Discussion
Interdisciplinary & Synergistic
Science Objectives

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Charge to Workshop

• FY10 Planning
• Consideration of Phased Implementation
• Beware of Mission Creep
NRC Decadal Survey

- Lists specific science objectives for coastal ocean biophysics (COB) and atmospheric-pollution chemistry (APC), but does not specify interdisciplinary objectives
- Explicitly mentions exploring compatibility with objectives of terrestrial biophysical sciences
- Does this implicitly suggest there is an expectation for us to explore interdisciplinary questions between COB & APC?
FY10 Planning

• If we prepare an Interdisciplinary STM, how do we prioritize the requirements?
Associated with Biologically Active Regions of Ocean Seasonal Cycle
Lofting in ITCZ may make ocean important FT source
Vrekoussis et al., ACP, 9, 4485-4504, 2009.
Global map of red fluorescent light emitted by phytoplankton from Aqua/MODIS/Mike Behrenfeld, Oregon State University. Behrenfeld et al., Biogeosciences, 6, 779-794, 2009.
N. Atlantic MBL Aerosols

Winter
• Modal diameters
  0.031 µm - Aitken
  0.103 µm - accumulation
  2 µm - coarse
• Higher wind speeds - more sea salt
  30% larger coarse fraction mass
• Scattering Maximum (21 Mm⁻¹)
• Smaller Angstrom parameters
• Minimum WSOC <0.05 µgC m⁻³

Summer
• Modal diameters
  0.049 µm - Aitken
  0.177 µm - accumulation
  2 µm - coarse
• Larger Accumulation Mass
• Scattering Minimum (5.5 Mm⁻¹)
• Larger Angstrom parameters
• Maximum WSOC 0.2 µgC m⁻³

SeaWIFS Chlorophyll a
Yoon et al., JGR, 112,D04206,
Role of Halogens in Coastal Air Quality?

Annually averaged BL coarse mode aerosol pH for year 2000
Kerkweg et al., ACP, 8, 5899-5917, 2008.