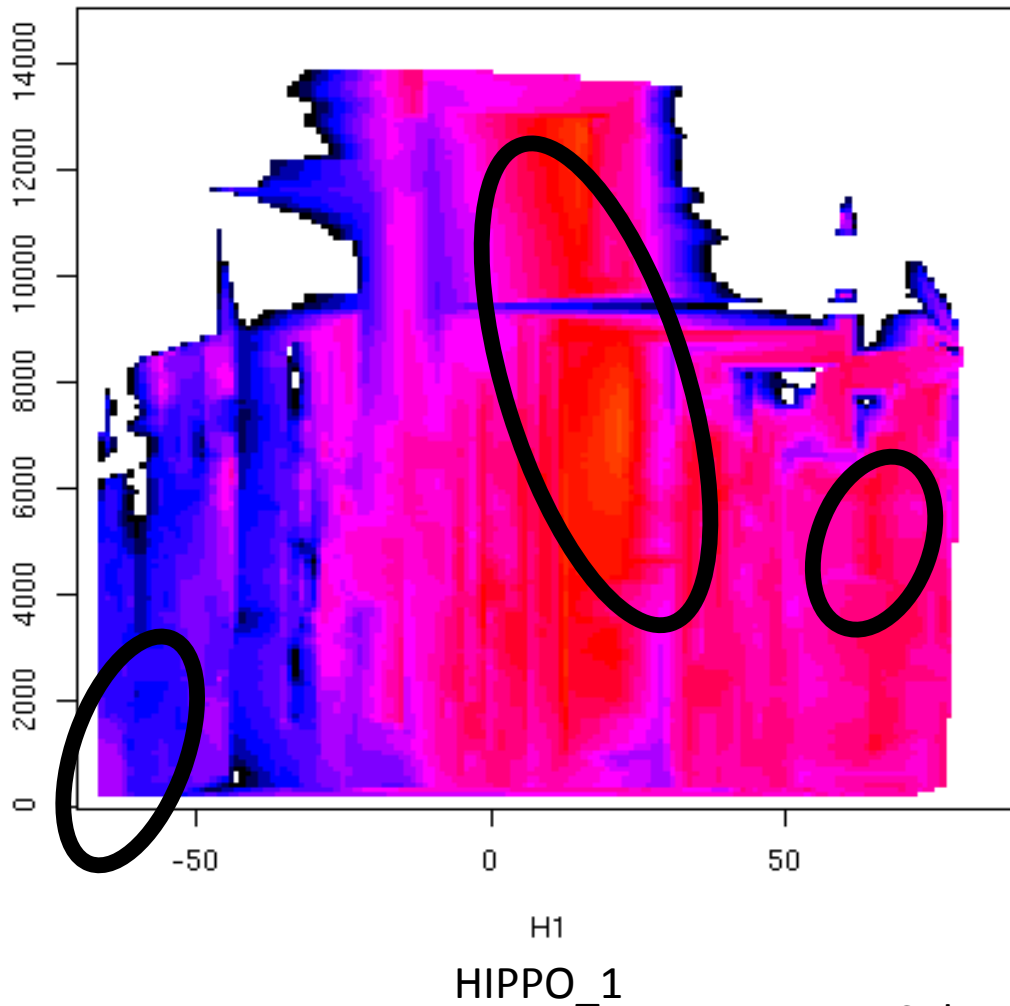


Analysis/Papers Planned on Tropospheric Nitrous Oxide & Methane: HIPPO's 1-3

Eric A Kort, BC Daube, JV Pittman, R
Jimenez, & SC Wofsy

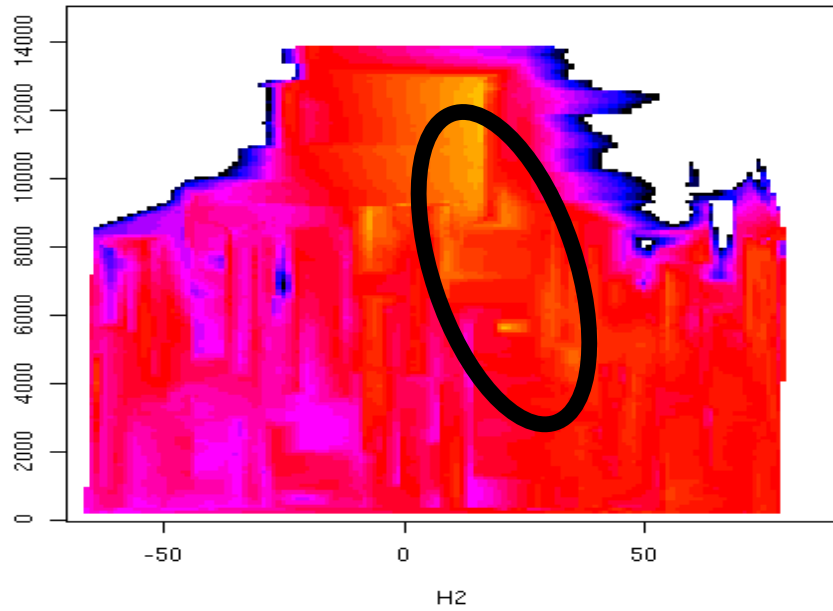
Nitrous Oxide, Points of Focus



