Importance of OC and EC: An NSF perspective

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Durango, Colorado – March 4–5, 2003
Presentation Outline

• Background on NSF
• The NSF Perspective
• Workshop Mid-Term Report Card
• A Challenge to OCEC Participants

…and all in 20 minutes!
NSF (Est. 1950) Mission

• To promote scientific progress
• To advance national health, prosperity and welfare
• To secure national defense

NSF Strategic Goals

• Ideas - Discovery across frontiers and connections in service to society
• People - A diverse, internationally competitive and globally-engaged workforce
• Tools - Accessible, state-of-the-art information bases and shared tools

~12% FY 2003 Agency Budget Increase
Goals Related To OCEC

Atmospheric Chemistry Program

• to characterize the *chemical composition* of the atmosphere and its *variability*
• to understand *chemical transformations* and *transport processes* in the atmosphere

Interdisciplinary/Crosscutting

• to understand the role of atmospheric chemistry in the *radiation budget* of the earth
• to understand how natural and anthropogenic emissions affect *regional/global air quality*
Global Climate: What We Know

Some NSF-Supported Programs: Regional Air Quality / Global Change

AEROCE
1990–2000, North Atlantic Ocean
Ground-based and airborne measurements

ACE-2
http://rea.ei.jrc.it/~vandinge/ace2/ace2main.html
June/July 1997, Portugal and NE Atlantic
Airborne, ground-based and ship-borne measurements

INDOEX
http://www-indoex.ucsd.edu
Jan.-April 1999, Indian Ocean region

ACE-Asia
http://saga.pmel.noaa.gov/aceasia/index.html
Ground-based network operations 2000-2002
Airborne field intensive March-April 2001
Carbonaceous Aerosols: “...A Major Wildcard...”

OCEC Workshop: Report Card

• IDEAS
  Recognition of Emerging Importance
  Addresses Critical Need
  Where is the Global Perspective?

• PEOPLE
  The Usual Suspects (…but that’s a good thing)
  International Representation
  Early-Career Scientist Participation
  Where are the Climate Modelers?

• TOOLS
  Community OCEC Standards
  Common (Operational) Definitions
  Technological (Method/Protocols) Consistency

Key: On Track – Needs Attention – Huh?
The World Outside Of The Lab

From: USDOE Atmospheric Science Program Strategic Plan, August 2002.
Scales of Relevance to OCEC

Who Should Play?

“CLIMATE”
- Synoptic
- Regional
- Meso
- Local
- Micro
- Nano

“VISIBILITY”

“HEALTH”

Modeling

Climate

Air Quality
The OCEC Challenge

• Defining a research strategy is GREAT, but…
  Reach a consensus… please!

• Think outside the box – it’s a big world
  Health → Visibility → Climate (→ Health, and iterates)

• Modeling is fun – try it sometime
  An effective bridge between scales
  Provides community and policy relevance

Thanks so much for listening!