

AICC Summer 09 D17 Update

[Pix: C130 w NOAA gas inlet installed]



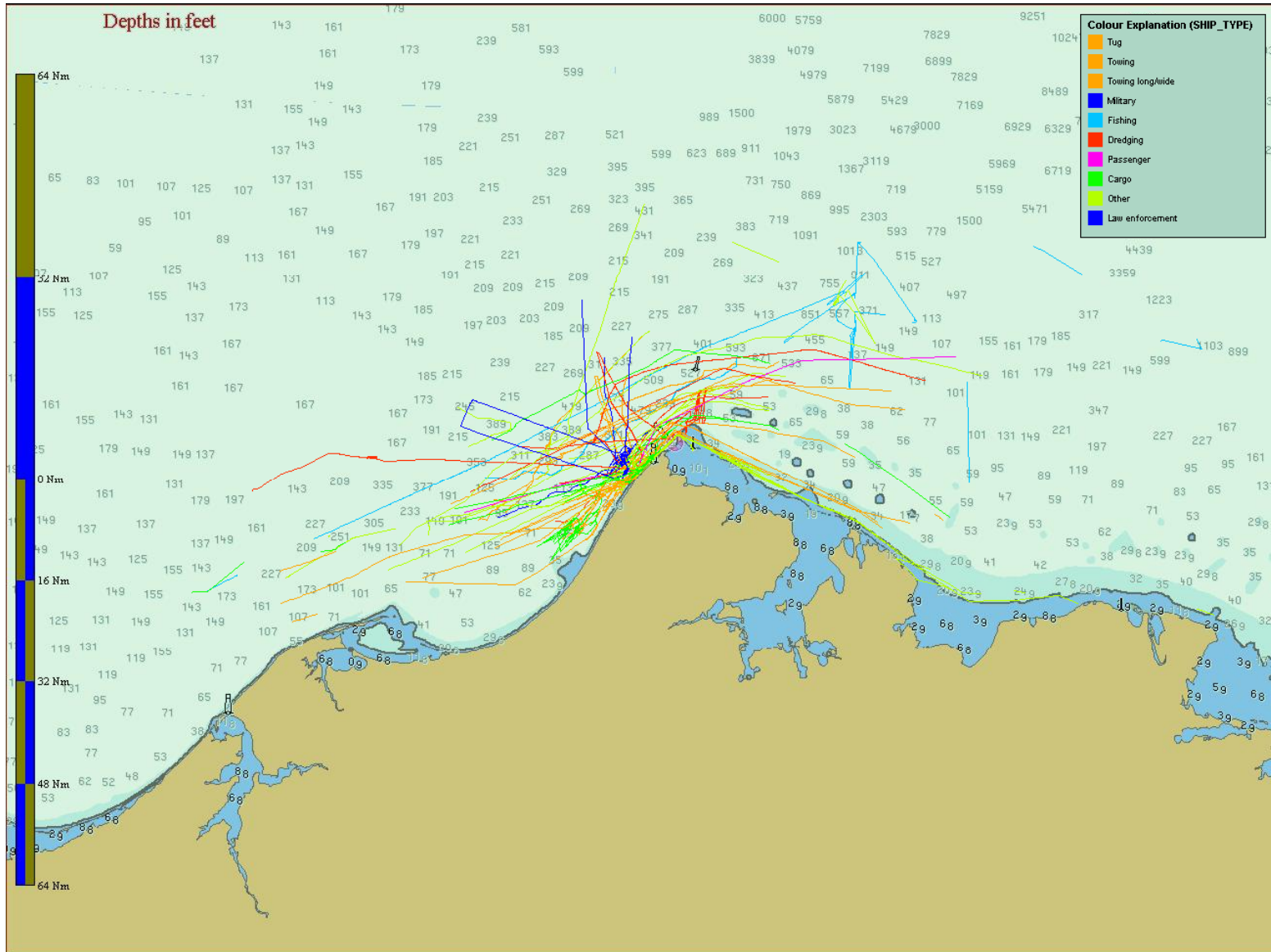
D17 Arctic Ship SOO Ops

- Forward Operational Location (FOL) this year in Nome, due to logistics issues w Barrow
- Black Hulls (Buoytender SPAR): being sent north for ATON; 2009 unavailable for non-CG mooring retrievals
- White Hulls (ALEX HALEY, ACUSHNET): being sent north for familiarization, seabird/marine mammal observers possible
- Small boat ops:
 - 7/20-25 Prudhoe Bay
 - 8/10-24 Nome
 - 9/25-30 Barrow

D17 2010 Potential Ship Ops

