EO and challenges in climate, air quality

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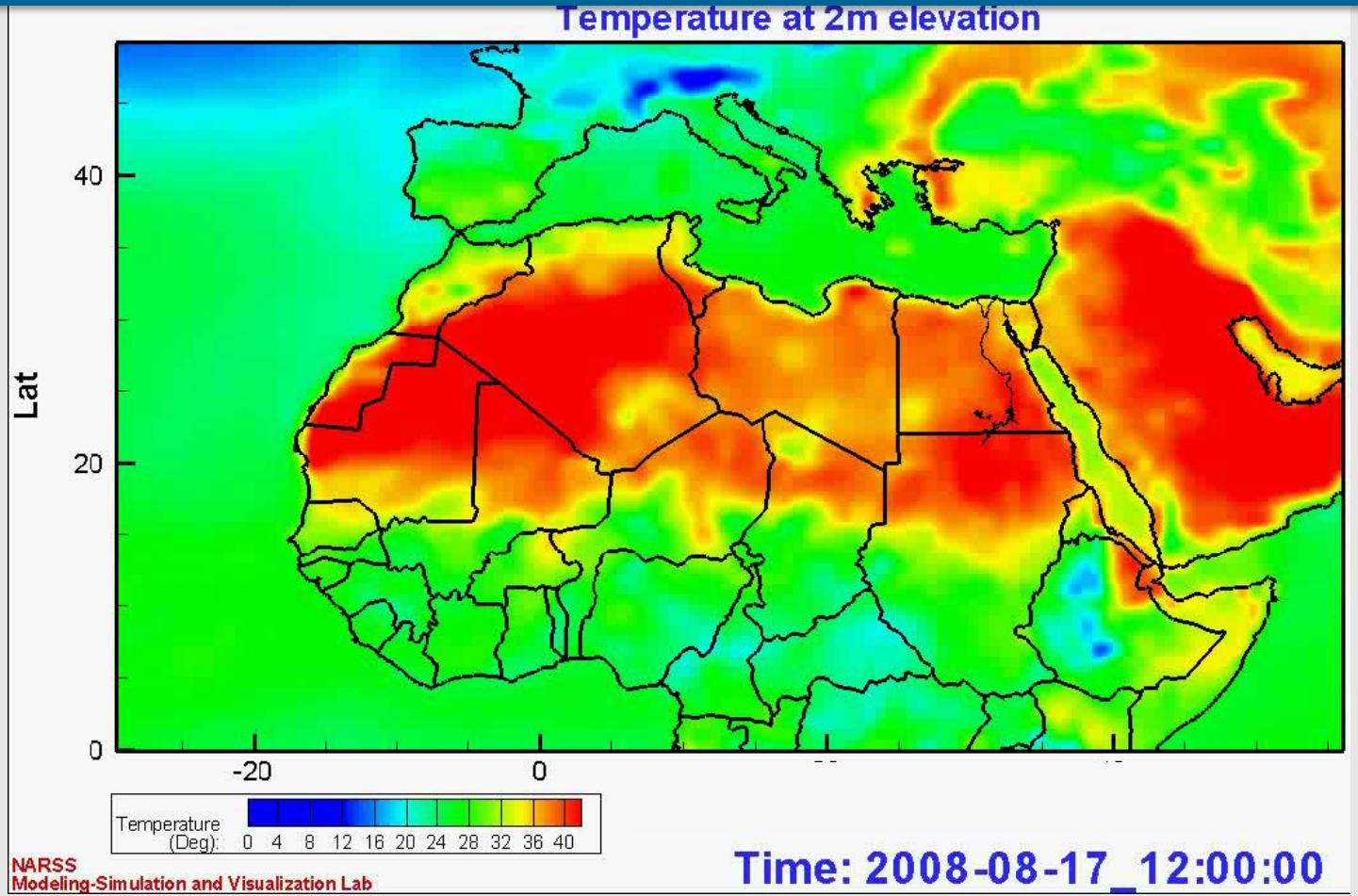
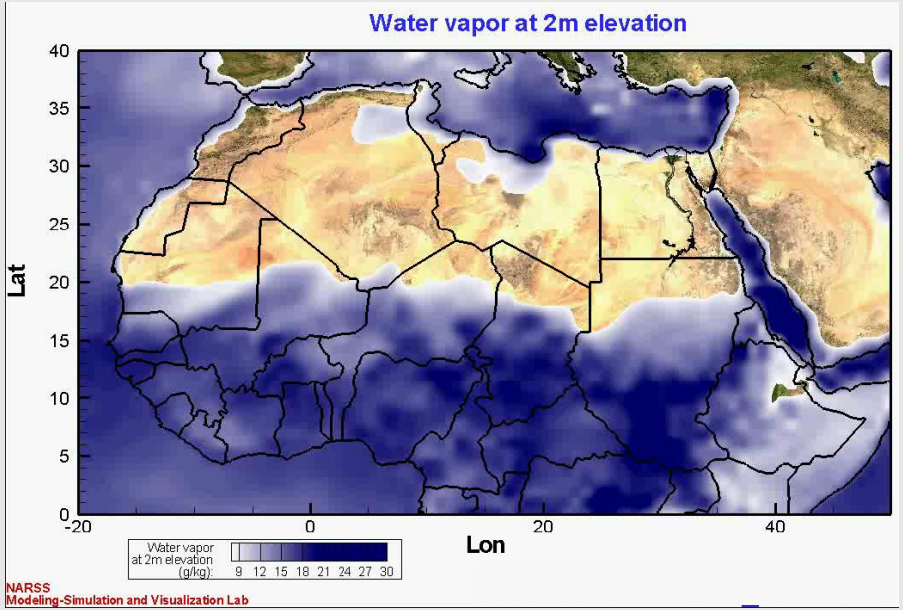
Overview

