

Whole Air Sampling: HIPPO 1,2,3

Atlas, Lueb, Zhu & Pope
University of Miami/RSMAS
Hendershot
NCAR/ACD

Moore, Hurst, Elkins, et al.
NOAA/CIRES

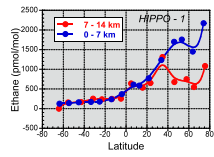
Romashkin et al.
NCAR/RAF

DATA STATUS

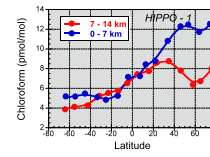
- Adding additional compounds to HIPPO-1 set
 - PFCs, selected CFCs
- HIPPO 2 and 3 analyses completed in lab
 - In process of calibration checks for working standard (s)
 - QC checks for problems with backgrounds for some gases, altitude issues (e.g. HFC 227ea), occasional instrument problems
 - Multiple analyses done for some gases
 - No N₂O for HIPPO 2 and 3. CO questionable for HIPPO 3.

Objectives/Interests

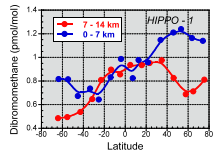
- Distributions of “short-lived” halocarbons and other trace gases.
 - Vertical/hemispheric gradients
- Relationship to carbon cycle gases
- Examination of source signatures/variability
 - Marine emissions (DMS, Bromoform, RONO₂)
 - Anthropogenic emissions
- Establish reference data set for profiles/distributions/seasonality of a range of trace gases for model development/evaluation.



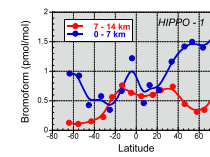
Ethane



CHCl_3



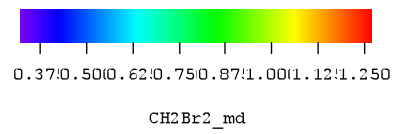
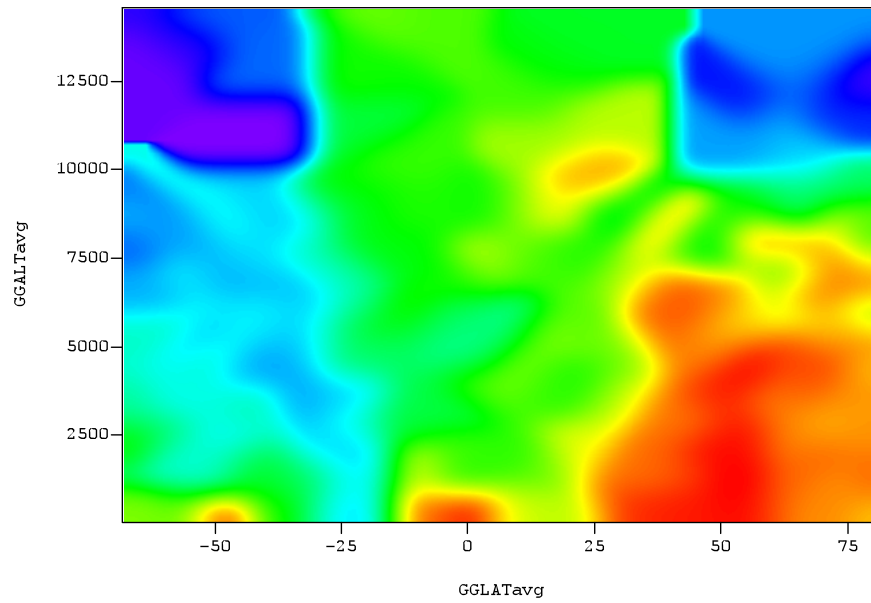
CH_2Br_2