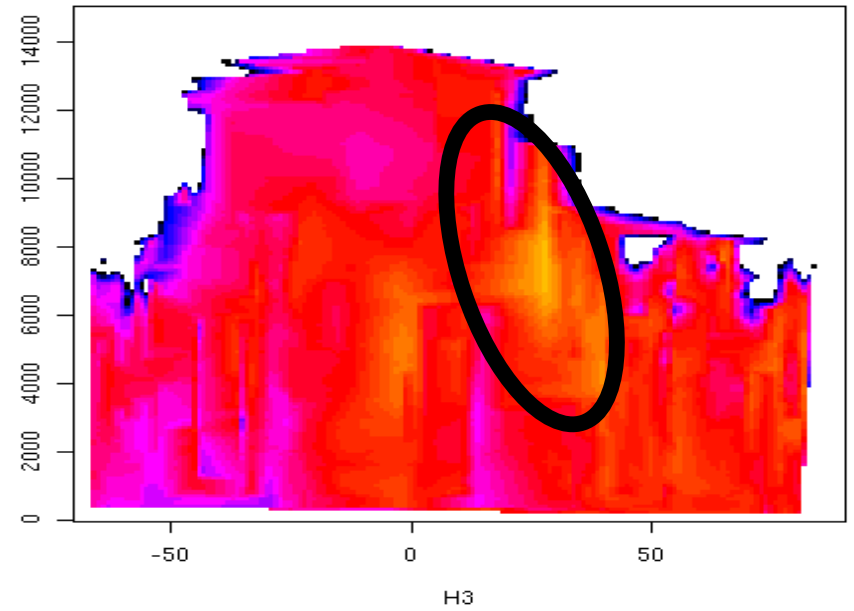
- 'Bulge' seen in upper troposphere in the NH tropics
- Southern Ocean source & seasonality
- Pollution signal
- Measurement Model Discrepancies

Color scale from 320 (black)-328 (yellow)

