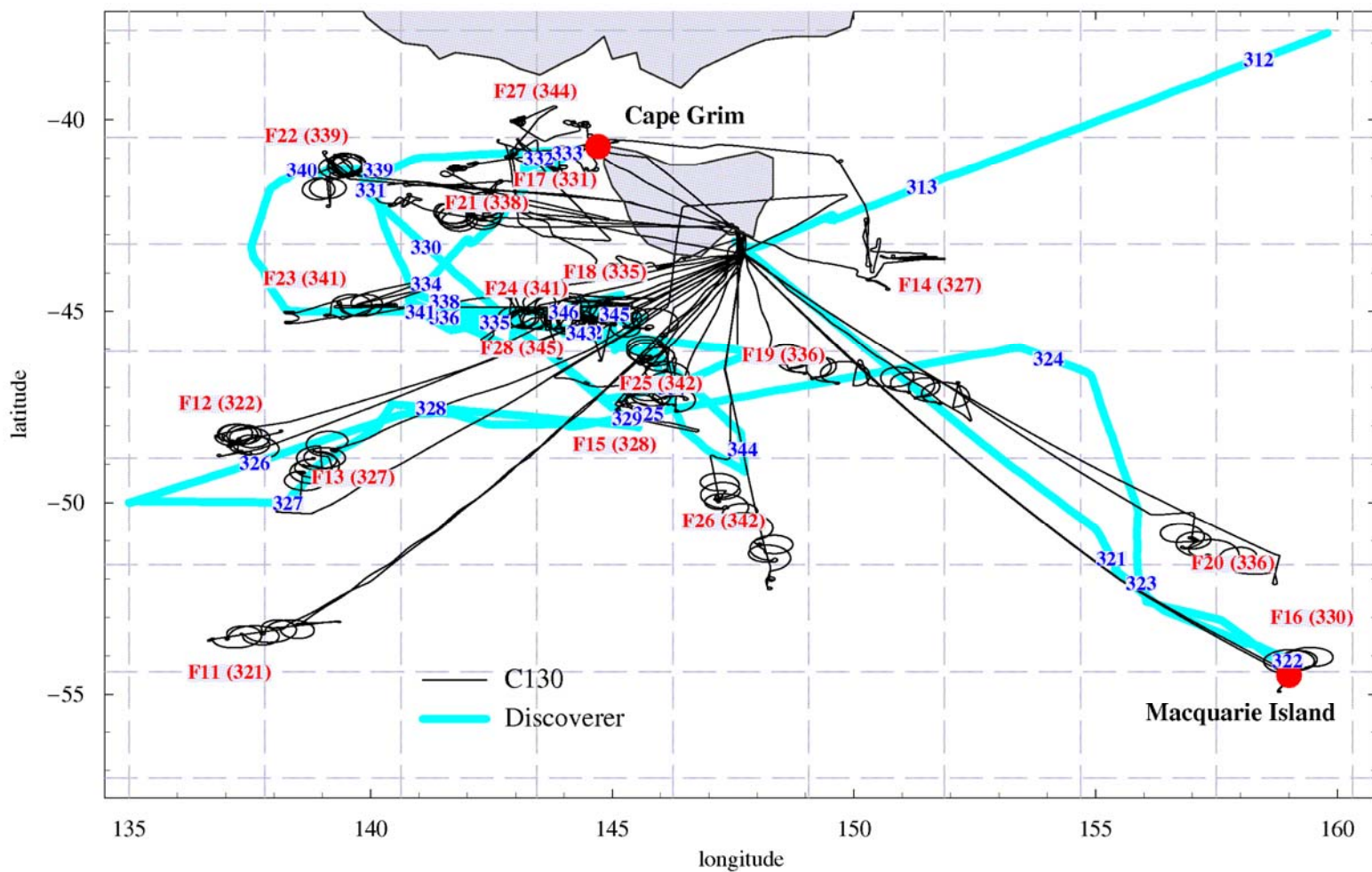
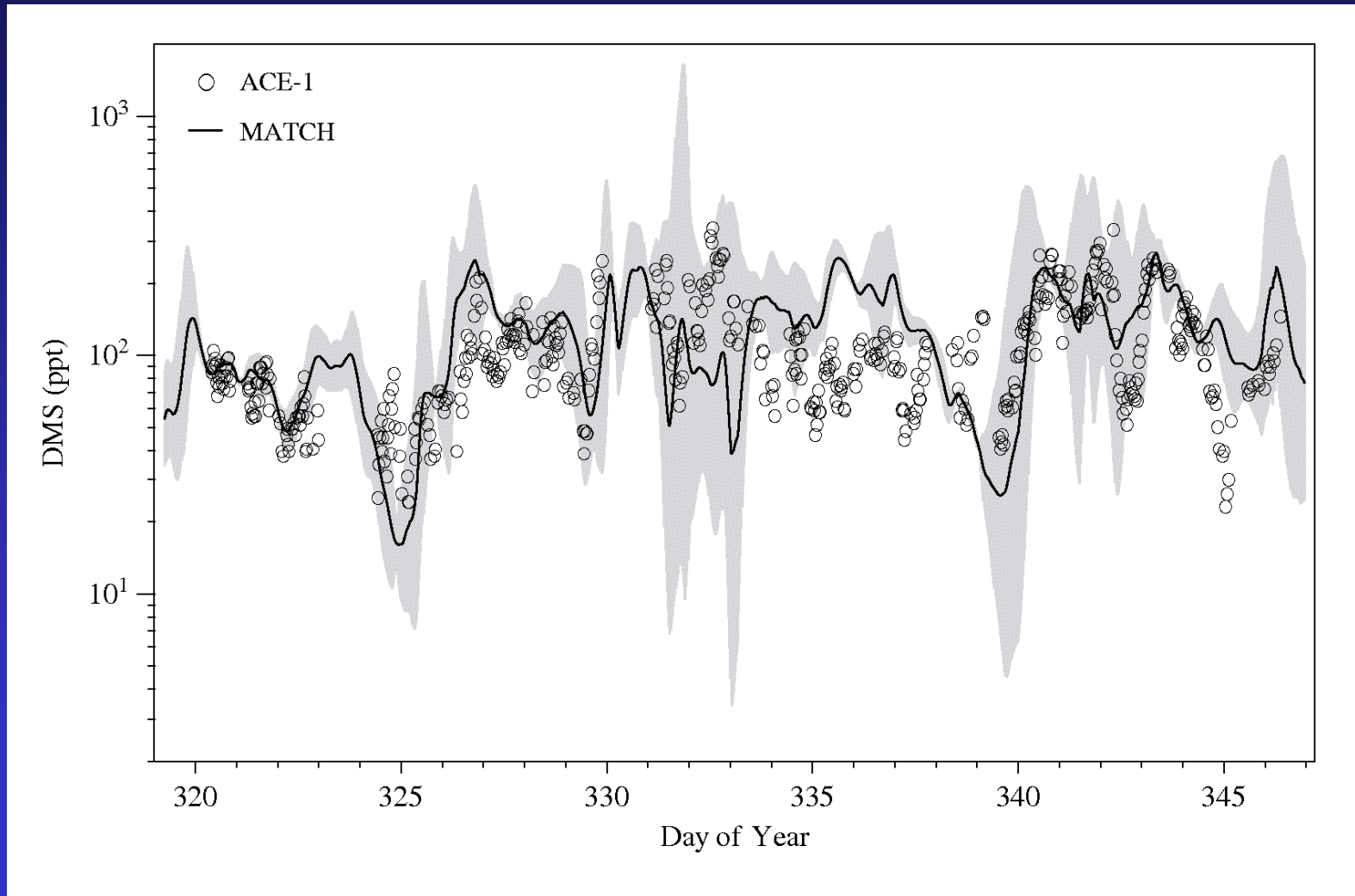


