

## **Atmospheric multiphase system studies: Dust, terpene and isoprene oxidation**

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TROPOS in a consortium operates a measurement station on the Capverde Island of Sao Vicente, the Cap Verde Atmospheric Observatory (CVAO). Dust measurement time series results will be reported and discussed. It can be seen that dust is delivering important trace constituents to the oceans which is expected to couple towards marine productivity which, in turn, influences atmospheric composition in the marine environment.

Secondly, lab investigations of  $\alpha$ -pinene oxidation (leading to HOMs) and multiphase isoprene oxidation will be described and discussed. HOMs are so-called highly oxidized multifunctional molecules which are molecules essentially containing multiple hydroperoxide (ROOH) groups.

In the third section multiphase modelling with the CAPRAM model system will be demonstrated related to the outlined laboratory and field measurements. In recent CAPRAM studies the impact of the investigated uptake on the particle phase oxidation capacity is studied. A dust chemistry module has been developed which will be described.

Finally, an outlook on further directions for the study of tropospheric multiphase chemistry is given.