What is the Copernicus Climate Change Service?

Copernicus for Climate Change Adaptation and Mitigation

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Climate Change

INTRODUCTION

- **The Copernicus Climate Change Service (C3S)**
  "has been designed to respond to environmental and societal challenges associated with climate change".

- Will combine observations with latest science to develop quality-assured information about past, current and future climate change.

- A web portal has been developed, providing access to climate datasets, project information and news:

http://climate.copernicus.eu

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WHAT IS CLIMATE CHANGE?

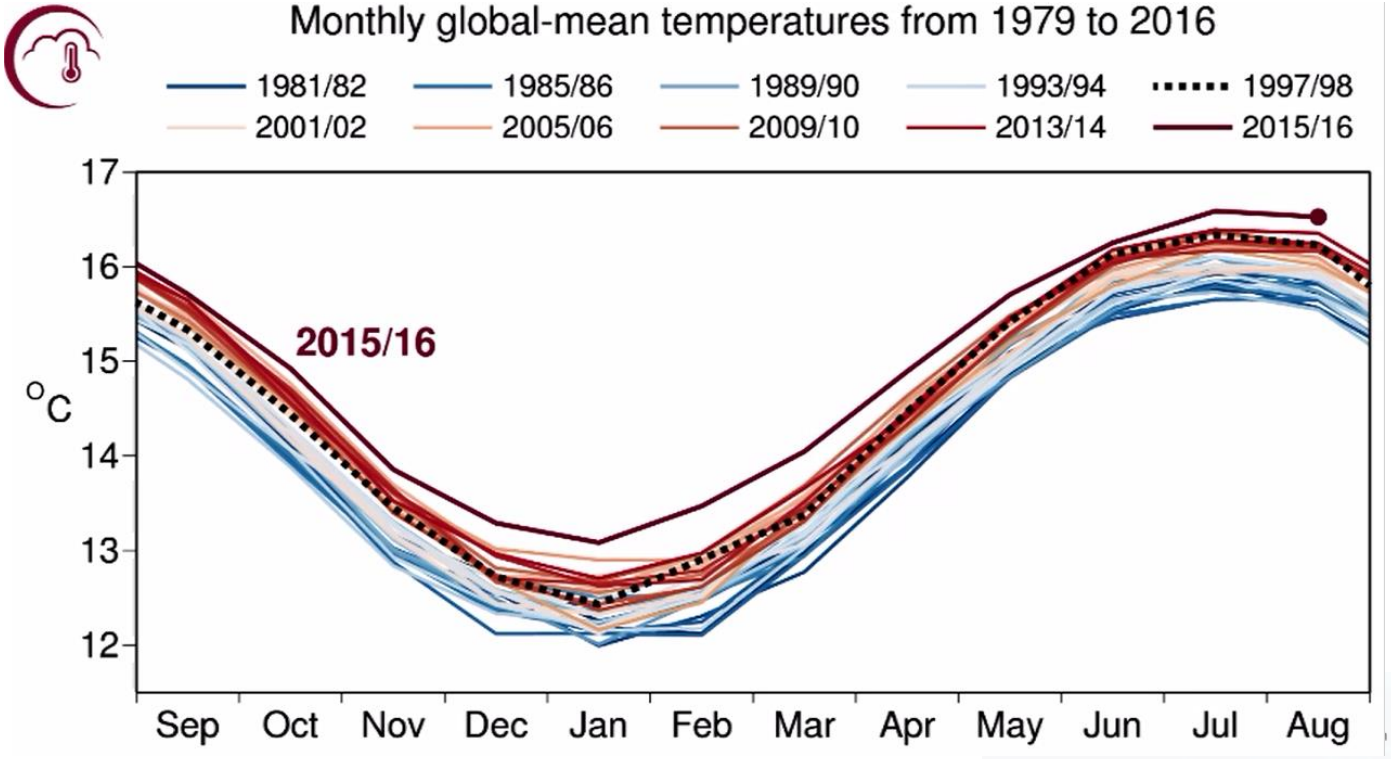
- Climate change is the large-scale, long-term shift in weather patterns driven by changes in average temperatures.