(d) DMS-Aerosol Connections, contd.

ACE (Aerosol Characterization Experiment)-1

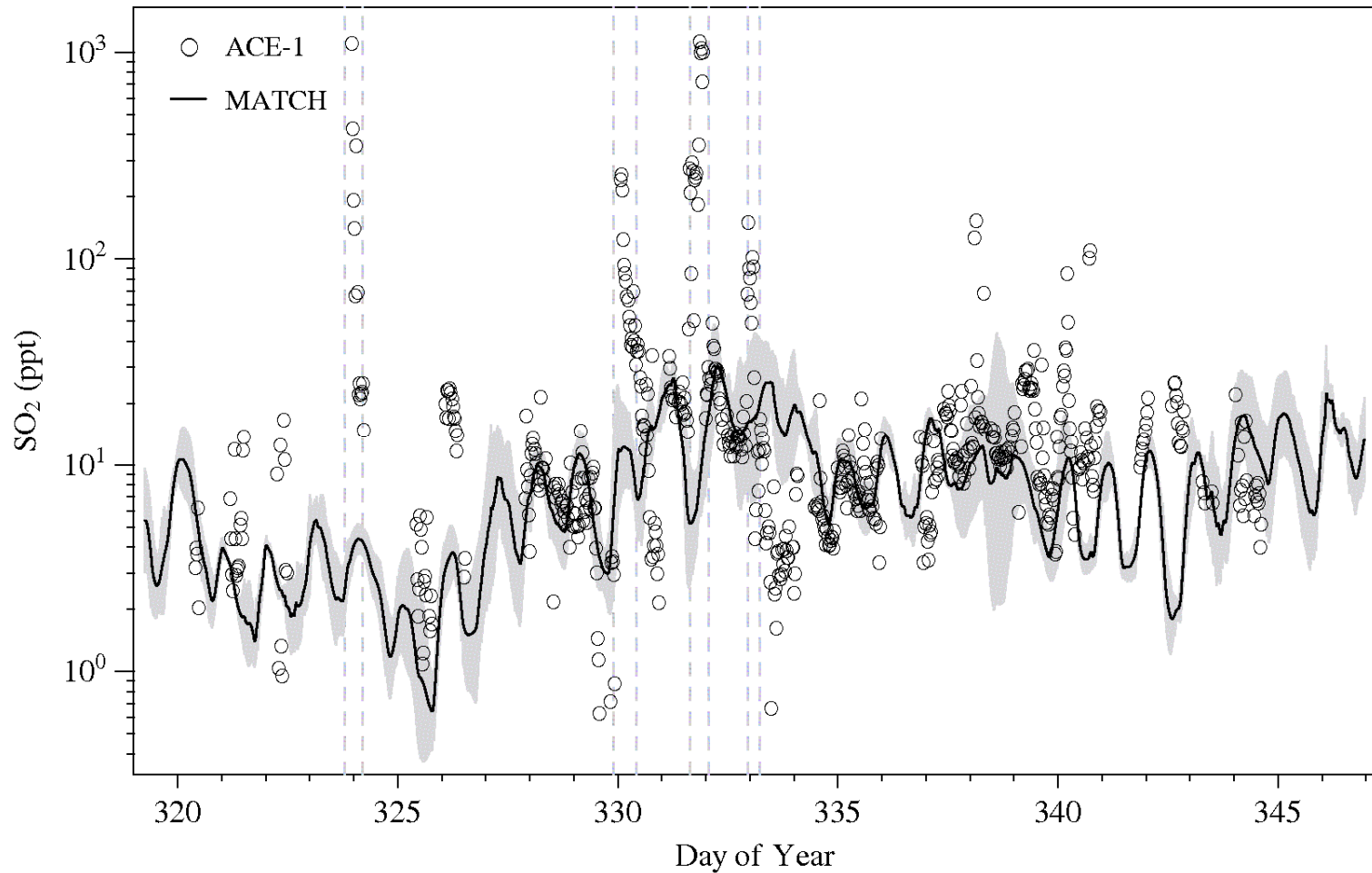


MATCH MODEL PREDICTIONS: Comparison to *Discoverer DMS*

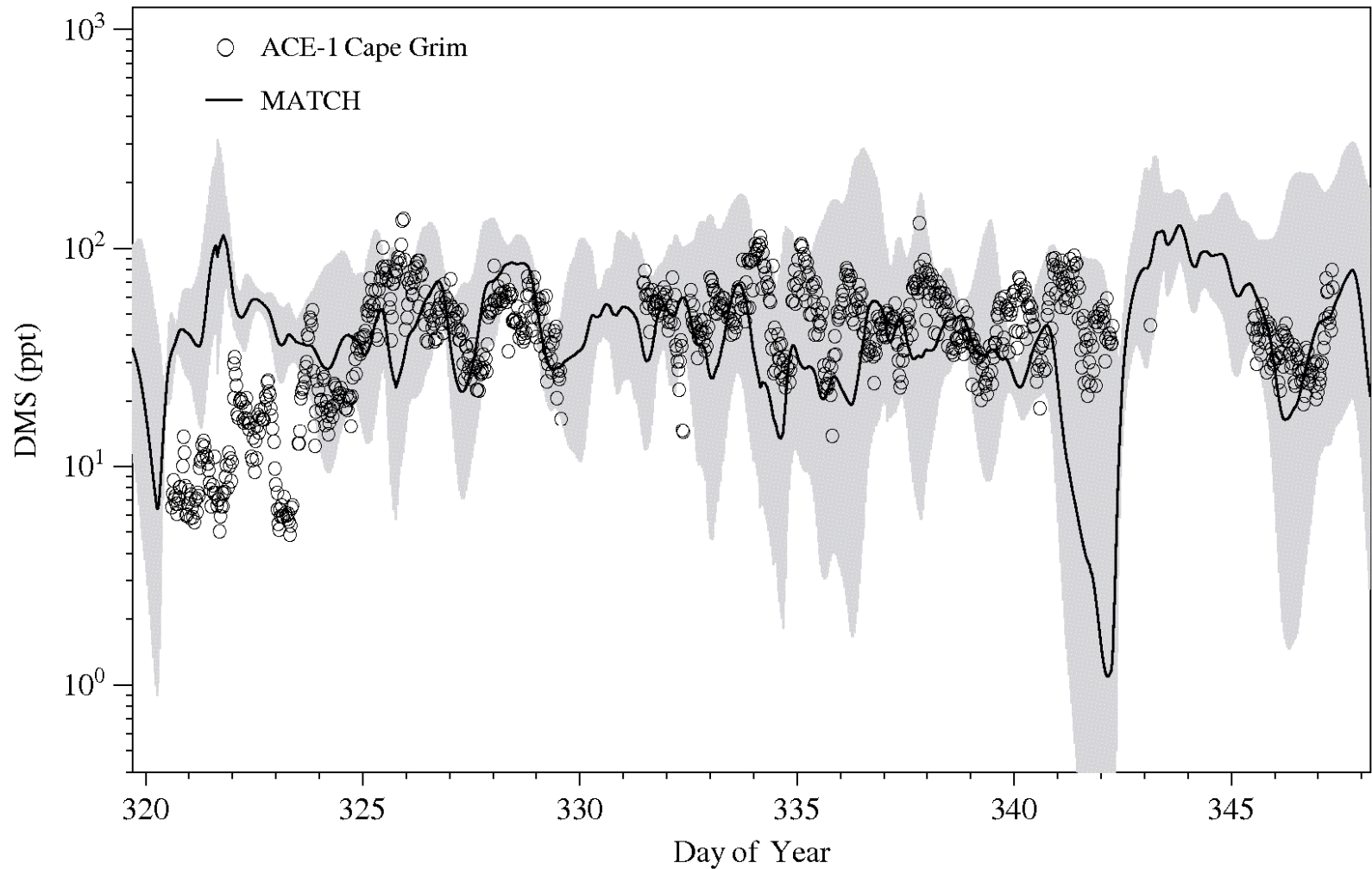


