

SO₂ FROM GOME

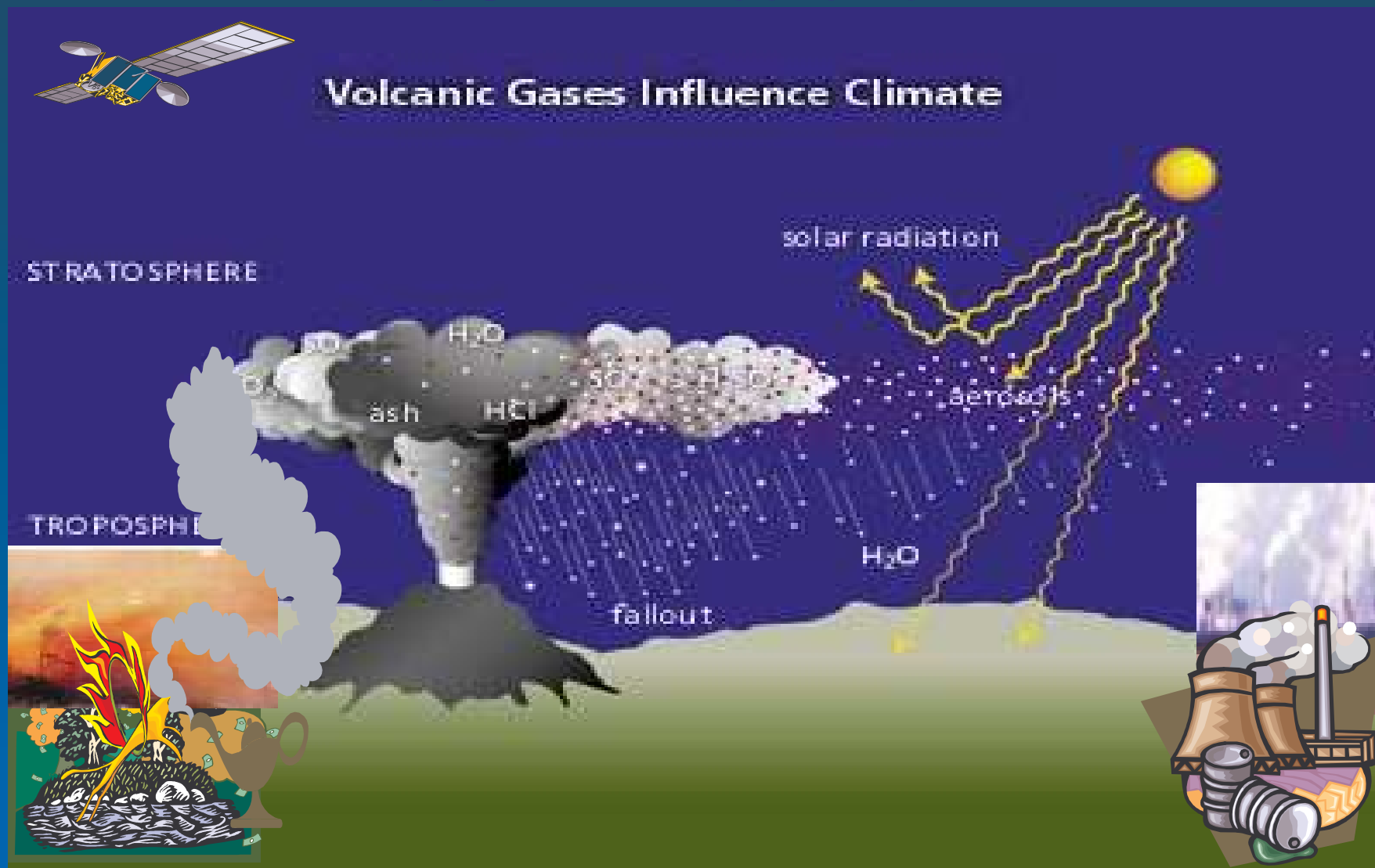
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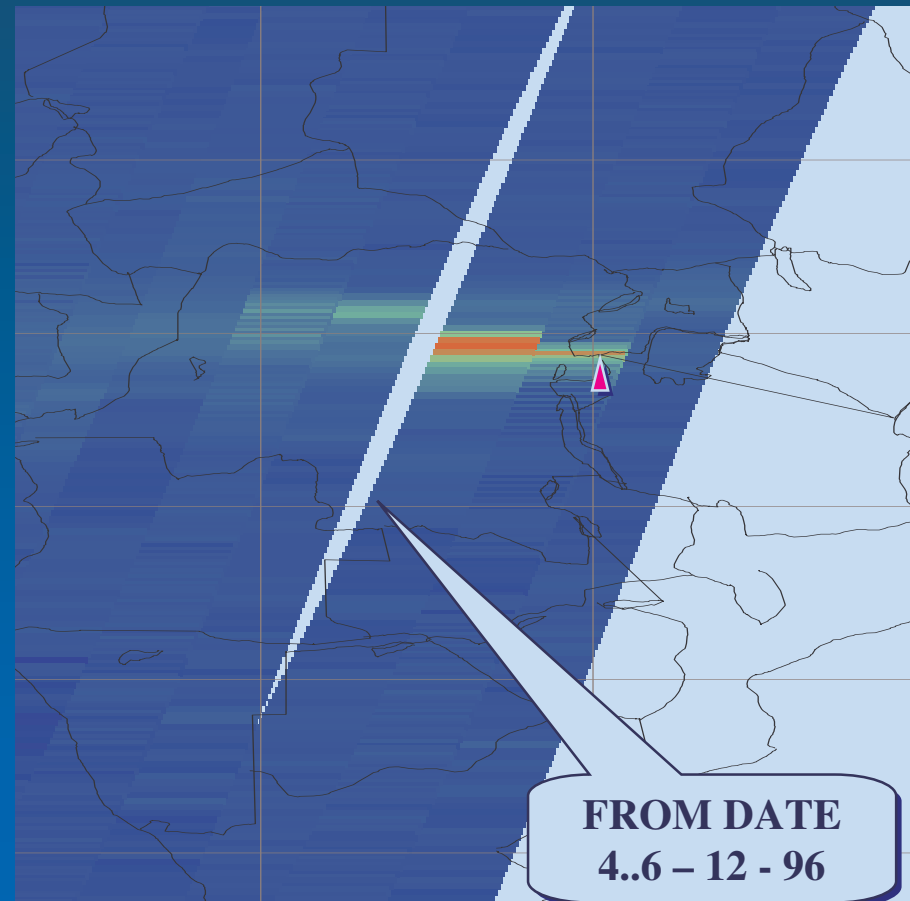
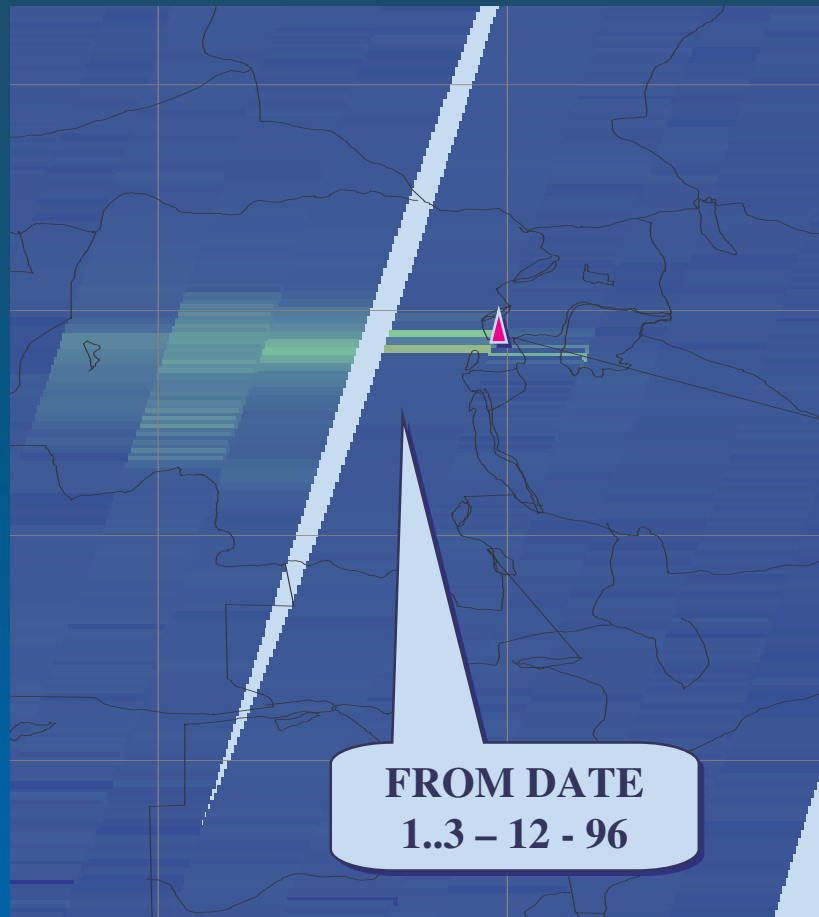
SO₂ Emissions



