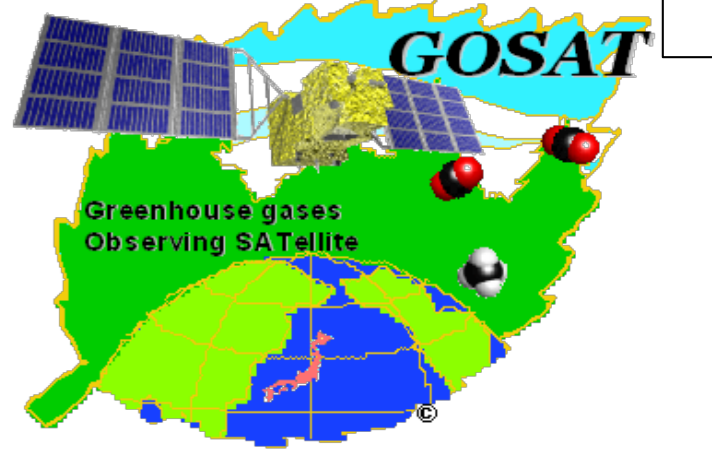


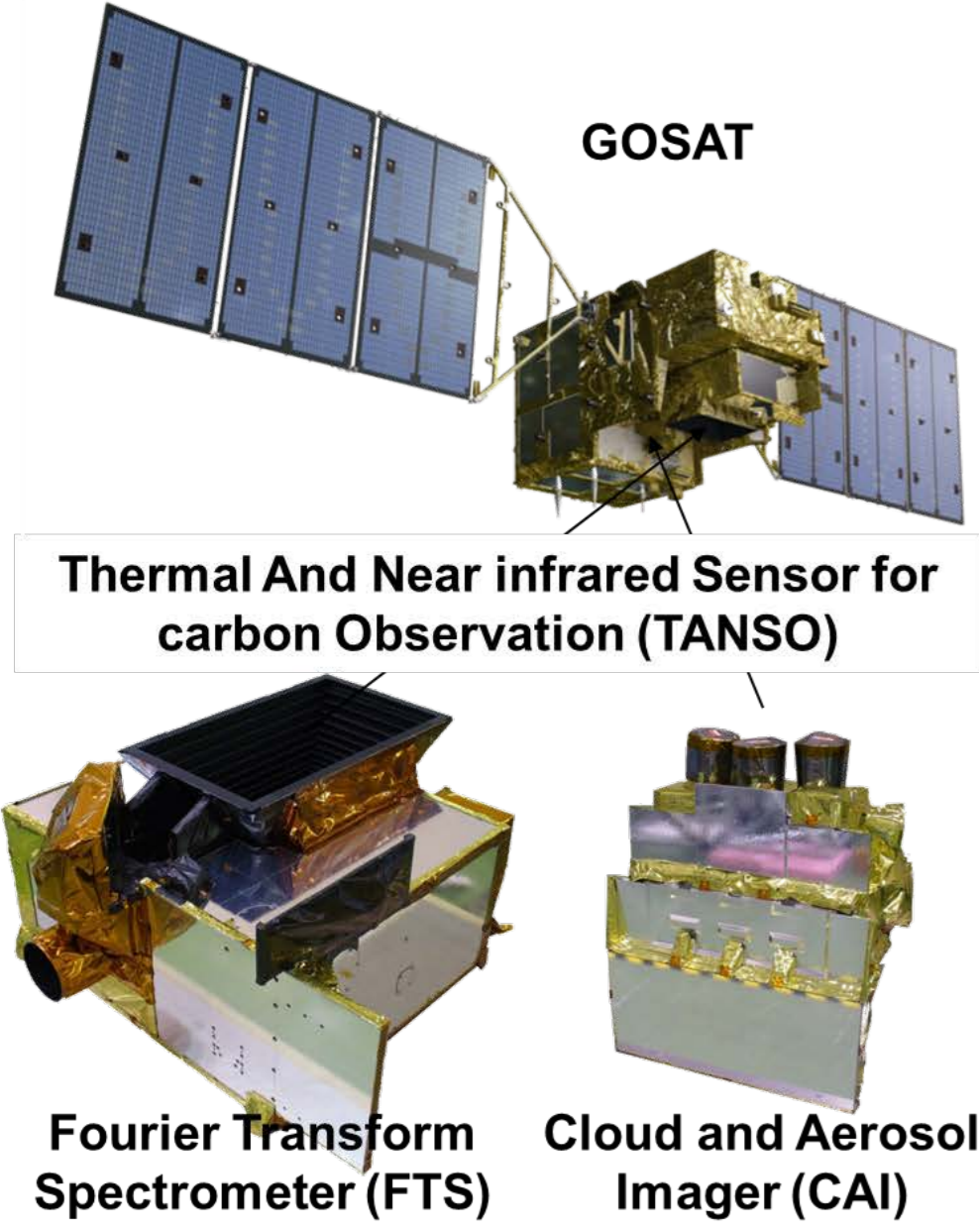
# GOSAT thermal infrared data for meteorological use towards GOSAT-2