Grey Shading=MATCH grid /ACE-1 point observation MIS-MATCH error

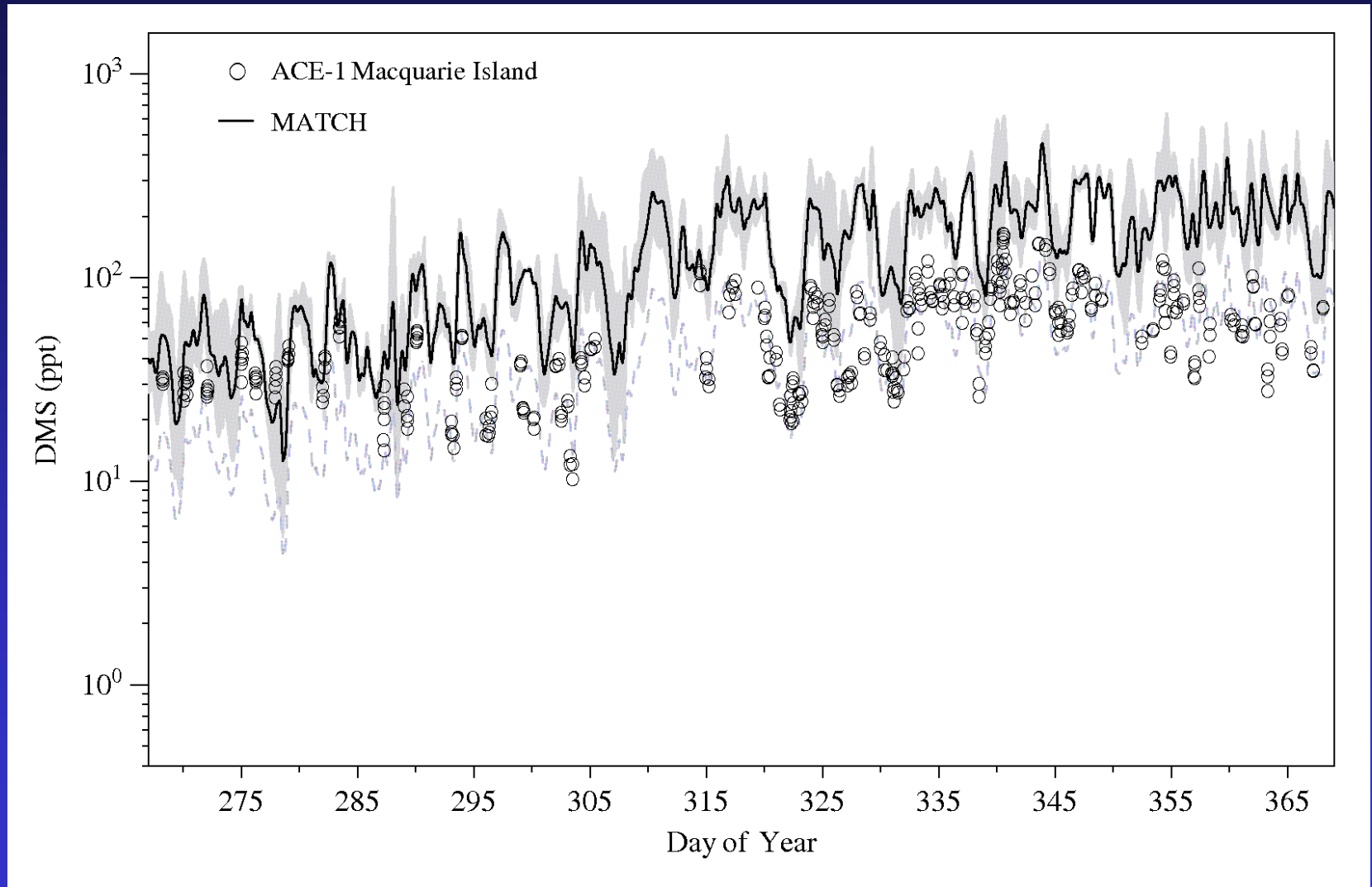
Comparison to *Discoverer SO₂*



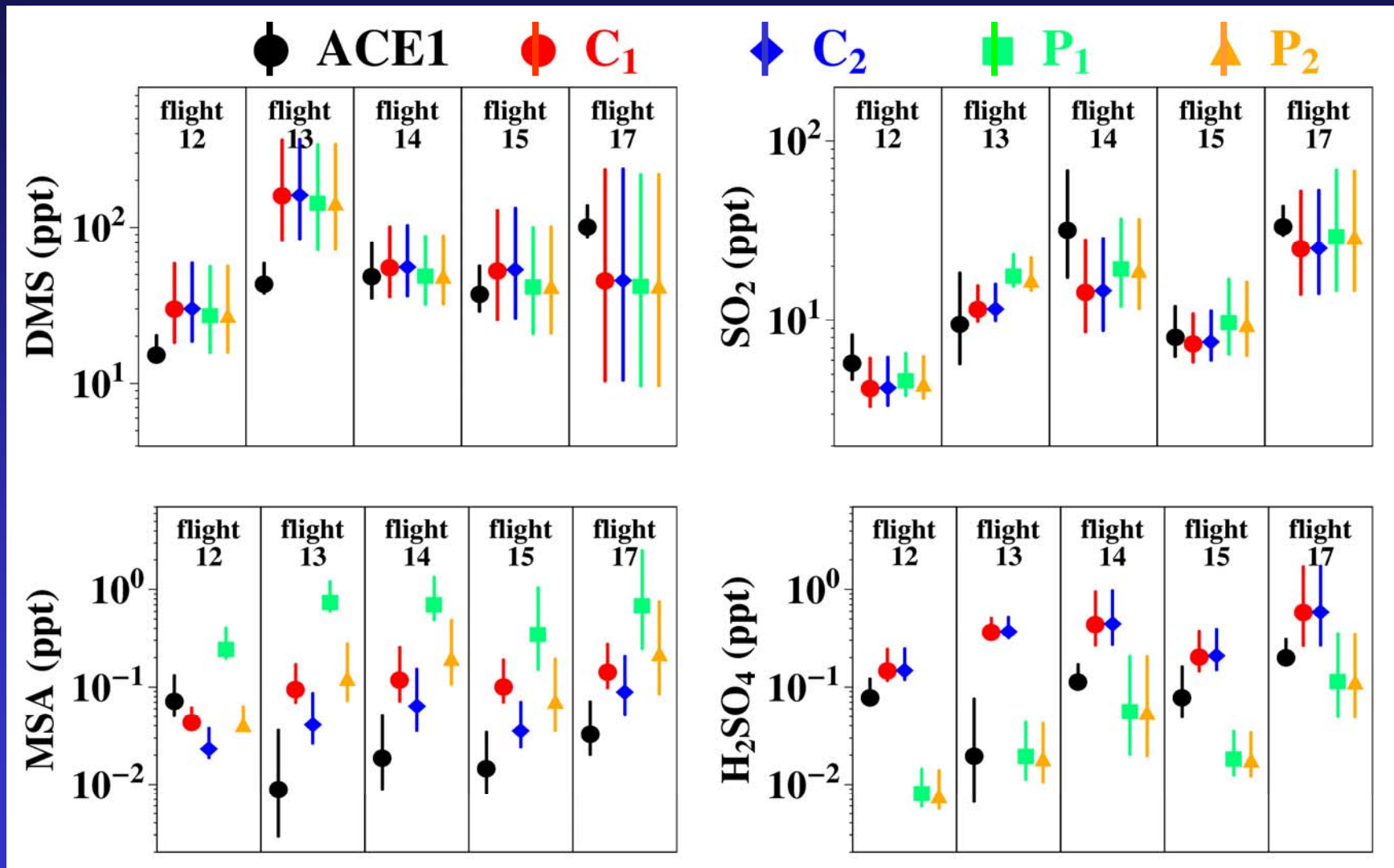
Comparison to Cape Grim DMS



Comparison to Macquarie Island DMS



Comparison to Aircraft (RMBL) Flight averages



Errors bars: Mis-match (model) & Trajectory Interpolation (model) & Standard Deviation (obs)

