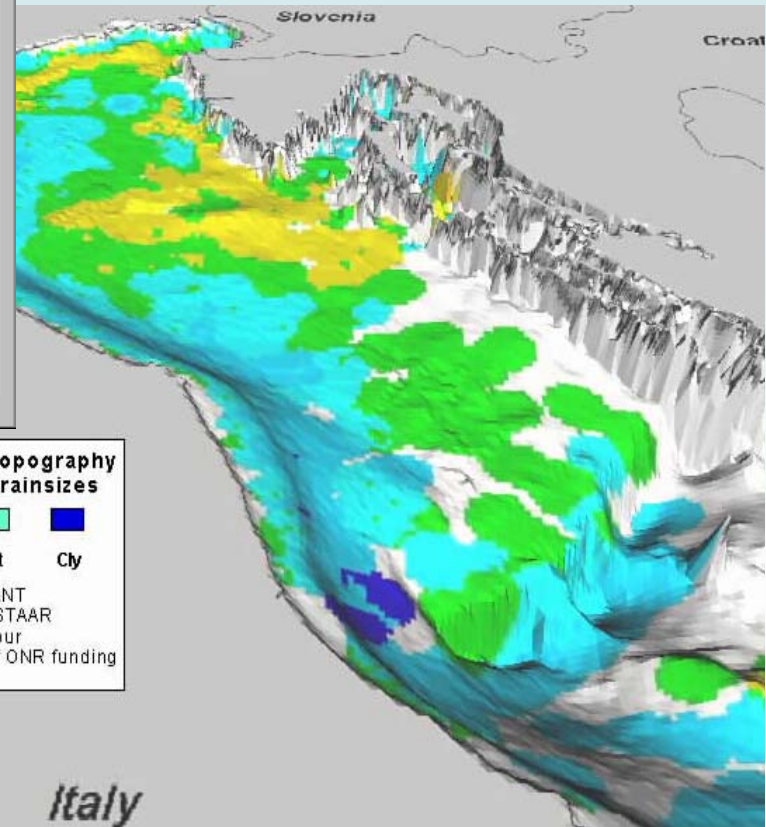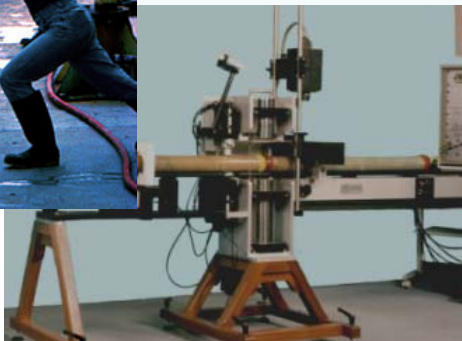- Integrated, easy to use, software releases

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**

- **Textures, composition, geoacoustic and sediment transport properties, feature and grain types**

- **Outputs point and grid maps for any application - GIS, modeling, database**

Shape	Point
Latitude	-12.75700
Longitude	129.16000
Waterdepth	69
Sampletop	0.00
Samplebase	0.22
Sitename	V-61
Datasetkey	2
Sitekey	261
Samplekey	307
Sampler	-
Datatypes	PPPxPPPPPCCxxxCCPCx
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
Lgcritshrstrs	-0.37
Samplephase	-

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

Slovenia

Croat

Italy

Example: DSDP Data Hypercube
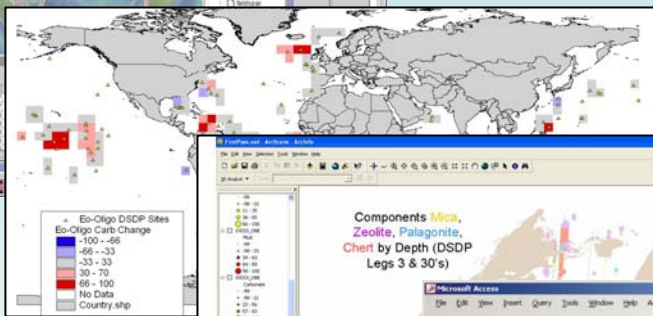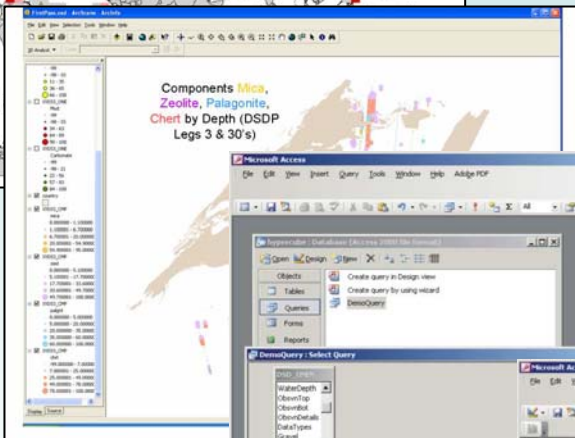
Publication

