

Atmospheric Soundings Breakout Summary

Overview

- **Sounding network:** *extraordinary success!*
- **Nearly 100 people** involved in launch operations, including over 30 students from various countries
- **~26,000 soundings**, 73 sites, 7 sonde types
- **Launch success rate:** 96% for 6 core sites; 99.8% for dropsondes
- More than **95% transmitted onto GTS** → **models**
- **Data QC/processing time:** steady improvement since TOGA COARE (~10 years → ~1.5 years)
- **Breakout topics:** *remaining QC/processing tasks; corrections to data; intercomparison studies; ship/island effects; sounding products*

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Issues

◆ Sounding/ancillary data acquisition & processing tasks

- Gan soundings after 9 February 2012
- GPS total precipitable water observations throughout region
- Wind profiler data (Diego Garcia, *Revelle*)
- Surface met data for core sounding sites

◆ Humidity and other corrections

- Vaisala RS92 dry-bias corrections have been applied; Meisei and other systems: corrections underway
- RS92 nighttime moist bias: under investigation
- Corrections to humidity for slow ascent rates being rechecked
- Ship heating effects: *Mirai, Sagar Kanya, Baruna Jaya*
- Geopotential heights being checked (momentum budgets)
- ***After correction, RH reliable to within few % in lower trop.***

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Issues

◆ ***Intercomparison/evaluation studies***

- Upsonde/dropsonde
- S-PolKa humidity profiles/soundings
- GPS/MWR TPW vs. TPW from soundings
- Satellite/model/reanalysis products

◆ ***Specialized sounding studies***

- Sri Lanka flow blocking
- Island/atoll effects on soundings – Diego Garcia
- Nocturnal inversions at Manus, Diego Garcia

◆ ***Products***

- Forcing fields for SCMs, CSRMs; intercomparison of approaches
- Standard 25 hPa-resolution gridded and array-averaged data sets; higher vertical resolution for specialized studies
- What value-added products does community want?