Data Collection in the Field

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ESRL CSD Field Campaigns

Major Research Emphases:

- ozone layer depletion
- global climate change
- regional air quality

} NOAA’s ARC
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Data Collection from:

- mobile platforms
- surface sites
- satellites and forecasts
NEAQS - ITCT 2004

New England Air Quality Study -
Intercontinental Transport and Chemical Transformation

ESRL Integrating Theme Presentation on Information Systems, 8 January 2009
NEAQS - ITCT 2004

Collaborators:

- [AIRMAP](#), University of New Hampshire
- [Harvard Forest](#), Harvard University
- Atmospheric Sciences Research Center ([ASRC](#))
- U.S. Department of Energy ([DOE](#)) [Atmospheric Chemistry Program](#)
- California Institute of Technology ([Caltech](#))
- National Oceanic and Atmospheric Administration ([NOAA](#))
- NOAA Earth System Research Laboratory ([ESRL](#))
- NOAA Pacific Marine Environmental Laboratory ([PMEL](#))
- NOAA Aircraft Operations Center ([AOC](#))
- NOAA [Research Vessel Ronald H. Brown](#)
- International Consortium for Atmospheric Research on Transport and Transformation ([ICARTT](#))
- National Aeronautics and Space Administration ([NASA](#))
- Meteorological Service of Canada ([MSC](#))
- University of Massachusetts ([UMass](#))
- Intercontinental Transport of Pollution ([ITOP](#)) European Contingent
Site Logistics:
ESRL CSD provides service and support on site and remotely.

Considerations…
- power
- bandwidth requirements
- voice and data lines
- existing resources
- local providers
- file, print, email services
- web services
- physical and IT security
- conference facility
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The Process:

Infrastructure is in place
Communications operational from platforms
Organizational resources preconfigured
Data starts moving…

WP-3D aircraft interior

RHB ship deck
ESRL CSD Field Operations

The Challenges:

networks
- land/sat lines to interim file servers to web servers
- connecting to resources beyond organizational firewalls
- allow all deny necessary routing protocols on site

servers and hosts
- passwords, encryption
- patching, virus protection
- backups
- hardware failures
- software configurations
- connecting to local resources
- identify administrators

Photo courtesy Richard Marchbanks, NOAA ESRL CSD
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Continued efforts
2006 TexAQS,
2008 ARCPAC,
2010 CalNex…
The Plan:

6 short talks ...

- We Have to Get There from Here  
  Cathy Burgdorf (CSD)
- Giving Researchers What They Want  
  Ken Masarie (GMD)
  & Cathy Smith (PSD)
- Saving Lives & Property  
  Carl Bullock (GSD)
- Times They Are A Changing  
  Leslie Hart (GSD)
- Web 2.0 and an Interactive Government  
  Eric Hackathorn (GSD)
- Resistance is Futile  
  John Parker (DO)

and 1 panel discussion ...

- Questions from the floor
- What do we need to overcome the barriers?
- How will we get to a unified network?
- How can we make things happen?