Meeting community and government agency requirements (dbSEABED experience)

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A CoreNavigator presentation of the dbSEABED cores collection from Ship Shoal, Louisiana
dbSEABED: 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

Adriatic Sea 3D Topography and Sediment Grainsizes
- Topography: SACLANT
- Sediment types: INSTAAR with the support of our collaborators and ONR funding
History of applications of dbSABED

- Global sand-mud transition (George et al 2008)
- Permeability and contaminants in shelf sands (Wiberg & Jenkins 2003)
- Littoral carbonate reserves and ocean acidification (Gattuso et al., Villefranche, France)
- Sediment mobility (Porter-Smith et al 2004)
- Florida pink shrimp habitat suitability & conservation (Rubec et al 2005)
- Modelling seafloor global change and infrastructure risks (Li et al 2005)
- Deep cold coral habitat suitability (Leverette 2004)
- Mine burial calibration Baltic Sea (Wever et al 2006)
- Demersal shark habitat analysis, Adriatic Sea (Ferretti, Dalhousie Univ)
- Global hard substrates distribution (The Nature Conservancy 2004)
- US Gulf of Mexico hard substrates for Grouper stocks conservation (GSMFC 2005-)
- Validation of statistical spatial resampling method (Goff et al., 2007)
- National bioregionalization, Australia (Burne et al., 2003)
- Seafloor geoacoustic properties for sonar prediction
- Great Barrier Reef bioregionalization (RAP) leading to fisheries exclusions (Day et al 2000)
- Marine aggregates estimation (Williams et al., 2006)
- Search and rescue, Alaska Airlines 261 crash (USGS in 2000)
- Great Barrier Reef resurvey design (Pitcher 2002)
- Naval mines and MLO detectability in sea-lanes
- Marine parks pre-commissioning survey, Victoria and NSW (1999, 2001)
- National marine sanctuary surveys, California (Cochrane 2003, 2005)
- Essential fish habitat (EFH) delineations, New England (2007)

My favourite is the RAP project which was pushed through the intense politics of fisheries and localism to achieve broad latitudinal no-fishing zones across the Great Barrier Reef. Fish and probably invertebrate stocks have rebounded strongly (e.g., Evans 2006), vindicating the zones.
What is required by ‘clients’?

- **Rapid response** – many projects are time critical, especially in the political, commercial, and emergency arenas.
- **Coverage** in their geographic region, and they will compromise on attributes to achieve it.
- They show a high emphasis on **internal consistency**; less emphasis/scrutiny on uncertainties.
- **Younger researchers** are prepared to put in more time on data preparation, etc. They see the possibilities.
- **Searchable / browseable**, information-sets so they can follow their thought-train and curiosity.
- **Integrated (harmonized) results** - ie. information instead of data
- Not so keen to try **software** which can be a lot of trouble to them, especially if precise data inputs are needed.
A New Form of Visual AND Deep Data Presentation: Binned Results
Browseable Data Deliveries

• It is very important to serve Data Presentations that hold the attention of Researchers and Students

• Google Earth (KML) and Web GIS can do that

• Options are: vector (point, polygon), grid, bin

• dbSEABED is trying different information displays to answer the question for the public, research and clients: “What is the seabed like at Point X”
References

Most may be found in the dbSEABED bibliography:
“http://instaar.colorado.edu/~jenkinsc/dbseabed/bibliography.htm"

The others are: