

**Seminar on Physics and Chemistry  
of the Atmosphere  
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**The H2020 – EMME-CARE project:  
Towards the establishment of an Eastern Mediterranean  
and Middle East – Climate and Atmosphere REsearch  
centre**

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**Abstract**

The Eastern Mediterranean and Middle East (EMME), with a population of about 400 million, is a region affected by dust storms (from the two largest deserts worldwide), heat extremes and unparalleled air pollution from long-range transport of air masses from 3 different continents (Europe, Africa, Asia). The EMME has been identified as a climate change “hot spot”, and adverse impacts from extreme weather events, droughts and poor air quality are expected to exacerbate in the coming decades.

The H2020 EMME-CARE project will propose a comprehensive and integrated program to address these challenges through a combination of research, innovation and education. This will involve laboratory studies, instrument development, continuous comprehensive measurements, field experiments and computer modelling of the regional climate and atmospheric environment. EMME-CARE will combine national and regional proficiency with international expertise along with unique infrastructure to foster sustainable development in the EMME, and reduce dependency on external knowhow and services. The programme focuses on greenhouse gases, the water cycle and extreme weather, atmospheric dust and air pollution.

A brief overview of the current Cyprus Institute Research Infrastructure and Activities (to be upgraded within EMME-CARE) will be presented here emphasizing on Ground-Based atmospheric observations and vertical profiling performed with Unmanned Aerial Vehicles.