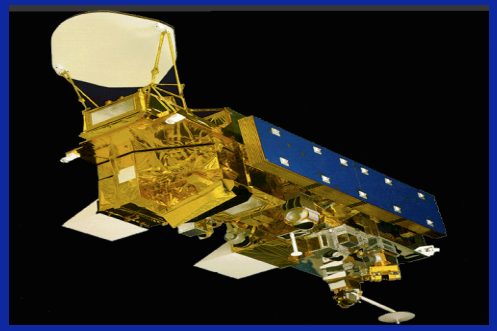
INTEX-NA & ICARTT

Intercontinental Chemical Transport Experiment North America
International Consortium for Atmospheric Research on Transport and Transformation

DC-8

Aqua
Terra
Envisat

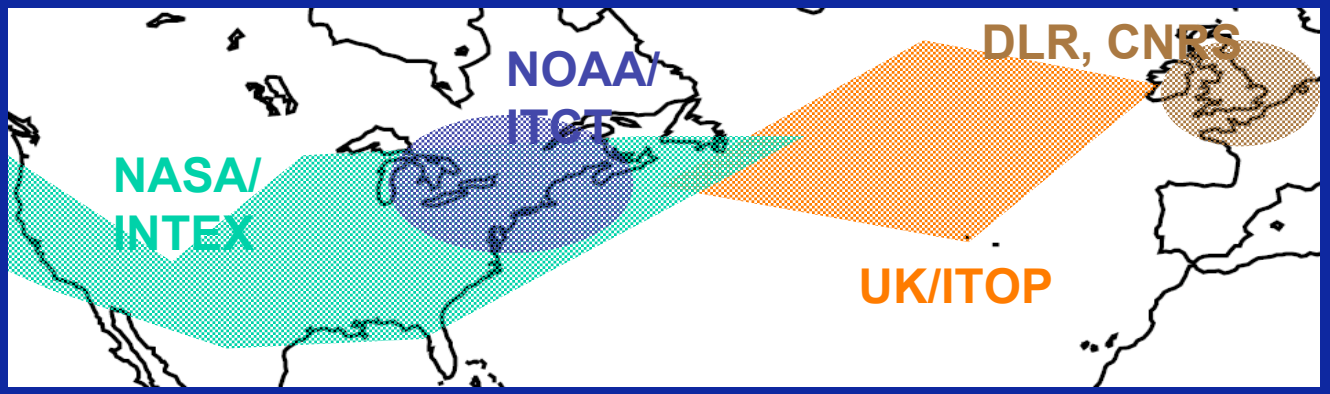


J-31

In a major 2004 study over North America, NASA is deploying its space, airborne, and surface assets to investigate and understand the transport and transformation of gases and aerosols on intercontinental scales. The knowledge gained here is essential for improved air quality and climate research

Partners:
United States
Canada
United Kingdom
France
Germany

INTEX-NA & ICARTT

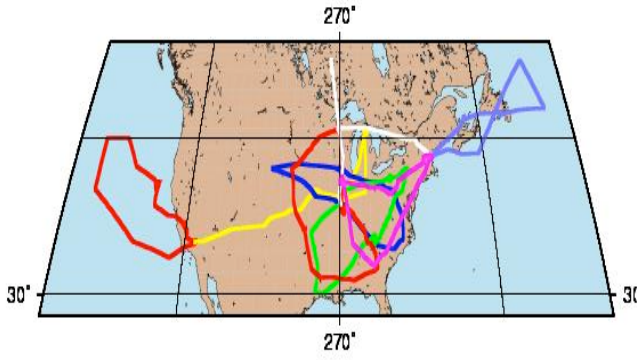


The NASA DC-8 and J-31 "flying laboratories" are presently based in Portsmouth New Hampshire in a six-week deployment as part of the INTEX-North America (NA) mission. The goal of INTEX-NA is to better understand air quality in the U.S., the transport of pollutants across continents, and the U.S. sources of climate-changing gases and particles. The INTEX-NA mission this summer is part of a multi-national research program called ICARTT and sponsored by government agencies in the U.S. (NOAA, DOE, NSF) as well as abroad (Canada, U. K., France, Germany).

