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International arctic systems for observing the atmosphere (IASOA)

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Within the context of International Polar Year (IPY) the objectives of IASOA are to monitor and understand the Arctic atmospher to answer: 1)How do clouds, aerosols and atmospheric chemistry interact to force the Pan-Arctic surface energy balances and albedo-temperature feedback? 2)What is the relative role of tropospheric dynamics and stratospheric linkages in controlling the Arctic surface variability? 3)What portion of the recent changes in the Arctic weather and climate can be attributed to increases in anthropogenic sources? 4)How does the Arctic atmosphere interact with the rest of the Arctic (marine, cryospheric and terrestrial) system? To answer these questions, all of the available observational resources represented by surface and upper air network observations, intensive observatories, satellite observations, airborne measurements, and focused field campaigns must be utilized. The specific aims of IASOA are: 1)To coordinate measurement efforts at five year-round, intensive, permanent, atmospheric observatory sites, 2)Integrate data from distributed networks and incorporate the observatories as "super nodes" in the network systems. 3)Promote and enhance campaign activities that provide opportunities to make atmospheric measurements over the Arctic Ocean and surrounding Seas, 4)Utilize and support innovative technologies, for instance unmanned aircraft, automated station technologies, and wind energy technologies. 5)Contribute observational products to modeling 6) Contribute to defining the atmospheric component of larger, interdisciplinary Arctic observation coordination programs. Planning of the IASOA effort is progressing as resources for IPY are identified. This presentation will describe the overall structure of IASOA, linkages to other IPY activities, and the legacies that the IASAO would contribute to International Arctic Science.