



## Sources of iodine in the tropical marine boundary layer

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The importance of halogens in the chemical processes of the marine boundary layer has long been recognized, although many uncertainties remain. The role of iodine is particularly uncertain, especially with regard to its atmospheric sources. In this work, iodine chemistry in the tropical marine boundary layer was studied using a one dimensional model constrained to measured fluxes of iodinated hydrocarbons.

The concentrations of iodocarbons were simultaneously measured in marine air and water during the RHaMBLe cruise, which took place in May-June 2007 around the Cape Verde archipelago. The sea-air fluxes of selected iodocarbons calculated from these measurements were used in a 1-D model to calculate the atmospheric concentrations of inorganic iodine species in the marine boundary layer at the latitude of Cape Verde (17 degrees N). The model was a revised version of MISTRA, with an updated module of gas-phase inorganic and DMS chemistry, and included the new iodine aqueous-phase chemical mechanism developed by Pechtl et al. (2007).

The model results were qualitatively compared with the observations of IO taken at the Cape Verde Atmospheric Observatory during a previous campaign. The model was then used to determine the role of the measured iodocarbons as sources of iodine in the marine boundary layer and to study their impact on the concentration of tropospheric ozone.