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e-mail: shiomi.kei@jaxa.jp

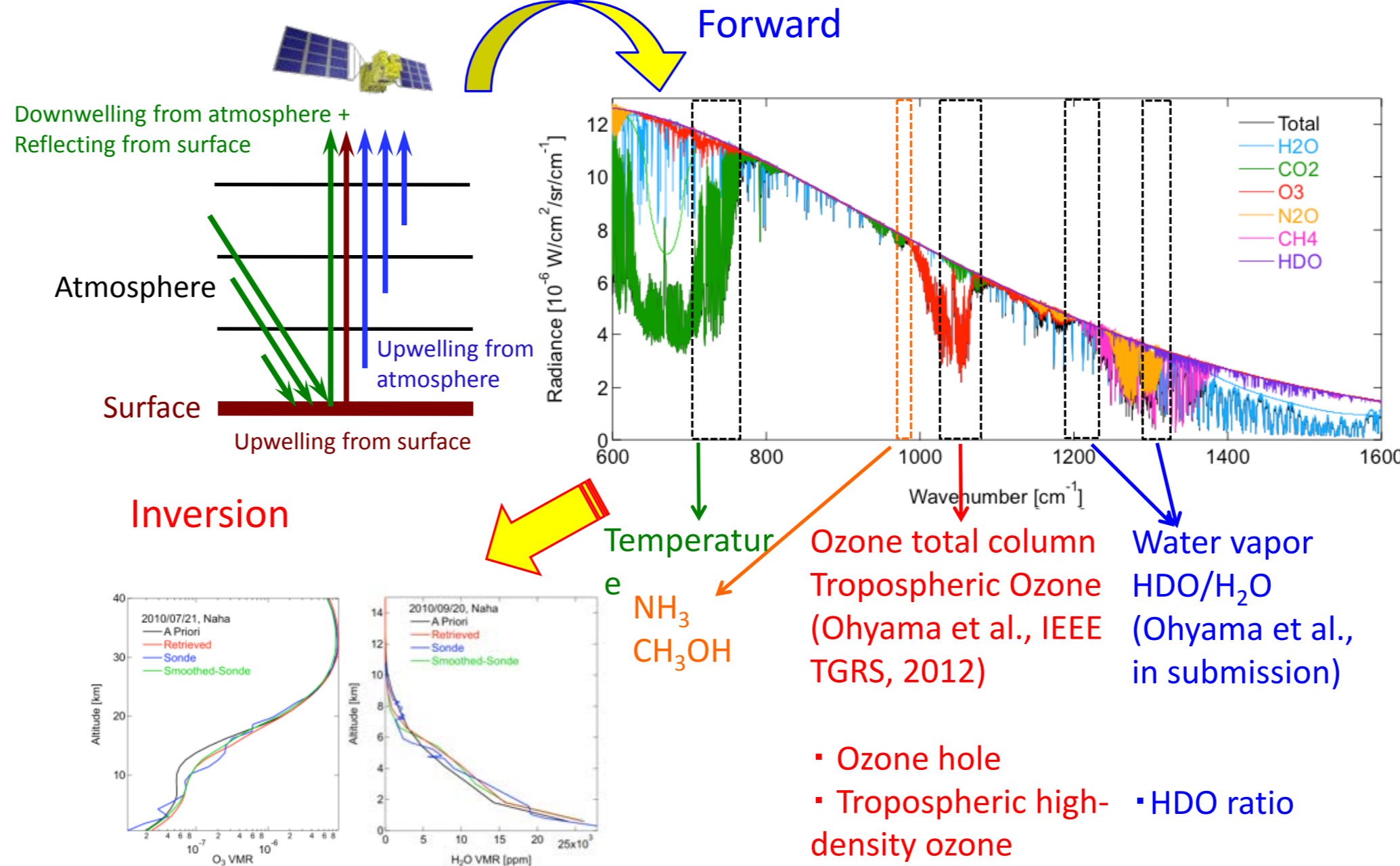


## GOSAT On Orbit Since 2009

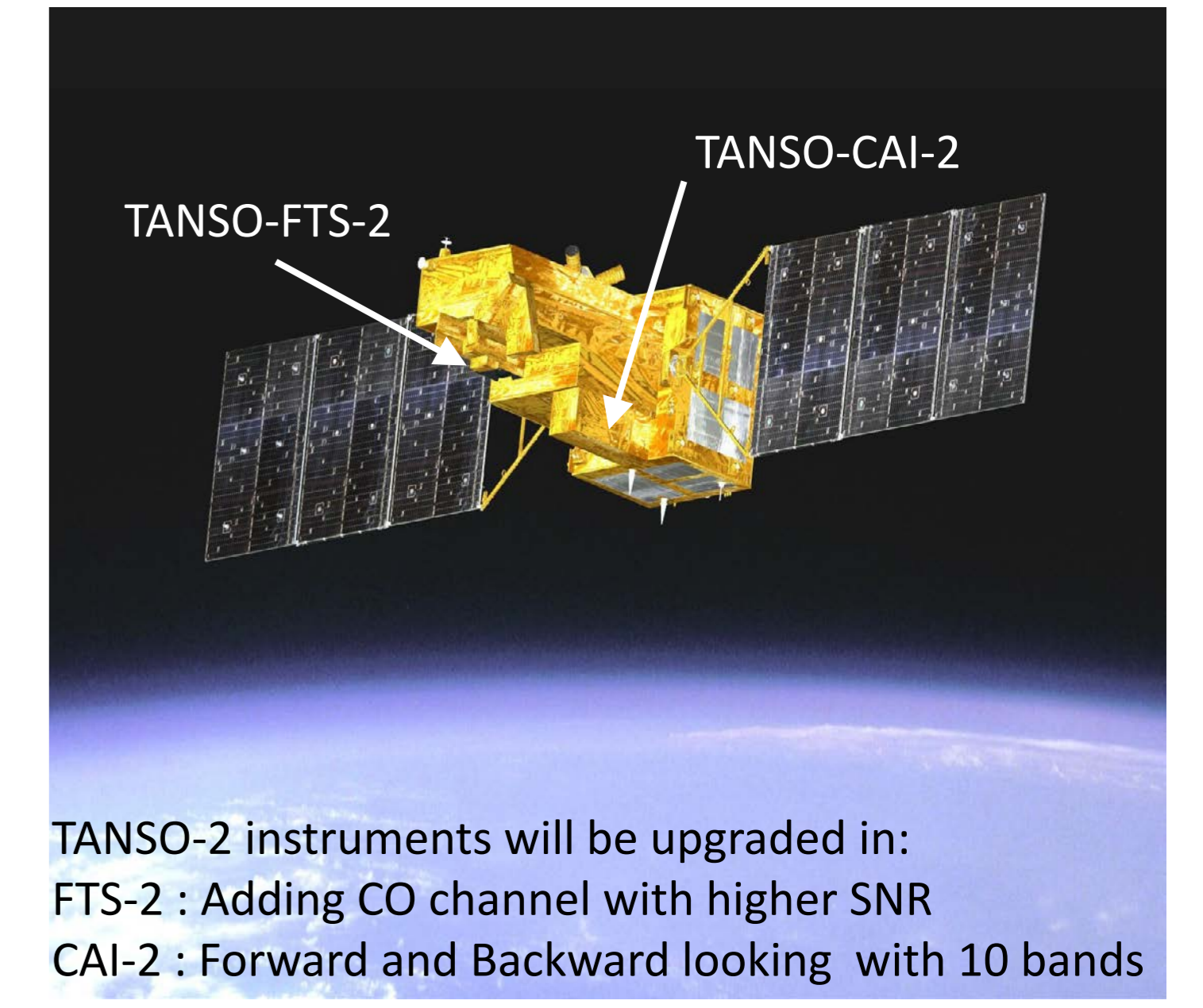


Fourier Transform Spectrometer (FTS)	
Mission	GHGs measurements
Band	SWIR-0.76µm, 1.6µm, 2.0µm bands with P/S polarization (O <sub>2</sub> -A, CO <sub>2</sub> , CH <sub>4</sub> , H <sub>2</sub> O band) TIR-5.5~14.3µm (CO <sub>2</sub> , CH <sub>4</sub> , O <sub>3</sub> band)
Spec. Res.	0.2cm <sup>-1</sup>
Swath	750km ex: 5 points / every 180km
Footprint	10.5km
Cloud and Aerosol Imager (CAI)	
Mission	Cloud detection and aerosol correction within FTS IFOV
Band	0.38, 0.67, 0.87, 1.60µm band
Swath	750-1000km
Footprint	0.5-1.5km