- CG D17 Direction to engage w Canadians, Russians re ATON, SAR as possible
- Marine Exchange AIS funds cut by Gov Palin restored elsewhere for expansion of along Aleutians, North Slope, Chukchi, extension beyond 30mi to 200mi (see next slide)
- HR 2864 – funds arctic hydrography
- HR 2865 – funds arctic ATON, SAR infrastructure

AIS Ship Tracking off Barrow, 7/1-9/29/08



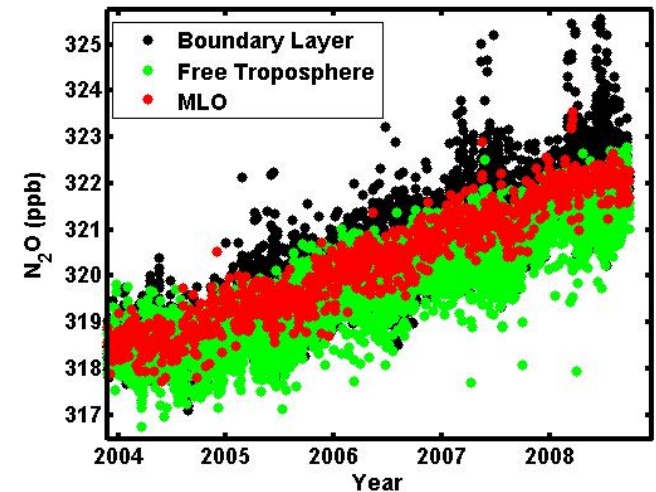
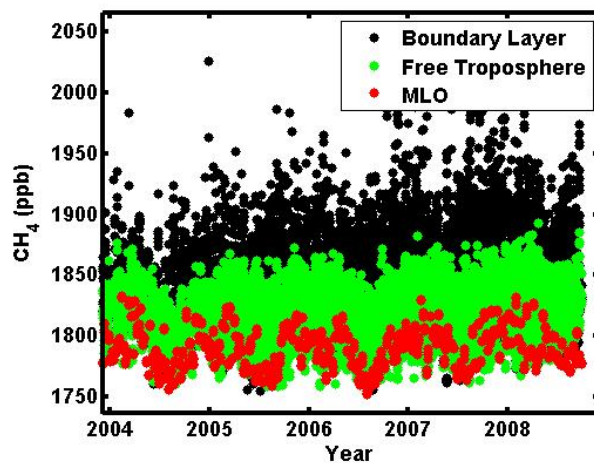
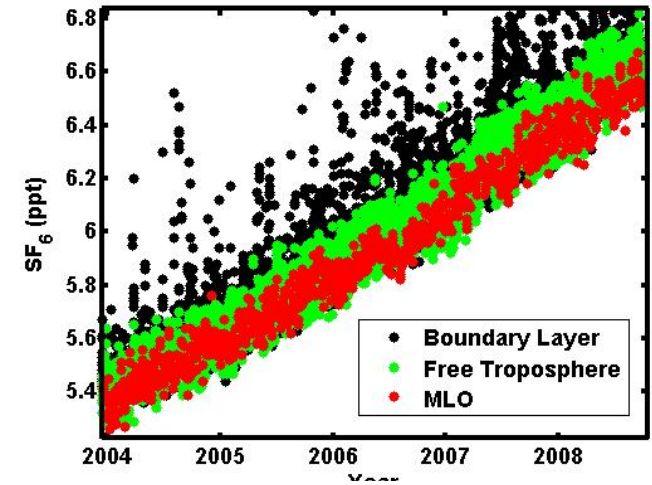
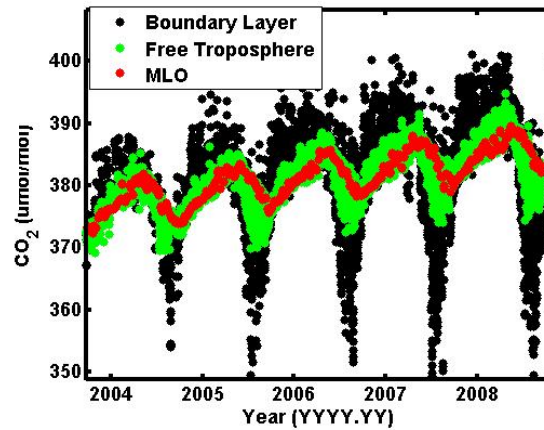
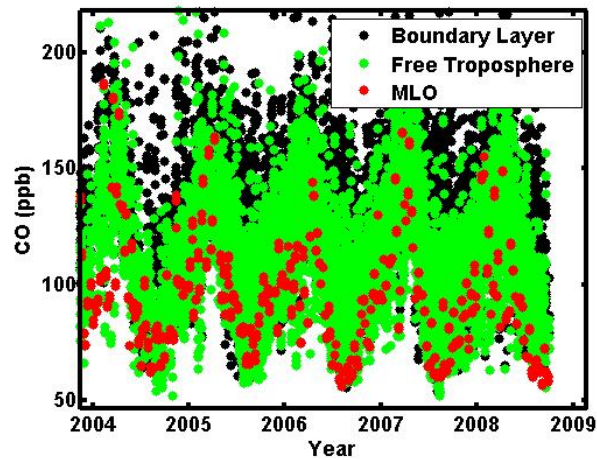
D17 C130 SOO Air Ops

