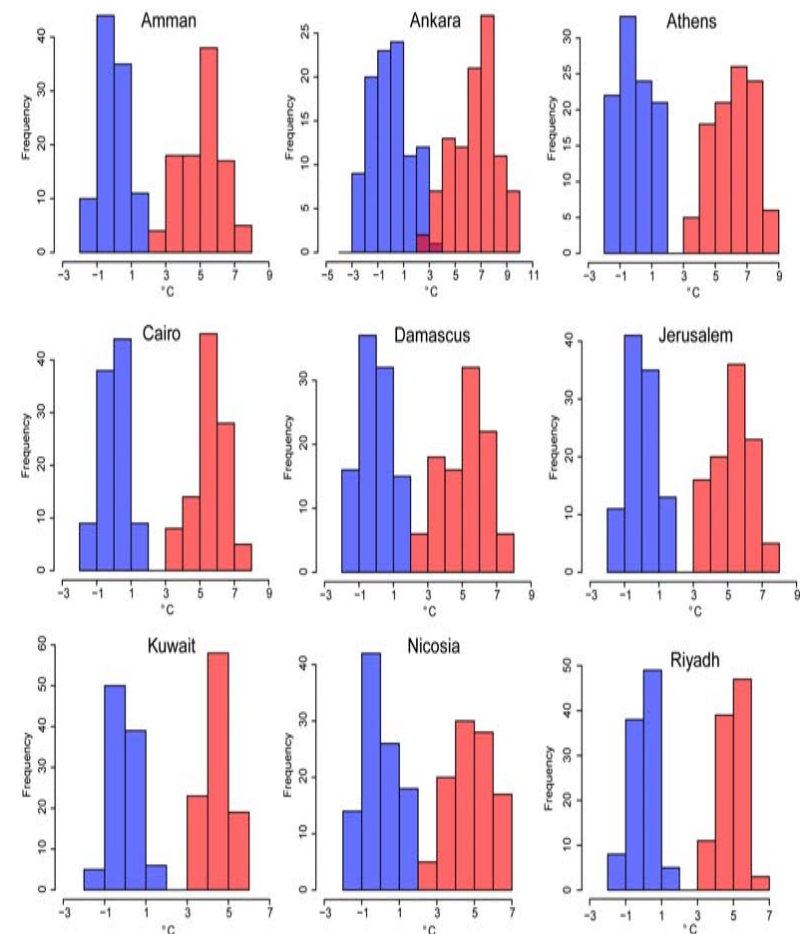


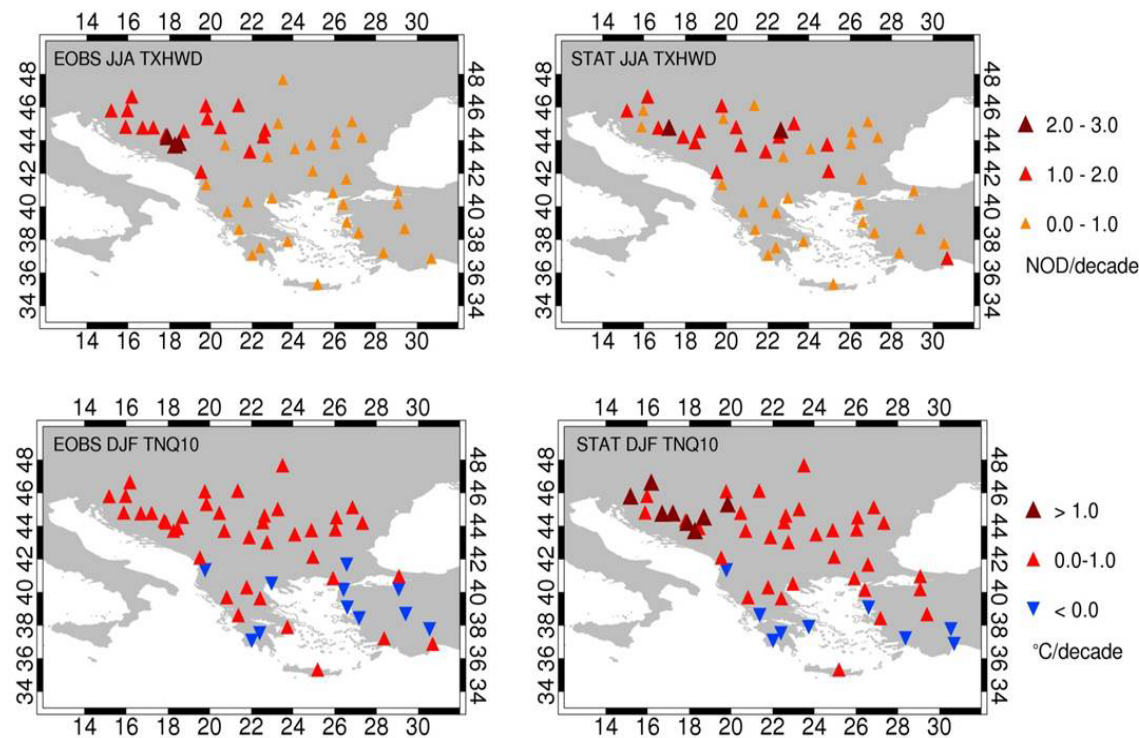
Climatology and climate change

Analysis of long time series observational records to identify trends/extremes
Use Observational data records from stations in Europe and the Mediterranean together with gridded observational data for Europe (E-OBS, ERA-Interim, NCEP, CRU)