SO₂ from volcano NYAMURAGIRA

A SHIELD VOLCANO IN THE VIRUNGA VOLCCANO RANG OF ZAIR / KONGO

MAX :CONCENTRATION OF SO2 WAS FOUND ON 4TH OF DEC.1996 ; 9.02E+17

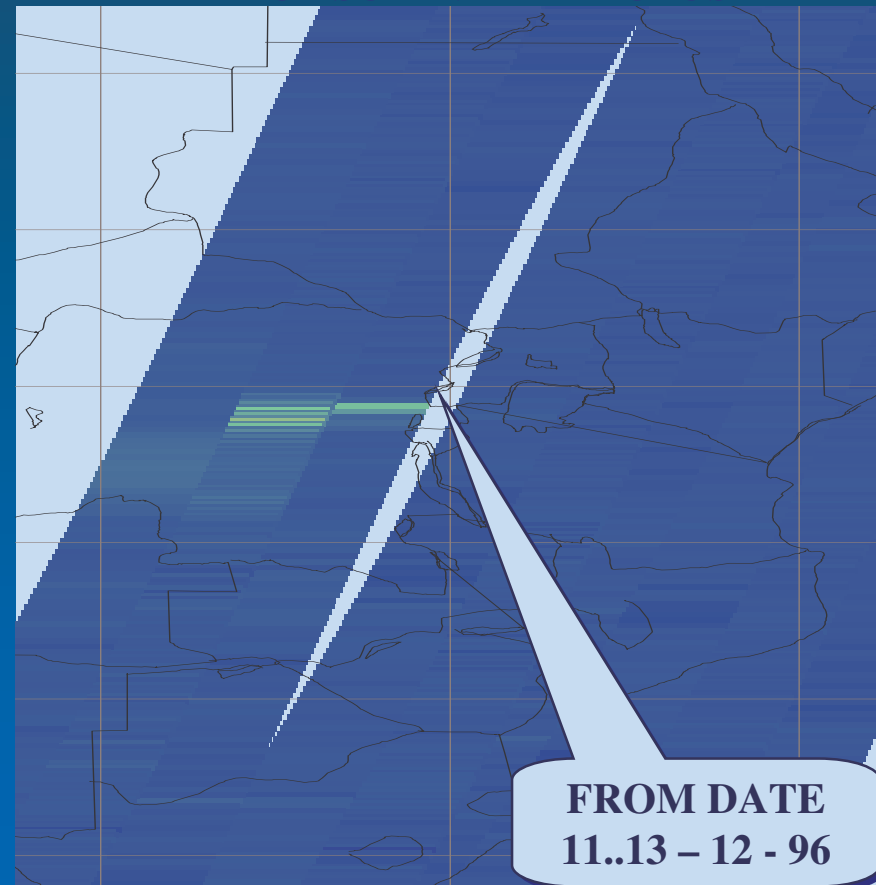
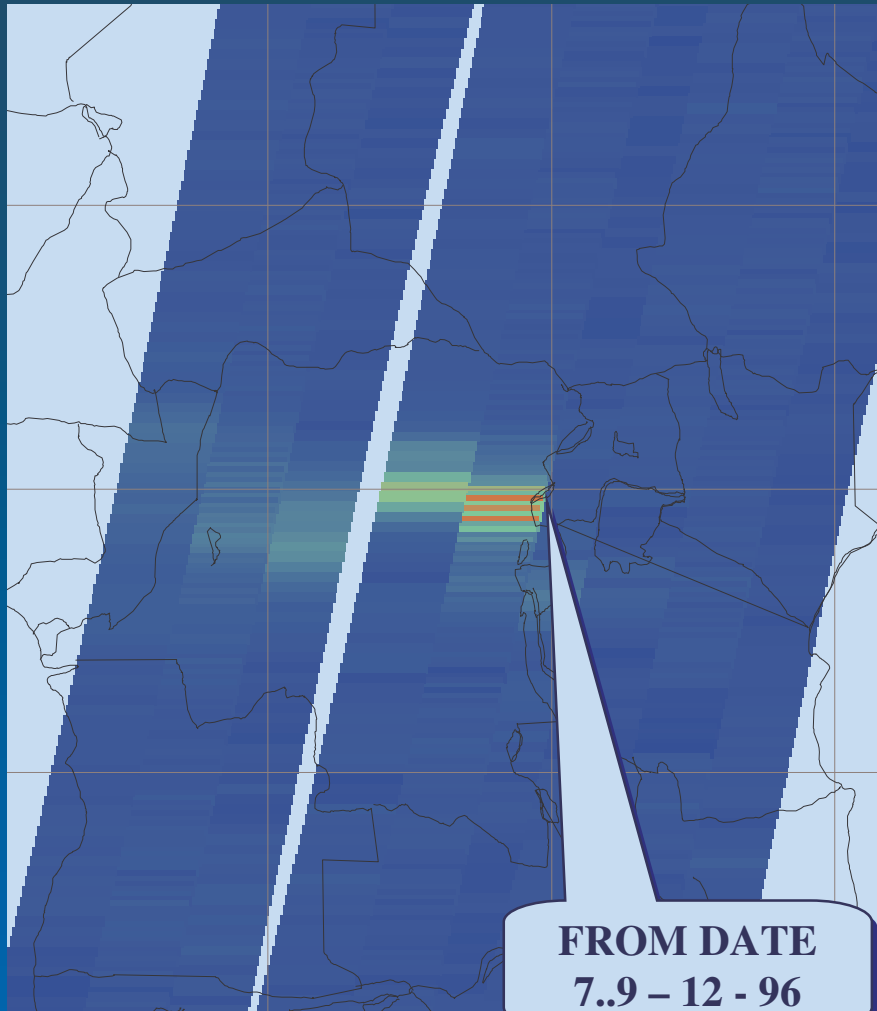