Web services

GIS

Visualization

Database

Analysis

Hypercube advantages

Lead to a multitude of uses, a creative workspace, wide software useability; is interdisciplinary, 'walk-in'
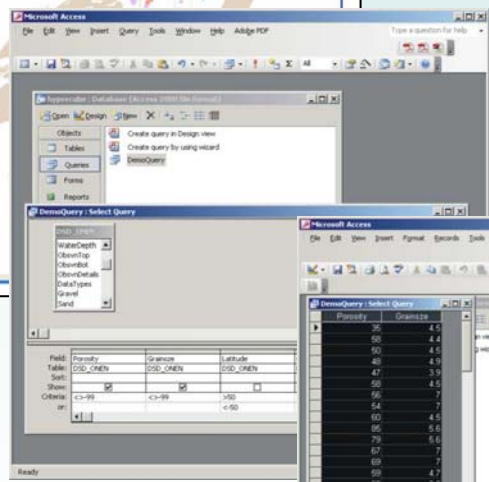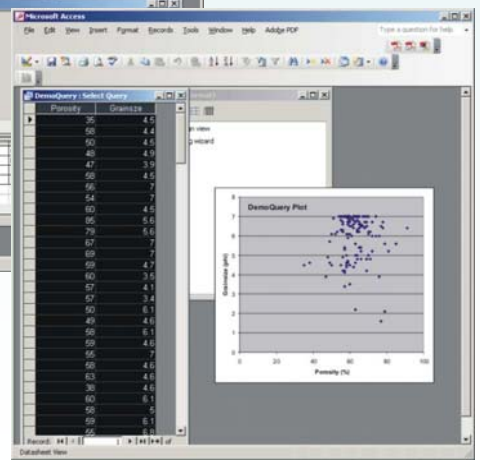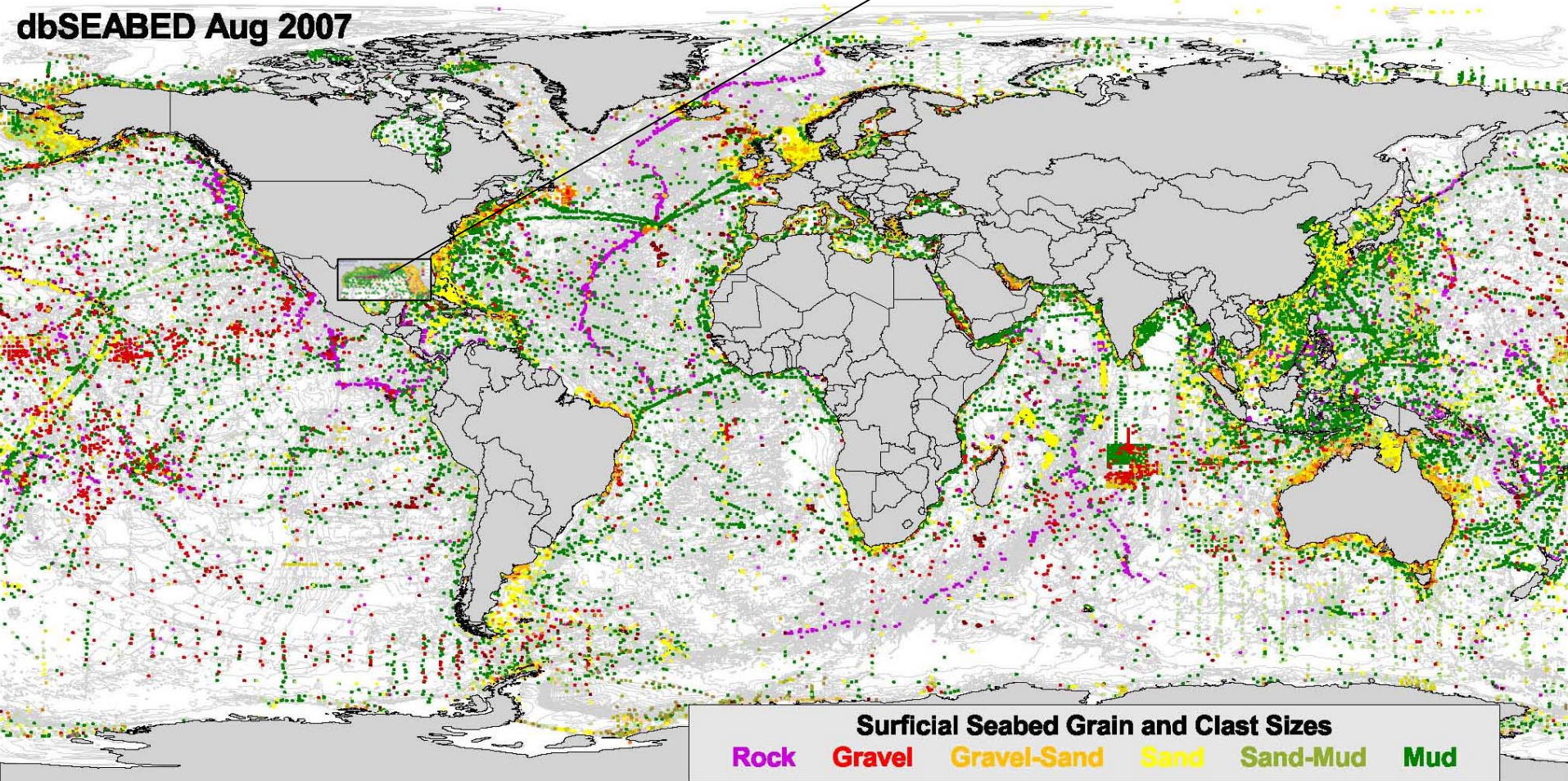
Unified data, same format, known semantics, verified quality