Southbound

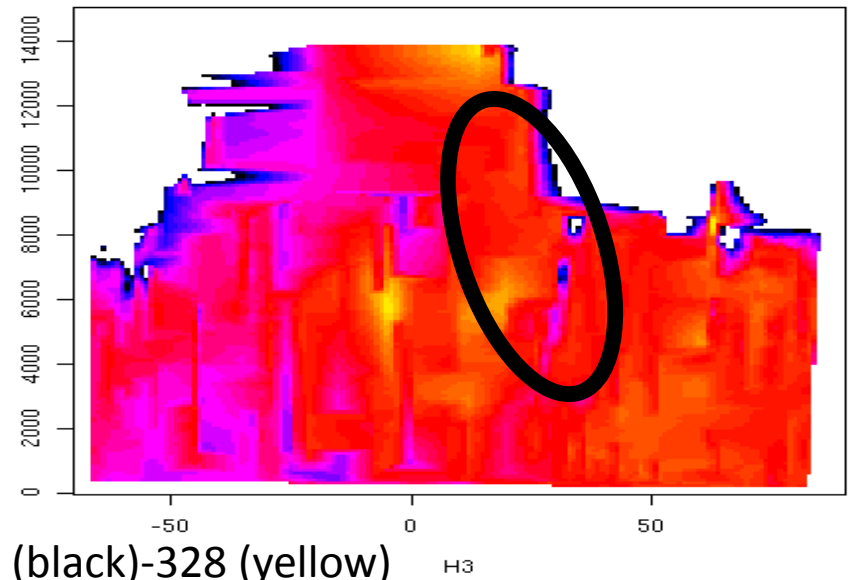
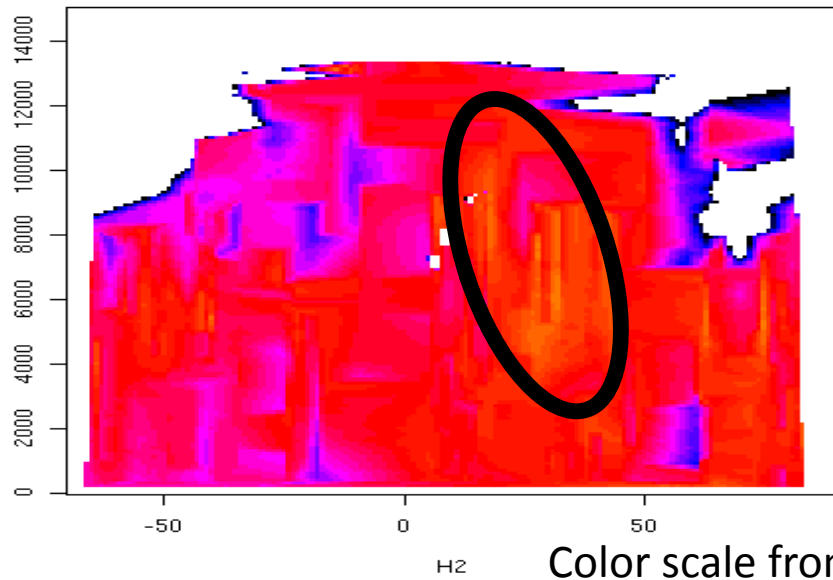