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SO₂ from volcano NYAMURAGIRA

ASSUMING TROPOSPHERIC WIND SPEED B/W 5 AND 10 m/s , THIS CORRESPONDS TO 2 – 5 DAYS THEN PLUME CAN BE TRACKED AT A DISTANCE OF 2000 Km TO THE WEST WHICH IS CONSISTENT WITH THE LIFE OF SO₂ IN THE TROPOSPHERE

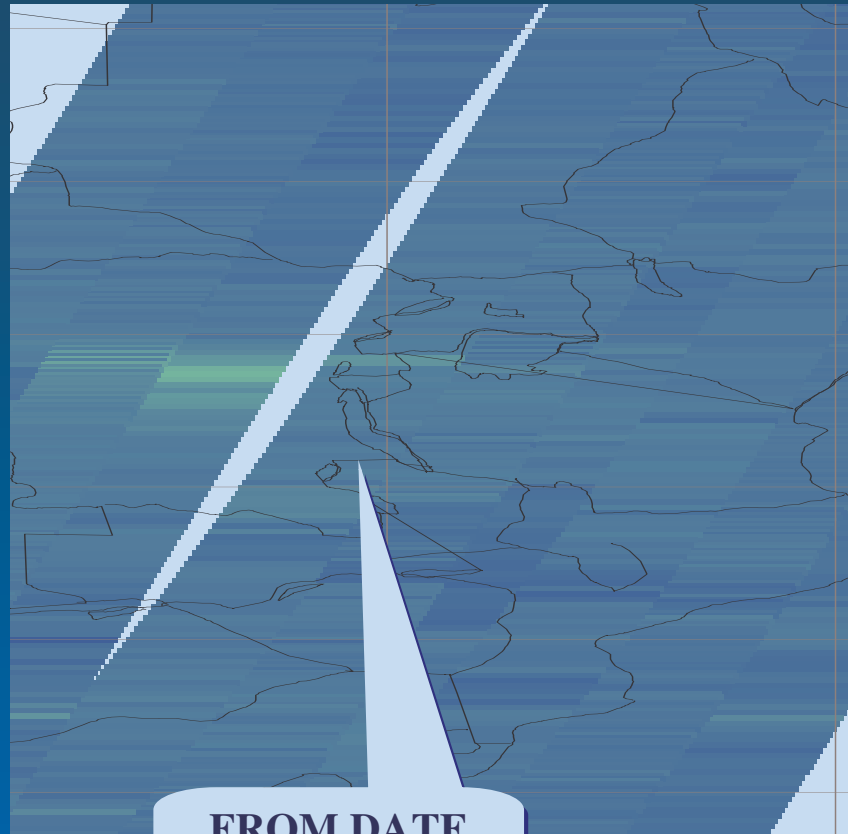


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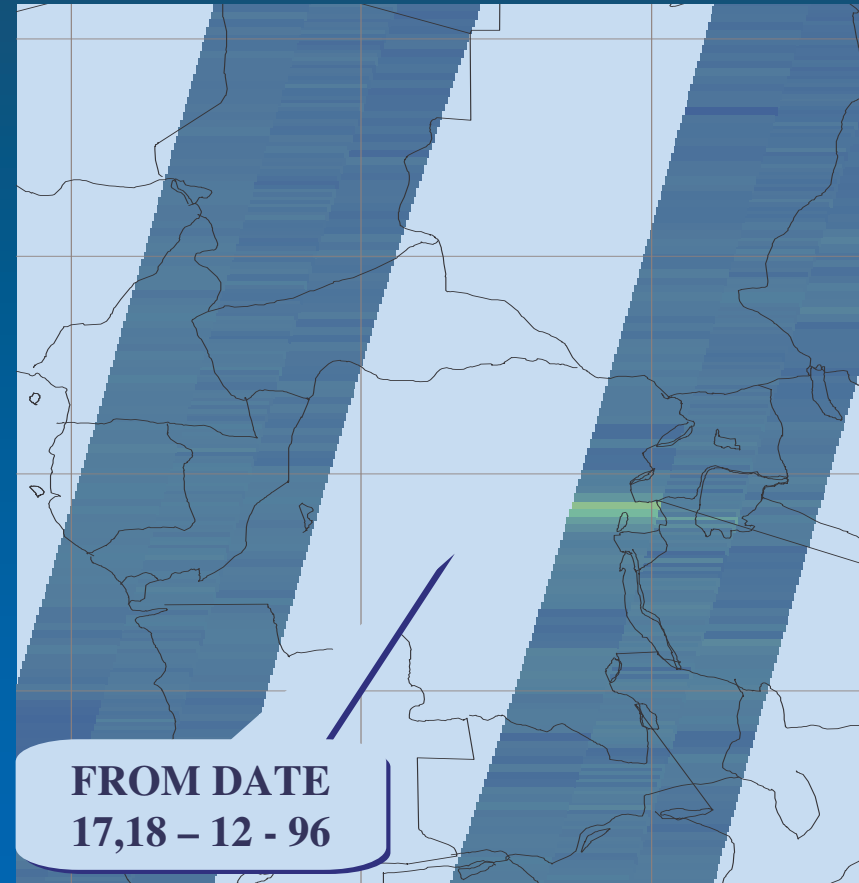
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SO₂ from volcano NYAMURAGIRA

