AWAS, CAST-WAS, and TOGA Measurement Intercomparisons
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The NSF CONvective TRansport of Active Species in the Tropics (CONTRAST), NASA Airborne Tropical Tropopause Experiment (ATTREX), and NERC Coordinated Airborne Studies in the Tropics (CAST) field campaigns were designed to study trace gas distributions in the tropical atmosphere. The combined measurements from the 3 aircraft, the NSF/NCAR GV for CONTRAST, the NASA Global Hawk for ATTREX, and the Bae-146 for CAST, spanned the surface to the lowermost stratosphere, allowing an unprecedented opportunity to examine the impact of local and regional emissions, convective transport, and photochemistry on trace gas distributions.

All three aircraft were instrumented with Whole Air Samplers for measurements of a large suite of organic compounds. These were Advanced Whole Air Sampler (AWAS) on the NSF/NCAR GV operated by E. Atlas at U. of Miami, the Global Hawk Whole Air Sampler (GWAS) on the Global Hawk also operated by E. Atlas at U. of Miami, and the CAST-Whole Air Sampler (WAS) on the BAE-146 operated by Lucy Carpenter at U. of York.

The NSF/NCAR GV and BAE-146 also had instruments for in-situ measurements of organic compounds. These were the Trace Organic Gas Analyzer (TOGA) on the NSF/NCAR GV operated by Eric Apel of NCAR and the York in-situ system on the BAE-146 operated by Lucy Carpenter at U. of York. This poster presents intercomparisons of select compounds measured by all three groups, U. of Miami, NCAR, and U. of York.

NMHCs
Propane, Isobutane, n-Butane, Isopentane, n-Pentane, Benzene

Organic Halogens
CFC-114, CFC-11, CCL₃, CCl₂, CCl₃, CCl₄, C₂H₃Cl

Organic Halogens
CHBr₂, CH₂Br₂, CH₃, CHBr₂Cl, CHBrCl₂, CH₂Br₂

Alkyl Nitrates and DMS
Methyl nitrate, Ethyl nitrate, Isopropyl nitrate, DMS

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