HIPPO_2



HIPPO_3

Northbound



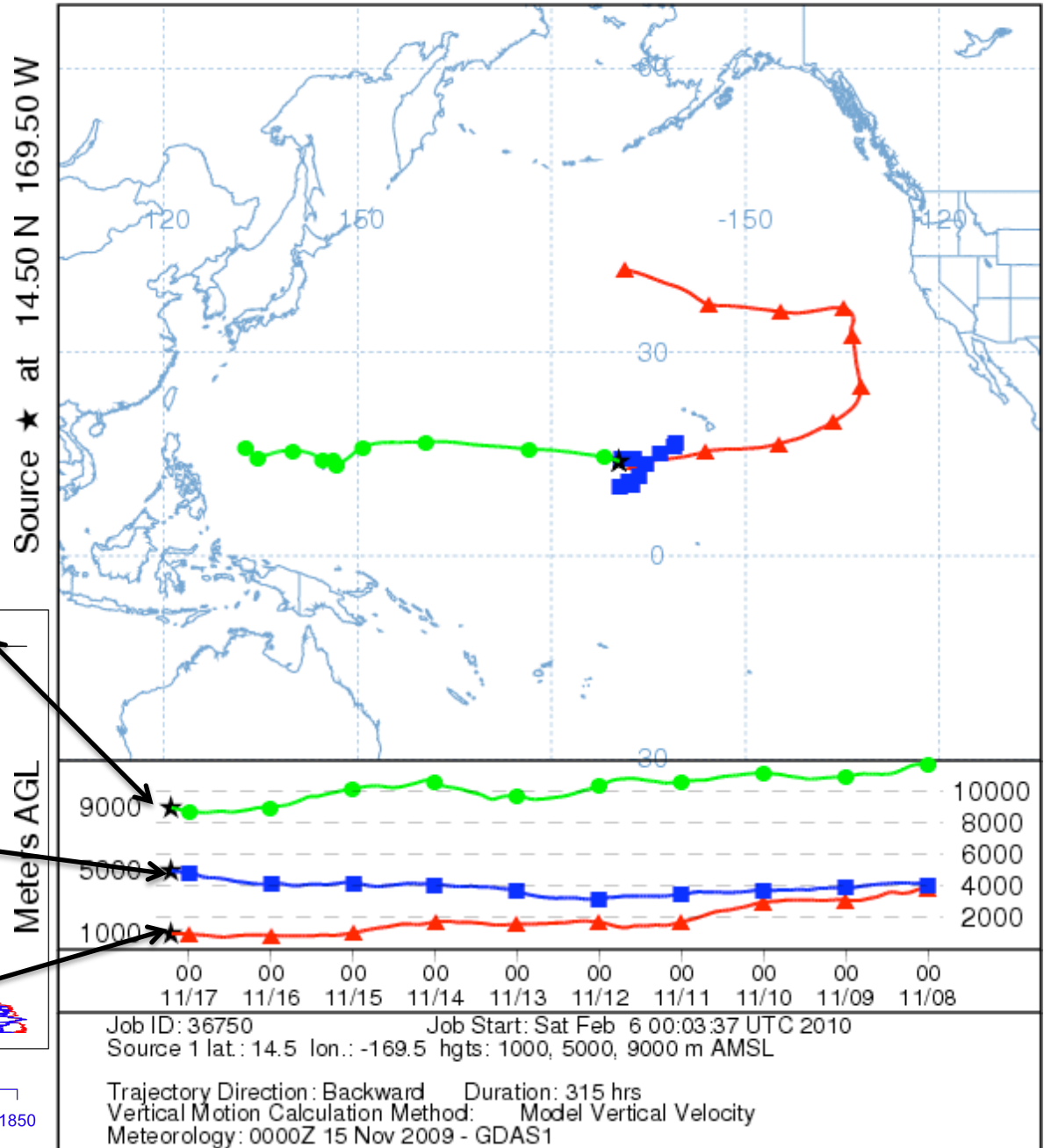
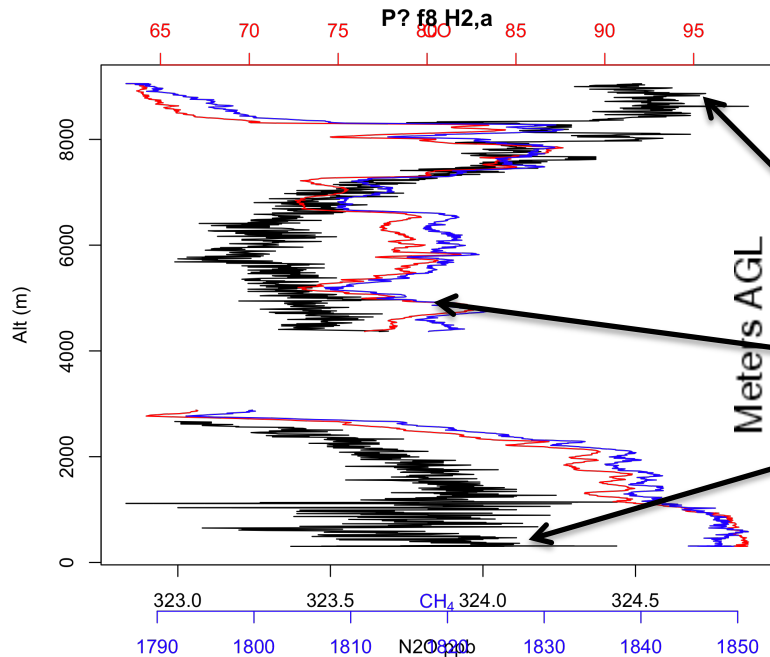
Color scale from 320 (black)-328 (yellow)