- *Urban Heat Islands*
- *Air Quality*
- *Dust Storms*

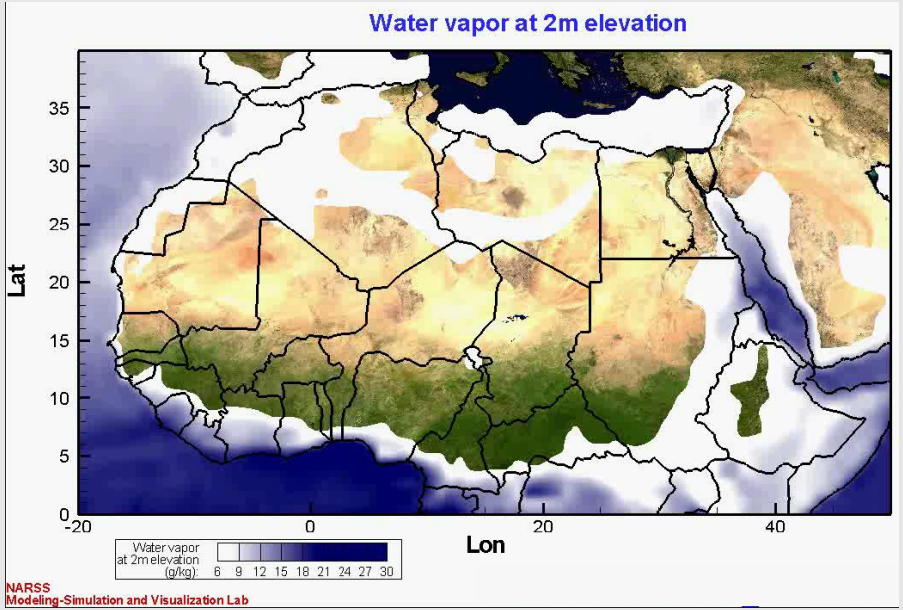
Regional Temperature



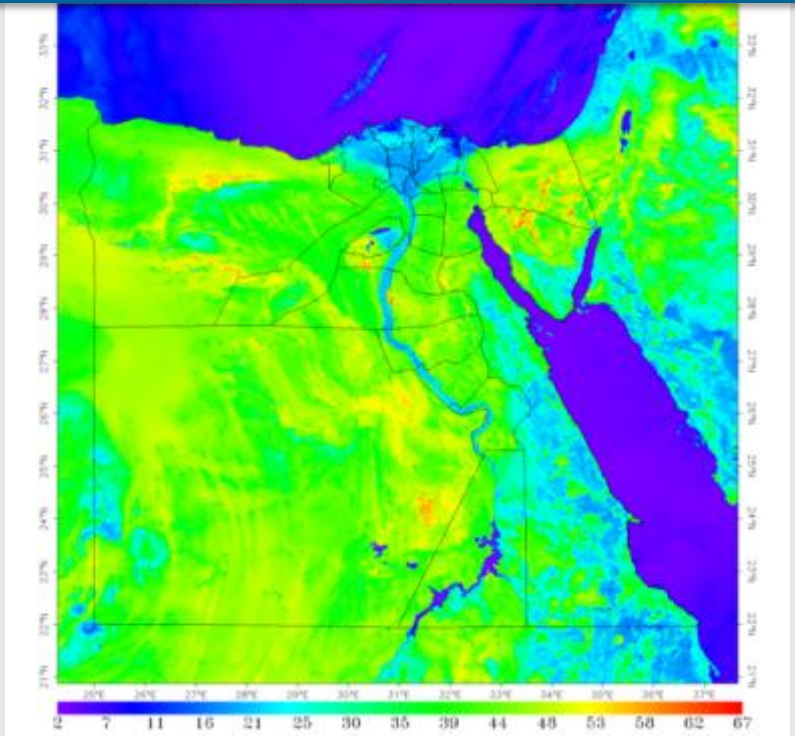
Summer Season



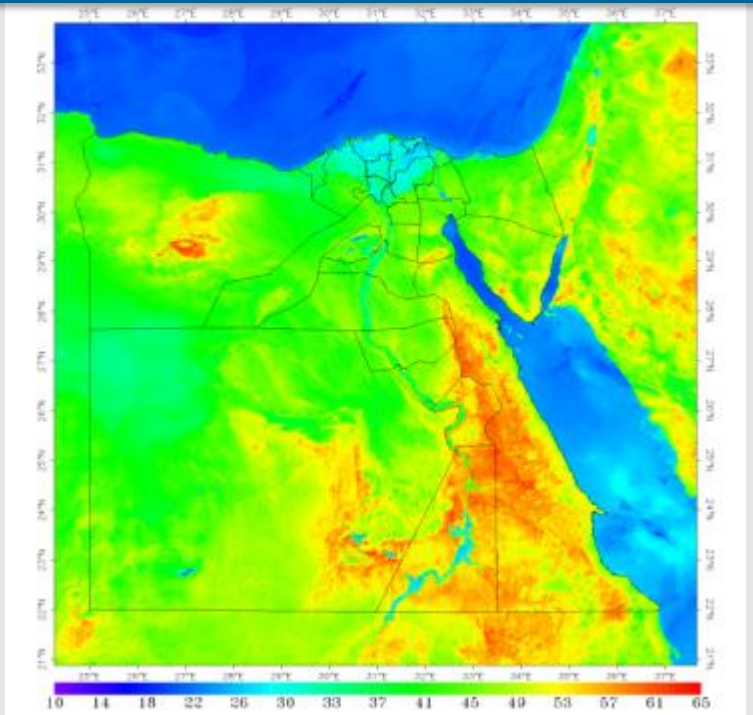