THROUGH OUT THE OBSERVING PERIOD THE BULK OF SO₂ WAS TRANSPORTED TO THE WEST



FROM DATE
14.16 - 12 - 96

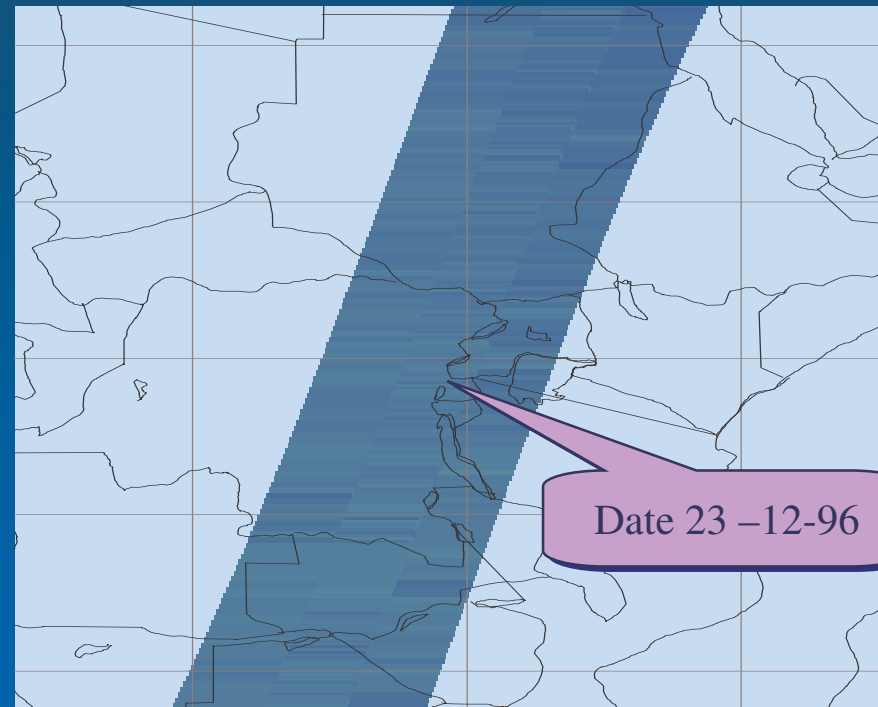
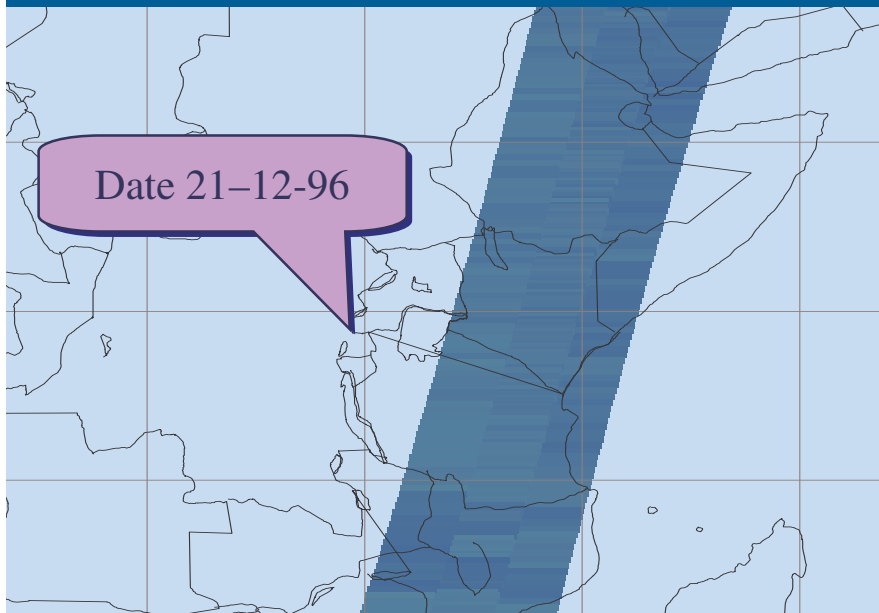
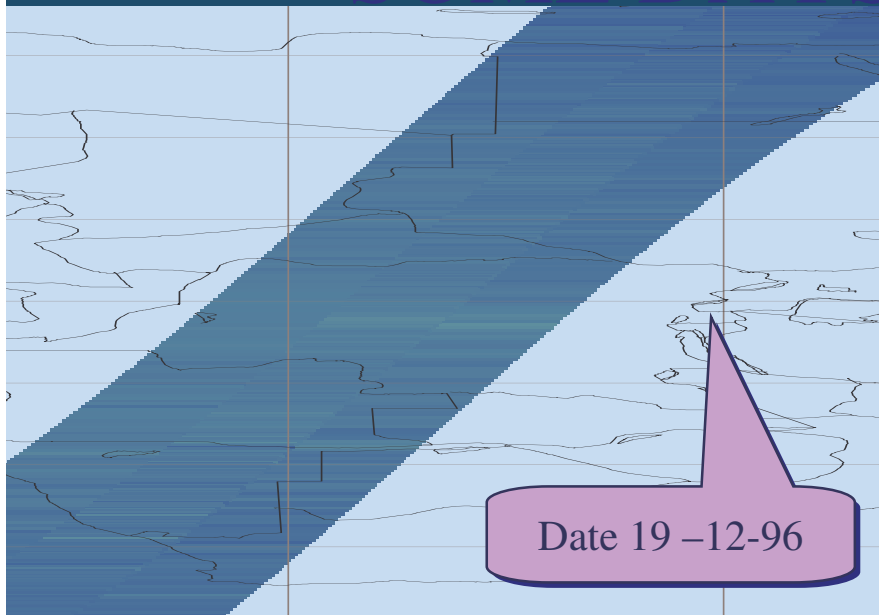


