

A Comparison of very short-lived halocarbons (VSLS) aircraft measurements in the Tropical West Pacific from CAST, ATTREX and CONTRAST

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Abstract text

We present a comparison of aircraft measurements of halogenated very short-lived substances (VSLS) and dimethyl sulphide (DMS, C₂H₆S) from a co-ordinated campaign in Jan/Feb 2014 in the Tropical West Pacific. Measurements were made on the NASA Global Hawk, NCAR GV HIAPER and FAAM BAe146 using four separate GC-MS instruments operated by the University of Miami (UoM), the National Centre for Atmospheric Research (NCAR) and two from the University of York (UoY), respectively. The UoY airborne GC/MS is a new instrument for measuring airborne species, and therefore was carefully compared to other, more experienced instruments. Comparisons of vertical profiles indicate a very good agreement across the platforms, with the exception of the UoY WAS system, which showed a slight negative bias, attributed to sampling line losses during the campaign. Additionally, over the region surveyed, it is apparent that the Tropical West Pacific shows extremely low spatial and temporal variability. These results are encouraging for global flux estimates, in a region previously lacking in comprehensive datasets.

References

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