

## IASOA Ozone Working Group

April 27, 2016

**Attendees:** Sara Crepinsek, Taneil Uttal, Irina Petropavlovskikh, Audra McClure, Germar Bernhard (BRW, SUM), Kristof Bognar, Bill Neff, Kjetil Torseth (NILU), Sverre Solberg, Kim Strong (EUR), David Tarasick,

### Introduction of group members

*Brief demonstration of IASOA portal* – Overview of IASOA portal, data collection, how to submit IASOA metadata records, data-at-a-glance page, advanced search feature, calendar, vocabulary

*PICO presentation from EGU conference* – Stations: Tiksi, Summit, Barrow, detailed summary of measurements available at each of these stations, plots for ozone climatology at each of the three stations, brief introduction to ozone surface instrumentation used: Thermo Scientific, overview of data collection and processing of surface ozone data: software developed in GMD, station climatology comparison of Tiksi, Summit, Barrow, and Villum stations – comparisons demonstrate ozone depletion events and mixing ratios for coastal stations, introduction of ozone depletion events and how they occur and why they are important: identifier for other atmospheric chemical and physical events which generally occur during the spring season, highlighting Tiksi ozone depletion events and how they correspond to wind direction coming from over land versus over sea ice, frequency of ozone depletion events and seasonal trends, see these trends at Barrow, but should look at these trends in more detail to see if there are correlations with cause/effect relationships, how is sea ice extent measured (what databases are used), trajectory analysis would be a great way to filter for ozone depletion events, analysis of the types of sea ice (leads, ice flowers, etc.) that influence ozone depletion events in the Arctic, publication in Nature showed that when wind came from over ice leads then ozone depletion events increased in intensity, PSD development of trajectory tool with specific station sectors to better understand how wind direction influences other events

*Introduction of IASOA transport working group* – ozone group to collaborate with PSD trajectory tool from Hysplit model outputs, overview of transport working group and their goals, application of IASOA circumpolar observations in studies of atmospheric transports into and out of the Arctic for the Year of Polar Prediction, trace gases transports and how they will correspond to ozone events, to study the Arctic we need to study the transports of what is coming in and out of the Arctic, create a transport prism of IASOA stations and transports within that area, influence of the boundary layer on transports, transports group can reach out and pull in a generated overview of the Arctic as a system, transports influence several other IASOA working groups: ozone, aerosol, etc., all IASOA working groups can work together to generate and understand these Arctic processes

*Discussion of future IASOA paper* – discussion of other publications that have been published in the past are heavily related to Barrow and Alert stations, past papers have analyzed the influence of bromine on ozone events, discussion of where to obtain a surface ozone instrument for Eureka station, possible to bring up surface ozone instrument in late summer to Eureka, focus of paper would be a pan-Arctic climatology comparison – will circulate a discussion of bullet points of what paper could include such as ozone depletion events, begin with a literature review of past publications

**Action Items:**

- PSD trajectory tool to be presented at next meeting (Konopleva, Uttal)
- Discussion of installing a surface ozone instrument at Eureka (Uttal, Crepinsek, Petropavlovskikh, McClure, Strong)
- Next meeting will discuss overview of paper, establish research questions/objectives, brief literature review (McClure, Crepinsek)
- Next meeting will continue discussion of stratosphere vs troposphere research topics of group (ALL)