



# CLIMATE SERVICES

*European research and innovation*

Make use of the best available science and data to help everyone better adapt to the Earth's changing climate.

UNFCCC Research Dialogue 8, SBSTA, BONN, 19 May 2016



FOR MORE INFORMATION

<https://goo.gl/RTsVaz>



@CLIMARIEU

#ClimateServices

**Diogo de Gusmão-Sørensen**  
European Commission  
Directorate-General for Research and Innovation



drive an aggressive global mitigation agenda.

enhance adaptation to the impacts of climate change.

policy makers  
communities  
regions  
businesses  
and individuals  
plan ahead and avoid economic loss while ensuring well-being.



## CLIMATE SERVICES

The transformation of climate-related data and other relevant information into **products, tools and services** that support adaptation, mitigation and disaster risk management.



**Boost society's resilience** and capacity to adapt to climate change by addressing existing or emerging risks.

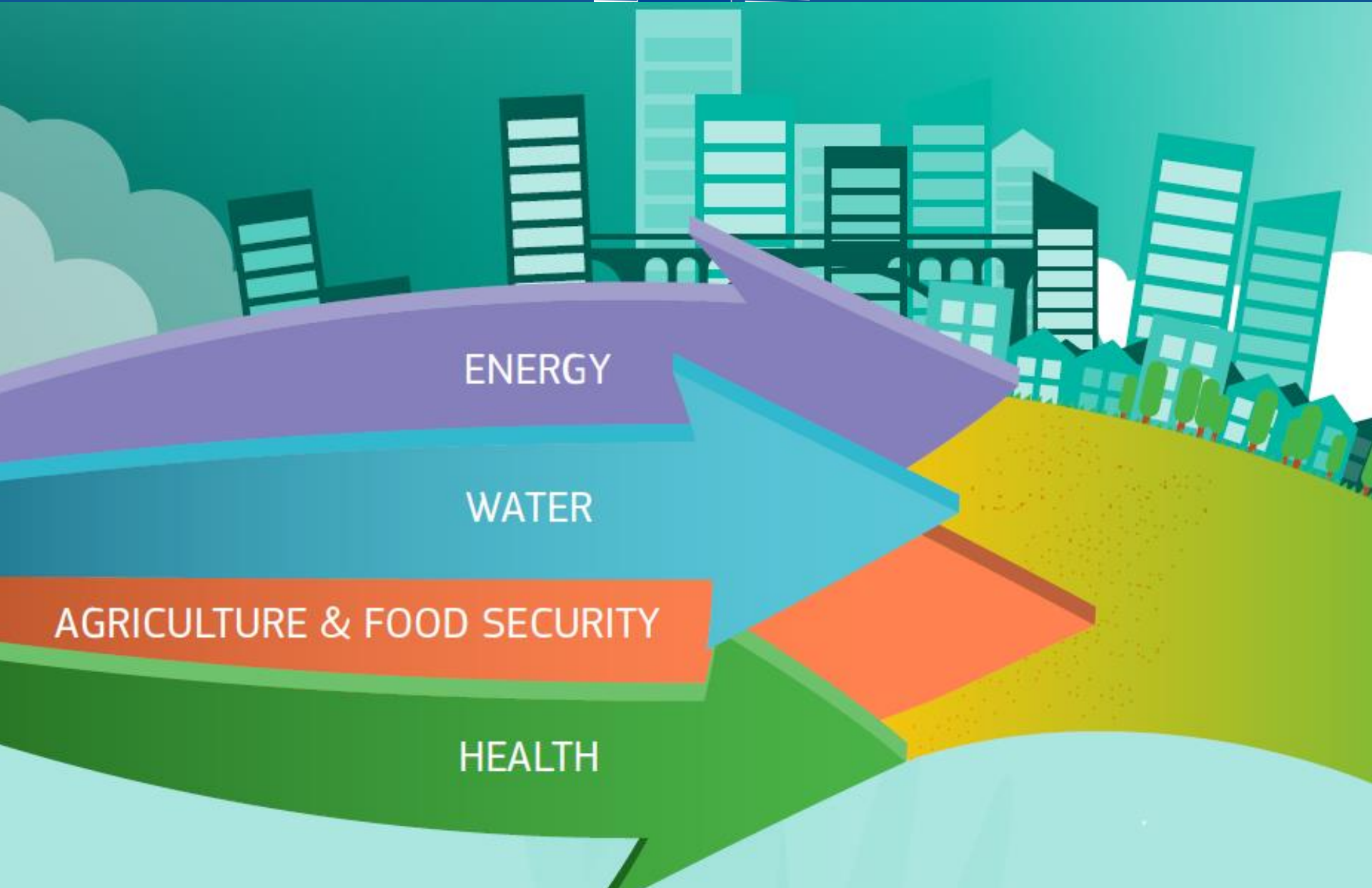


ENERGY

WATER

AGRICULTURE & FOOD SECURITY

HEALTH





## ECLISE PROJECT

[www.eclise-project.eu](http://www.eclise-project.eu)

Demonstrated ways in which local Climate Services can support climate adaptation policies.

