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**
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
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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??