## GOSAT TIR Band Retrieval Process

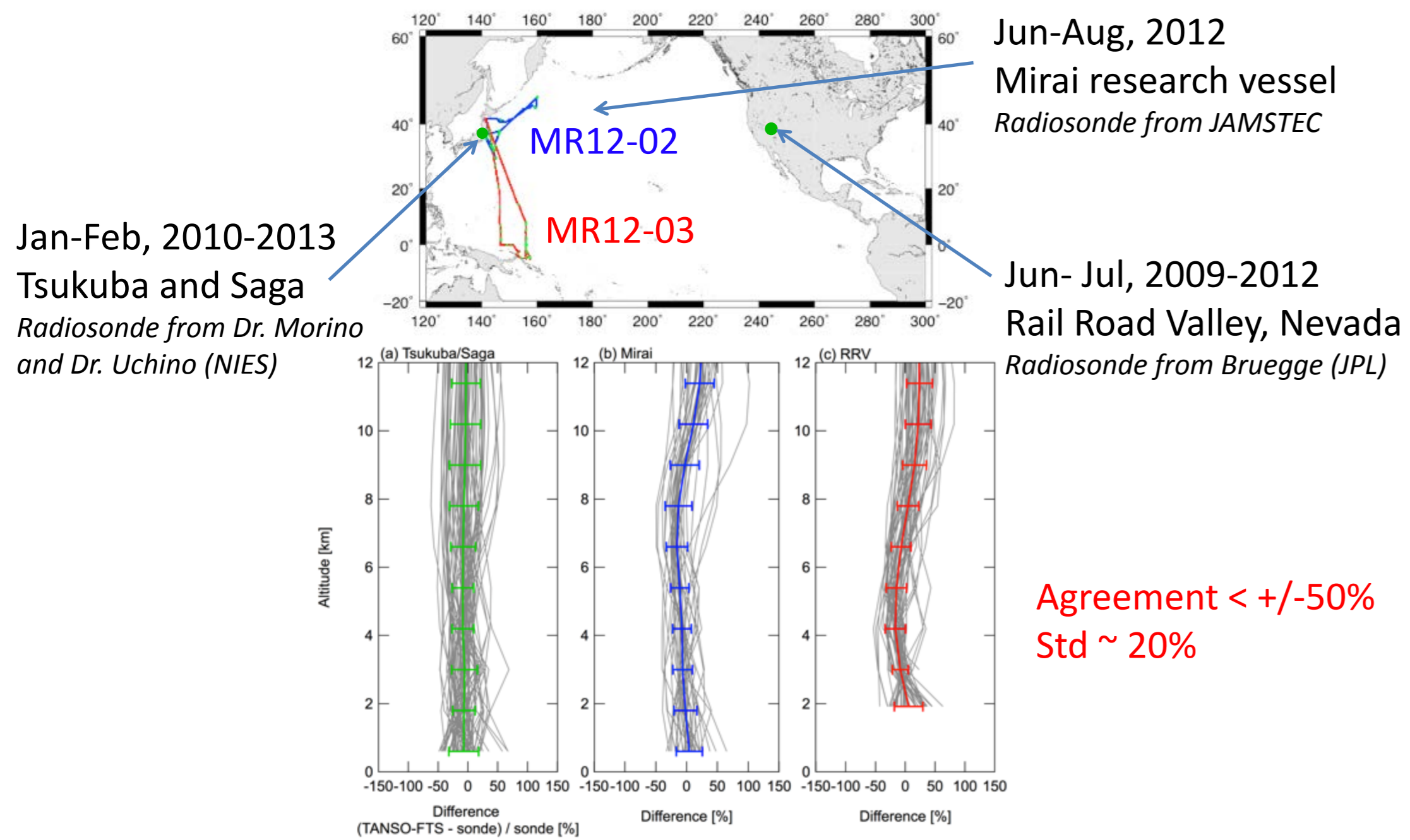


## GOSAT-2 in Early 2018



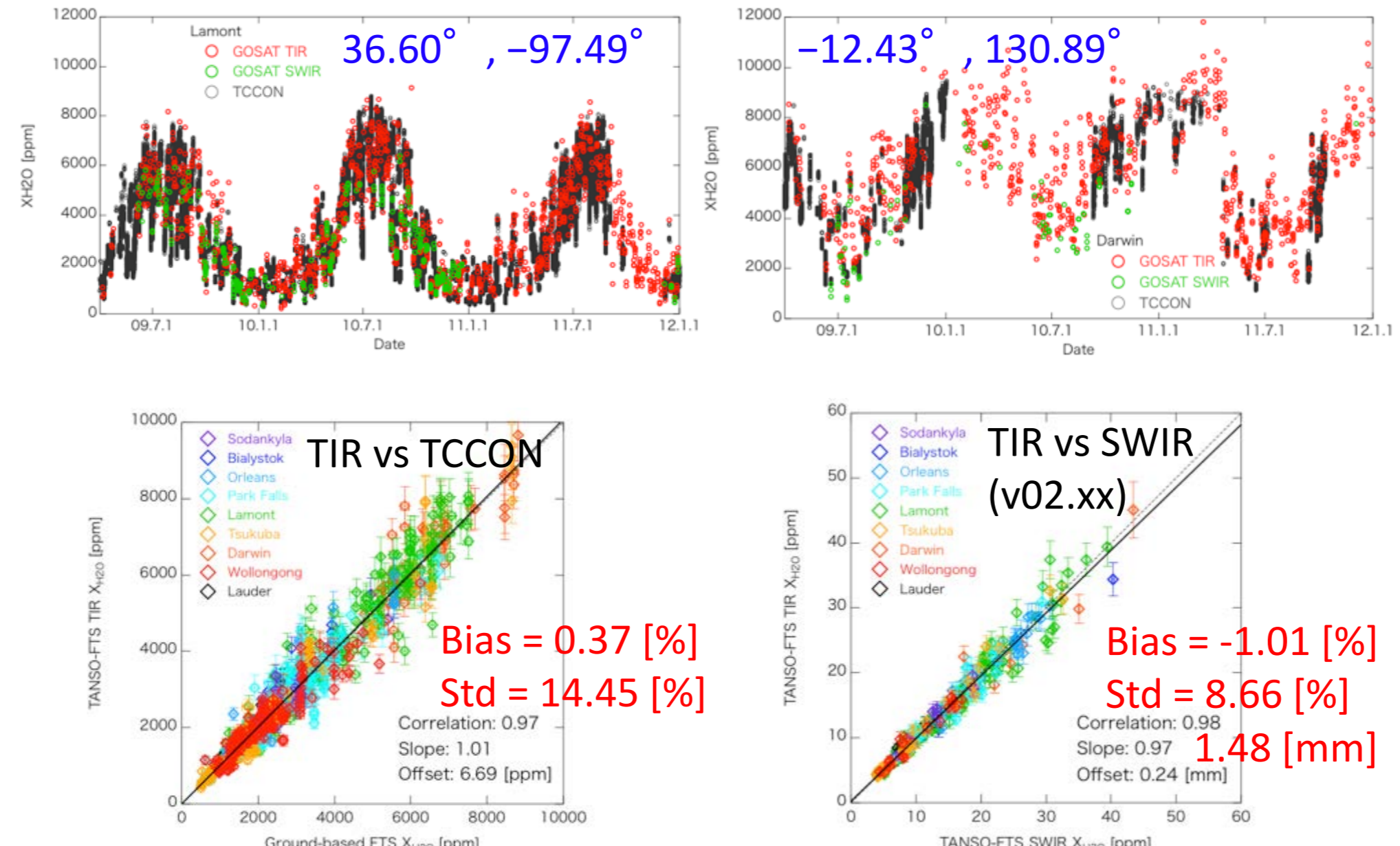
## Water Vapor Profile

### Validation