FROM DATE
17,18 - 12 - 96



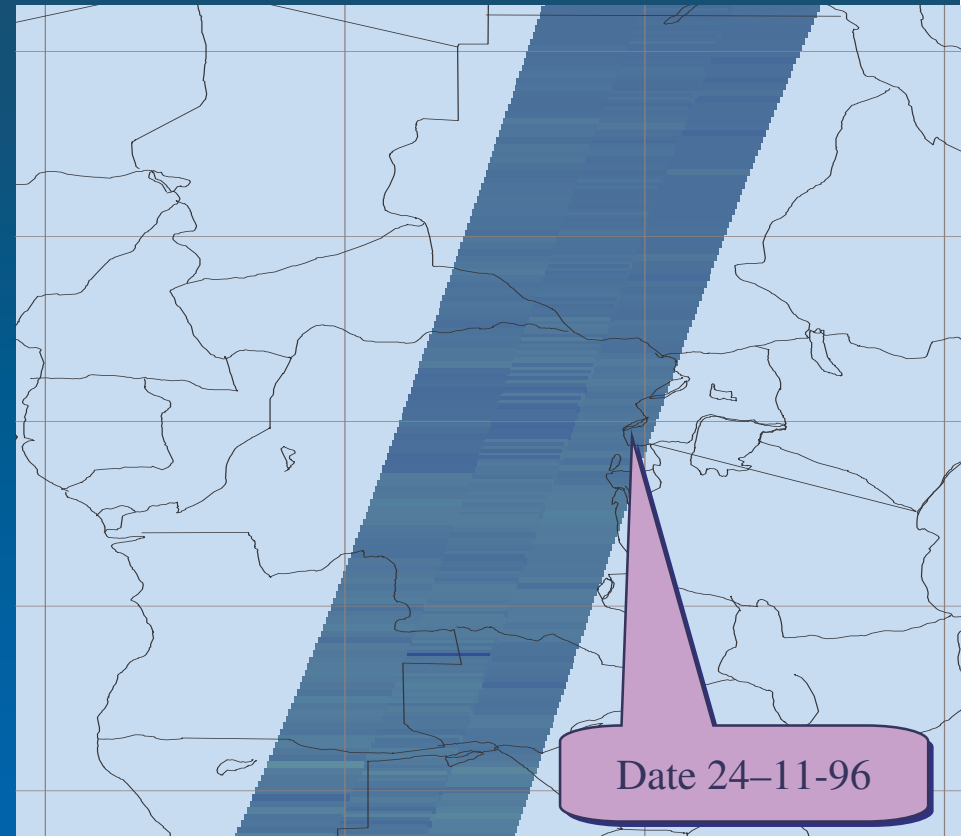
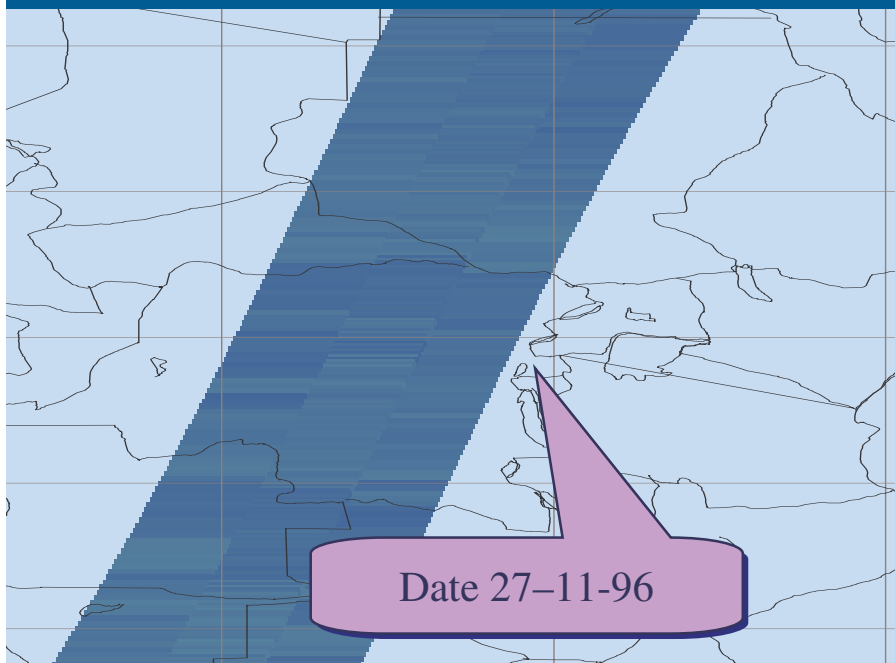
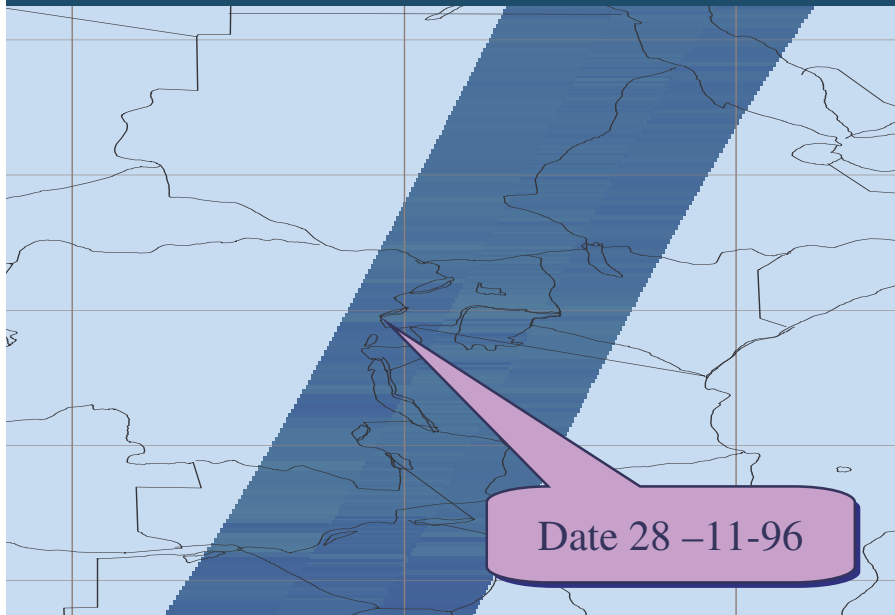
SOME DAYS AFTER ERUPTION

