

IASOA Ozone Working Group

June 8, 2016

Attendees: Sara Crepinsek, Taneil Uttal, Irina Petropavlovskikh, Audra McClure, Bill Neff, Sverre Solberg, Kristof Bogner, Shima B., Von Walden, David Tarasick, Detlev Helmig, Kim Strong, Xiaoyi Zhao

Introduction of group members

Overview of last meeting notes – show where to find meeting notes online on the IASOA webpage

Brief update of future Eureka surface ozone instrument – NOAA PSD-POP group is in the process of purchasing a Thermo Scientific 49i ozone analyzer for Eureka station, plan to install instrument this summer at Eureka, discussion of Eureka travel logistics, co-locate with aerosol or meteorological measurements

Surface ODE's in the Polar Regions – review of surface ozone depletion events (literature review), sources of halides in the polar boundary layer, discuss of issues for observations, field measurements often only give brief observations of the chemical composition with a poorly determined history of air mass, one benefit of models is that the whole life cycle of ODEs and the shift in elemental speciation and oxidants can be investigated, need observations of other bromide and chloride species in ODEs in sub-ppbv ozone condition, issues for models: need more constraints from observations, need more measurement data for evaluation, etc., issues for lab: need to understand chemistry above ice/snow surfaces, need to understand the microstructural distribution of impurities on ice surfaces, etc., example cases of ozone in the snow during ODE, long-distance transportation to Eureka indicated strong recycling of BrO within the bromine plume, observation of surface ODEs (with elevated BrO) in both blowing snow and stable shallow boundary condition, measurements of HDO also contain information about ice cloud formation and evaporation, when cloud ice forms HDO is concentrated in the ice and the air is HDO depleted, need more data to get big picture, need to examine role of meteorology in boundary layer ozone loss and climate change effects, the IASOA ozone working group is well positioned to examine in depth ODEs, need more long term measurements of more species, need improved vertical profiles, need improved spatial/temporal coverage, discussion of possible future topics

- Mirror the Eureka surface ozone instrument to the ridge lab measurements
- Importance of surface topography
- Blowing snow events and the different chemistry that might be involved with those events, would low level turbulence contribute to understanding of blowing events
- Model specifics: developed by University of Cambridge
- Investigate location of Arctic ozone buoys

Brief update from EBAS/NILU data formats – show where to find template information online

Action Items:

- Internal discussion of the logistics to install the surface ozone instrument at Eureka station – Strong, Uttal, Crepinsek, Petropavlovskikh

- Send Xiaoyi Zhao Eureka fluxtower Datagram and ftp links as well as buoy links – Crepinsek
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