- March 2009: initial NOAA CO₂/Methane, greenhouse gas flights (C.Sweeney, ESRL), continuing bi-weekly. Anticipated divergence CO₂/methane over year
- May 2009: additional NASA funds to J. Maslanik (U.Colo.) for C130 lidar for ice ridge height & vegetation leaf index measurements, expected flights by July 09

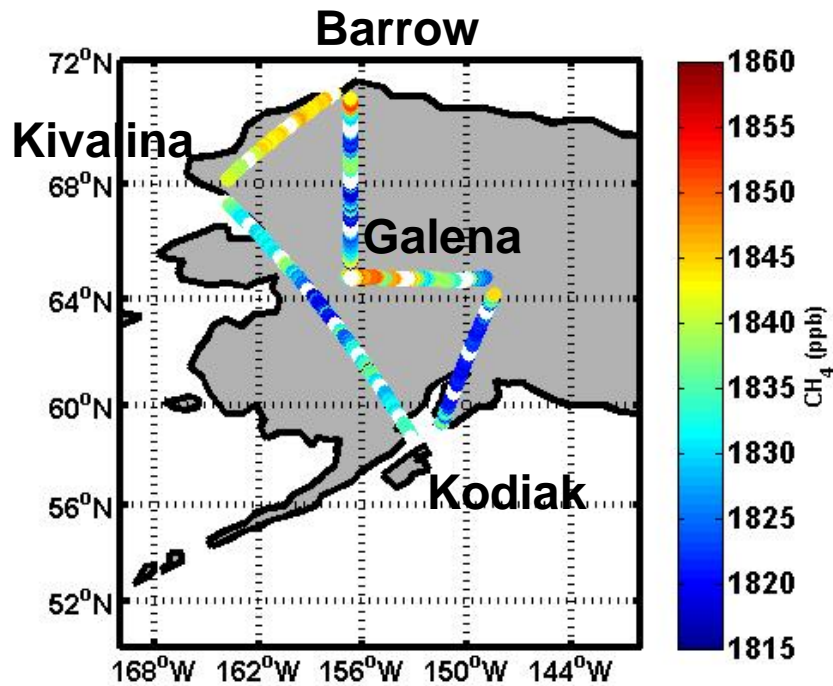
NOAA Greenhouse Gas Study ADA C130 Nome-Barrow-Nome