Climatology and climate change

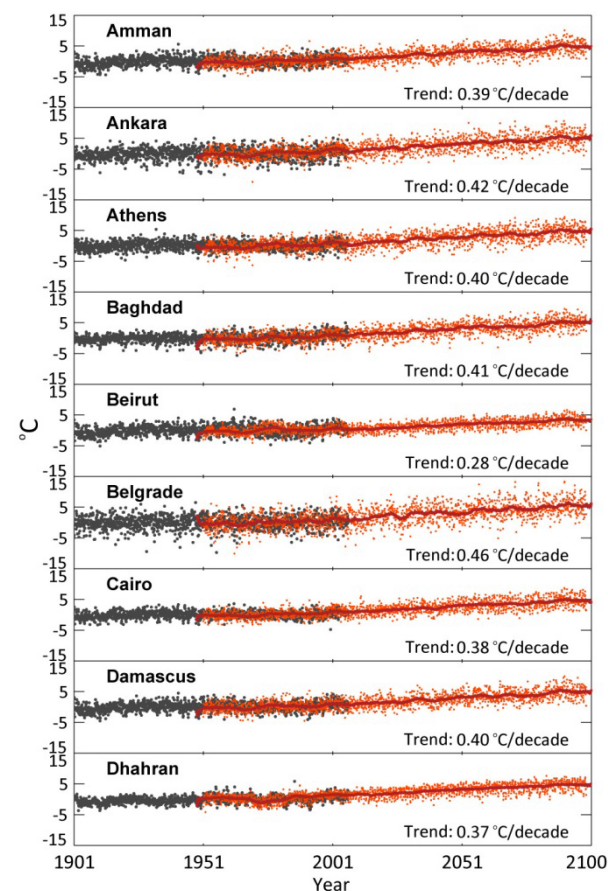
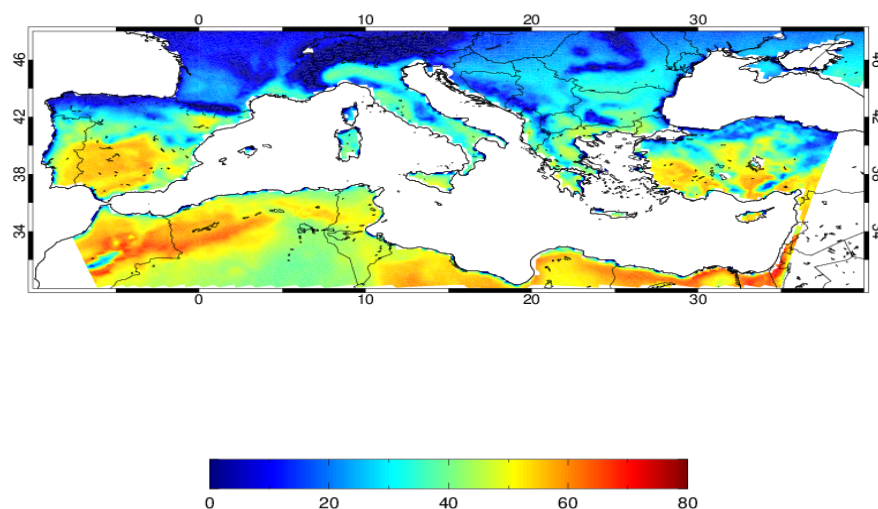
Validation of multiple regional climate model data at 20-25km horizontal resolution against quality controlled, high-resolution gridded datasets and observations across Europe and the Mediterranean. Analysis of trends in present climate.