MEASUREMENT SYSTEMS AND ESTIMATION

A. In Situ measurements:

Surface networks (e.g. NOAA/CMDL, AGAGE, etc.)

- real time (CO, CH₄, N₂O, O₃, halocarbons, etc.)
- flasks (CO₂, CH₄, N₂O, hydrocarbons, etc.)

Balloon networks

- real time (O₃, H₂O)
- flasks (stratospheric halocarbons, etc.)

Aircraft campaigns (e.g. NASA-GTE)

- real time (O₃, etc.)
- flasks (hydrocarbons, etc.)

B. Remote Sensing measurements:

Satellite platforms

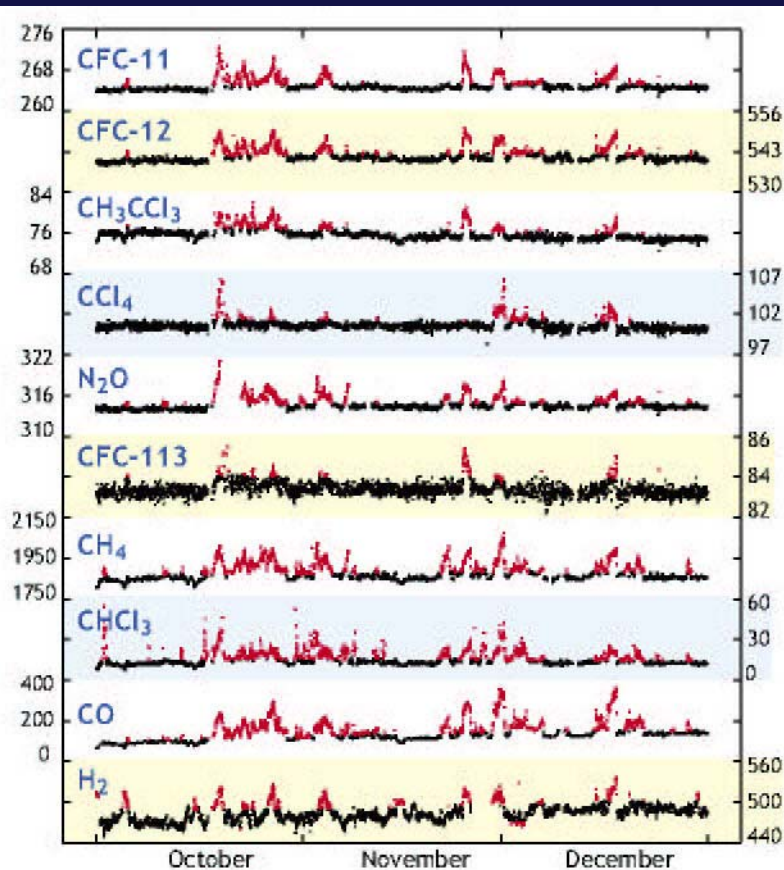
- NASA (UARS, etc., stratosphere)
- MOPPITT (CH₄, CO, troposphere)
- Downward or limb scan viewing

Aircraft platforms

- Ozone, aerosols, etc.