with radiosonde

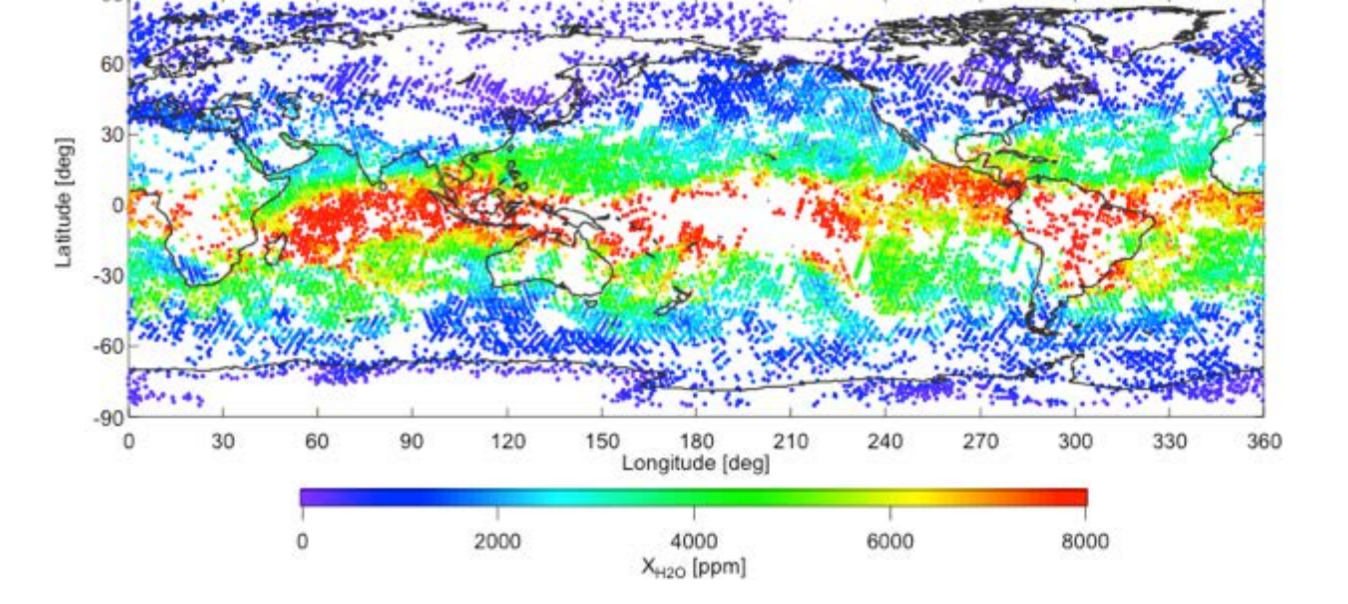


## Total Water Vapor Column

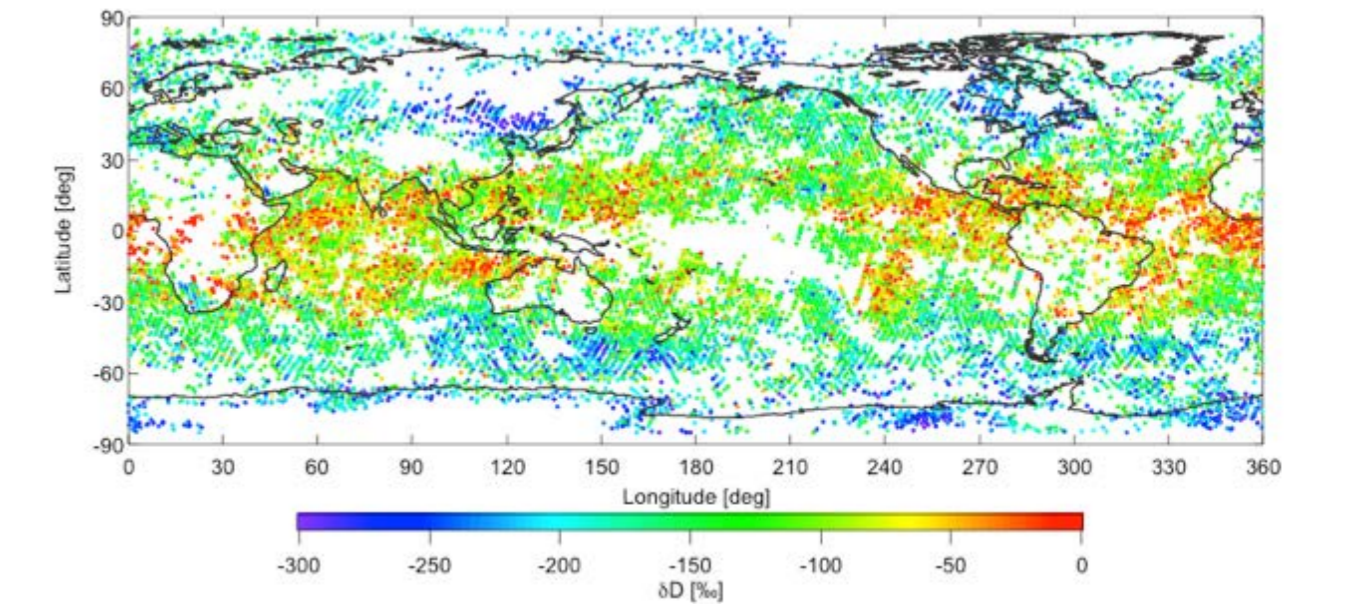
### Validation with TCCON FTS and GOSAT SWIR 2µm