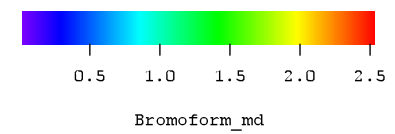
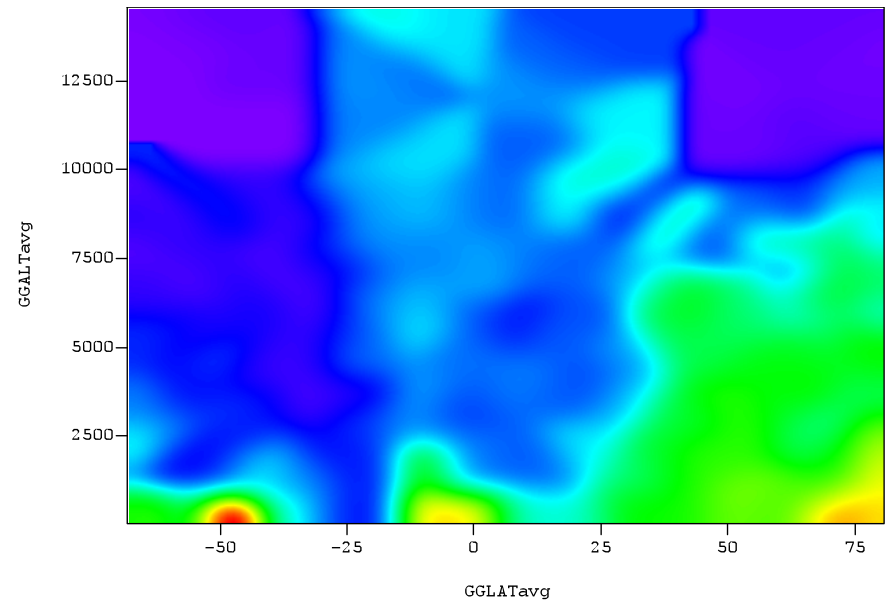
CHBr_3

HIPPO-1 (January, 2009)