Winter Season



National System

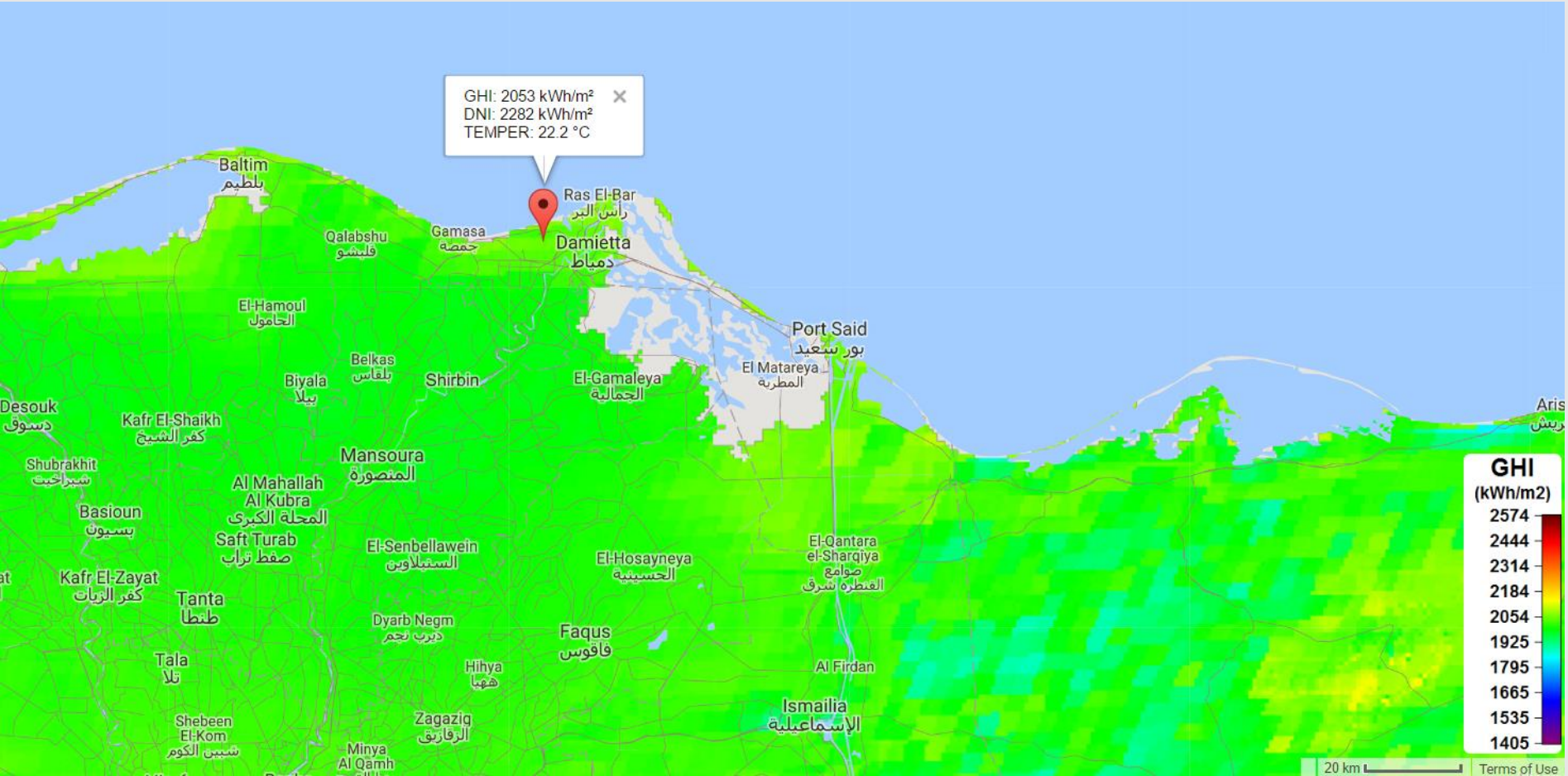


Surface Albedo



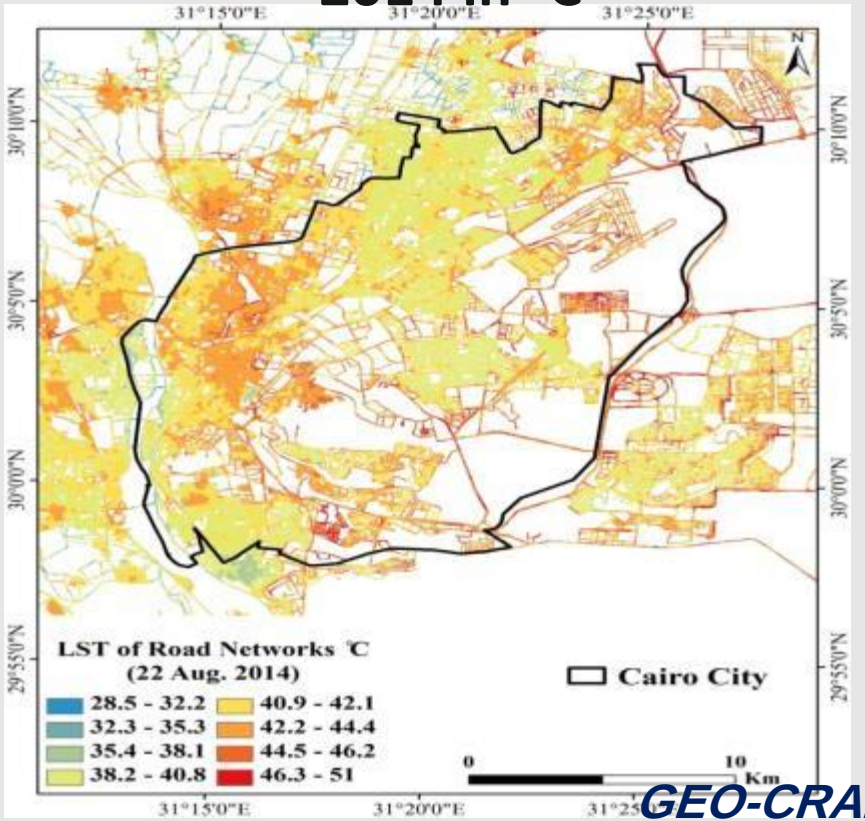
Land and Sea Surface Temperature (LST/SST)

