



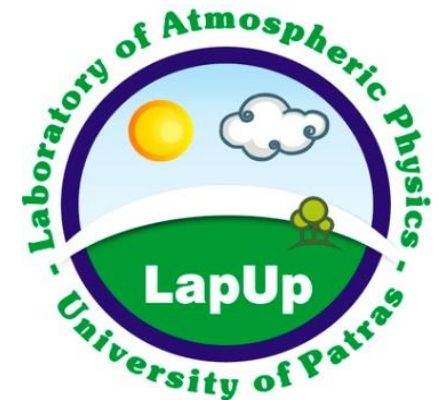
**EDUCATION AND TRAINING IN THE SPACE SECTOR,
NEW TRENDS, PARTNERSHIPS AND OPPORTUNITIES**

Laboratory of Atmospheric Physics – University of Patras (LAPUP)

Short Presentation



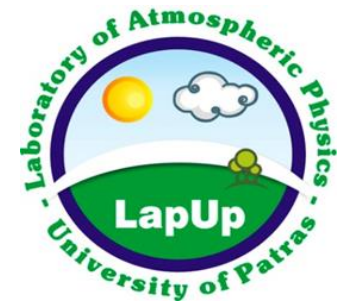
MSc Applied Meteorology
& Environmental Physics
University of Patras





MSc Applied Meteorology
& Environmental Physics
University of Patras

Research Activities



- Solar Radiation resource and forecasting.
- Weather and atmospheric pollution monitoring and modeling.
- Artificial intelligence methods applied to atmospheric and environmental physics problems.
- Ultraviolet radiation: measurements, modeling and biological dose rates.
- Weather/climate effects and early warning for epidemics



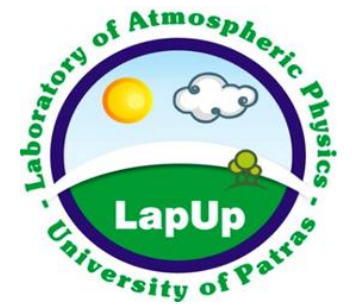
@AtmosphereUPatras

<https://atmosphere-upatras.gr/>



MSc Applied Meteorology
& Environmental Physics
University of Patras

LAPUP collaborations



IEA PVPS Task 16: Solar resource for high penetration and large scale applications



IAEA
International Atomic Energy Agency



IOC
International
Ozone
Commission





S3 - Smart Solar System

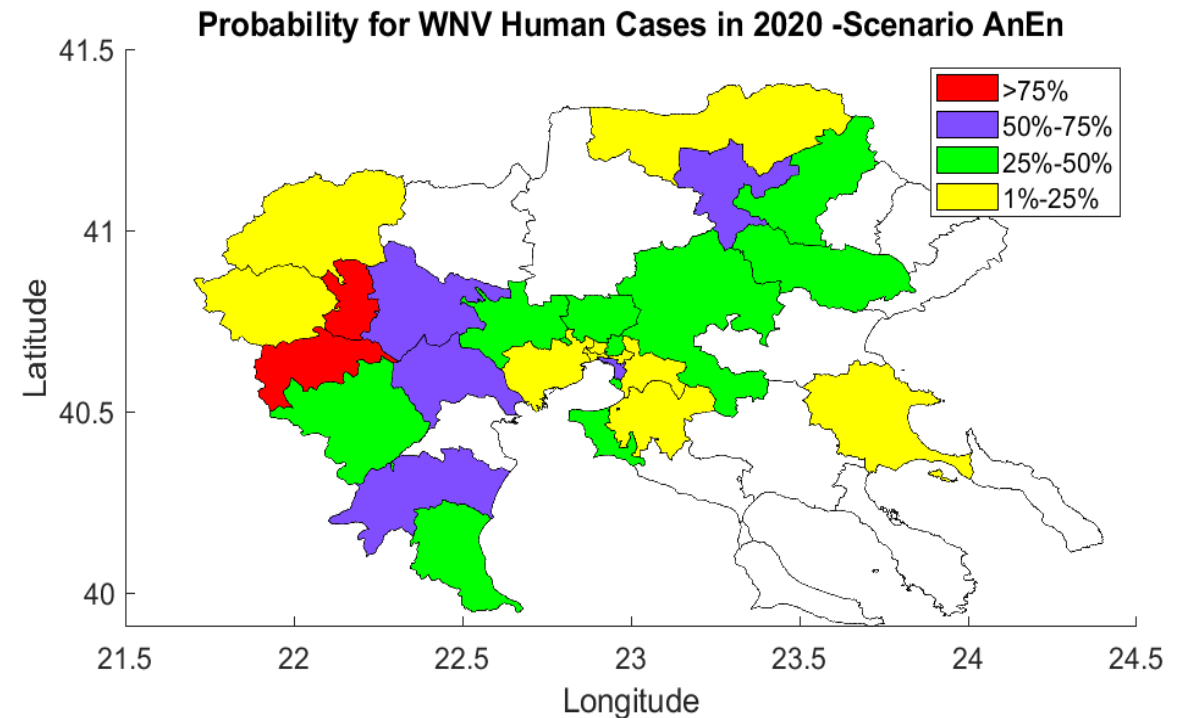
- Objective: Development of a smart solar system that can predict the optimum RES strategy at all times depending on weather forecasting and energy demand projection
- Challenge: The need for continuous availability of energy supply and smart management of the energy demand
- Uncertainties: extreme soiling events (e.g. desert dust)





