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Troll Station - A new year-round atmospheric monitoring and research station in Antarctica

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During the austral summer of 2006/2007, a new atmospheric monitoring and research station will be set up and put into operation at the Norwegian year-round Troll Station in Queen Maud Land, Antarctica (72º 01' S, 2º 32' E, 1270 m a.s.l.), by the Norwegian Institute for Air Research (NILU). The new station will cover several important atmospheric parameters: aerosols (chemical, physical and optical properties), organic and inorganic pollutants (POPs, NMHCs, surface ozone, CO, mercury) and total ozone and UV radiation. Moreover, it is planned to build up an archive of air samples from the station.

Scientific issues to be studied are long-range transport to this site halfway between the coast and the Antarctic Plateau, pollution levels, severeness of surface ozone depletion / mercury mobilization events, and UV intensity and characteristics during ozone hole conditions. The new measurements will contribute to comparative studies between the Arctic and Antarctica, utilizing similar observations performed by NILU at the high Arctic station of Ny-Ålesund, Svalbard. We will give an overview over the instrument set, initial measurements starting in February 2007, and future research and cooperation plans.