Potentiality of solar energy

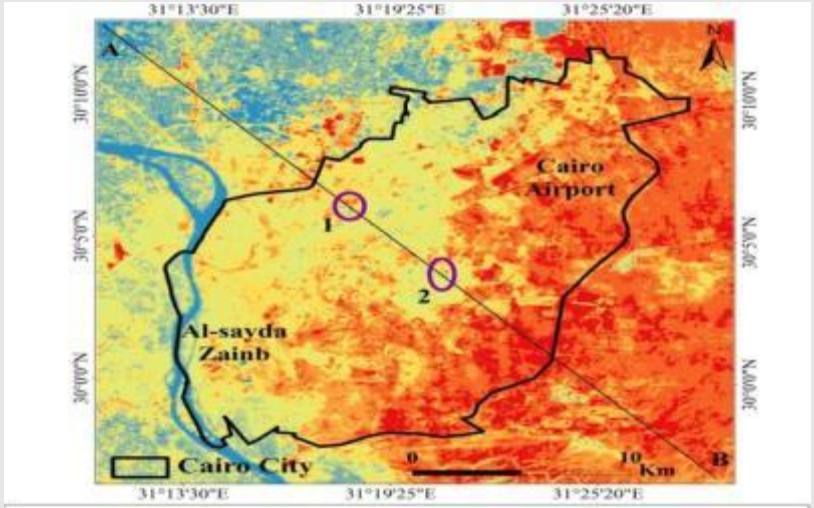


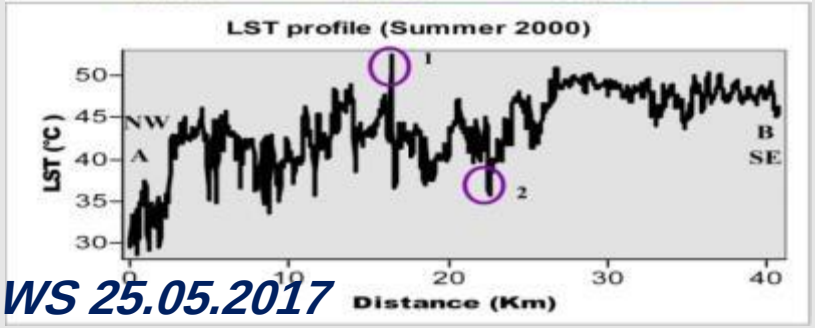
Heat islands - Cairo

LST of road networks in summer 2014 in °C

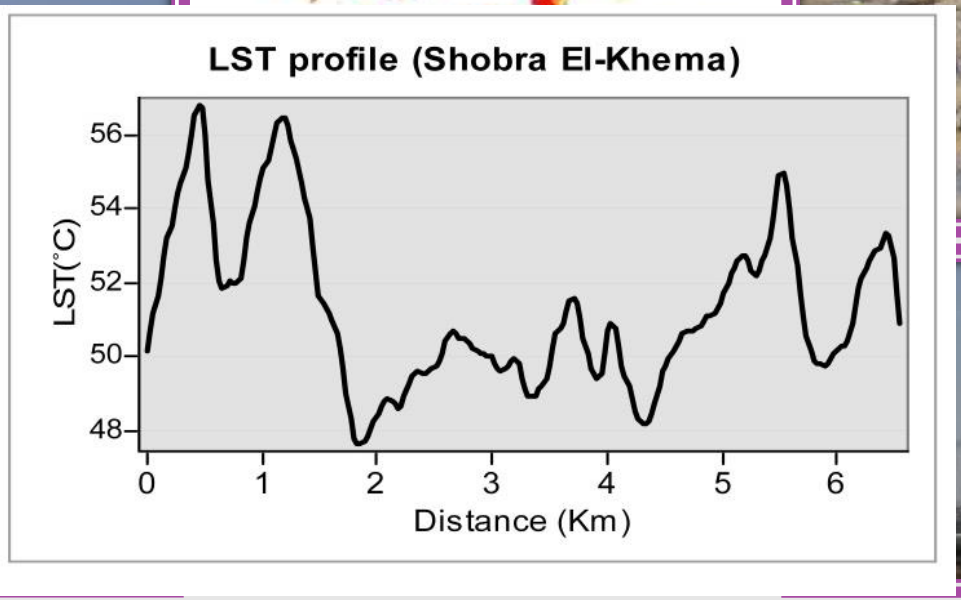


LST cross section profile (A - B) in summer 2000

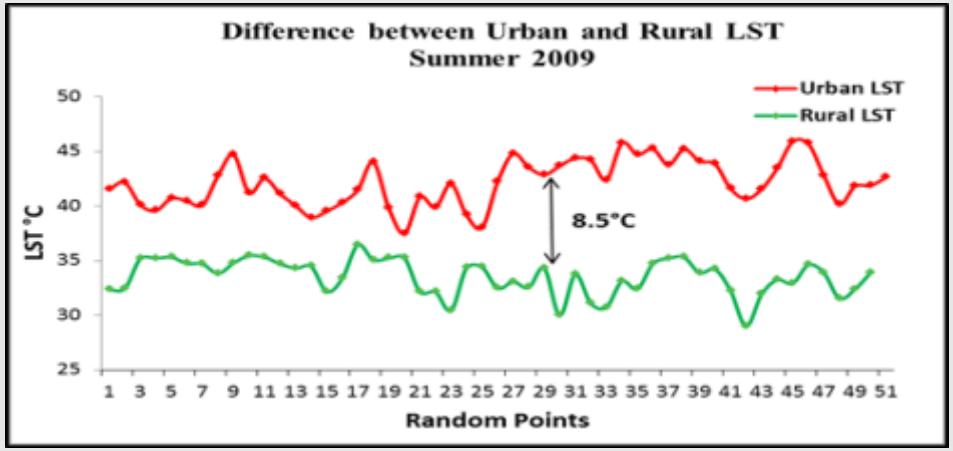


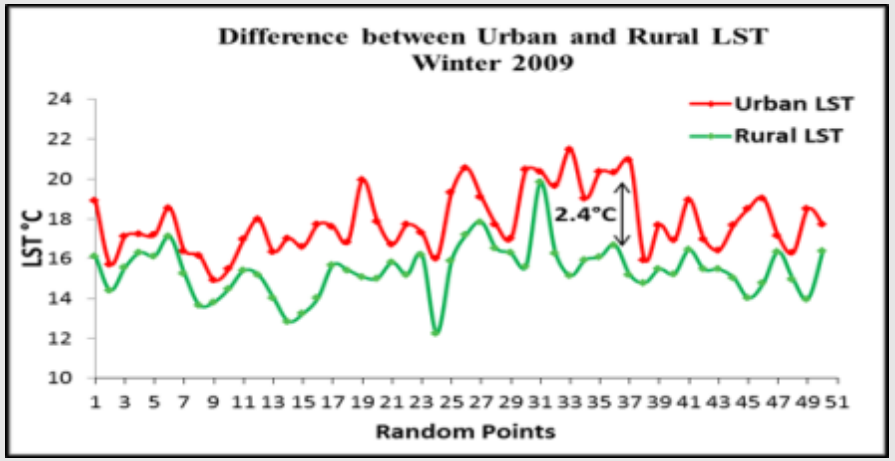