Climate change and extremes

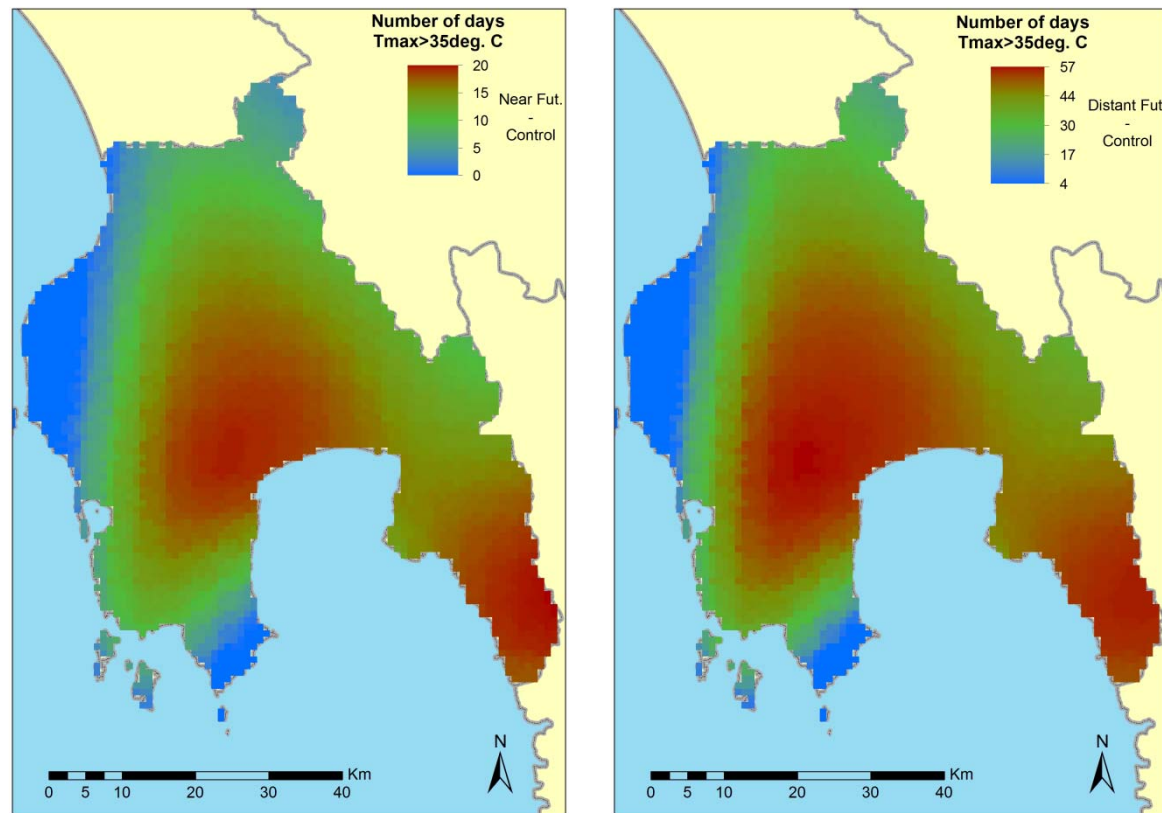
Analysis of regional climate data output for Europe and/or the Mediterranean using climate indicators to represent both mean and extremes. Use ensemble output from several regional climate models to obtain a probabilistic estimate of uncertainty in future climate

