

# Solubility of metals in aerosol samples from Mount Etna during the EPL-REFLECT campaign

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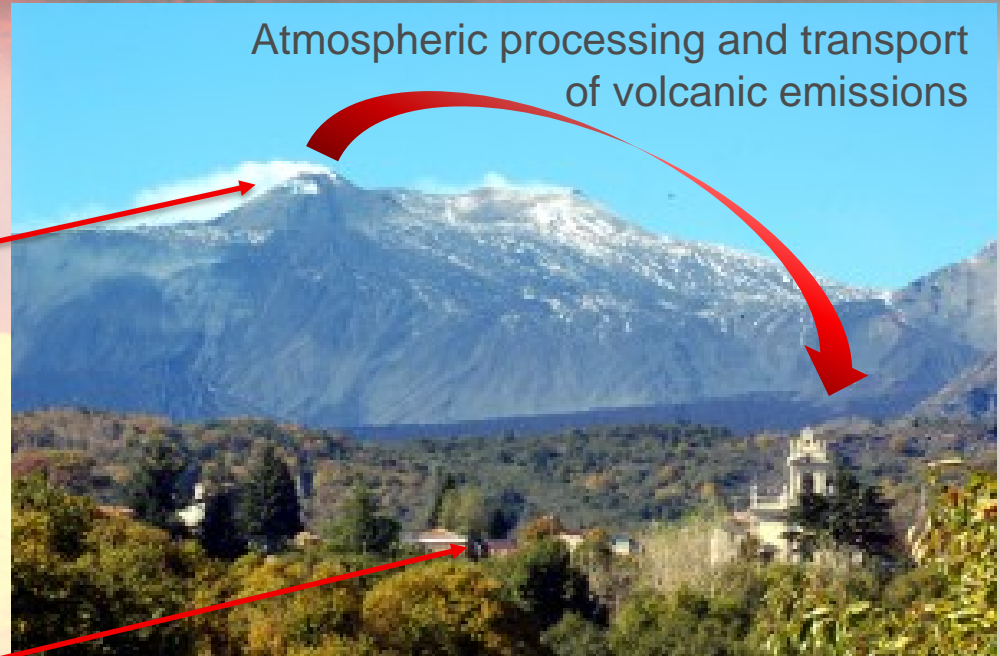


# Aim: preliminary evaluation of the effect of atmospheric processing on the toxicity of volcanic aerosols

Aerosol sampling at the crater  
“Bocca Nuova”, Etna (3300m asl)



Atmospheric processing and transport  
of volcanic emissions



Aerosol samples taken using “Sioutas” samplers in the range  $10\text{-}2.5\mu\text{m}$ ,  $2.5\text{-}1\mu\text{m}$ ,  $1\text{-}0.5\mu\text{m}$ ,  $0.5\text{-}0.25\mu\text{m}$  and  $<0.25\mu\text{m}$ :

2 samples (2h) at the crater in the plume

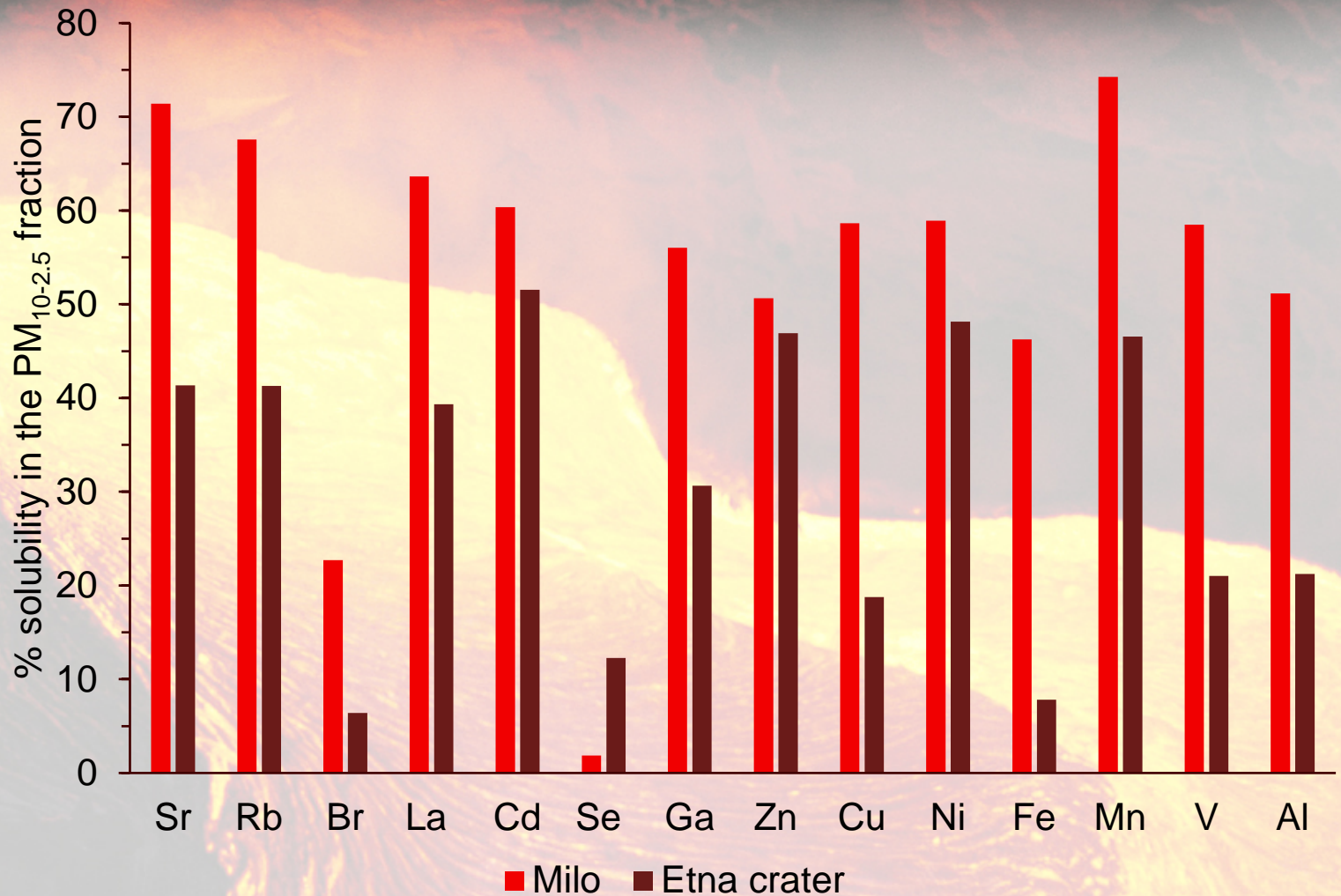
1 control samples upwind of the plume

1 sample (24h) in the town of Milo (Italy)

Aerosol sampling in Milo



# Change in the solubility of metals from the Etna crater (in the plume at 3300m asl) to Milo (downwind the Etna plume at 720m asl)







# Conclusions and future plans

- Atmospheric processing increases the solubility of metals in volcanic aerosols
- To investigate the mechanism by which metal solubility increases during atmospheric processing and transport to the closest inhabited areas
- To evaluate the change in toxicity of the particles due to atmospheric processing