- Evidence for climate change includes:
  - higher temperatures
  - changing rainfall patterns
  - rising average sea-levels
  - melting of glaciers and ice-sheets
  - more frequent extreme weather events

- Global average surface temperatures have risen by 0.9°C since 1901 - this rate is extremely high.

WHAT IS CLIMATE CHANGE?

- Each month from September 2015 to August 2016 has become the warmest on record for that particular month.



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WHAT IS C3S?

- Aims to combine expertise from across Europe
- Aims to provide key indicators on climate change drivers and impacts
- Aims to support European climate change policy
- Aims to deliver economic value to Europe by:

1

informing

policy development to protect citizens from climate-related hazards such as high-impact weather events

2

improving

planning of mitigation and adaptation practices for key human and societal activities

3

promoting

the development of new services for the benefit of society

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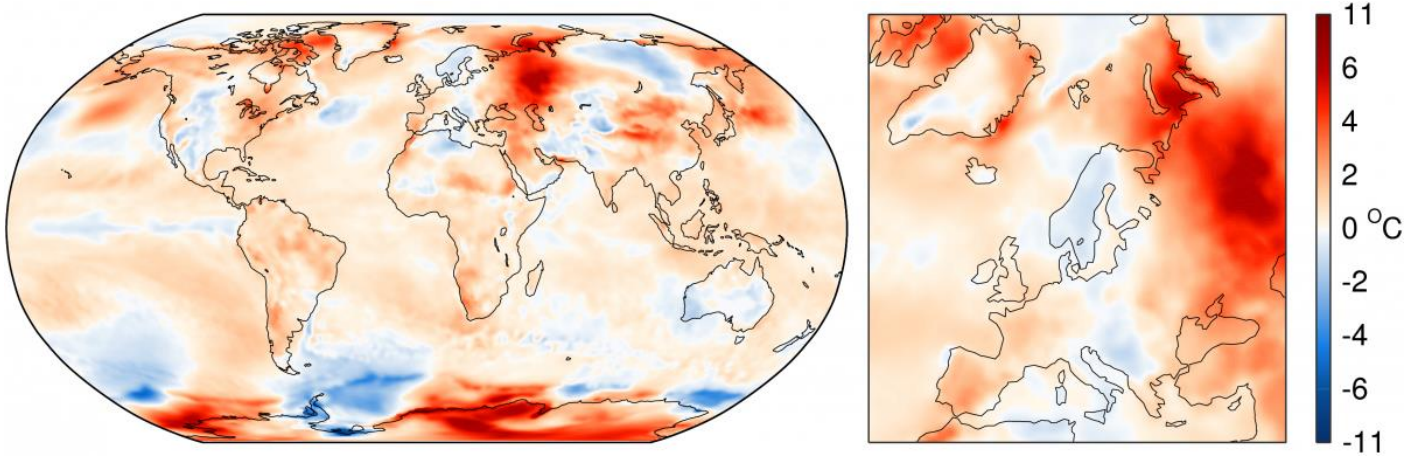
WHAT WILL C3S PROVIDE?

- Combines in-situ and satellite-based observations with climate models and expertise
- Information used to generate Climate Change Indicators for Europe, such as temperature increase, sea level rise, etc.



Average surface air temperature anomaly for August 2016 relative to August average for period 1981-2010

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WHAT WILL C3S PROVIDE?

