

Sequestration Efficiency WG (Iron Use Efficiency?)

- Don't want to be wedded to a single question related to carbon storage: iron in = carbon out
- Focus on iron (rather than carbon) allows one to focus on all the important processes within ocean ecosystems: toward total system understanding (if we understand iron then the carbon budget will be relatively simple)
- Need to think about why we measure what we do (Fe:C), i.e. what is the end goal? C cycle forecasting, hindcasting, seasonal + spatial variability
- But don't lose sight of the fact that various boxes within upper ocean ultimately drive carbon and iron export

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- Elemental stoichiometry of ecosystem functioning: constructing carbon budget is relatively easy compared to iron budget
- Use models to conduct sensitivity analyses on drivers of element transfer between various boxes
- Modeling should not just be a post cruise effort
- Standardized methods for defining/quantifying boxes and fluxes between boxes

Poorly Constrained Parameters

- Fe: C fluxes (traps not deployed during entire experiment, steady state assumption for thorium model)
- Total particulate Fe:C not frequently quantified (suspended, sinking particles)
- Metal uptake and processing by zooplankton
- Who are the key players responding to iron addition (moving beyond diatoms?): e.g. role of bacteria, microzooplankton

Standard Methods

- Seagoing program needs
 - Flow cytometer
 - Drifting sediment traps
- Model needs
 - Stocks and flows through the boxes
 - Quotas