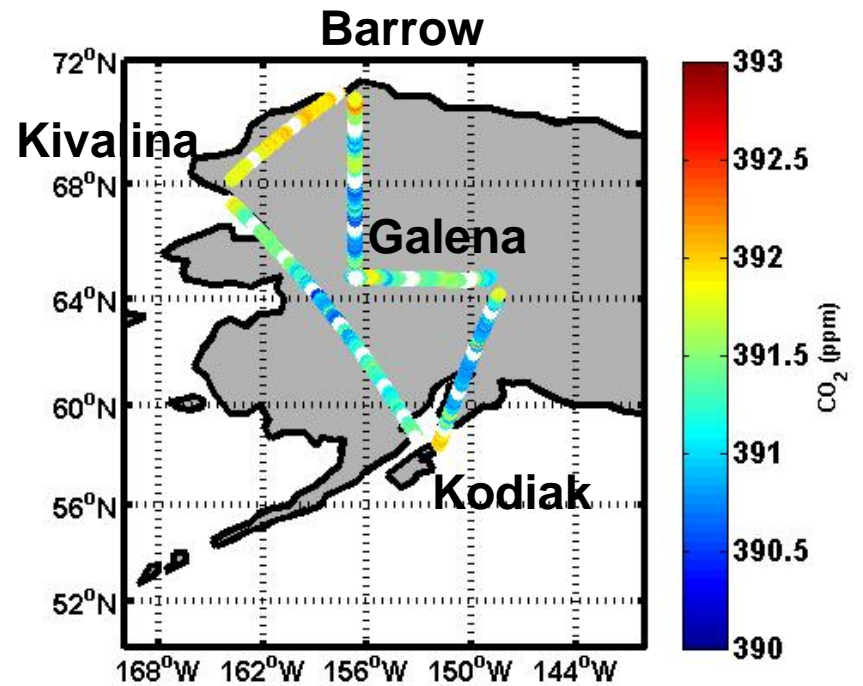
Aircraft CO, CO₂ (center), SF₆, CH₄, N₂O



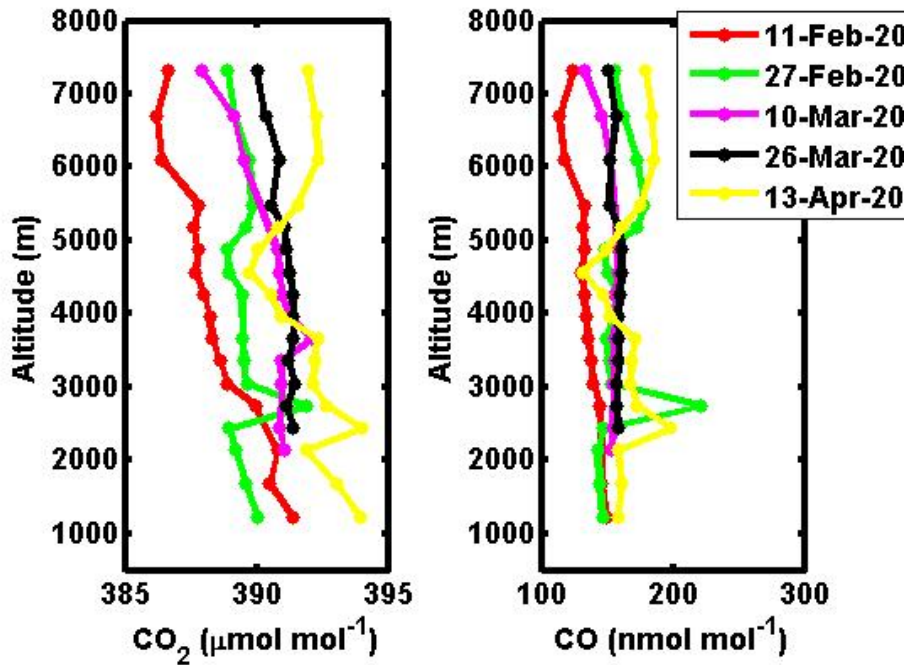
Kodiak to Fairbanks to Galena to Kivalina to Kodiak