EMPROS – Advanced Earth Observation and IT Techniques for Early Warning of Mosquito-Borne Diseases

- Goal: Study the impacts on the transmission dynamics of infectious diseases on humans due to environmental change including climate
- Impact: Understanding the dynamics of transmission of these diseases is crucial for the application of intervention strategies and public health policy decision-making.
- Applications (incl): WNV, Malaria, Dengue





Prize Winner Project EYWA



[Early Warning System for Mosquito-borne Diseases \(EYWA\)](#) is the winner of the [European Innovation Council- Horizon Prize for 'Early Warning for Epidemics'](#) becoming a model of successful European partnership and excellence while demonstrating the Union's capability of providing solutions to global challenges.

“My sincere congratulations to EYWA – the winner of the EIC Horizon Prize on Early Warning for Epidemics. The solution, based on Earth observation and other data, improves Europe’s preparedness to fight vector-borne diseases, also addressing the effects of climate change on human health, at home and abroad [...]” said Mariya Gabriel, Commissioner for Innovation, Research, Culture, Education and Youth.



<http://climatlas.hnms.gr/>

ΕΘΝΙΚΗ ΜΕΤΕΩΡΟΛΟΓΙΚΗ ΥΠΗΡΕΣΙΑ ΕΛΛΗΝΙΚΟ ΕΘΝΟΤΑΚΤΟ ΜΕΤΕΩΡΟΛΟΓΙΚΟ ΣΕΡΒΙΣ

Climatic Atlas of Greece

Home Page

Climatic Atlas 1971-2000 | The climate of Greece | Climate Data | Metadata | About | Contact

Management

Layer Tree

Time period: Annual

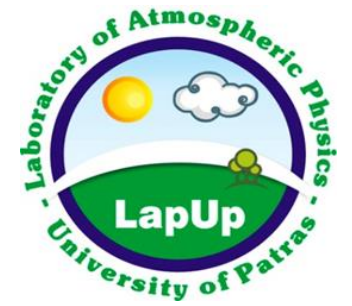
Layers

- Basemaps
 - Blank
 - Google Streets
 - Google Hybrid
 - Google Satellite
- Layers
 - Stations
 - Stations with Climatic Date
 - Temperature Stations
 - Sunshine Stations
 - Precipitation Stations
 - Climate Atlas
 - Sunshine
 - Precipitation
 - Min Temperature
 - Max Temperature
 - Avg Temperature

