

Coastal Synthesis Workshop
Downtown Courtyard Marriott, San Francisco, CA
December 11-12, 2010

BREAKOUT SESSION GUIDELINES

Process Breakouts

Important Questions (we've also included specific examples for some of the processes below)

- **What are the key processes and sub-processes involved?**
- **How are the processes and sub-processes measured?**
- **What is the spatial and temporal scale of the measurement?**
- **Can individual measurements be scaled up spatially and temporally? If so, how?**
- **How and how well is the process or sub-process parameterized (for models)?**

1) River-Estuary Fluxes (Leader: Rob Striegl Rapporteur: Aleck Wang)
River-estuary is an important transition zone between terrestrial and marine carbon cycles. The river-estuary fluxes breakout will involve a discussion of current knowledge and gaps in the estimates of carbon fluxes and budgets in lower rivers, estuaries, and nearshore areas and the relevant processes that modify or control these fluxes.

- What are the processes involved (e.g., river discharge, sediment bed load transport, tidal influence, estuarine recycling, etc.)?
- What is being exchanged and/or transported (DOC, water, nutrients, etc.)?

2) Cross-Shelf Exchange (Leader: Ruoying He Rapporteur: Samantha Siedlecki)

Cross-shelf exchange includes all of the processes that transfer carbon between the open ocean and the coastal ocean. Much of this exchange is thought to be due to ocean currents, which includes the mean circulation and its variability (e.g., mesoscale eddies).

3) Sediment Burial (Leader: Brian Bergamaschi Rapporteur: Miguel Goñi)

- What are the processes involved in sediment burial (e.g., bioturbation, erosion, resuspension, etc.)?
- How much carbon is being transported to the sediment? How is this measured?

4) Primary Productivity and Respiration (Leader: Steve Lohrenz Rapporteur: Dave Munro)

- Refer to "Important Questions" above to guide this breakout

5) Air-Sea Exchange (Leader: Joe Salisbury Rapporteur: Xinping Hu)

- Refer to "Important Questions" above to guide this breakout

Regional Breakouts

We will fill out the regional spreadsheets of data and modeling resources (distributed prior to meeting) during the regional breakout sessions

Important Questions

- **What data sets are readily available? What is the quality of the data sets?**
- **What projects are coming on-line that will provide important data in the near future?**
- **What kinds of numerical models exist (Box vs. 1D vs. 3D)? Spatial resolution? What processes do these include (physics only? ecosystem? carbon?)?**
- **What advances have been made since the North American Continental Margins report (Hales et al., 2008)?**

1) East Coast (Leader: Wei-Jun Cai Rapporteur: Kevin Kroeger) – spreadsheet available at

<https://spreadsheets.google.com/ccc?key=0AtyafwtfdCitdHM5aWEtMG1HRjM0MUpvZXlvU293QWc&hl=en&authkey=CPvVze00>

2) Gulf Coast (Leader: Paula Coble Rapporteur: Lisa Robbins) – spreadsheet available at

<https://spreadsheets.google.com/ccc?key=0AtyafwtfdCitdGRqTVZYNmY2UUpOeWEzWFh2TW1ubHc&hl=en&authkey=COTMwYoP>

3) West Coast (Leader: Simone Alin Rapporteur: Laurie Juranek) - spreadsheet available at

<https://spreadsheets.google.com/ccc?key=0AtyafwtfdCitdDdXYVBodTdfSWs5Z2txeWVNZ0Z0eFE&hl=en&authkey=CM74oL4N>

4) Arctic (Leader: Jeremy Mathis Rapporteur: Helmuth Thomas) - spreadsheet available at

<https://spreadsheets.google.com/ccc?key=0AtyafwtfdCitdG55d21rQjdzRktOLU5pSFE3c1VYYkE&hl=en&authkey=CMpy9ukG>

5) Great Lakes (Leader: Galen McKinley Rapporteur: Harvey Bootsma) - spreadsheet available at

<https://spreadsheets.google.com/ccc?key=0AtyafwtfdCitdF8zck11Y082X1QzUm9PR1N1X2RkTXc&hl=en&authkey=CK7-7YB>