



IMPEX: Intercontinental and Mega-city Pollution Experiment

Intercontinental Mega-city Pollution Experiment was managed by the Ames, Earth Science Project Office out of Seattle, Washington. The experiment was a collaborative effort between the NASA DC-8 and the NSF C-130 aircraft measuring the intercontinental flow of pollutants from Asia into North America. The IMPEX portion of the coordinated INTEX mission was designed to investigate several issues that occur out of Asia and into North America. The NASA DC-8 aircraft, based in Hawaii and Alaska, provided early interception of Asian pollution plums traveling across the Pacific ocean. The NSF C-130 aircraft engaged the same air mass to characterize the aging of chemicals several days later, as they traveled into North America. In the experiment the Asian pollution plums layered structure was also characterized.



National Science Foundation C-130 on the ramp at Paine Field, Seattle, WA.

The NSF C-130 platform was chosen because it is best suited for lower tropospheric and boundary layer (lower altitude) studies including processes of exchange with the free troposphere. Coordinated flights expanded the scale of measurements and study processes of evolution under a variety of conditions. Several inter-comparison flights with the NASA DC-8, as well as, over fixed points were conducted to develop a unified data set.

This very successful mission was conducted in the March and April of 2006.



Inter-comparison flights wingtip to wingtip the NASA DC-8 provided instrument calibration between aircraft.



NSF C-130 Atmospheric Chemistry Instrument layout.