200 km

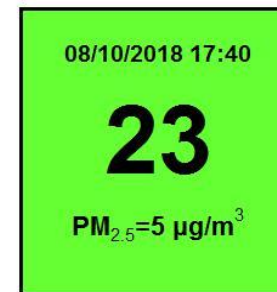
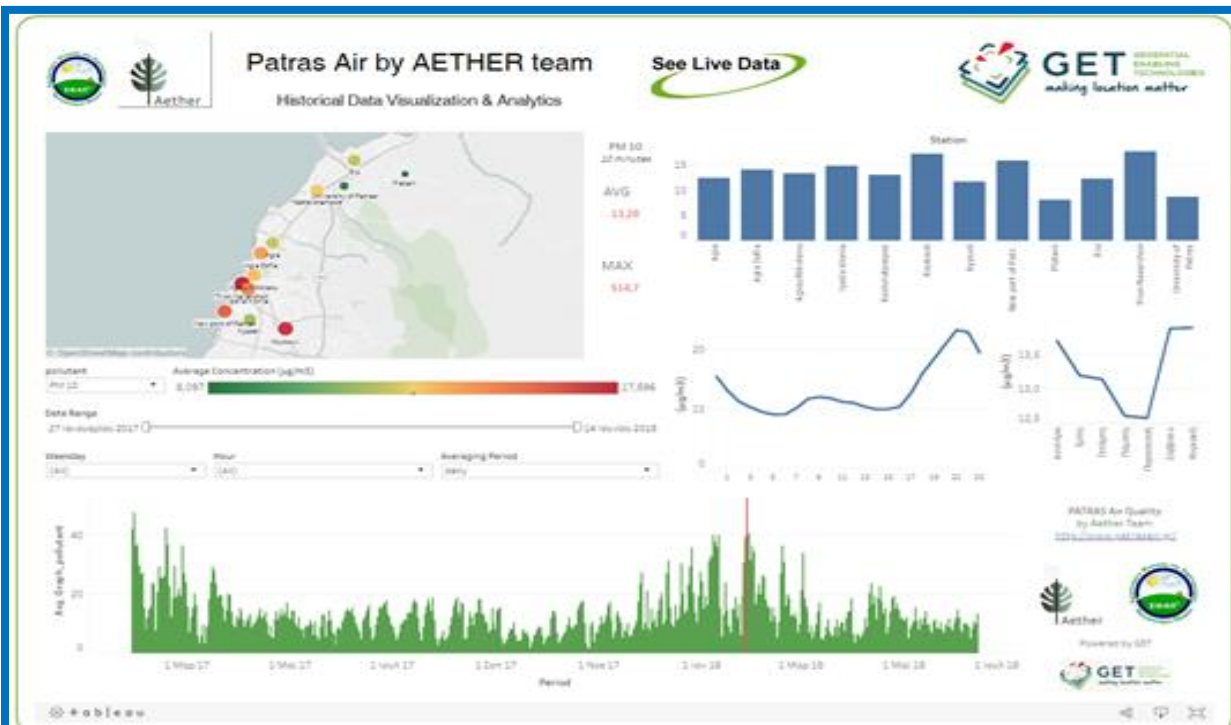
Google