No of days with Tmax>35C (distant-control)



Climate change downscaling

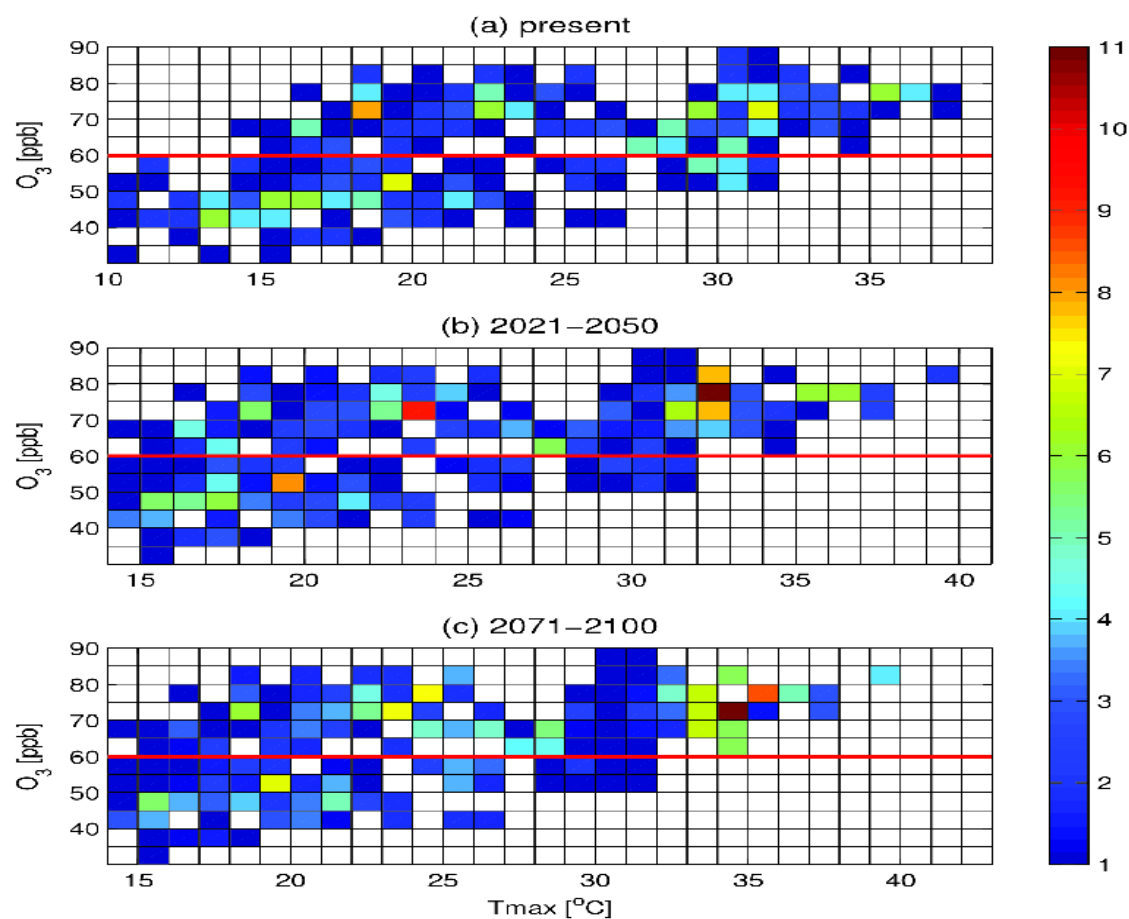
Provide high resolution climate information for specific regions using statistical downscaling tools