### Water vapor column (DOFS > 1)

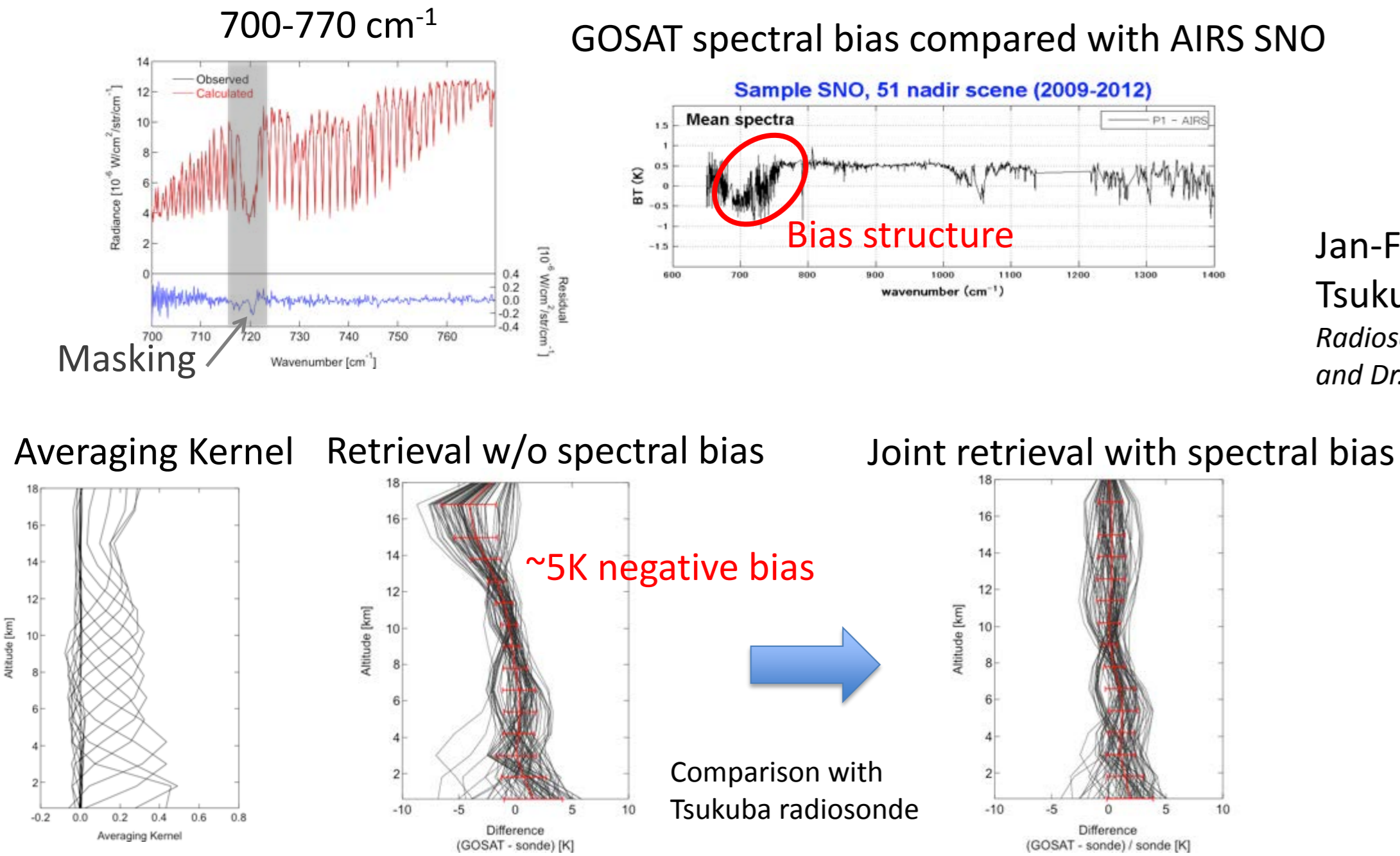


### HDO ratio δ D (DOFS > 0.5)

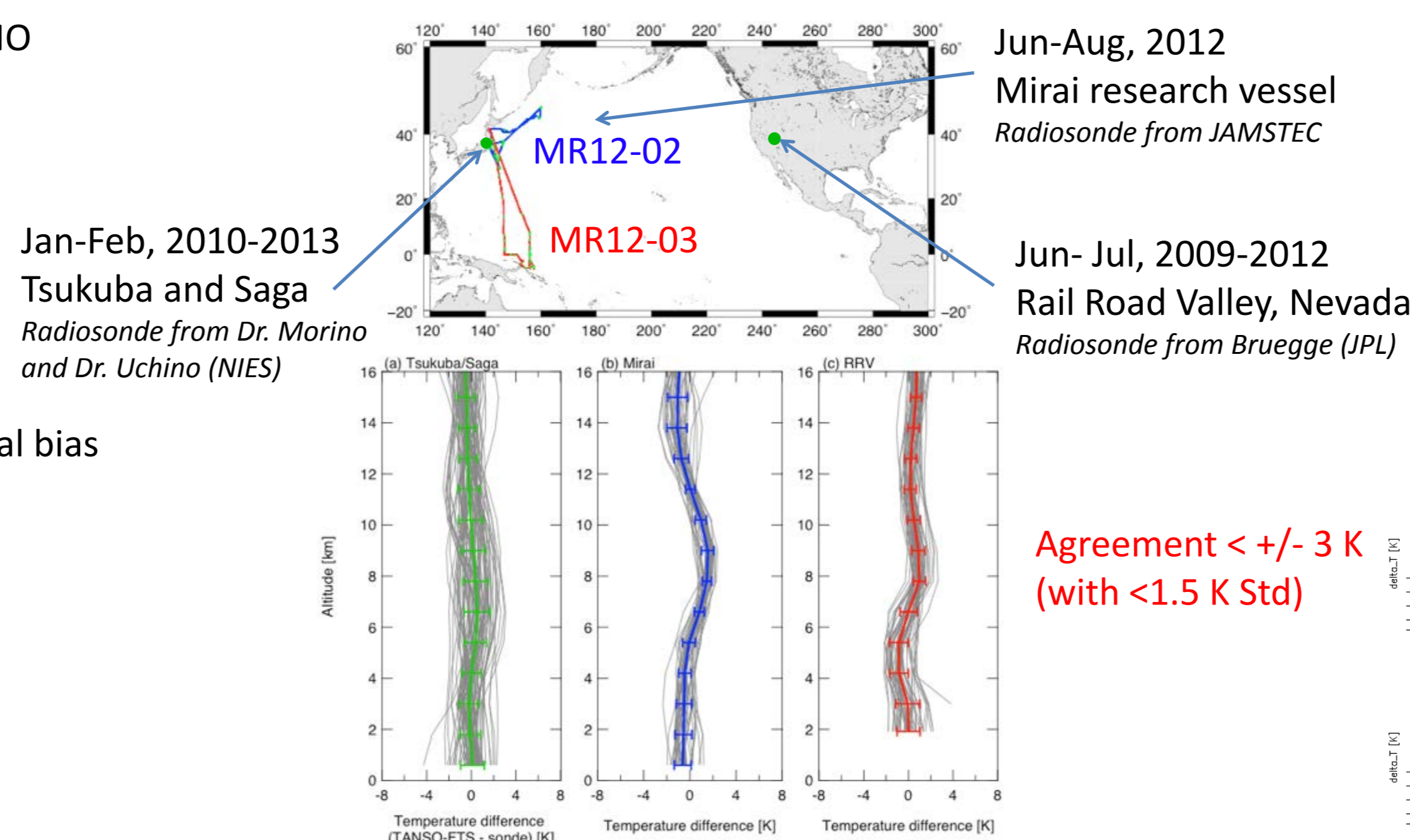


## Temperature Profile

### Temperature retrieval with spectral bias correction

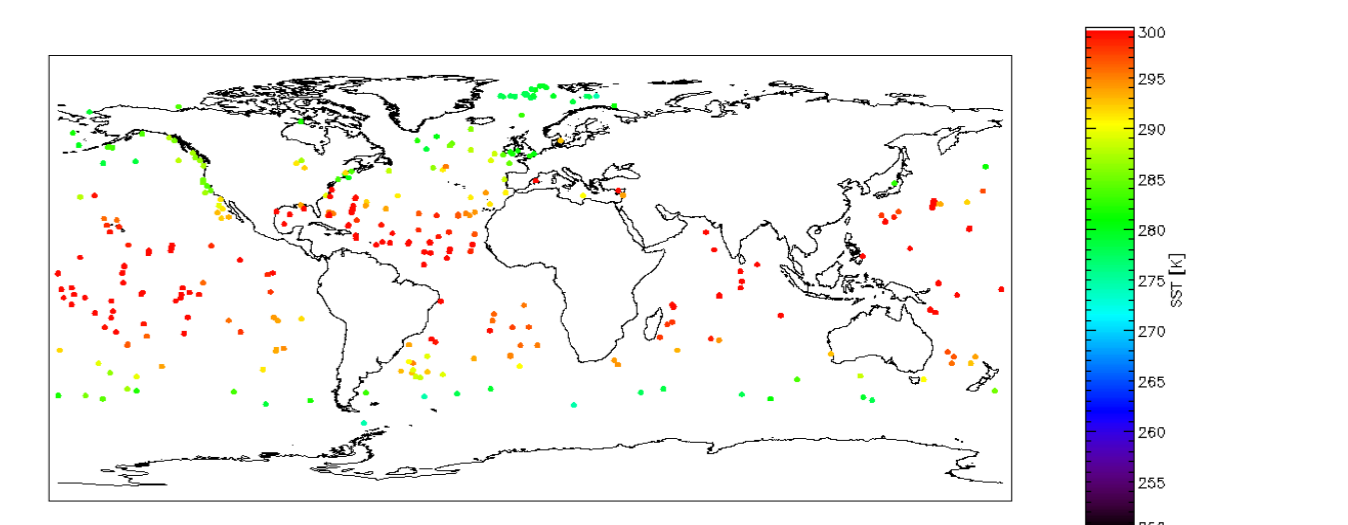