LST of the industrial estates in summer 2014



The intensity of urban heat islands

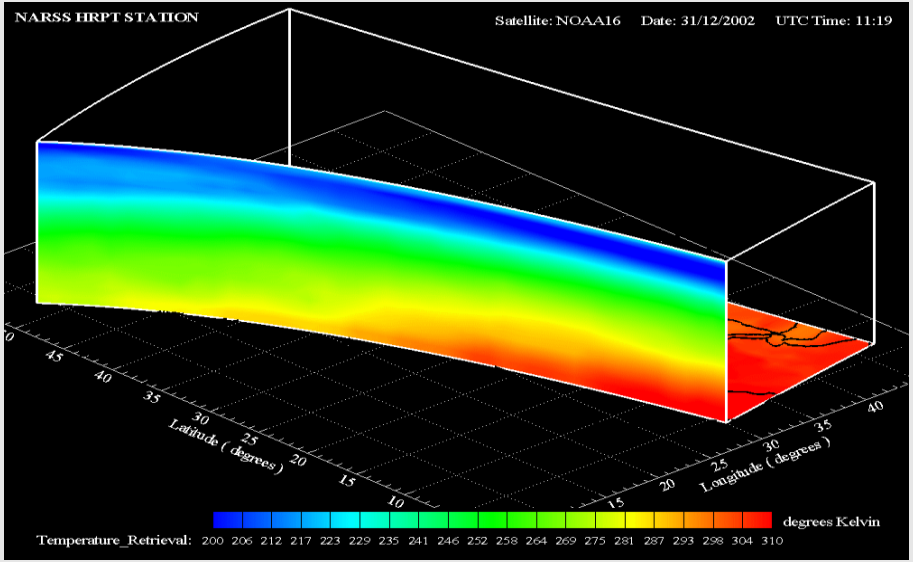


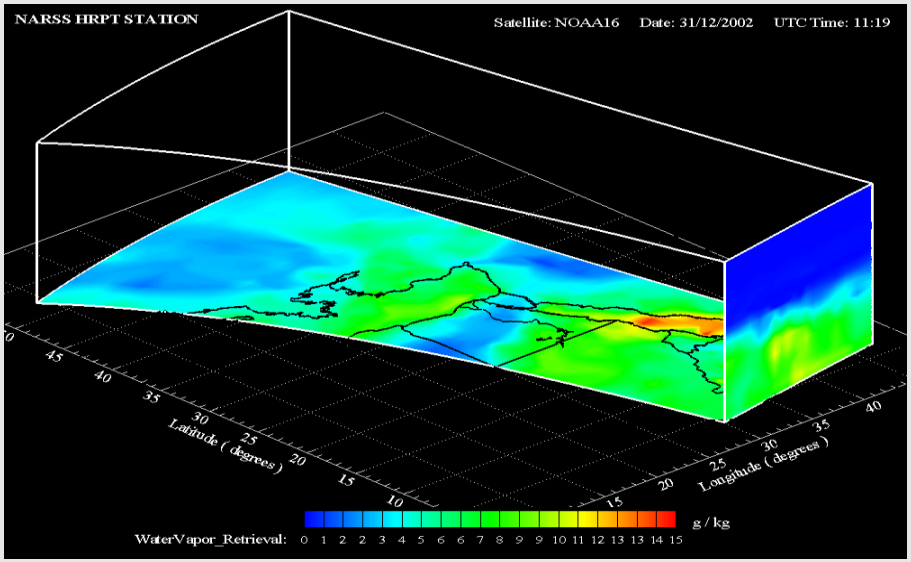


Estimated surface UHI intensity from the difference between urban and rural LST

Date	Mean Urban LST (°C)	Mean Rural LST (°C)	UHI Intensity (°C)
4 Aug. 1990	39.8	33.3	6.5
7 Jul. 2003	44.3	36.4	7.9
3 Aug. 2013	48.7	38.0	10.7