IT APPEARS THAT SO₂ OUTGASSING CONTINUED FOR AT LEAST TWO WEEKS, EITHER CONTINUOUSLY OR IN SEVERAL LARGE BRUSTS



Some days before eruptiopn

THERE WAS NO SO₂ EMISSIONS
FOUND BEFORE 01 - 12 - 1996



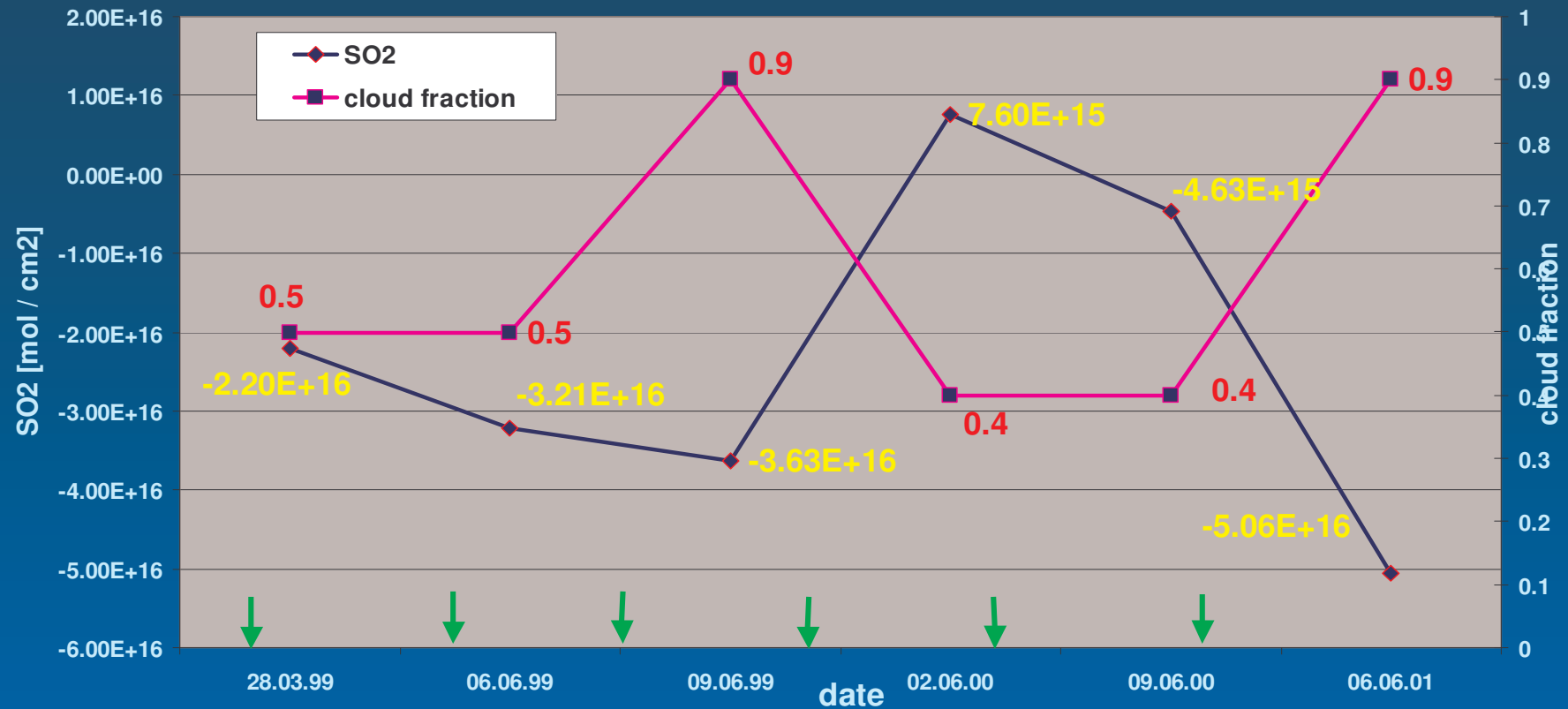
Mt. Cameroon Volcano

Elevation : 4095 m

Location : 4.20°N , 9.17°E



Cloud coverage over Mt.Cameroon Volcano



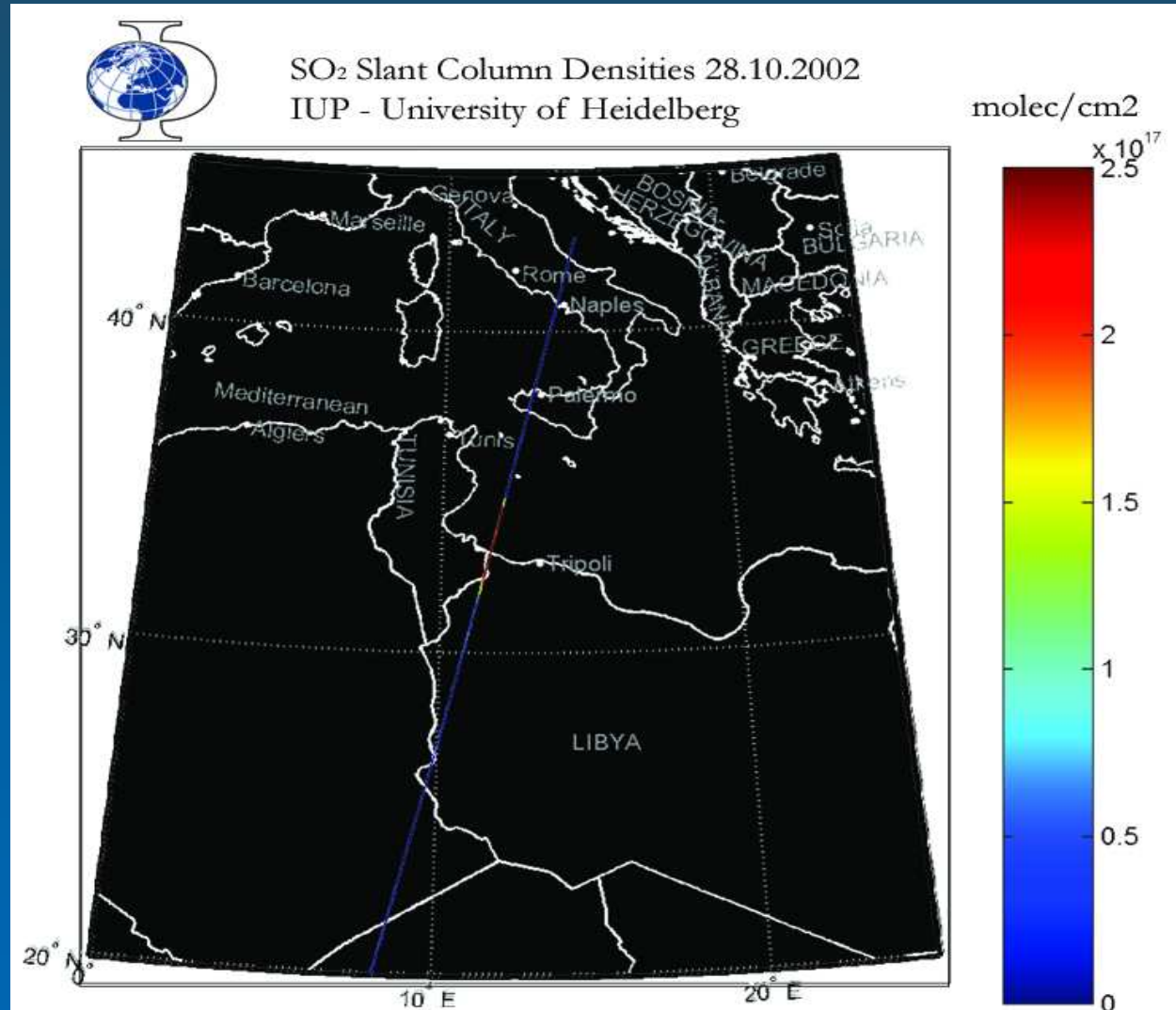
It is obvious from the plot that cloud fraction has larger effect on our results ; as the green arrows indicate the eruption of volcano but in our evaluation we didnt found any so2 concentrations on some occasions