CH₄

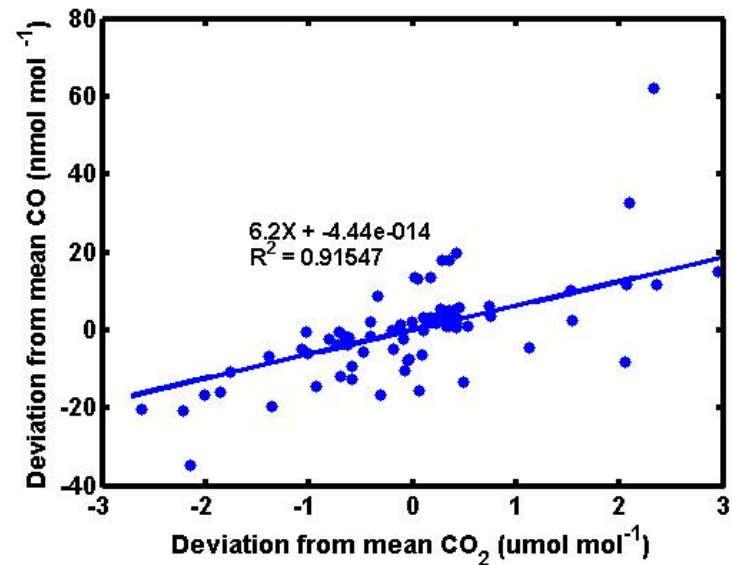


CO₂

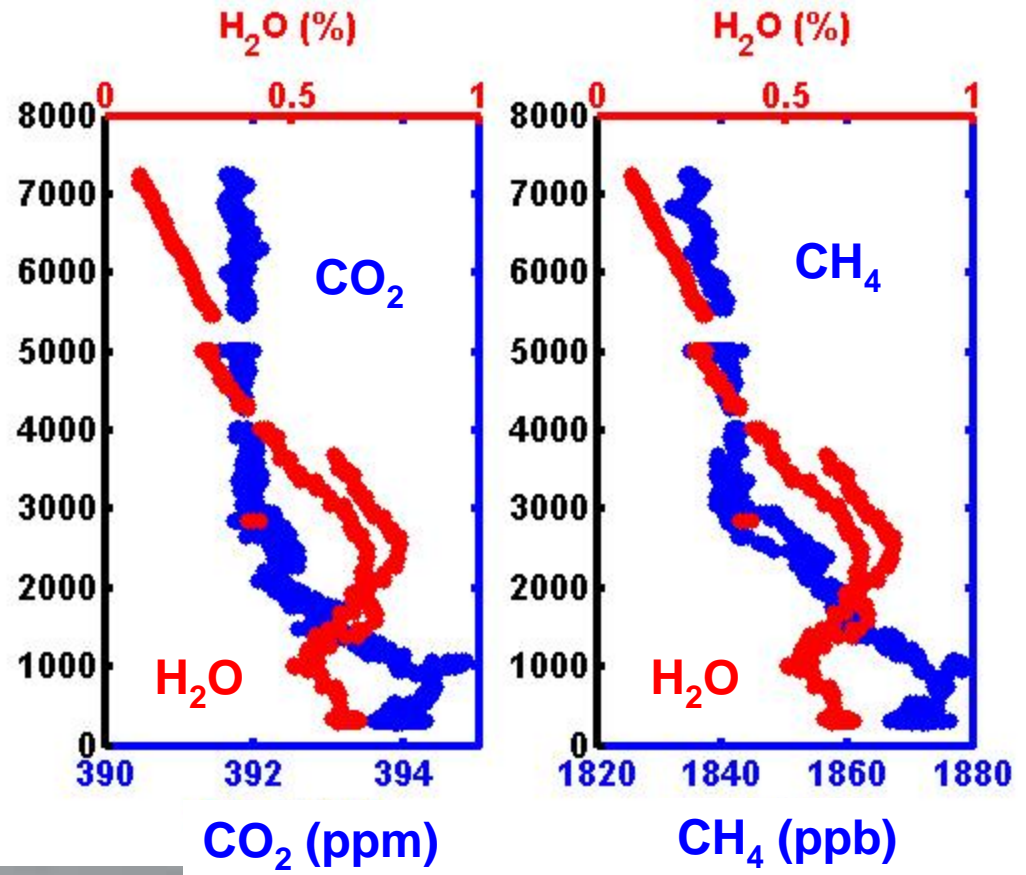


Residuals of profile means for CO₂ and CO correlates well suggesting that large scale transport is driving winter time high.

Arctic CO₂/CO Correlation

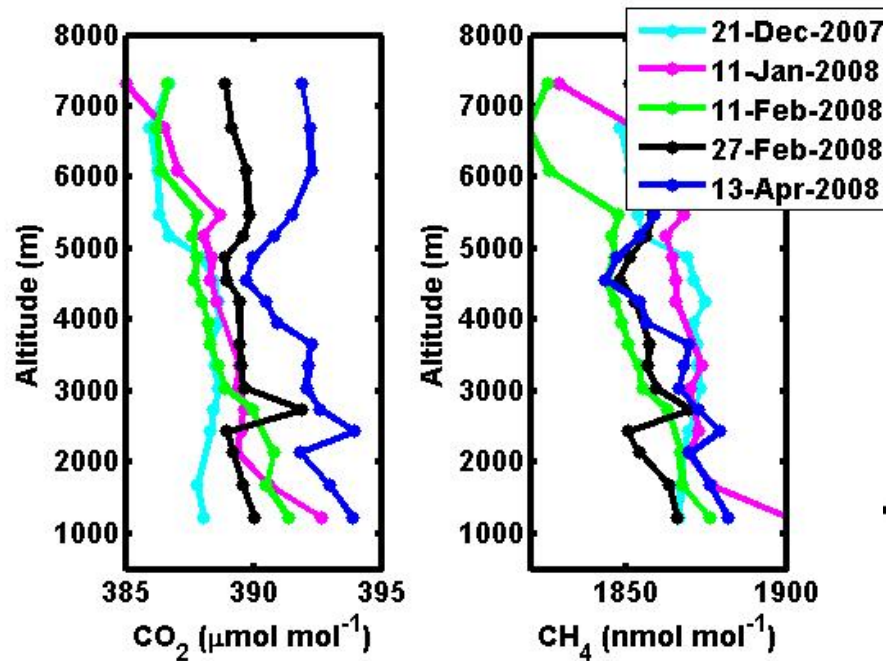


**Kivalina, AK
The town falling
into the sea**



**CO₂ and CH₄ show
very close
correlation**

Arctic CO₂/CH₄ Correlation



Residual of profile means show extremely good correlations in Arctic.

- Suggests large scale mixing (not local sources) are driving Arctic variability