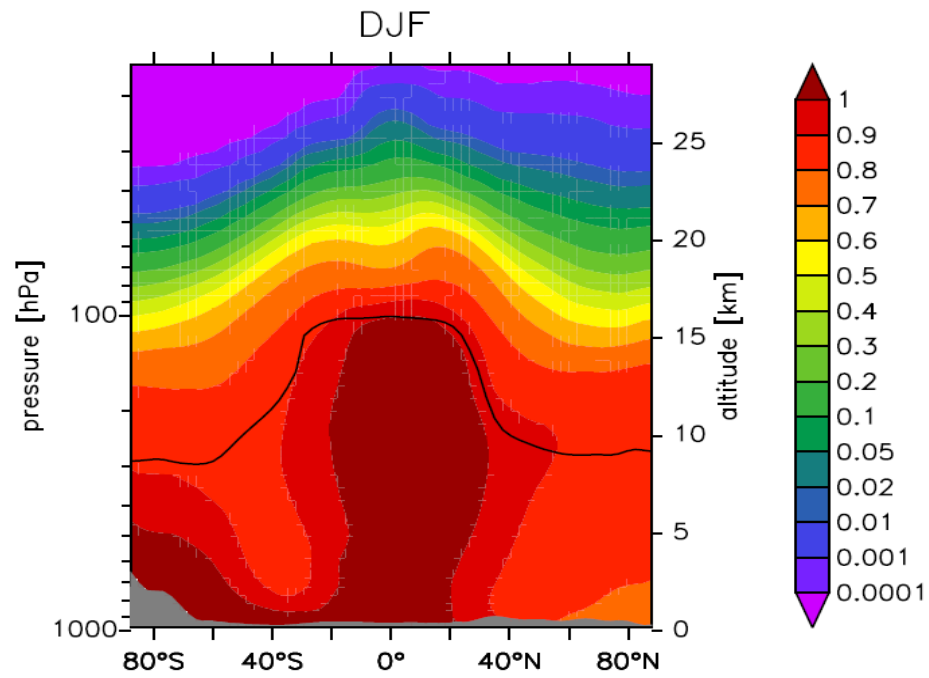
Dibromomethane



Bromoform

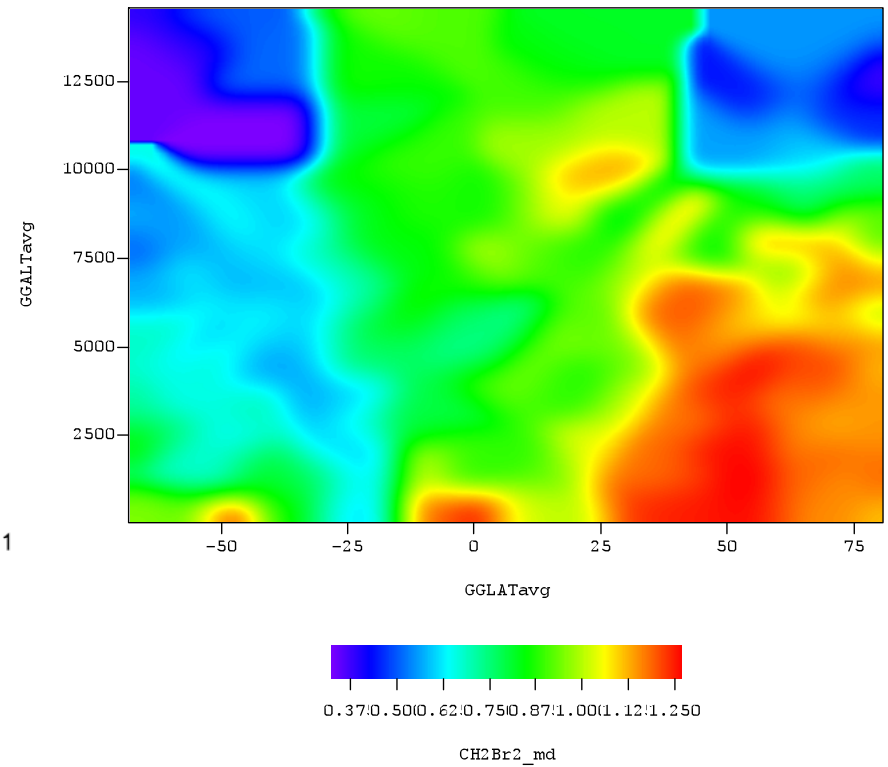


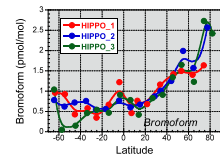
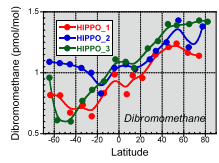
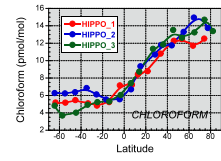
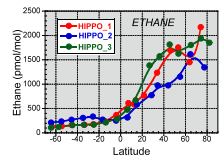
MODEL DISTRIBUTION:
Dibromomethane
Kerkweg et al. (2008)

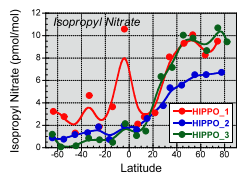
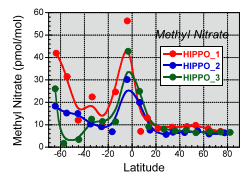


MEASUREMENTS:
HIPPO -1 (NWS + AWAS)