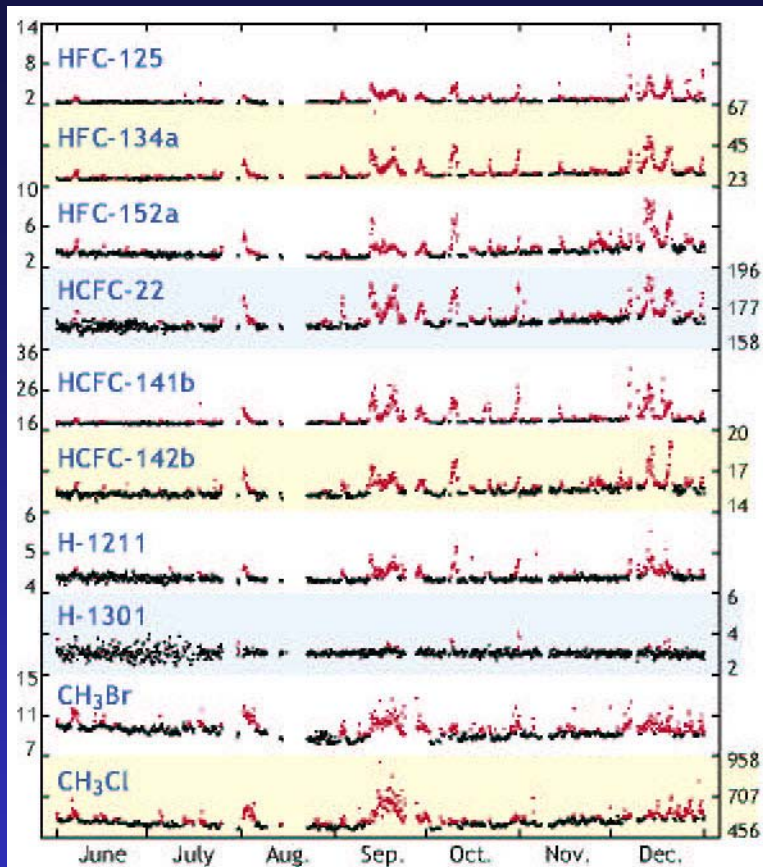
Surface platforms

- NDSC (stratosphere)



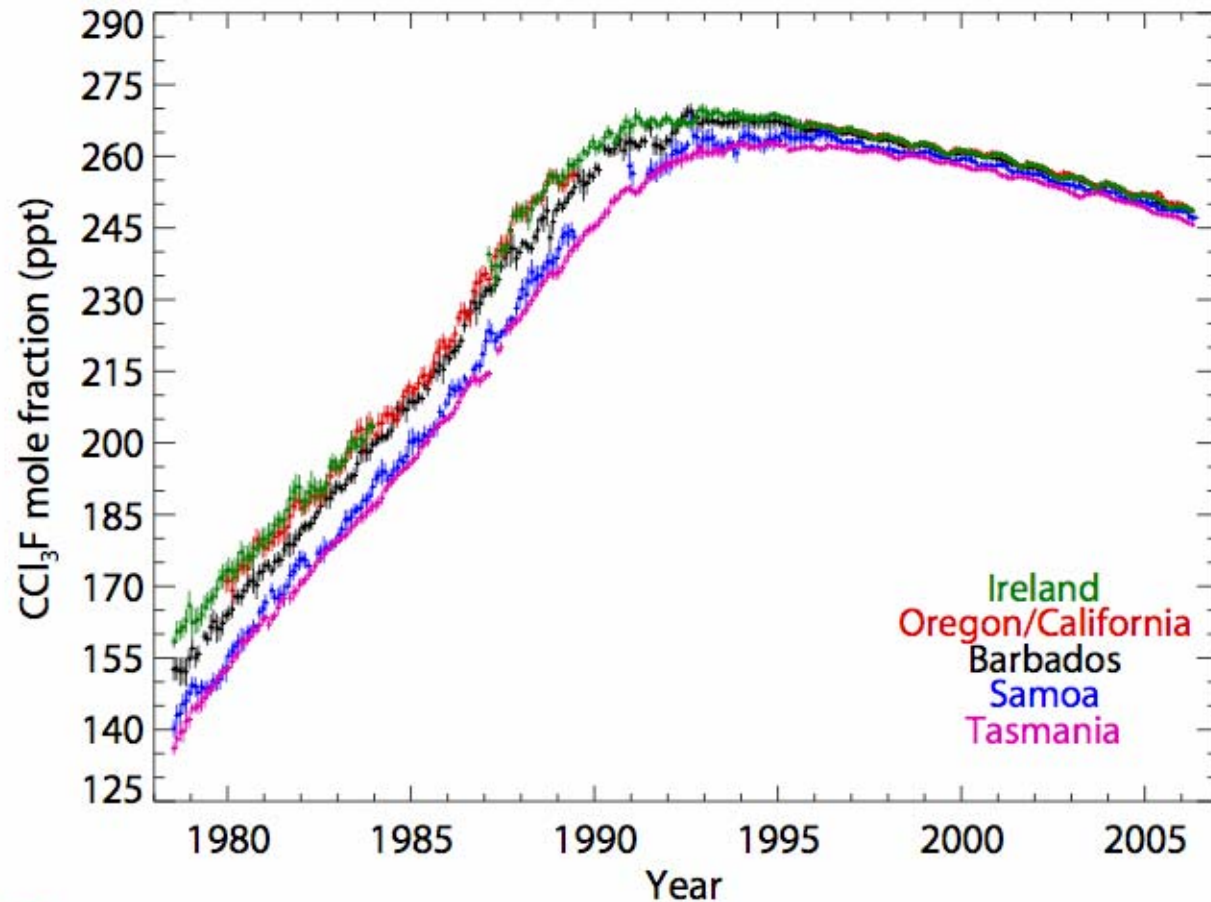
The plot above presents three months of data for all gases measured with the GC-multidetector at Mace Head, Ireland in 1997. Units are mole fractions (parts per billion (ppb), for N₂O, CH₄, H₂ and CO; parts per trillion (ppt), for all chlorine-containing gases). Measurements in polluted air coming from Europe to the east are shown in red while those in clean air off the ocean, etc., are shown in black.