Climate change impacts

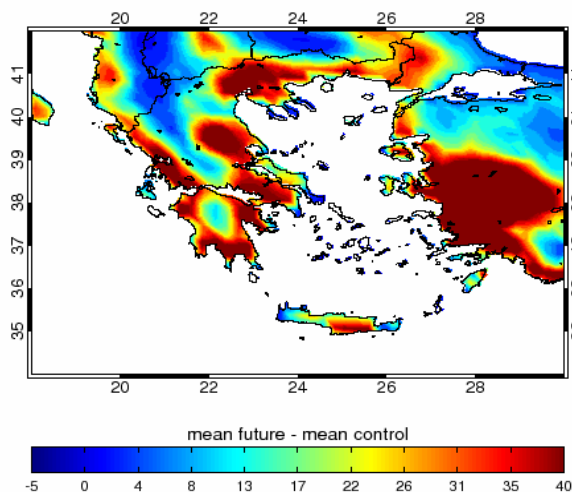
Link output of climate models with air quality observations to estimate the potential impact of increasing future temperatures on ozone exceedance days

Increases of about 22 to 38 extra ozone exceedance days/year, for the 2021-2050 and the 2071-2100 periods

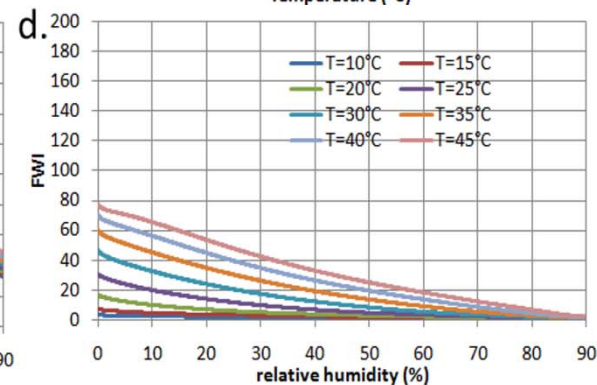
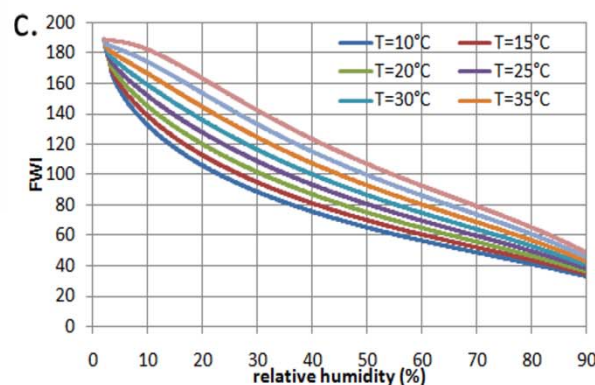
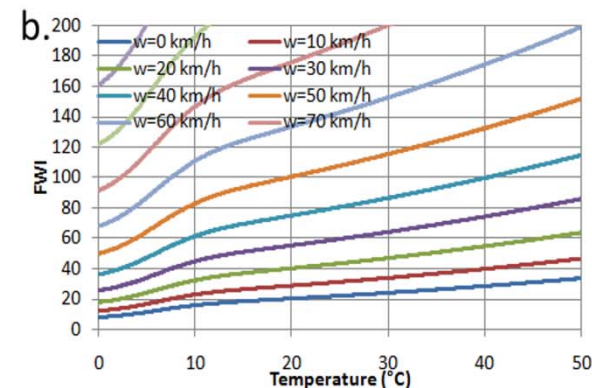
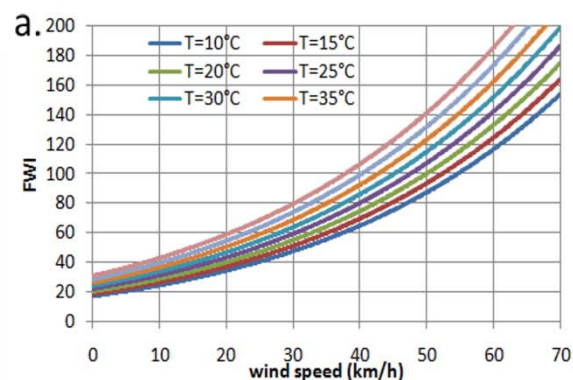