Latest Etna Eruption

Elevation : 3350 m

Location : 37.73°N , 15°E



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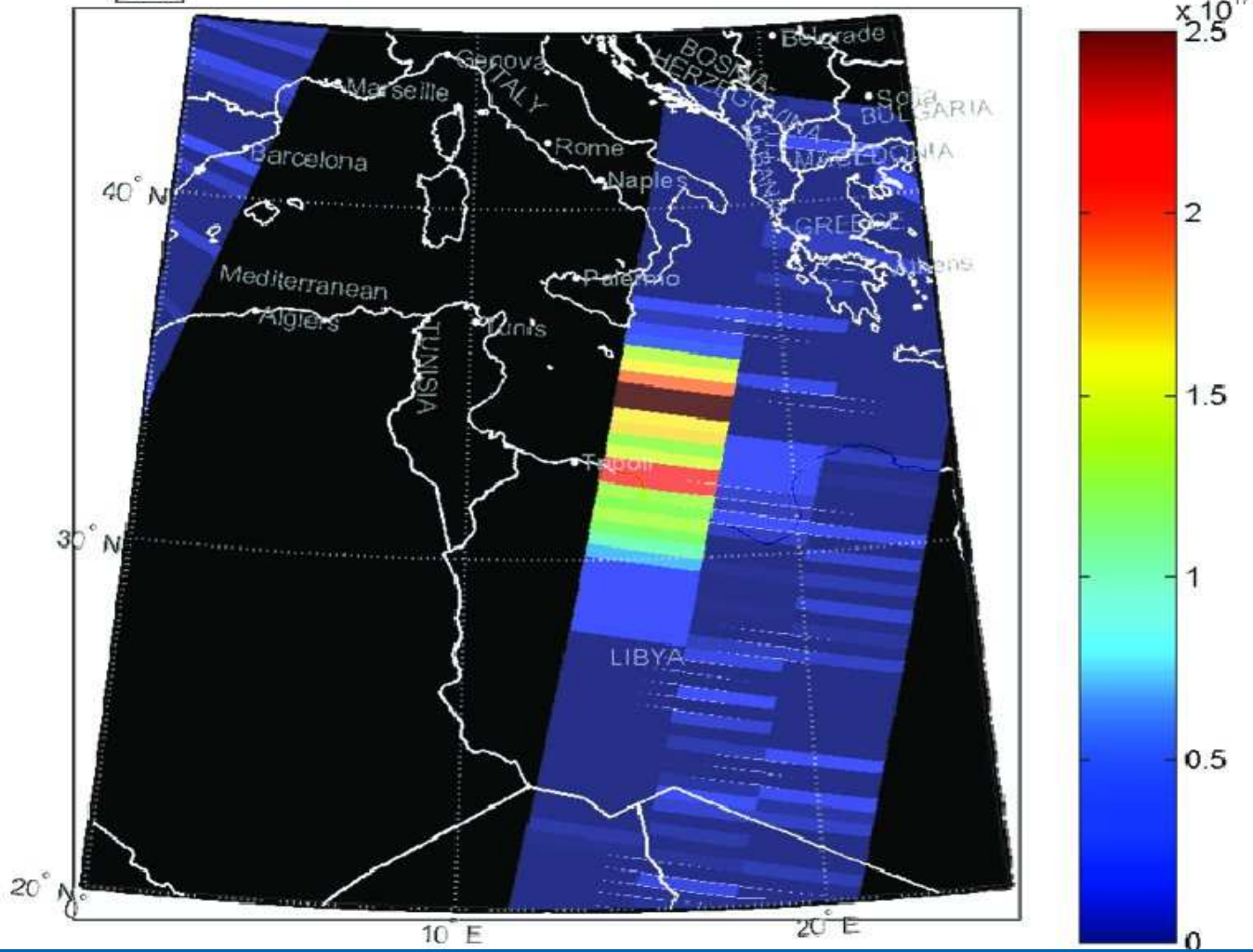
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Latest Etna Eruption