Image courtesy of AGAGE.



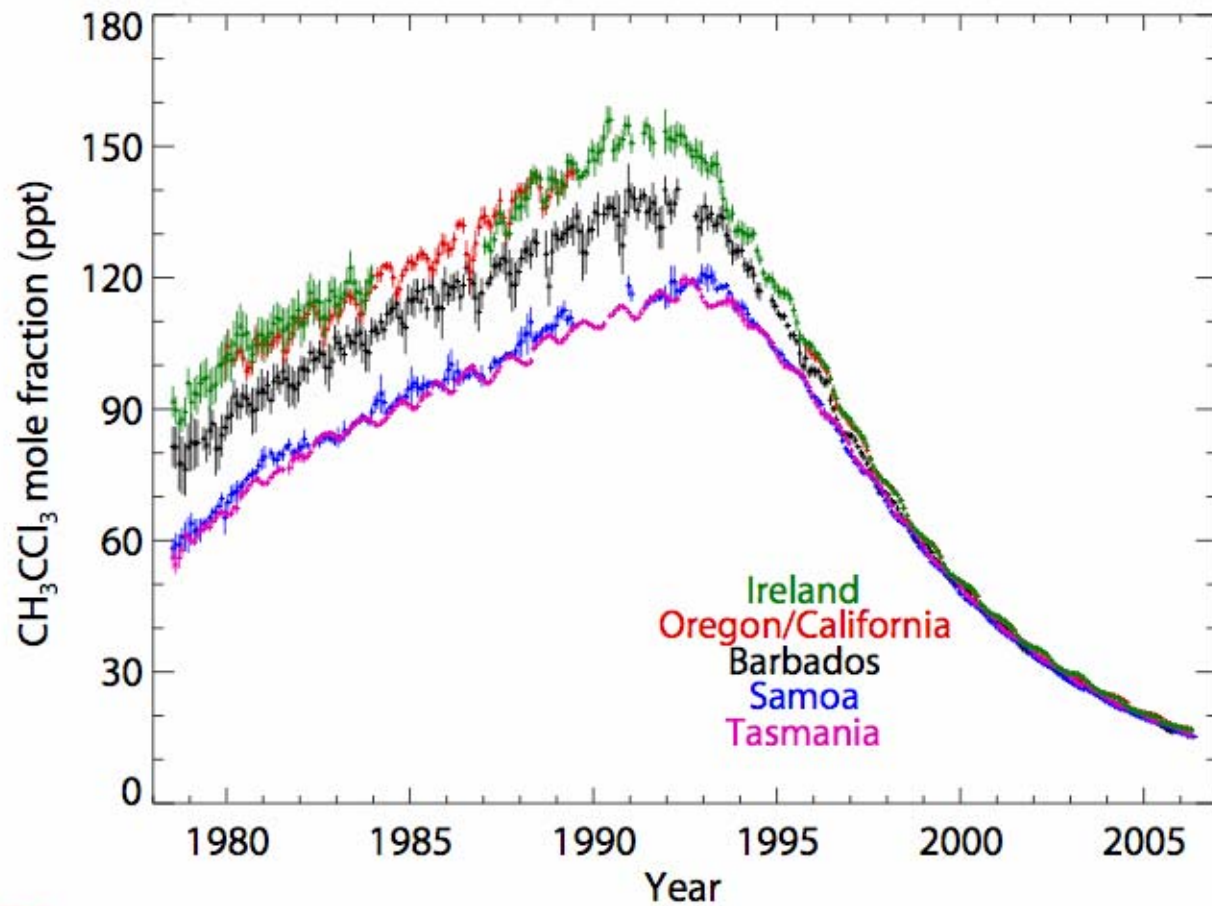
The plot above presents seven months of data for all major gases measured with the GC-MS at Mace Head, Ireland in 2002. Units are mole fractions in parts per trillion (ppt) for all gases. Measurements in polluted air coming from Europe to the east are shown by red and those in clean air off the ocean, etc., are shown in black.

Image courtesy of AGAGE.



30 May 05

Image courtesy of AGAGE.



30 May 05

Image courtesy of AGAGE.