NOAA HYSPLIT MODEL
 Backward trajectories ending at 0500 UTC 17 Nov 09
 GDAS Meteorological Data

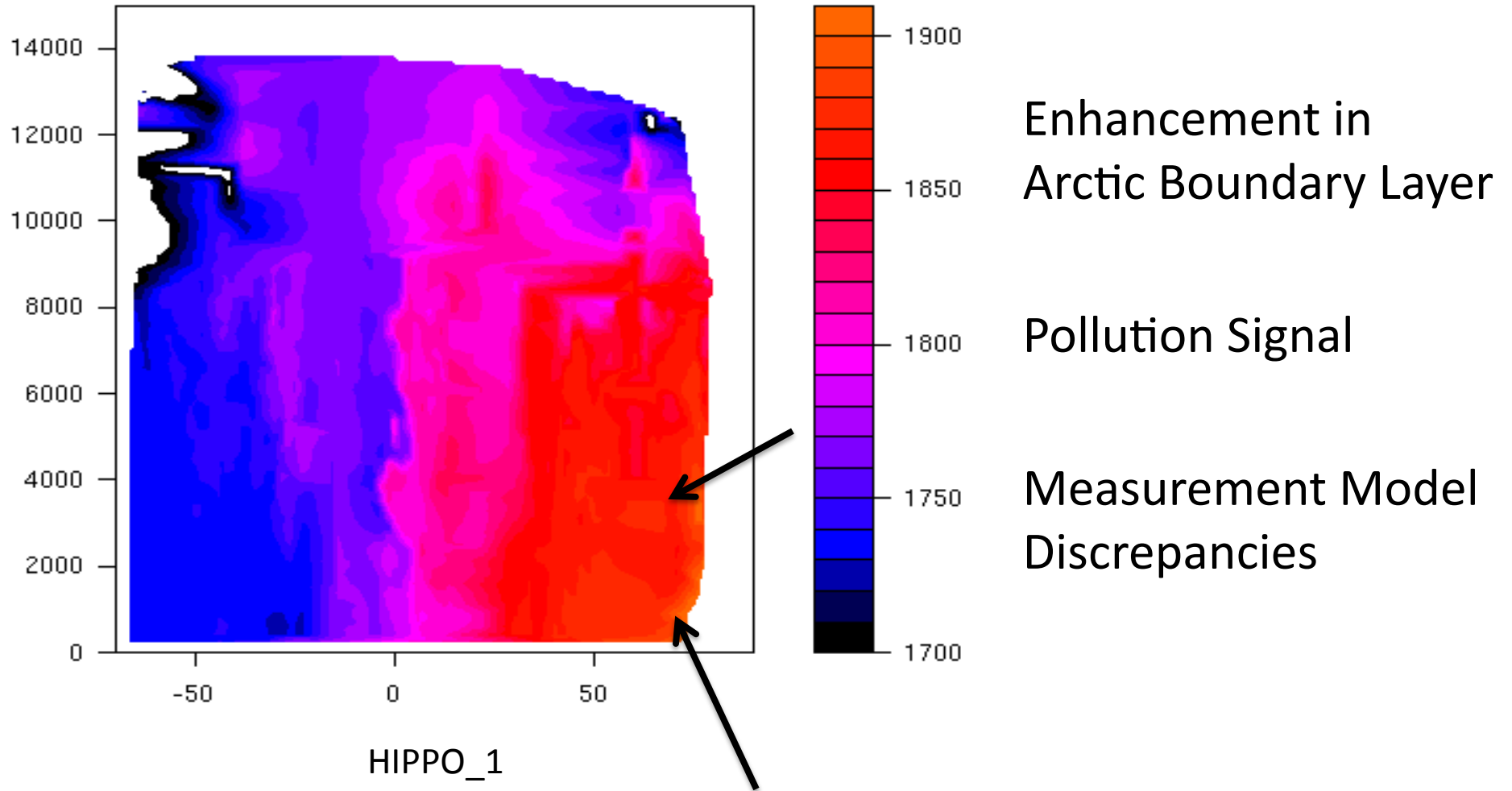
Tropical 'Bulge'