Dibromomethane

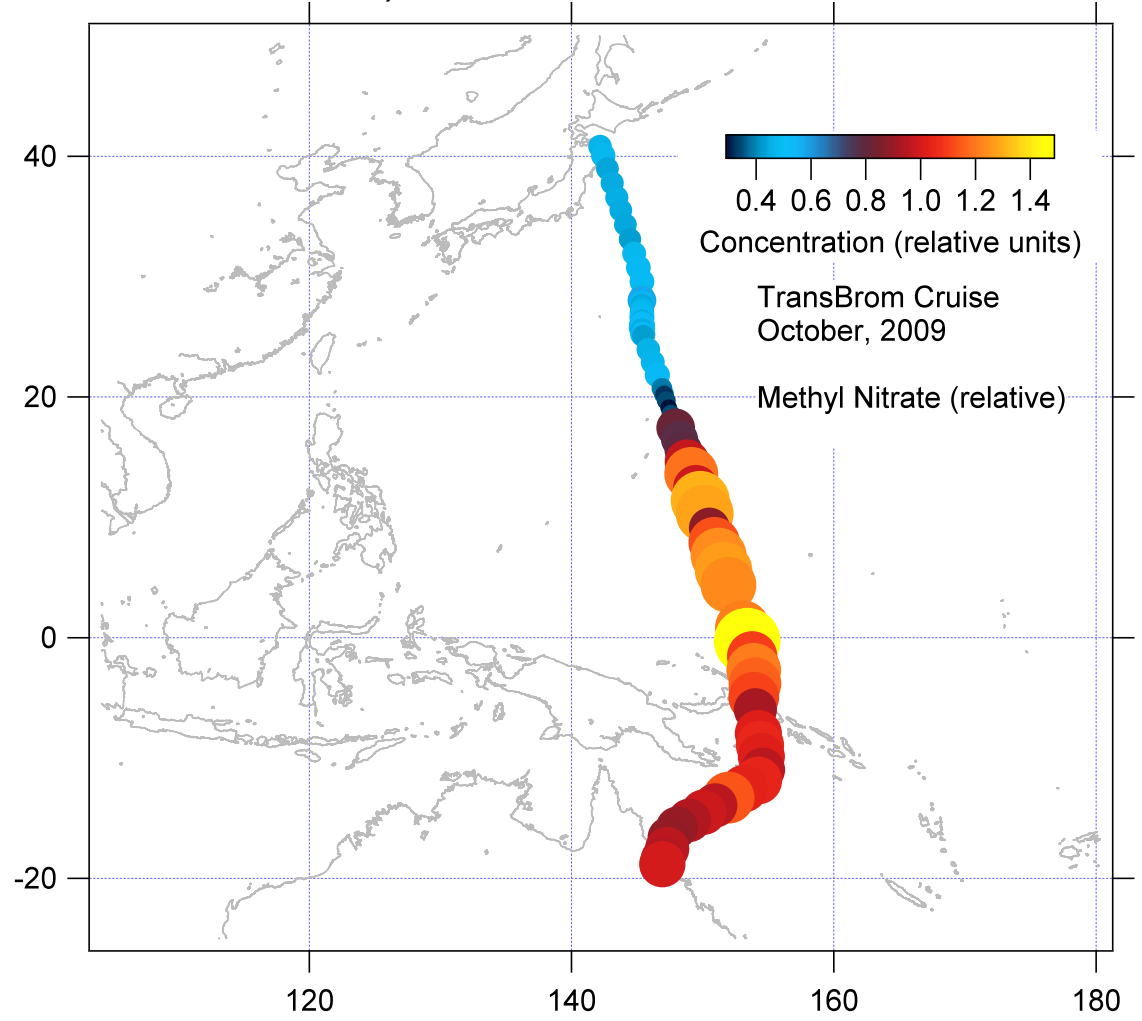


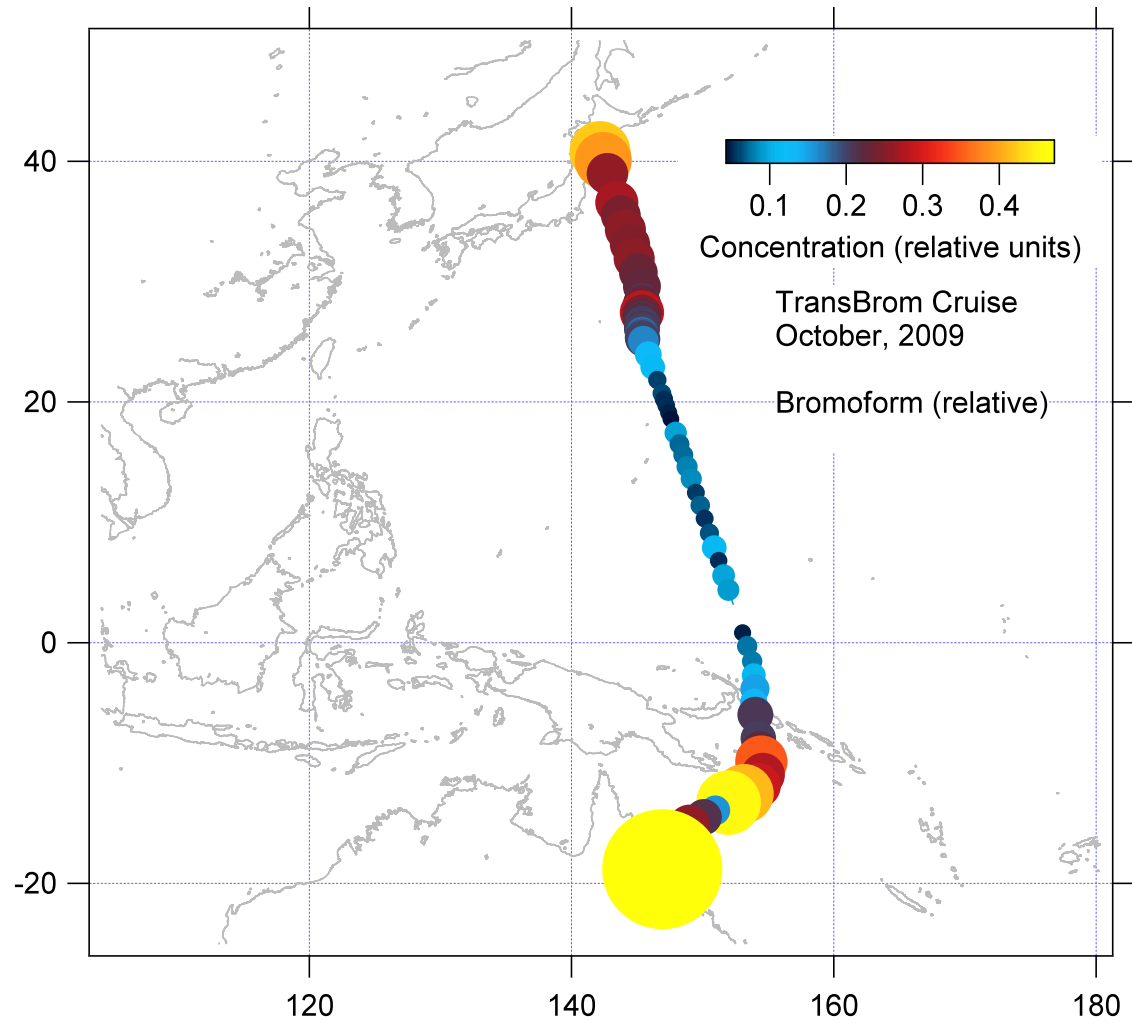


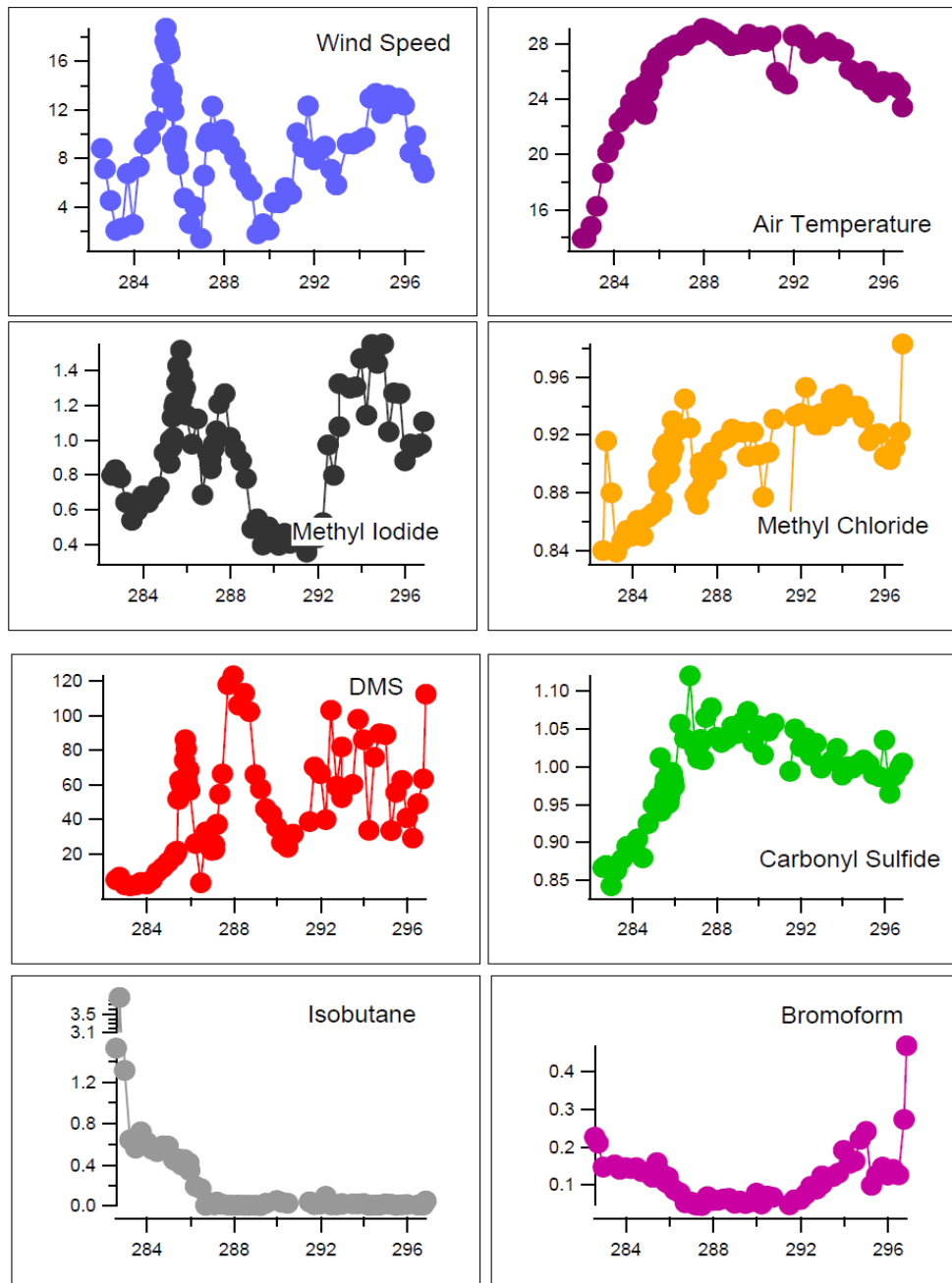


TransBrom Cruise: R/V Sonne, Oct. 2009

B. Quack, Chief Scientist







Variations along TransBrom
Cruise Track:
Wind speed/Air Temp
Selected trace gases

Significant ventilation of
ocean surface waters after
passage of high winds.

Correlation of OCS with air
temp.