

# Overview of Carbonate FRG and Marine WG

- *Intermediate and Long-Term Goals...*
- *Where are we now?*
- *What next?*

# ***C-FRG Intermediate- and Long-Term Goals***

Group aim:

- To identify and address grand challenges for fundamental research on ancient and recent carbonate systems

To be achieved by:

- Creation of next generation of numerical carbonate process models under the umbrella of the CSDMS initiative
- Creation of supporting carbonate systems databases

Assuming that:

- Open-source numerical models and associated quantitative datasets can be state-of-the-art repositories for our knowledge of how carbonate systems work
- Models can be useful experimental tools applied to develop and enhance carbonate knowledge.



# ***C-FRG Where Are We Now?***

*The story so far:*

- *Initial framing meeting, Feb 08*
- *Grant proposal workshop, Feb 09*
  - *Concept outline for Carbonate Workbench*
  - *NSF proposal submitted, July 09*
- *Annual meeting, Oct 09*

# ***C-FRG Where Are We Now?***

## **Carbonate workbench:**

- Outline concept
  - Modular system of bolt-together model components
  - Integrated databases of input parameter values (and examples to test model against?)
- Progress to date
  - List of desired modules
  - Some initial progress coding some components



# ***C-FRG Where Are We Know: Members***

Peter Burgess (Chair) Royal Holloway University of London  
Andrew Barnett BG Group  
David Budd University of Colorado  
Govert Buijs ConocoPhillips  
Bob Demicco Binghamton University  
Carl Drummond Indiana University-Purdue University Fort Wayne  
Evan Franseen University of Kansas  
Ned Frost ConocoPhillips  
Xavier Janson University of Texas at Austin  
Chris Jenkins University of Colorado  
Gareth Jones Chevron Energy Technology Company  
Albert Kettner CSDMS, INSTAAR, University of Colorado  
H. Richard Lane U.S. National Science Foundation  
Patrick Lehmann ExxonMobil Exploration Company  
Mingliang Liu Auburn University, School of Forestry and Wildlife Sciences  
William A. Morgan ConocoPhillips  
Mohamad Mehdi Nasr Azadani University of California at Santa Barbara  
Gene Rankey University of Kansas  
Bernhard Riegl Nova Southeastern University, National Coral Reef Institute P  
Rick Sarg Colorado School of Mines  
Fiona Whitaker University of Bristol  
Bruce Wilkinson Syracuse University

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## ***C-FRG: Status of NSF Proposal***

- NSF Proposal - Carbonate workbench: Next Generation Predictive Tool for Carbonate Depositional Systems
- Rick Sarg, Gene Rankey, Chris Jenkins, Don Potts, Dave Budd with associates Bob Demicco, Peter Burgess, Jody Webster and interested parties
- \$1.7 million requested
- Decision due November



# ***C-FRG What Next?***

## **General**

- Await NSF proposal result...
- Continue to expand membership
- Develop Workbench...

## **Carbonate workbench**

- Create a CSDMS driver for carbonates – today??
- Create a carbonates GUI in Caffeine – today??
- Write pseudo code outlines for selected modules OR import some existing code
- What existing transport modules could we use?
- Make choices on suitable population models
- Begin to define database structure and content
- Working prototype with several modules ready for meeting Oct 2010??