Likely attributable to strong Southeast Asian surface sources lofted by convection

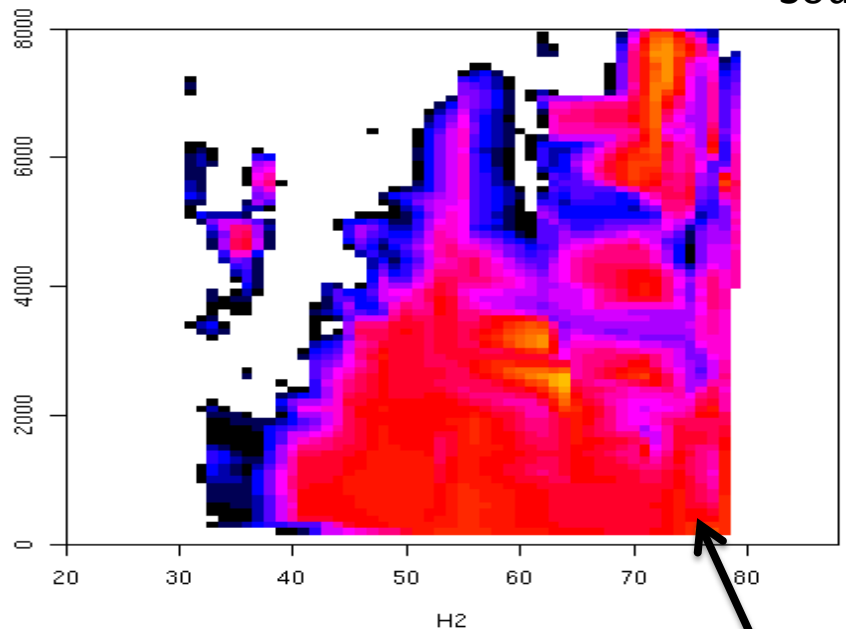
Profile of N₂O (black), CH₄ (blue), CO (red) from HIPPO_2, Northbound