### Validation with radiosonde

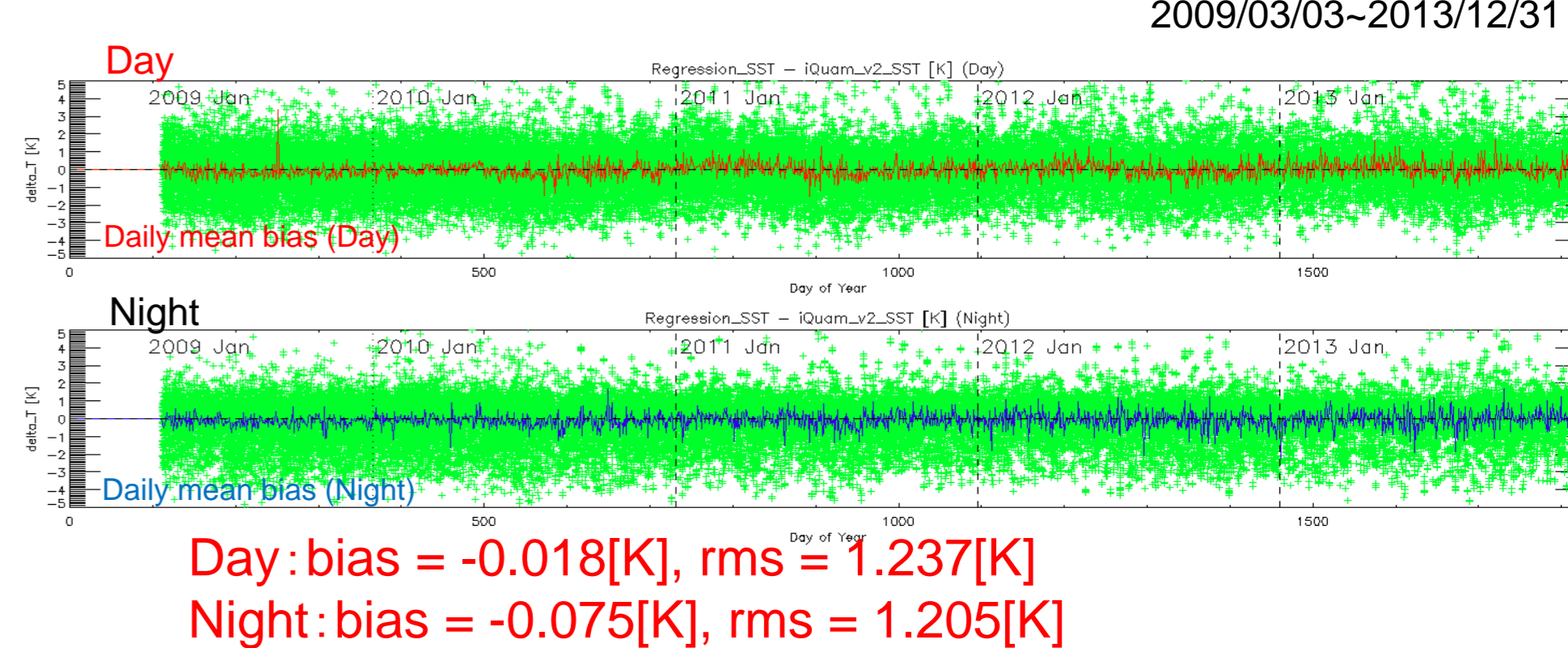


## Sea Surface Temperature

### GOSAT SST after regression by MCSST

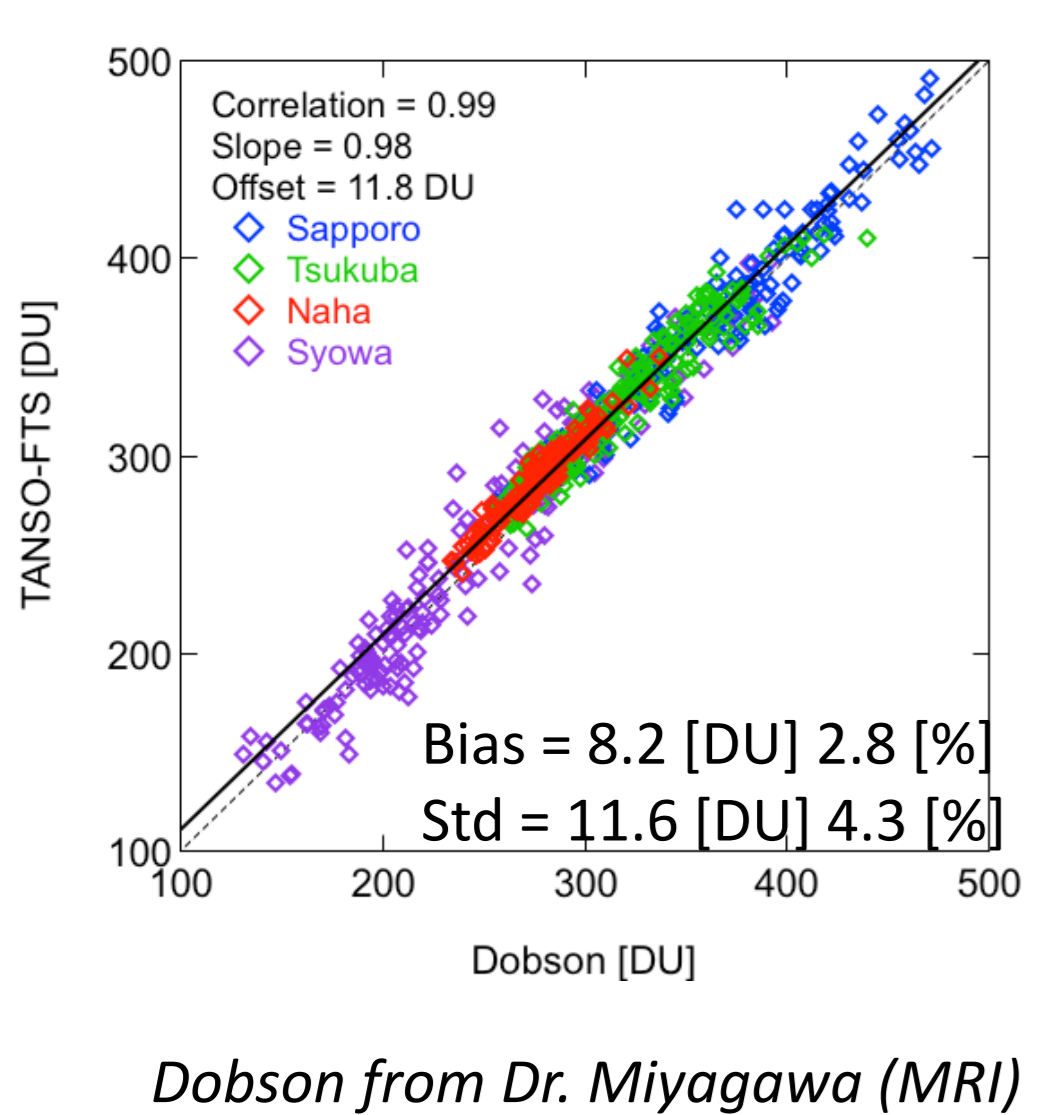


### GOSAT SST - iQuam NOAA SST

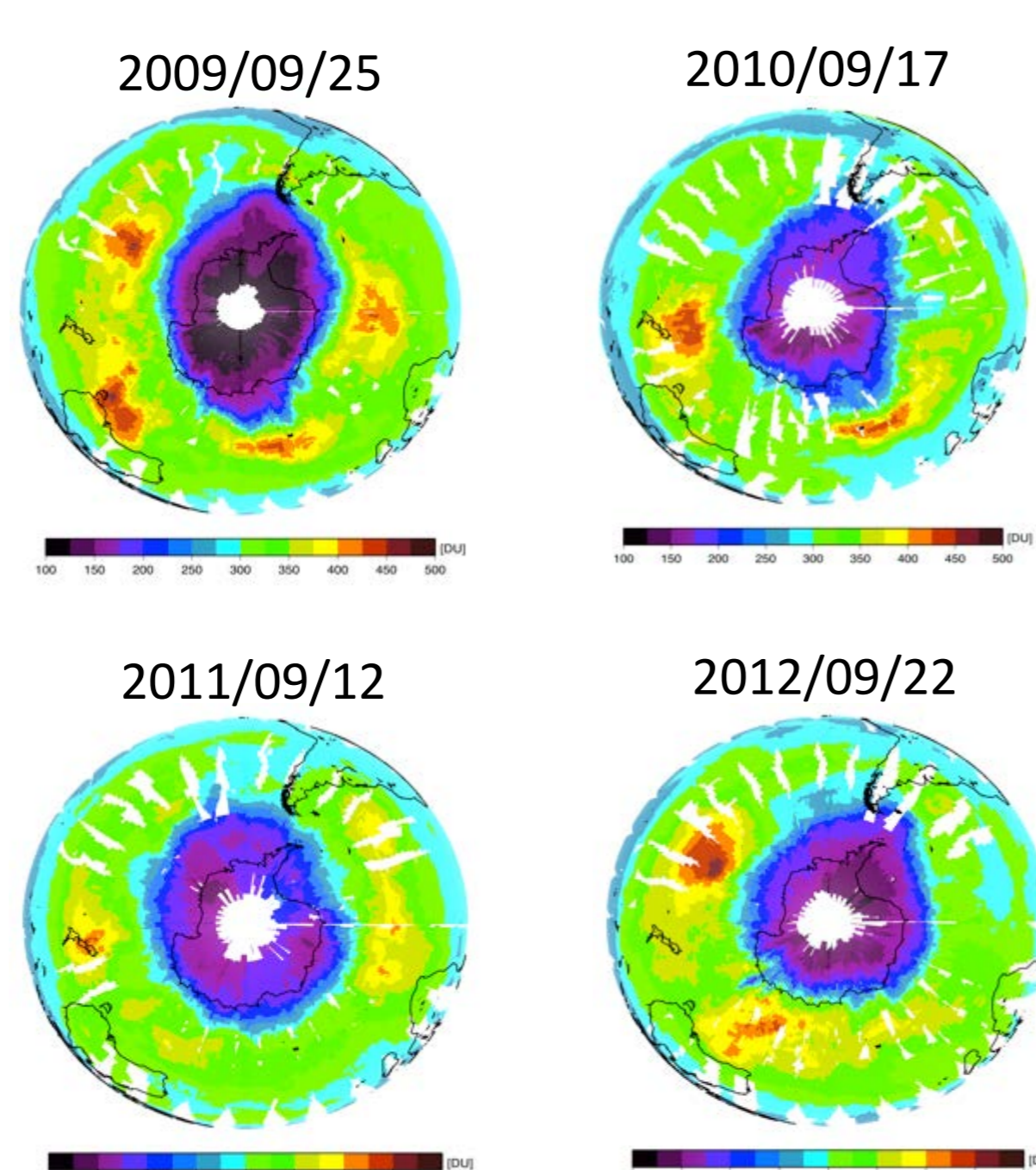


