



Analysis of very short-lived halocarbons in the ocean and atmosphere using fully automated sampling techniques

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Reactive halogen species, originating in part from very short-lived halocarbons (VSLH), play an important role in tropospheric chemistry. However, VSLH datasets are sparse compared to those of other important trace gases. In addition, calibration is non-trivial and a lack of a common scale limits their usefulness. A new, fully automated seawater analysis instrument was developed to provide near-continuous surface seawater measurements and semi-automated CTD measurements of VSLH. This instrument was deployed, alongside a new system for continuous on-line air measurements, during the Tropical Ocean Troposphere Experiment of Reactive halogen species and OVOCs (TORERO) cruise. High frequency online air measurements, automated seawater measurements and simultaneous chlorophyll- α fluorescence will be reported for the duration of the cruise. The data will compliment VSLH measurements taken from onboard the NCAR G-V HIAPER aircraft to provide a comprehensive vertical profile from deep ocean to upper troposphere. Inter-comparison of standard gases used during the campaign will add confidence to results and link this data set with recent inter-comparisons in the UK and US.