Εικόνες από ©2022 TerraMetrics | Όροι Χρήσης

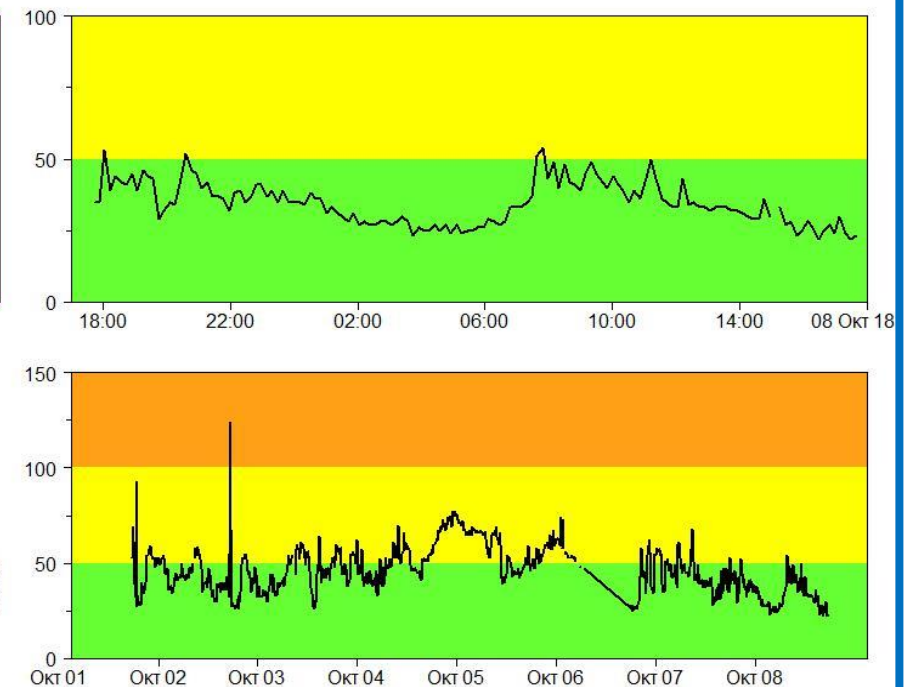


AETHER: a real time monitoring/forecasting system for airborne particulate matter in Greece

- PM_{2.5} concentrations presented in a friendly way, maps, understandable Air Quality Index (AQI)
- PM forecasts based on Copernicus Atmospheric Service and ground measurements.

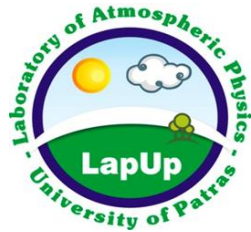
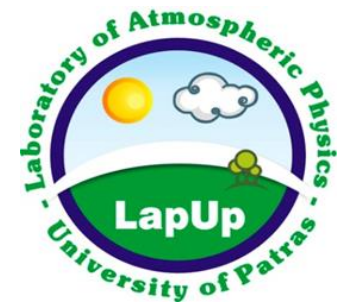


Νέο Λιμάνι





MSc Applied Meteorology
& Environmental Physics
University of Patras



LAPUP lead the team for on climate change
and organized/contributed in the following training actions
on municipal/regional level

Air quality monitoring and management

EO for urban greenery management

Early warning for disease epidemics

Solar potential maps

EO*GI to monitor/tackle climate change

Development of CO₂ budgets



The concepts for future collaboration

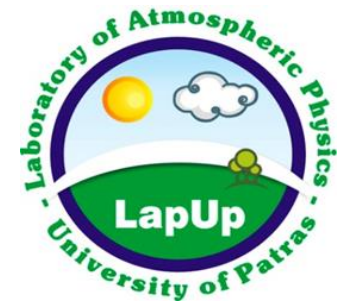
LAPUP is gaining expertise and is highly interested in several fields of “Applied Meteorology and Environmental Physics”:

- Weather forecasting (e.g. satellite and ground info for extreme events)
- Air quality (e.g. health effects and indoor air pollution)
- Synergetic use of meteo data (computing/intercomparison/visualization) for a number of purposes
- Energy meteorology (e.g. solar energy forecasts at different scales 10m-100km, 1min-3days)
- Climate mitigation and adaptation

Moreover: education training on high end/high interest subjects of these fields



MSc Applied Meteorology
& Environmental Physics
University of Patras



The possibilities for future collaboration

Forthcoming regional or bilateral calls:

Interreg Greece-Italy 2021-2027
programme has been approved

It embraces:

3 Greek Regions: Western Greece, Ionian Islands, Epirus

3 Italian Regions: Puglia, Basilicata (**newly added**), Calabria (**newly added**)

Other EU initiatives:





EDUCATION AND TRAINING IN THE SPACE SECTOR, NEW TRENDS, PARTNERSHIPS AND OPPORTUNITIES

Thank you!!!



MSc Applied Meteorology
& Environmental Physics
University of Patras