Climate change impacts

Link outputs of the climate models to a range of applications, including agriculture, health, energy, water resources and fire risk using appropriately constructed indices

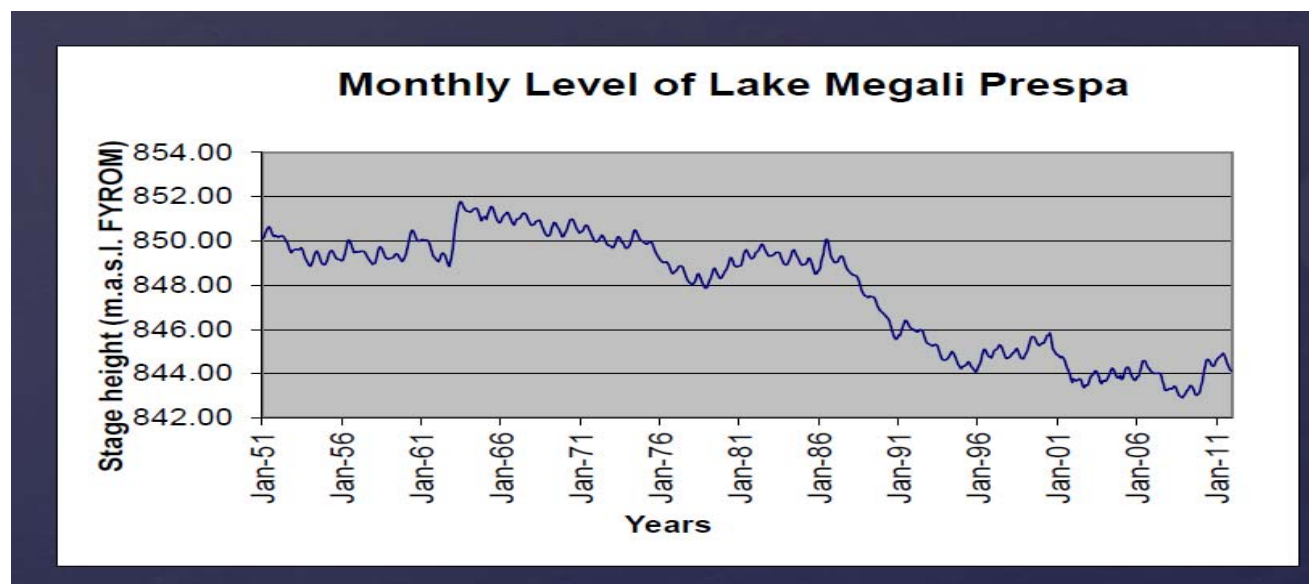


Changes in high cooling demands between 2071-2100 and 1961-1990



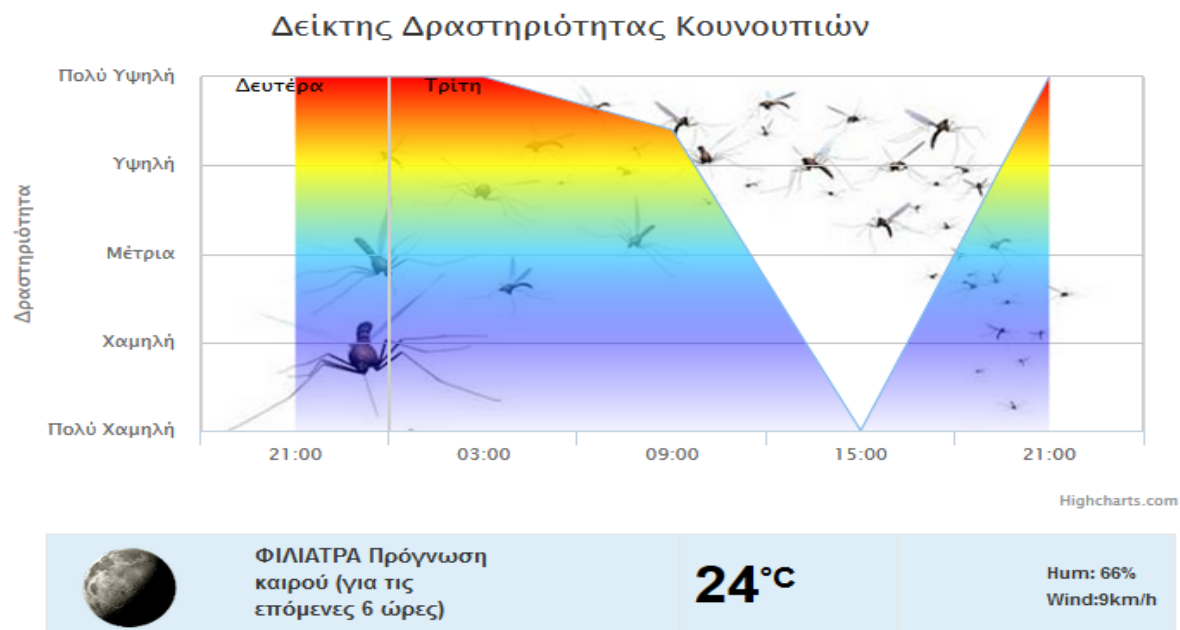
Climate change impacts

improve projections of hydrological responses to climate change in the S Balkans, using a novel methodology combining hydro-climate modelling and palaeo-hydrological techniques – Marie Curie CLIMHYDROLAKE 2 more years to go.



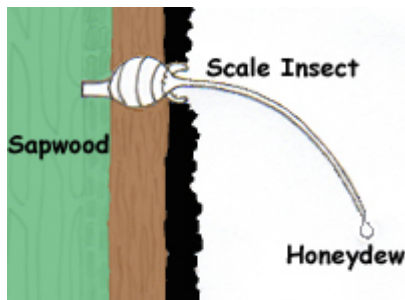
Climate change impacts

Mosquito activity forecast based on meteorological forecasts of meteo.gr
Research on factors affecting their activity to continue for at least 1 more year
- LIFE CONOPS (together with Benakeio Phytopathological Institute)



Climate change impacts

Impacts of climatological conditions on honeydew production(together with ΕΛΓΟ ΔΗΜΗΤΡΑ, project of ΥΠΑΑΤ, 2 years to go)