- Climate indicators will be used for monitoring and predicting future change
- Aim to support adaptation and mitigation policies across a number of sectors:

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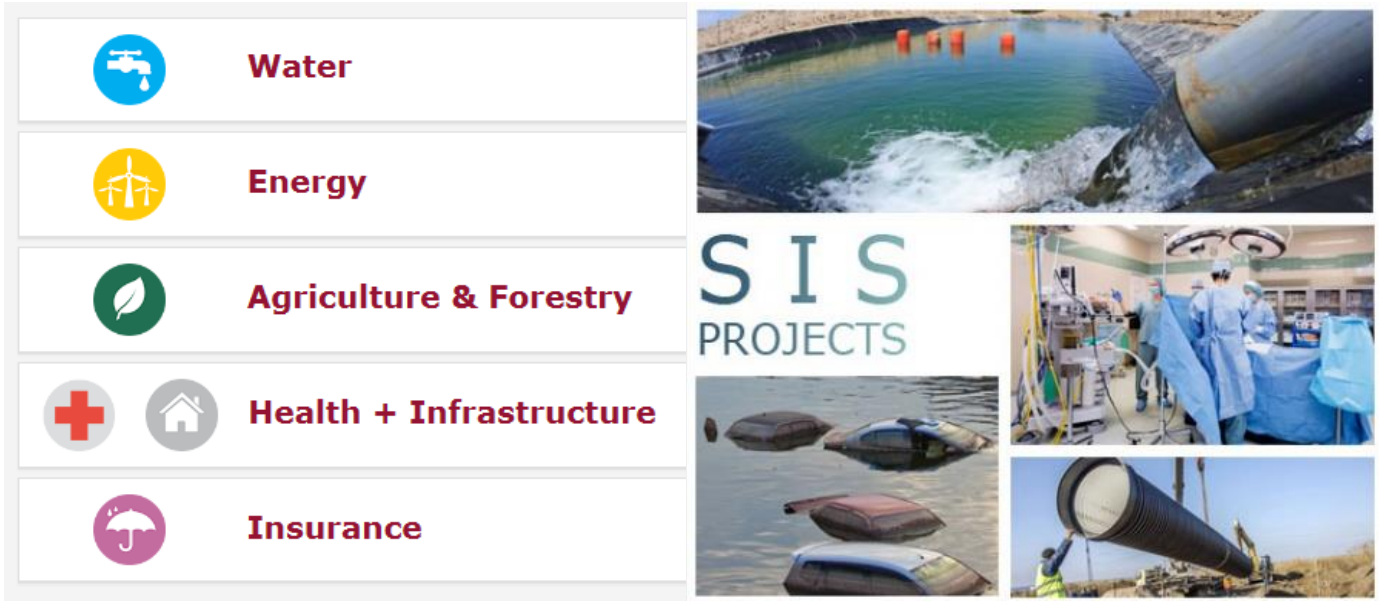
C3S SERVICES: CLIMATE DATA STORE

- A Climate Data Store (CDS) will provide access to the geophysical information needed to analyse the Climate Change Indicators in a consistent, scientific manner.

- The CDS will provide:
  - estimates of ECVs, climate indicators, and relevant information
  - near-real time climate monitoring facility
  - access to multi-model seasonal forecasts
  - climate projections at global and regional scales
  - access to research computing facilities
  - data processing and visualisation tools

C3S SERVICES: SECTORAL INFORMATION SYSTEMS

- 7 demonstrator projects have already been initiated:



- These will work with sectors to develop services
- Will help users plan for the impacts of climate change

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C3S SERVICES: CURRENT PROJECTS & PROVIDERS

- AGRICLASS – Telespazio VEGA
- CLIM4ENERGY – CEA
- ECEM – University of East Anglia (UK)
- EDgE – NERC Centre for Ecology & Hydrology
- SWICCA – Swedish Meteorological & Hydrological Institute
- UrbanSIS - Swedish Meteorological & Hydrological Institute

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C3S SERVICES: OUTREACH

- An outreach strategy is planned to ensure effective and consistent communication to users

- Currently, C3S can be reached via:
  - Web portal (http://climate.copernicus.eu)
  - Twitter (@CopernicusECMWF)
  - Instagram (www.instagram.com/copernicusecmwf)
  - Slideshare (www.slideshare.net/CopernicusECMWF)

- DEMO of Web portal