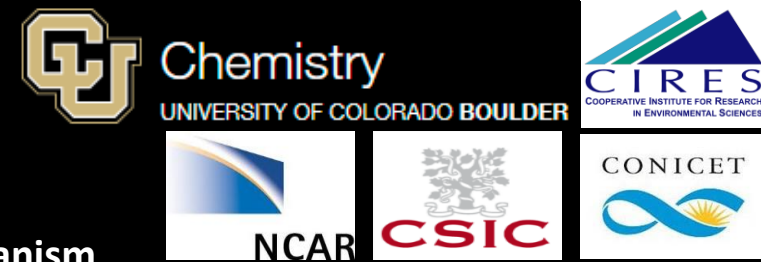
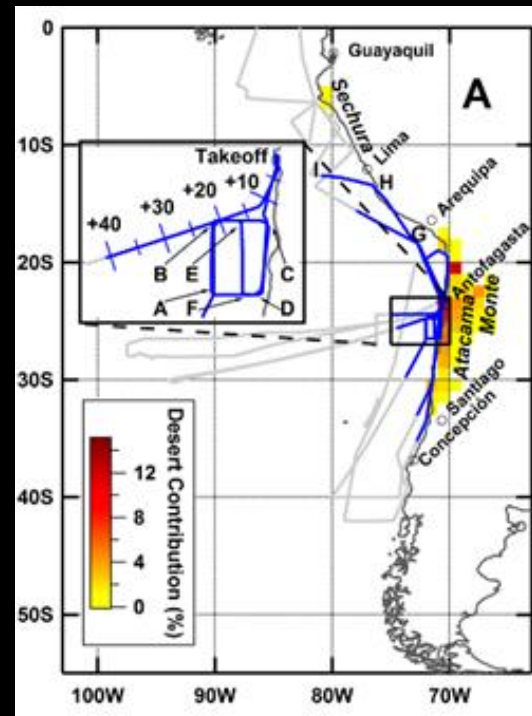


# Mini ozone holes due to dust release of iodine

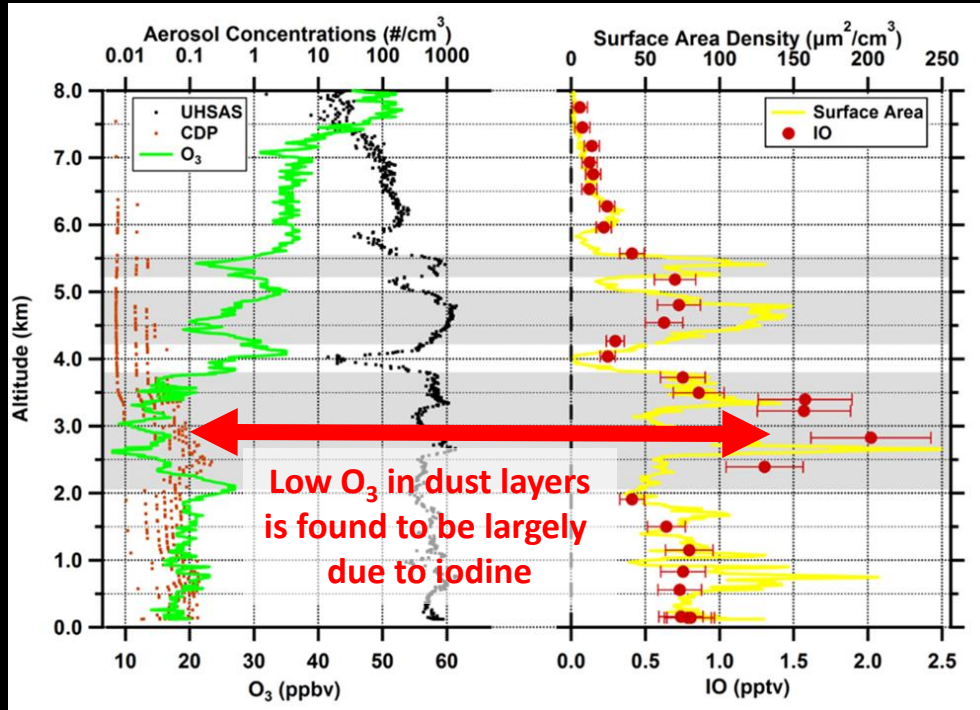
Volkamer, R., T.K. Koenig et al. & the TORERO team



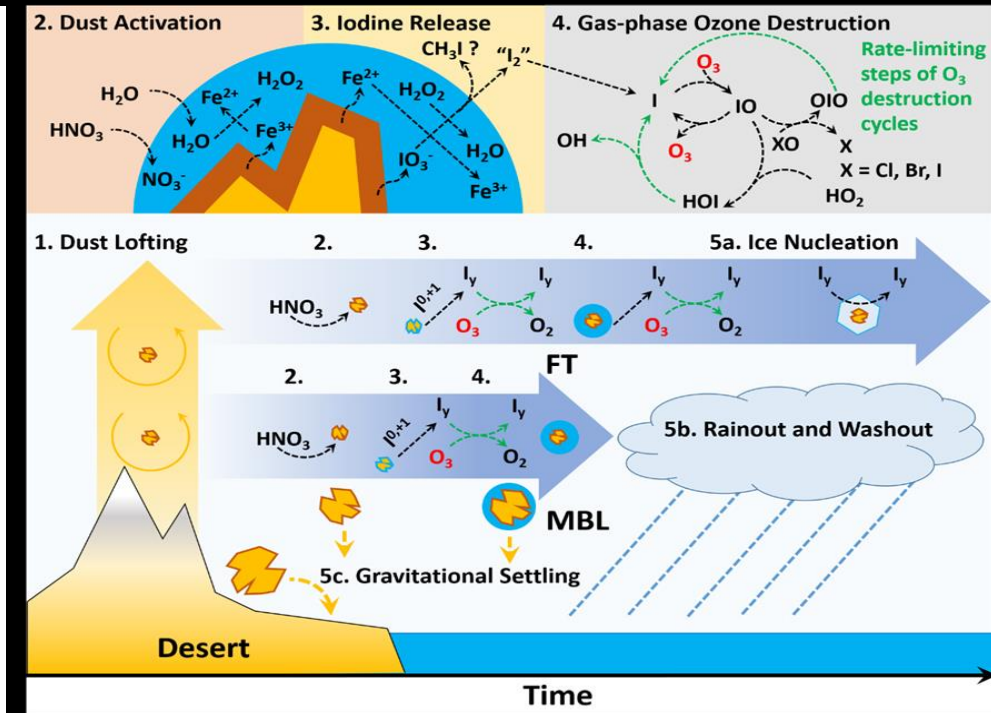
## Atacama & Sechura desert



## Lofted dust layers → iodine enriched → O<sub>3</sub> depleted



## 4 step mechanism



## What was done?

Aircraft field observations of chemistry & microphysics; modeling;  
First quantitative detection of IO radicals in lofted dust layers

## What was found?

Dust is a source of iodine → **missing in geochemical iodine cycle**  
More than half of <75% O<sub>3</sub> depletion is attributed to iodine (new!)

## Why it matters for atmospheric chemistry?

Needed to explain low O<sub>3</sub> in dust layers;  
O<sub>3</sub> sink; O<sub>3</sub> entrainment flux; nucleation

## Why should we care?

Climate engineering: Risk to O<sub>3</sub> layer  
Iodine has tripled since 1950...