V/H Dispersion

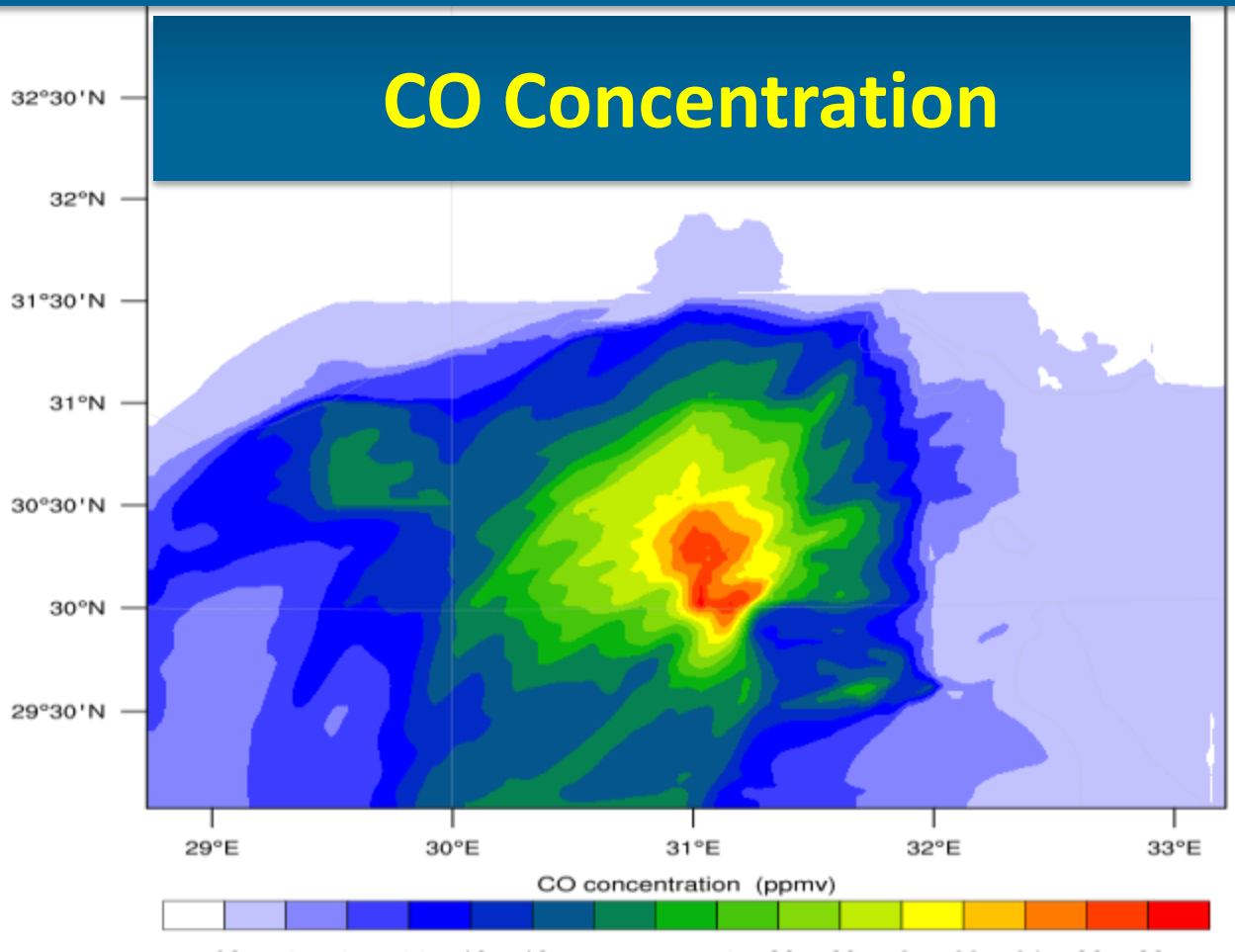


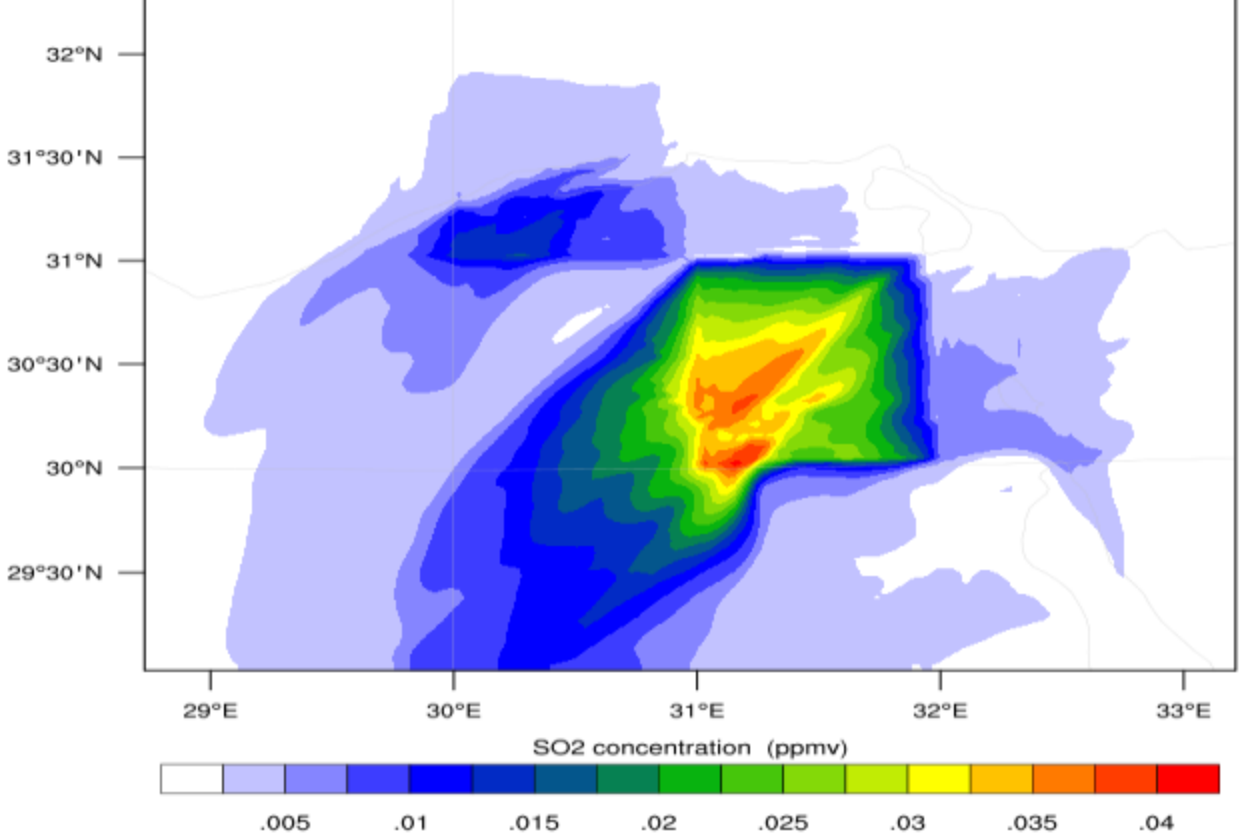


Temperature Retrieval ***Water Vapor Retrieval***

Air Quality - Modelling