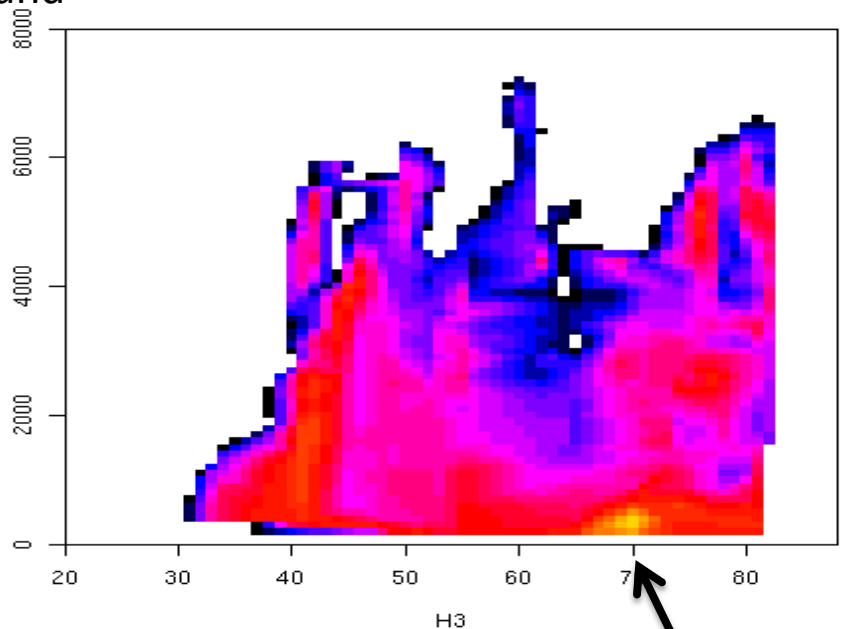
Methane, Points of Focus



Southbound

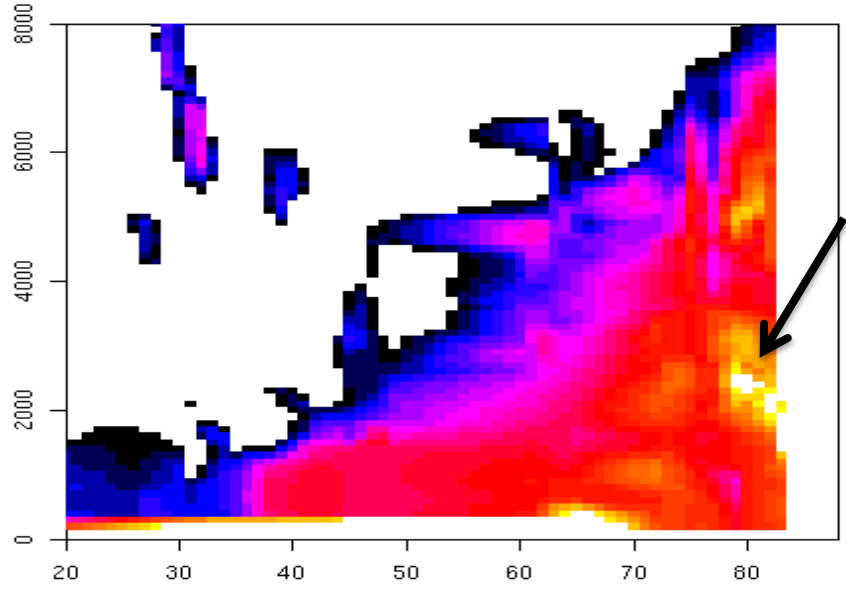


HIPPO_2

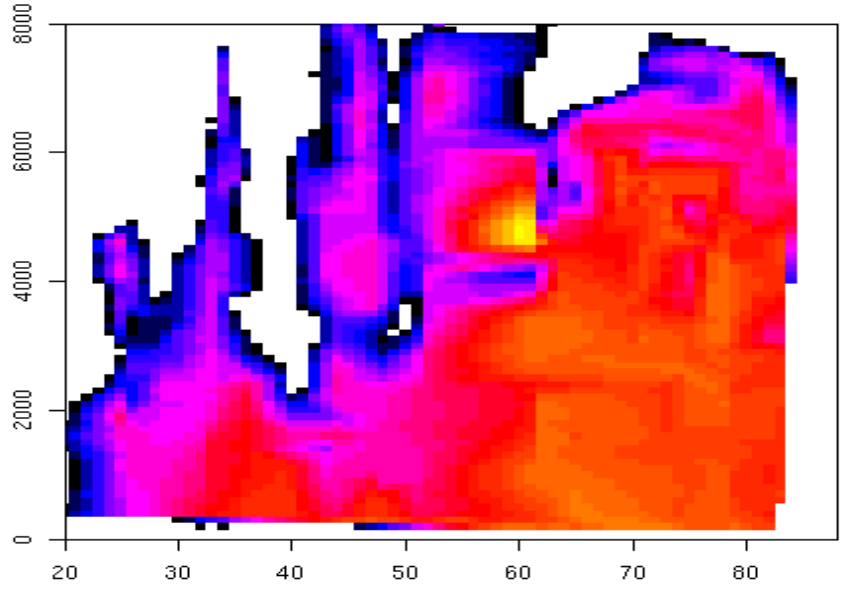


HIPPO_3

Northbound



Color scale from 1850 (black)-1910 (yellow)



Color scale from 1870 (black)-1930 (yellow)

Arctic CH4 sources

Enhancement in Arctic boundary layer: at time **some correlation with CO**, but at times **coincident with low CO**- possibly non-anthropogenic arctic sources

Time series & Profile, CH4 (blue), CO (red), Alt (gray), N2O (black)