## Total Ozone Column

### Validation with Dobson

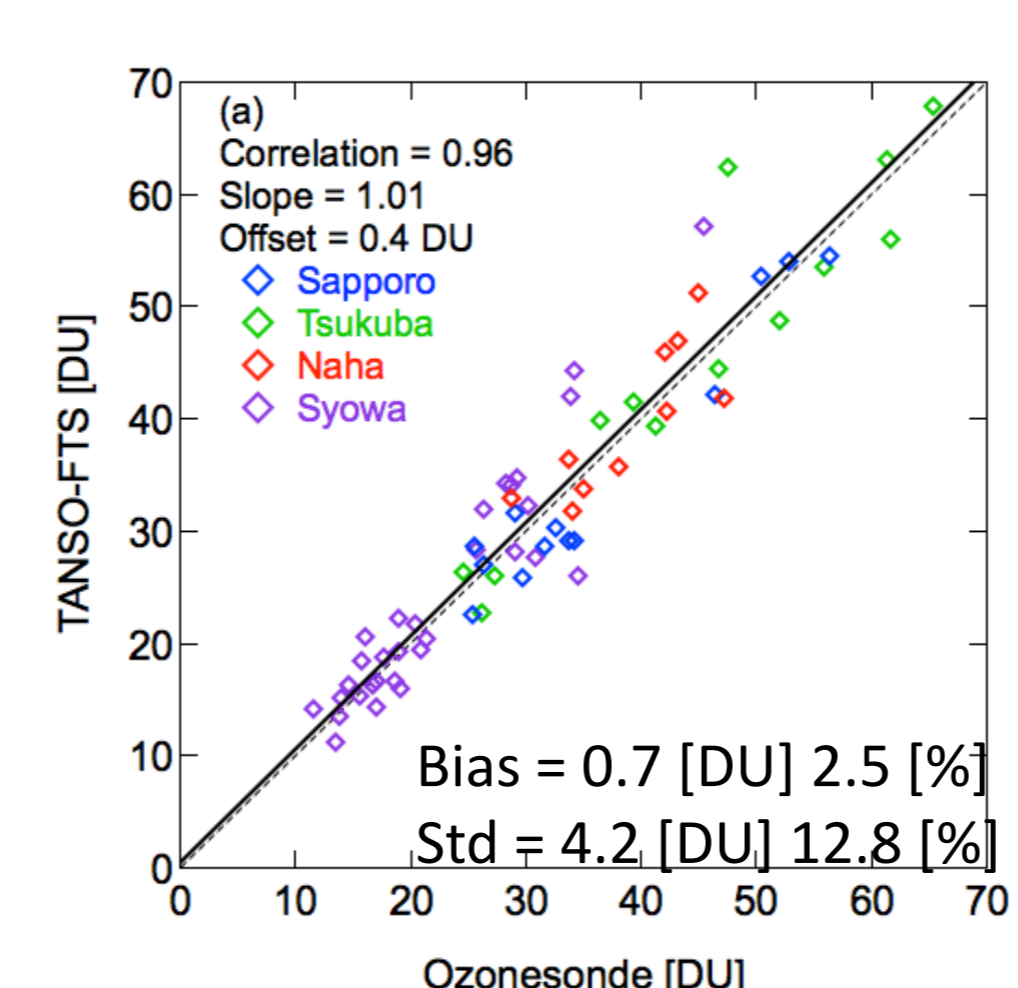


### Ozone hole in Antarctica

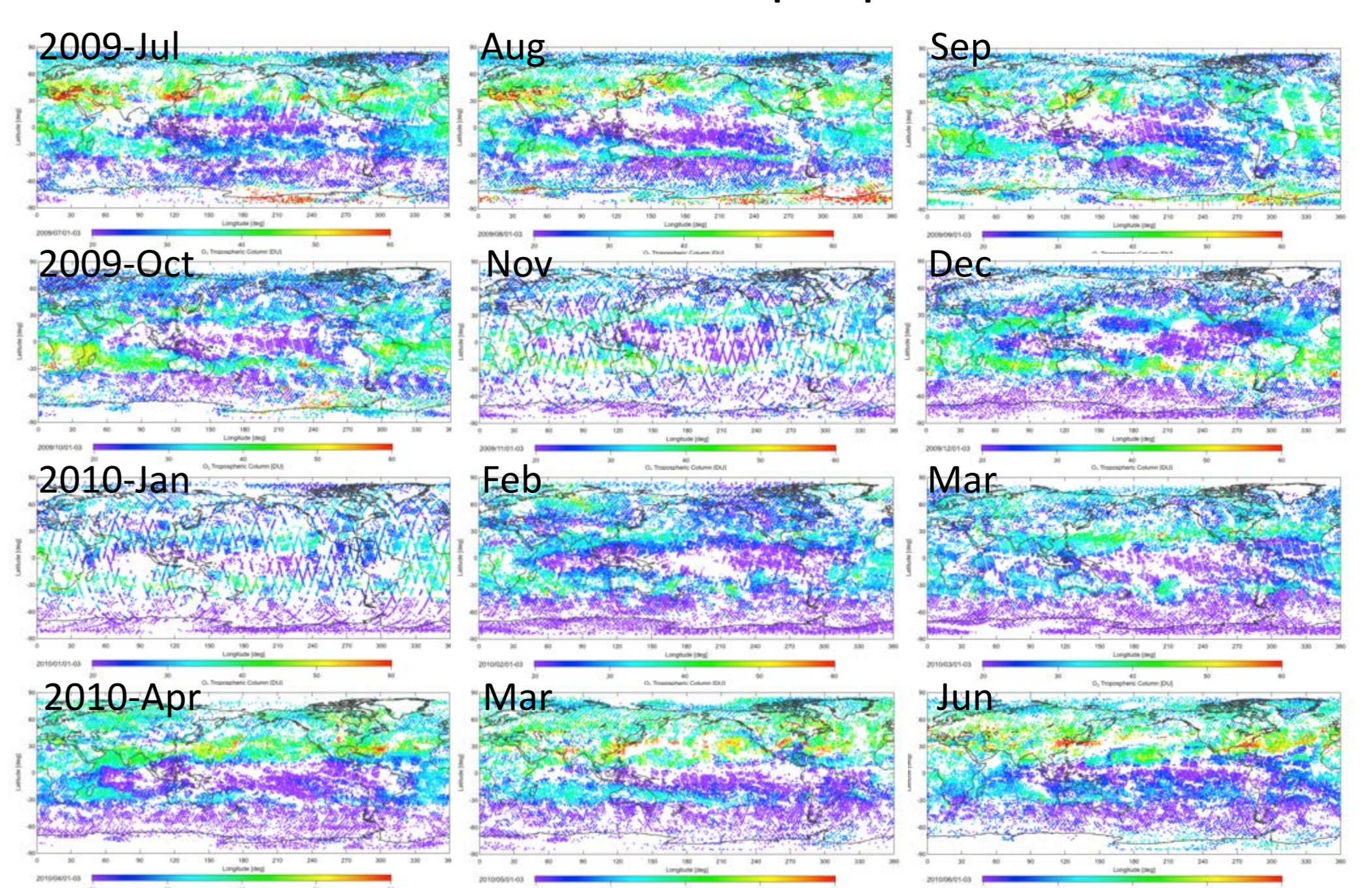


## Tropospheric Ozone

### Validation with ozonesonde



### Seasonal variation of tropospheric ozone



GOSAT websites: JAXA EORC  
NIES office

[http://www.eorc.jaxa.jp/GOSAT/index\\_j.html](http://www.eorc.jaxa.jp/GOSAT/index_j.html)  
[http://www.gosat.nies.go.jp/index\\_e.html](http://www.gosat.nies.go.jp/index_e.html)