SO₂ Slant Column Densities 29.10.2002
IUP - University of Heidelberg



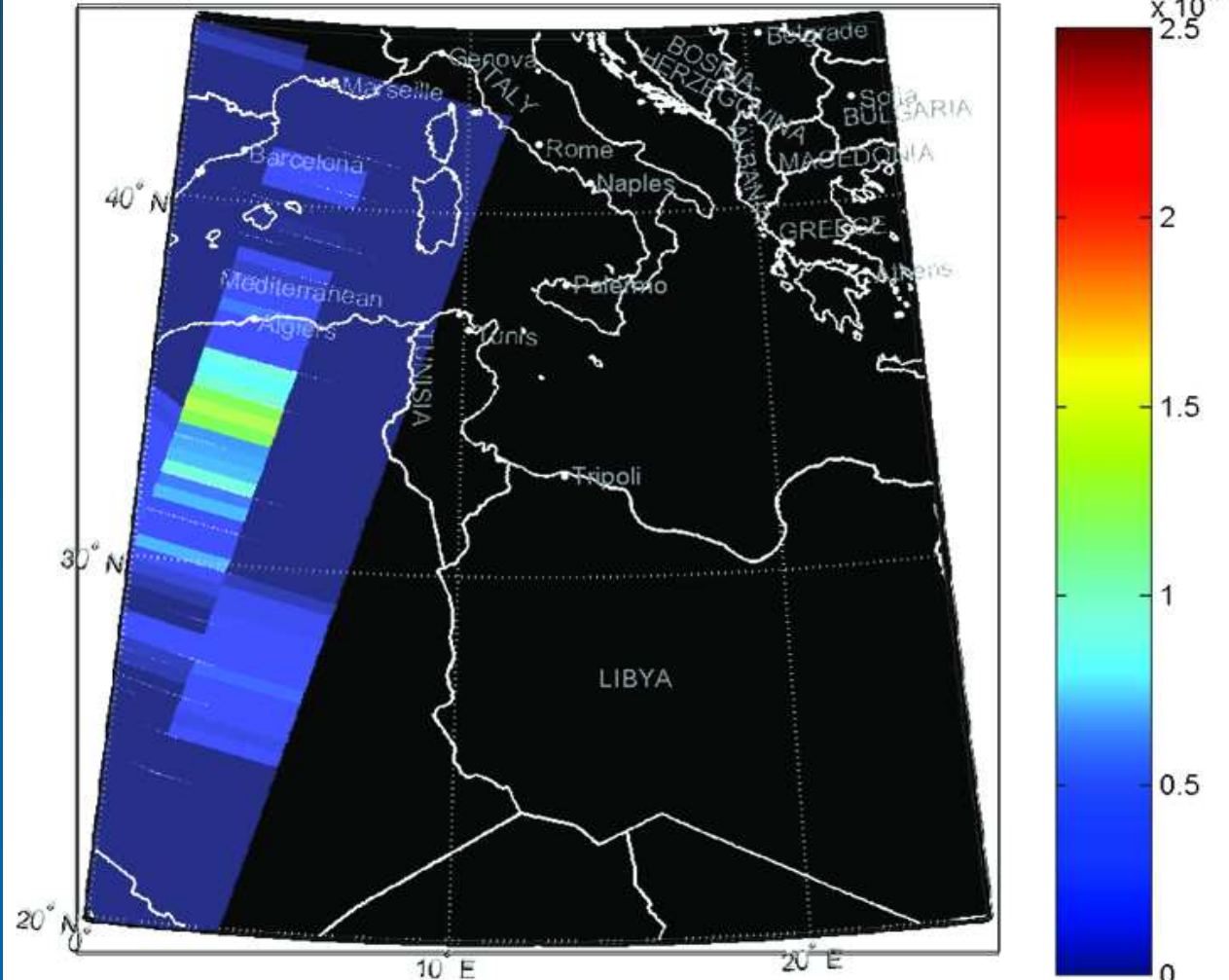
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Latest Etna Eruption



SO₂ Slant Column Densities 30.10.2002
IUP - University of Heidelberg



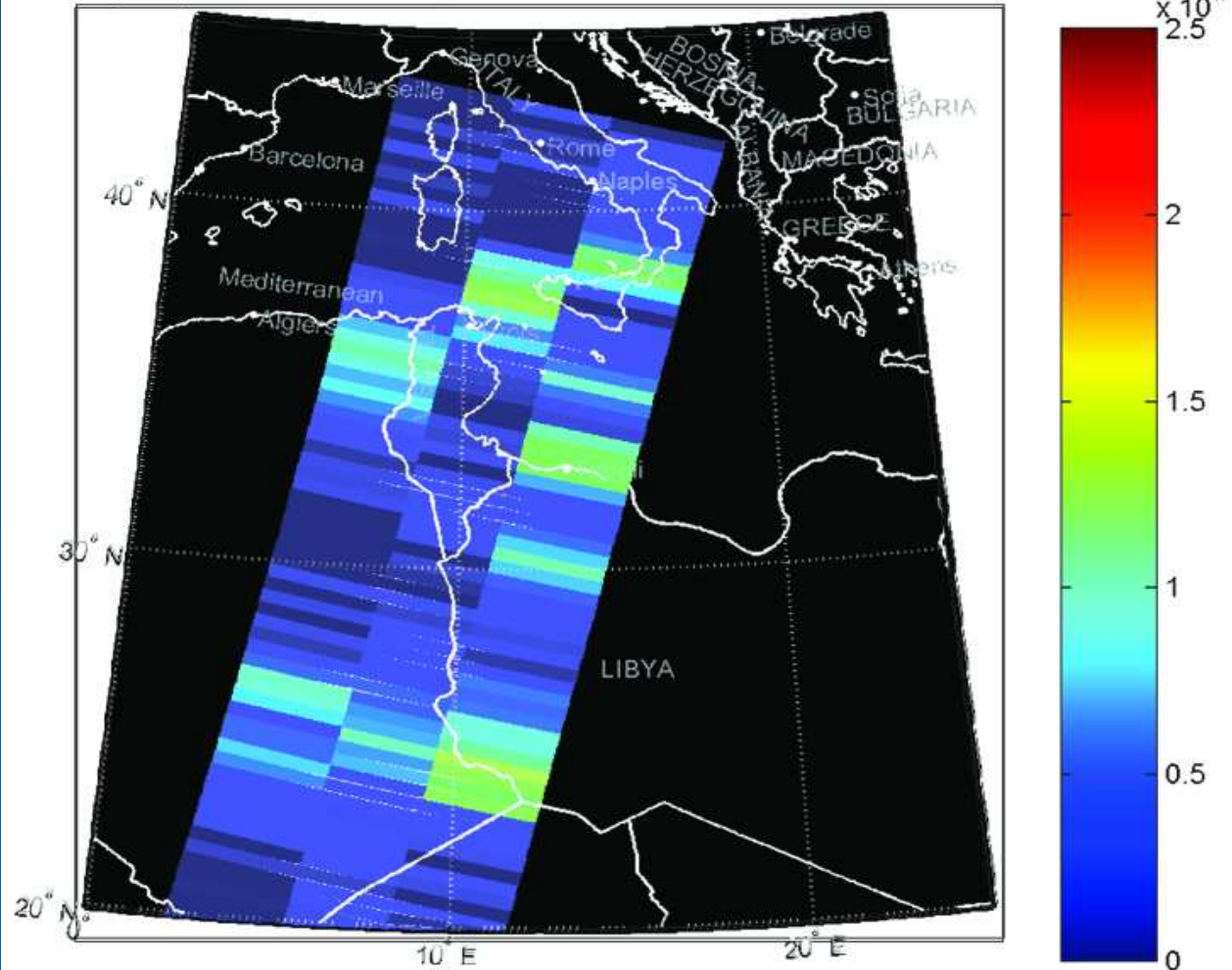
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Latest Etna Eruption



SO₂ Slant Column Densities 31.10.2002
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CONCLUSION AND FUTURE STUDIES

THE detection limit for SO₂ retrieval from GOME measurements depends on both observing conditions and retrieval algorithm .

The larger effective absorptions of Ozone are likely to result in somewhat poorer detection limit.

The sensitivity to tropospheric SO₂ is expected to be lower at higher latitudes where less UV radiation penetrates to the surface .

To build a new fit to eliminate the discrepancies in our results .

To find out the contribution of, volcanic emissions around the globe, anthropogenic emissions such as sea traffic , fossil fuels etc.and bio-mass burning .in total atmospheric SO₂ budget.