(next slide)

dbSEABED Aug 2007

Surficial Seabed Grain and Clast Sizes
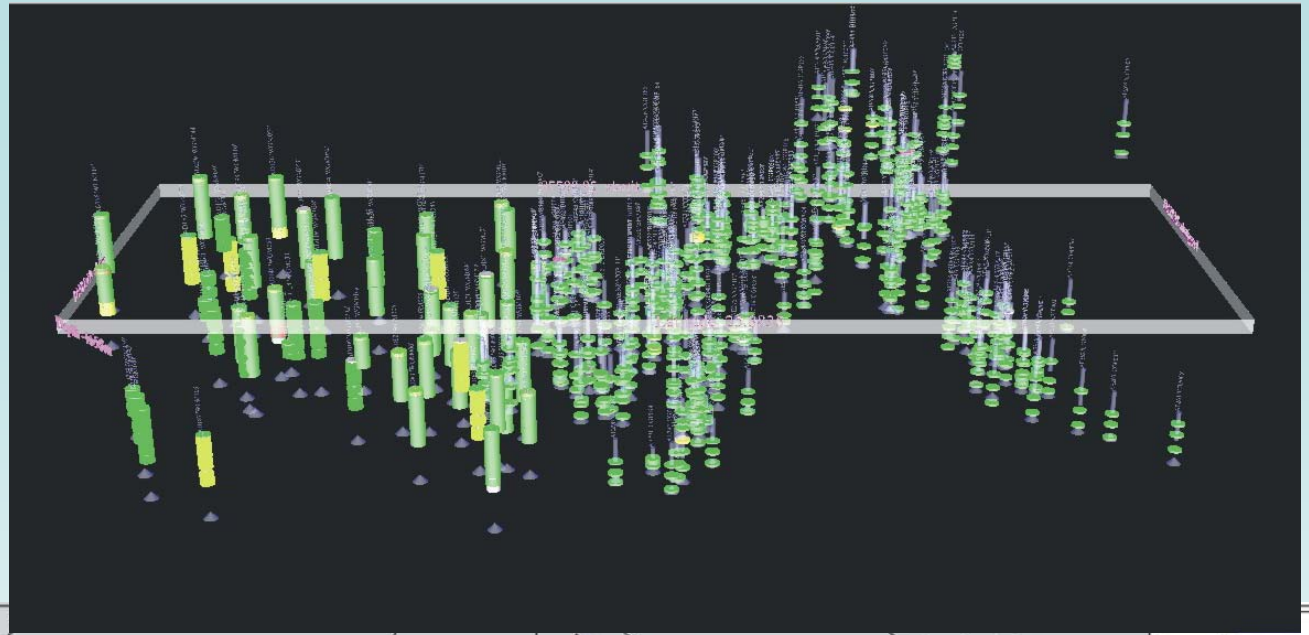**Rock**   **Gravel**   **Gravel-Sand**   **Sand**   **Sand-Mud**   **Mud**

