## **Breakout 7C**

## Essential Principle: Atmospheric circulations transport gases, particles, and energy. (Second Chance)

Welcome, we're about to begin this session. My name is Randy Russell; I'll be serving as the "OPL" (Online Participant Liaison) for this session. That means I'll be blogging as the session proceeds, trying to capture the essence of what is said "live" here in the conference room at NCAR in Boulder. I'll also try to serve as the voice (again, "live" in the room) for those of you who are attending virtually, online. I'll attempt to bring comments from the online chat into the "live" discussion here in Boulder.

This blog is also intended to serve as an archive of the discussion in this breakout session.

The group is currently reviewing the previous discussions on this Essential Principle (Atmospheric circulations transport gases, particles, and energy.).

The PowerPoint from the morning breakout that worked on this essential principle is at:

http://eo.ucar.edu/ascl/ppt/ascl\_breakout\_5c.ppt

The PowerPoint from the remote group at Goddard, that includes a slide about this Essential Principle, is at:

http://eo.ucar.edu/ascl/ppt/GSFC\_EPandFC\_Slides.ppt

Participants are currently jotting down their ideas for Fundamental Concepts that fit under this Essential Principle. If anybody online has suggestions, I can present those to the group. They are writing brief notes on stickies; please keep you notes similarly concise, or I'll edit as needed to make them fit.

Session participants: Mark Johnsson, Mark McCafferey, Tamara Ledley, Seth McGinnis (facilitator), David Smith, Carol Landis, Ola Presson, Ted Willard, Steve Wilton, Susan Buhr, ...

The group is now discussing the individual Fundamental Concepts.

FC2 - adjust to focus entirely on water.

Mark thinks a similar level of emphasis needs to be placed on carbon and the carbon cycle.

For now, a separate Fundamental Concept on carbon; may amend in a bit when FC that covers other cycles is considered.

Debate over FC 3; does it even belong in this EP? Maybe belongs in EP #2, the solar energy one.

FC 3 is contentious; skip over for now

FC 4 is redundant with other FCs, recommend remove this.

FC 7 & 8 should be removed.

FC 3, 4, & 5 overlap a lot; recommend the three be reconsidered as a group, and combined/condensed into a more concise cluster, possibly reducing the number of FCs.

FC 6 - main emphasis is on cycles on other than carbon (since we now have a proposed a FC explicitly on that); matter and energy exchanges occur at interfaces with other Earth systems - place to emphasize Earth System Science notions. This is the place to mention biogeochemical cycles, but in more non-scientist friendly terminology.

Goddard FCs got subsumed into other FCs.

This session is wrapping up now. This session is now closed.

The PowerPoint summarizing this session has been uploaded; it is an eddited version of the PowerPoint from the group that discussed this Essential Principle this morning (Breakout 5c).