

Alina Fiehn

University of Oslo, Norway
GEOMAR Kiel, Germany



UiO : **University of Oslo**



Ocean-stratosphere transport

Halogenated very short-lived substances (VSLS, $\tau < 0.5$ years)

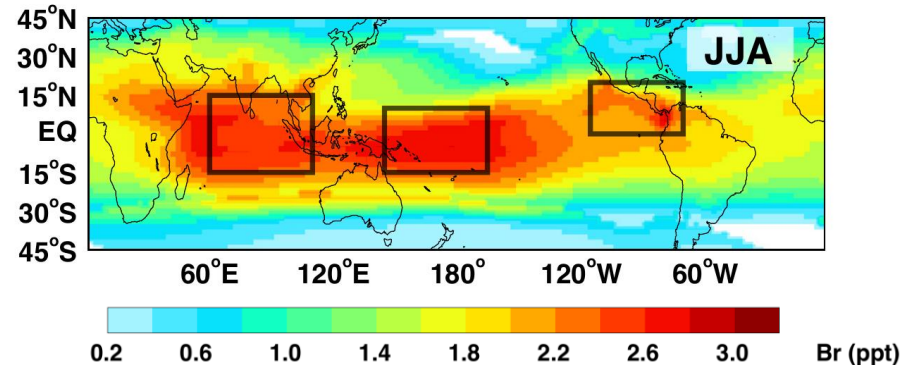
Naturally produced in the ocean by phytoplankton and algae

Reach stratosphere mainly in the tropics through rapid uplifts

Add to stratospheric halogen burden if transported to the stratosphere, destroy ozone

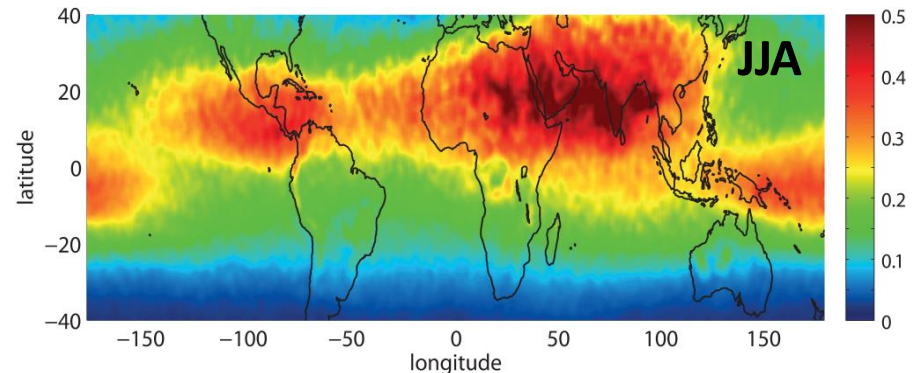
What is the role of the Asian monsoon in transporting very short-lived substances from the Indian Ocean to the stratosphere?

Modelled Br_y mixing ratio @ 13 km



(Liang et al. 2014, ACP)

Modelled CHBr_3 mixing ratio @ 17 km



(Tegtmeier et al., in prep.)

Issues of interest

- Interannual variability of Asian Monsoon
 - Teleconnections with the Indian Ocean Dipole, El Niño-Southern Oscillation, and others
- Trends in convection and rainfall above the **Indian Ocean** and the Indian subcontinent also connected to the seasonal cycle