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…
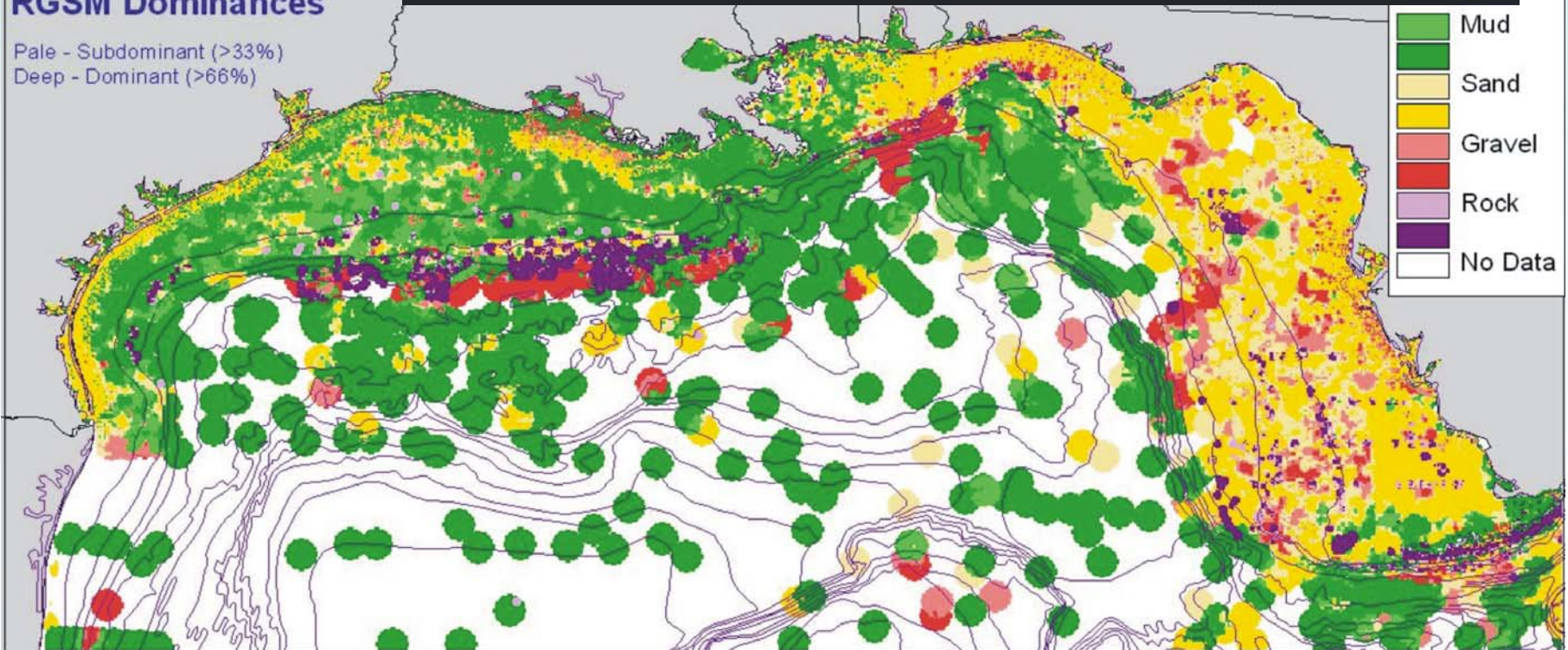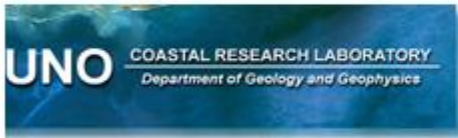
CoreWall will help.

RGSM Dominances

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

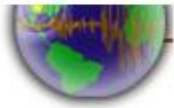|	
	Mud
	Sand
	Gravel
	Rock
	No Data

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

UT Austin

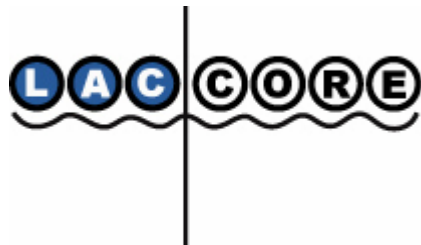Many other people and organisations have contributed seafloor datasets

END