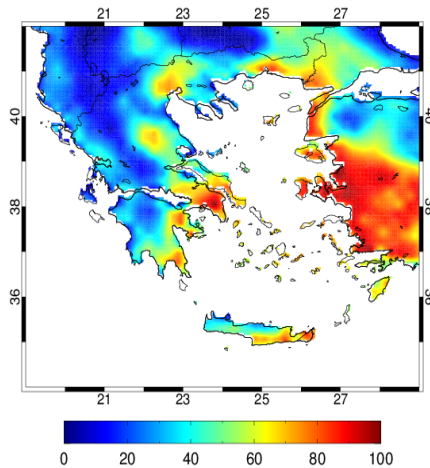


Climate change impacts

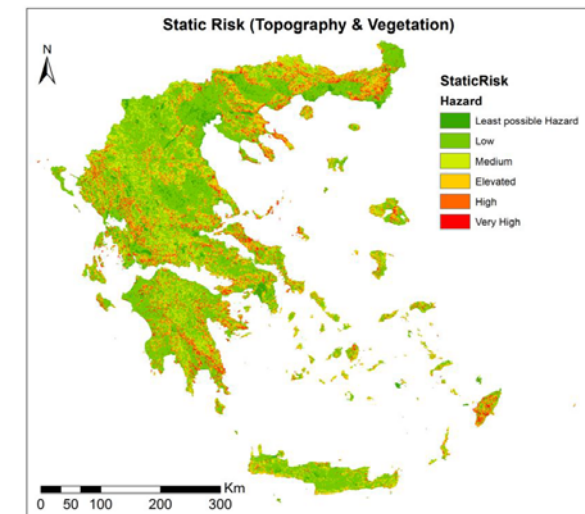
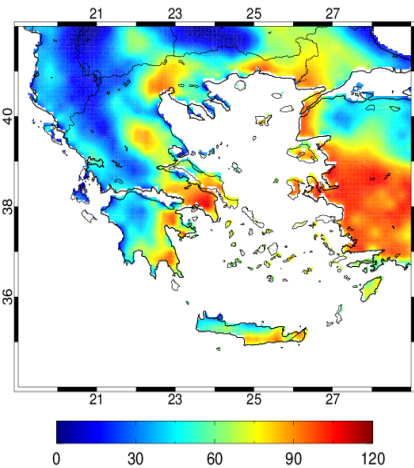
Impacts of climate change on forest fire risk, vulnerability assessment (FP7 C8 project ,with Cyprus Institute, 1 more year to go)

C8: Consistent Computation of the Chemistry-Cloud Continuum and Climate Change

a. No of days with FWI>30 (mean control)



b. No of days with FWI>30 (near future)



Climate change impacts and adaptation

Impact		Sensitivity	Exposure	Adaptive Capacity	Vulnerability
Warmer summers		High to Very high (6)	None (0)	Moderate (3)	None (-3)
Warmer winters		Moderate (3)	Limited (1)	Moderate (3)	None (-1.3)
Heat waves		High (5)	High (5)	Moderate (3)	Limited to Moderate (2)
Water availability	For drinking water supply	High (5)	High (5)	Moderate (3)	Limited to Moderate (2)
	For irrigation and other uses	High to Very high (6)	High (5)	Limited (1)	High (5)
Storms, waves and floods		High to Very high (6)	Limited to Moderate (2)	Moderate to High (4)	Limited (1)
Biodiversity attractions		Limited (1)	Limited to Moderate (2)	Limited to Moderate (2)	None (-0.6)
Coastal erosion		High to Very high (6)	Moderate (3)	Moderate (3)	Limited to Moderate (2)

Prospects

- Expand the database of regional climate model output using new results from the CORDEX/MedCORDEX database at higher horizontal resolution reaching 11km and using the new IPCC RCP scenarios of greenhouse gases
- Expand climate services to deliver tailored climate information, consulting, training and customized decision tools to end users aiming at reducing the vulnerability of their activities and optimize investments in view of climate variability and change. (CLIMRUN followup)
- Explore the characteristics of climate comfort in different segments of tourism activity, with emphasis on beach tourism

Prospects

- One paper on vulnerability to fire of forests in the greater Eastern Mediterranean area due to climate change
- One paper summarising the impacts of climate change on ozone exceedances in Europe with several authors from institutes across Europe
- One paper of the climate change impacts on health for the island of Cyprus (CYPADAPT)
- One paper of the climate change impacts on tourism for the island of Cyprus (CYPADAPT)
- One paper of the climate change impacts on energy demand for the island of Cyprus (CYPADAPT) and for several areas in the Greek territory (with Dr. Psiloglou)
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Prospects

- LIFE ADAPT2CLIMA proposal to investigate the impacts and adaptation potential due to climate change on Mediterranean agriculture in 3 islands : Crete, Cyprus, Sicily with the collaboration of the Regional Authorities
- LIFE URBANPROOF proposal to investigate the impacts (on health, energy, tourism) and adaptation potential of urban areas due to climate change with the collaboration of local municipalities of Lefkosia (Strovolos), Peristeri and Vicenza
- Climate Change Risk Assessment tender of the Department of the Environment in Cyprus with Cyl, CIIM, NTUA?
- LIFE IP proposal on climate change adaptation for several sectors of the Greek territory with ΕΕΠΠ.
- Marie Curie proposal with postdoctoral research to study dynamical characteristics of the East Med climate (eg etesians) and their variations due to climate change