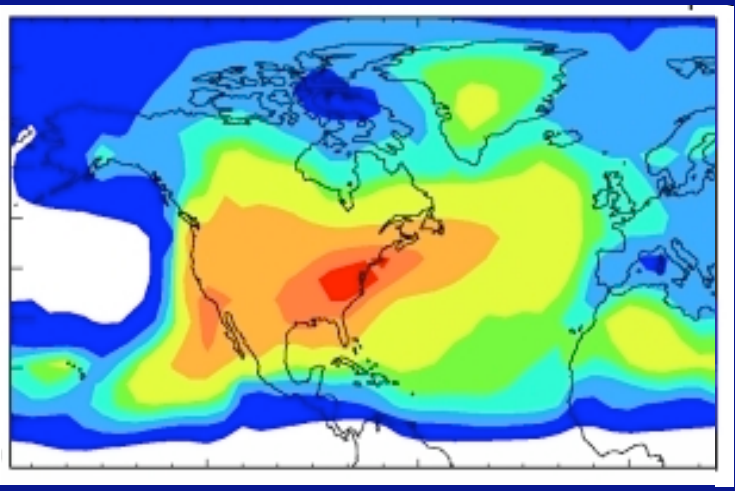
About 50 scientists from NASA research centers and a dozen U.S. universities are deployed in the field at Portsmouth. Portsmouth offers an excellent base for these studies. From here, flights to the west and south provide detailed mapping of emissions as well as a better understanding of the factors affecting air quality. Flights to the east are ideal for investigating pollutant outflow from the U. S. and its evolution over the Atlantic

The INTEX-NA mission is conducted in close partnership with observations of air quality from satellites recently launched by NASA (Terra and Aqua) and by the European Space Agency (Envisat). Satellites offer considerable promise for future monitoring of air quality from space.

INTEX-NA/ICARTT SCIENTIFIC OBJECTIVES



DC-8 Flight tracks to 7/21/04

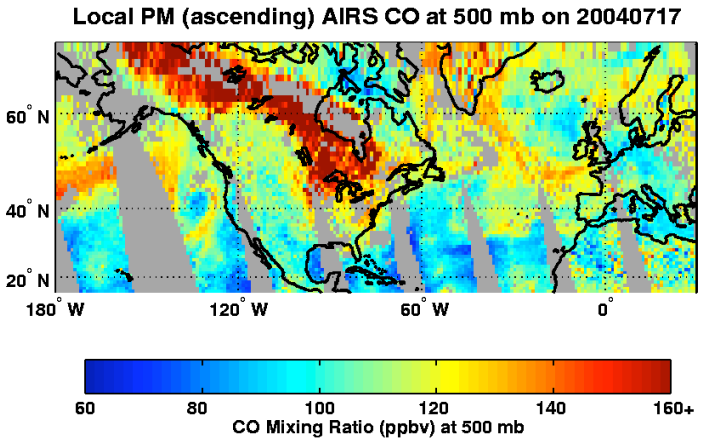


Pollution outflow from the U.S.

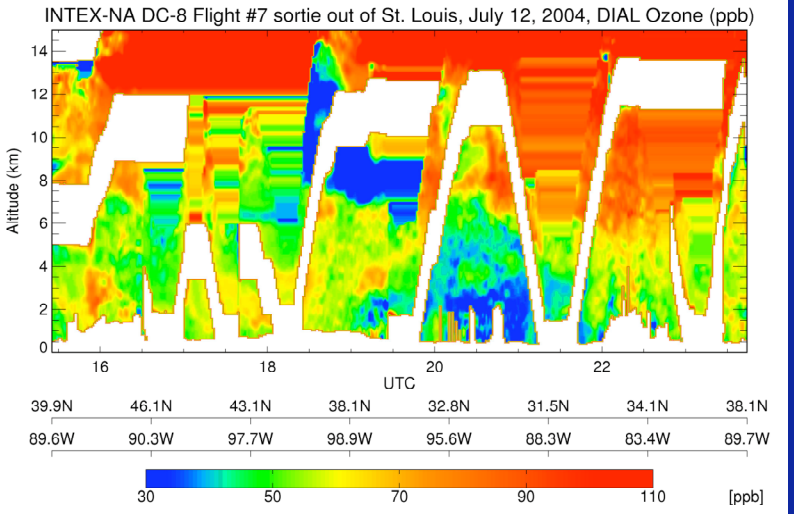
- Characterize sources of pollution and air quality in North America
- Quantify North American outflow of environmentally important gases/aerosols & relate to sources
- Investigate transatlantic transport of North American pollution and its chemical evolution
- Characterize direct/indirect radiative effects of aerosols
- Use INTEX-A measurement strategy to validate Satellite data & relate to airborne and surface observations

Remote sensing of gases & aerosols in INTEX-NA

CO measured from Aqua satellite



Ozone measured by DC-8 Lidar



More information:

INTEX-NA Web site: http://cloud1.arc.nasa.gov/intex-na/
ICARTT Web site: http://www.al.noaa.gov/ICARTT/

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