For example, ECLISE investigated the impact of climate change on:

### HYDROPOWER POTENTIAL

- Ume river basin, Sweden
- Alpines and Apennine regions
- Some river basin, Romania

WIND SPEED  
Norway's coast



SOLAR RADIATION  
Sicily and Crete



ECLISE is part of the EU's support for the development of Climate Services to help decision-makers estimate energy generation, transmission, distribution and use.



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## ENHANCE PROJECT

[www.enhanceproject.eu](http://www.enhanceproject.eu)



Created an EU-wide fluvial flood risk assessment tool to estimate the current and future risk levels for about 1 000 main river basins in the EU.

ENHANCE is part of the EU's effort to develop new tools, models and risk assessments. The data will be valuable for forecasting floods and for forming policies.

## DROUGHT & DESERTIFICATION MANAGEMENT & PREPAREDNESS

Climate models indicate increasing aridity within this century



currently 1% - 3%  
of land surface is affected by  
extreme drought globally



2090s  
expected to  
increase to 30%  
of land surface



153 million Europeans  
will experience droughts  
annually

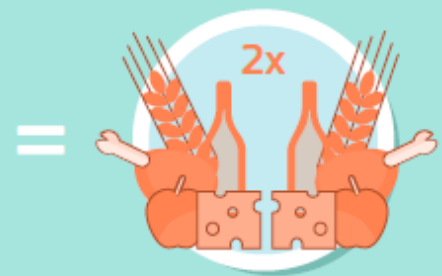


# AGRICULTURE & FOOD SECURITY

9 billion estimated world population



Food production



will have to double from current levels.

Climate change is already the cause of **hunger and malnutrition** for



45 million people



rising to **75 million** within the next 20 years.

Global food prices expected to increase by 20% as food production declines.



The EU will have to ensure that 450 million Europeans have access to food.



## EUPORIAS project

[www.euporias.eu](http://www.euporias.eu)



Integrated seasonal climate forecasts into the Livelihoods, Early Assessment and Protection (LEAP) system, an early warning tool that Ethiopia has been using since 2008 to estimate the number of people who will be in need of food assistance due to drought.

LEAP helps Ethiopia provide faster and more effective assistance to those affected by drought.

The project is part of the EU's support for Climate Services such as LEAP that provide valuable information to vulnerable communities so they can address challenges to their food security.





AIR QUALITY

### PURGE project

<http://purge.lshtm.ac.uk>

Studied health impacts of strategies to reduce greenhouse gas emissions in urban centres in Europe, China and India.

# 3

## Air Quality Impacts



### Key Findings

#### Key Finding 3: Worsened Allergy and Asthma Conditions



Changes in climate, specifically rising temperatures, altered precipitation patterns, and increasing concentrations of atmospheric carbon dioxide, are expected to contribute to increasing levels of some airborne allergens and associated increases in asthma episodes and other allergic illnesses [High Confidence].





# Innovation is the key to unlocking Climate Services

An evidence-based response to climate change is one of the societal challenges addressed by the EU through Horizon 2020.

## GOAL

Invest at least **35%** of Horizon 2020's budget in climate-related research and innovation.



reduce risks and costs



identify and seize opportunities



invest in the best science and technologies



develop bespoke solutions and services to tackle climate change



stimulate sustainable growth

## COPERNICUS CLIMATE CHANGE SERVICE FROM DATA TO INTELLIGENCE

[www.climate.copernicus.eu](http://www.climate.copernicus.eu)

The growth of national climate centres and the Copernicus Climate Change Service will boost the global Climate Services market. Facilitating the development of such a market requires sustained research and innovation in three main challenge areas:



enabling market growth



building the market framework



enhancing the quality and relevance of Climate Services





## CO-DESIGN AND MUTUAL LEARNING

New partnerships will be at the core of developing Climate Services.  
We must collaborate, design and implement innovative solutions together.

### GET INVOLVED





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THANK YOU



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