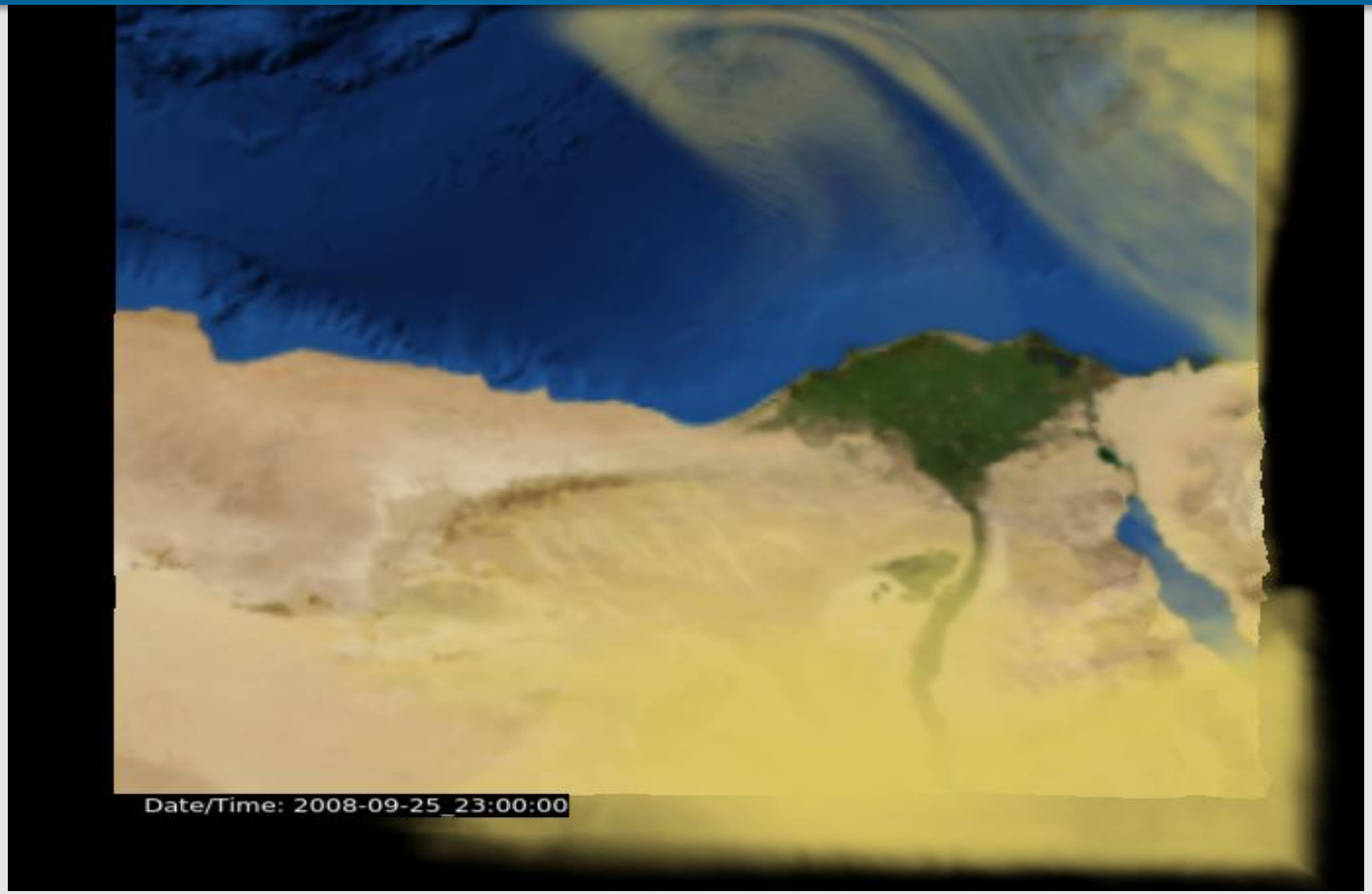
CO Concentration

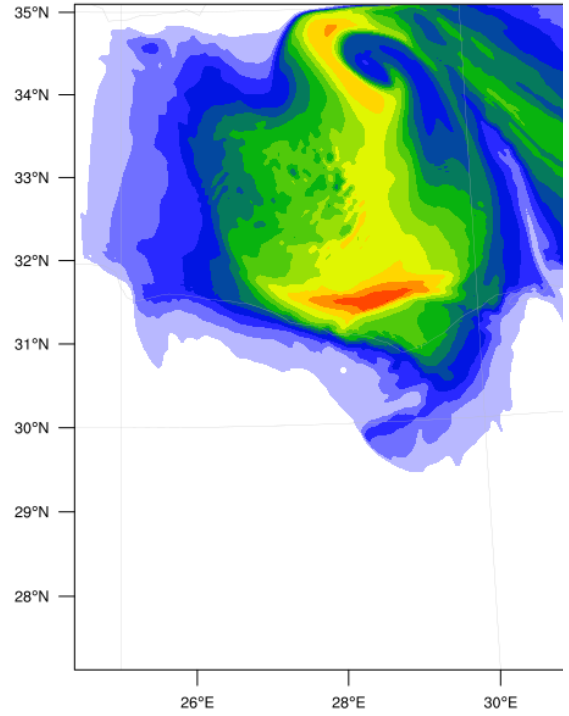


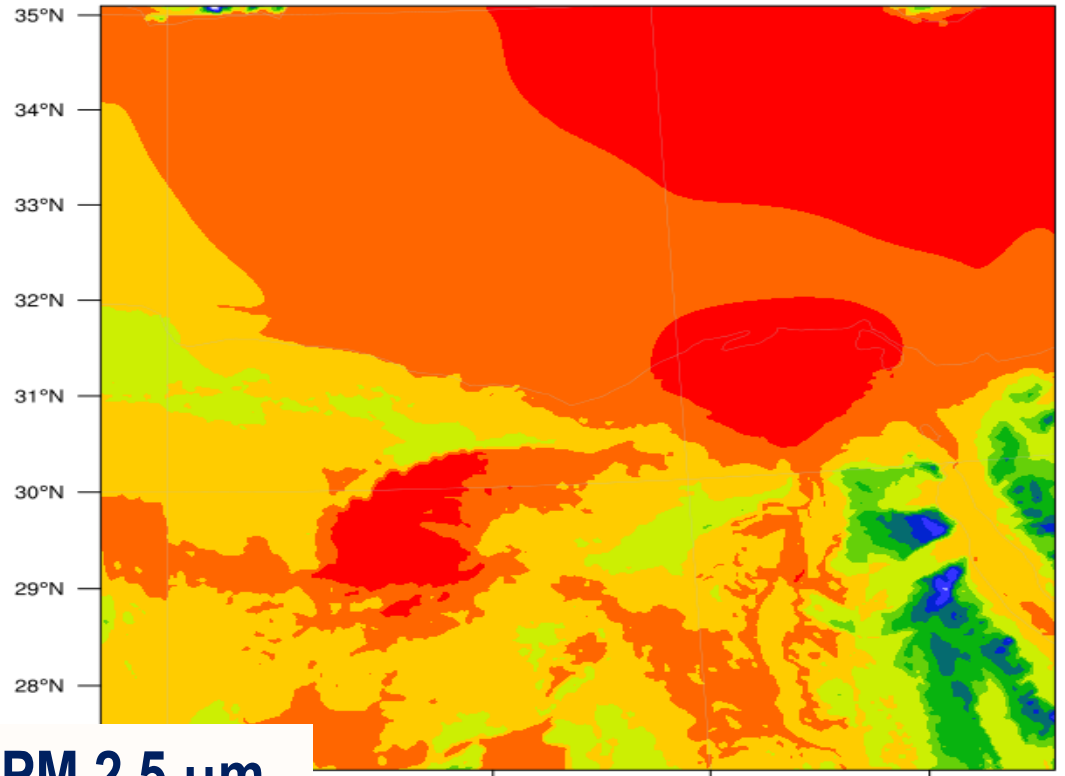


SO_2 Concentration

Dust Storms - Modelling







- **Surface distribution of PM 2.5 μm**
- **The main contributor to Asthma disease particularly for children**

Thank you…

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