

# Copernicus Climate Change Service

## Climate Data Store Workshop

**Housekeeping + Welcome**



**Copernicus**  
Europe's eyes on Earth



Funded by the European Union

Implemented by  ECMWF

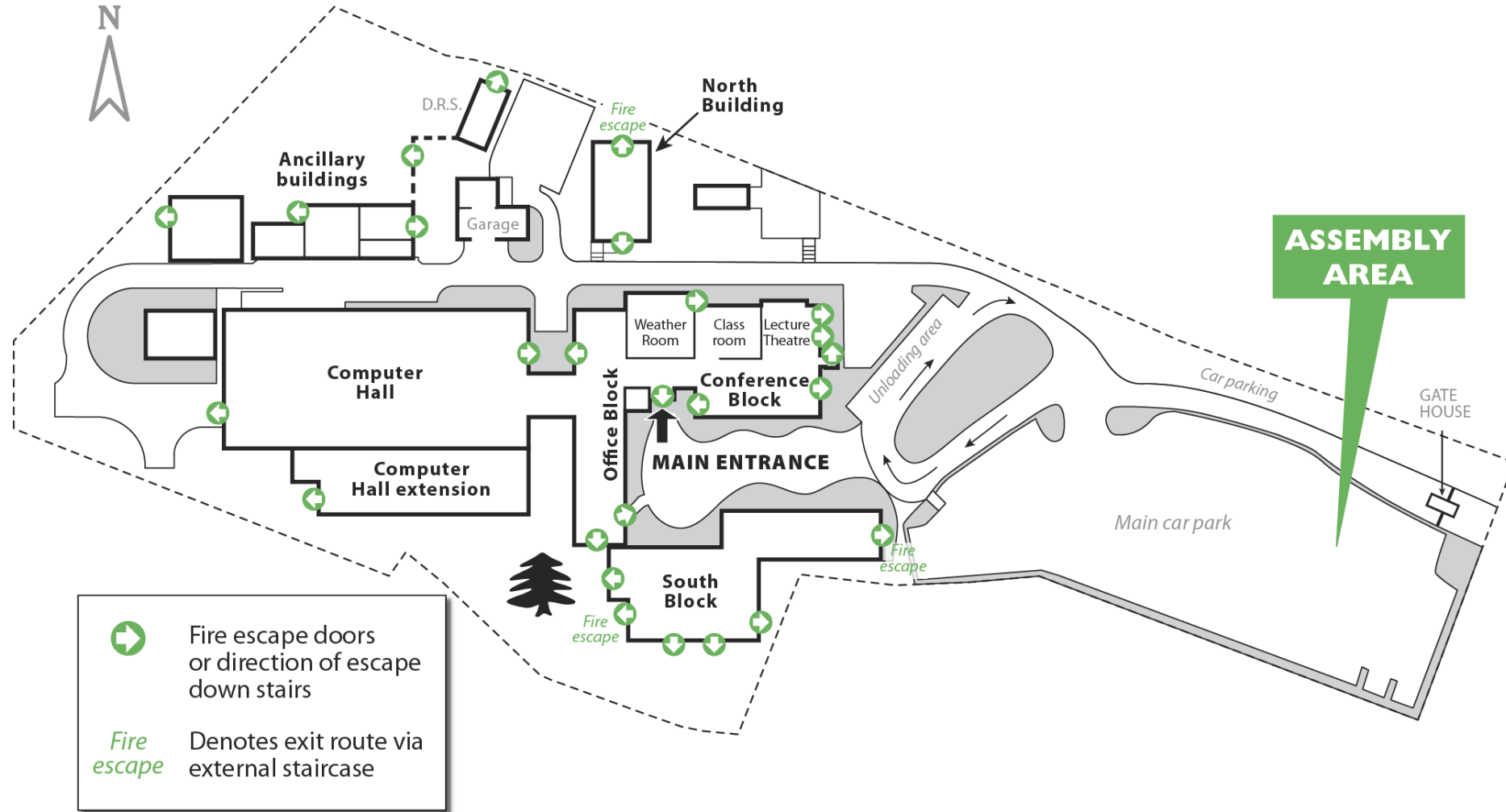
# Safety

- Fire safety
  - Fire exits
  - Assembly area in car park
  - Do not leave site or return to building unless instructed
- Sign in/out each day at reception



# ECMWF grounds

## ECMWF Fire escapes and Assembly Area



## Wifi

- Username: climdata
- Password: Climatedmarch
- 4 public access PCs in the Weather Room



## Facilities

- Coffee/teas in the morning will be served on the Concourse located outside this room. Refreshments will also be available in the afternoon for each Working Group.
- Toilets are on the Concourse.



# Speakers

- Your presentation should already be uploaded to the ECMWF server.
- If it isn't, please bring it on a USB stick.



## Live streaming

- This workshop will be streamed live via the ECMWF Webex facility.
- If you do not wish your talk to be broadcast, please let us know.



# Presentations

- Will be placed on our external website after each day (in pdf format).

<http://www.ecmwf.int/en/about/what-we-do/copernicus/copernicus-climate-change-service/copernicus-climate-data-store>

- Please let us know if you **do not** want your talk published.





## Mobile phones



**Switch mobile  
phone off or  
to silent**

# Climate Data Store Workshop

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# What is Copernicus?



*Copernicus, previously known as GMES (Global Monitoring for Environment and Security), is the European Programme for the establishment of a European capacity for Earth Observation*



Service Components

Users



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

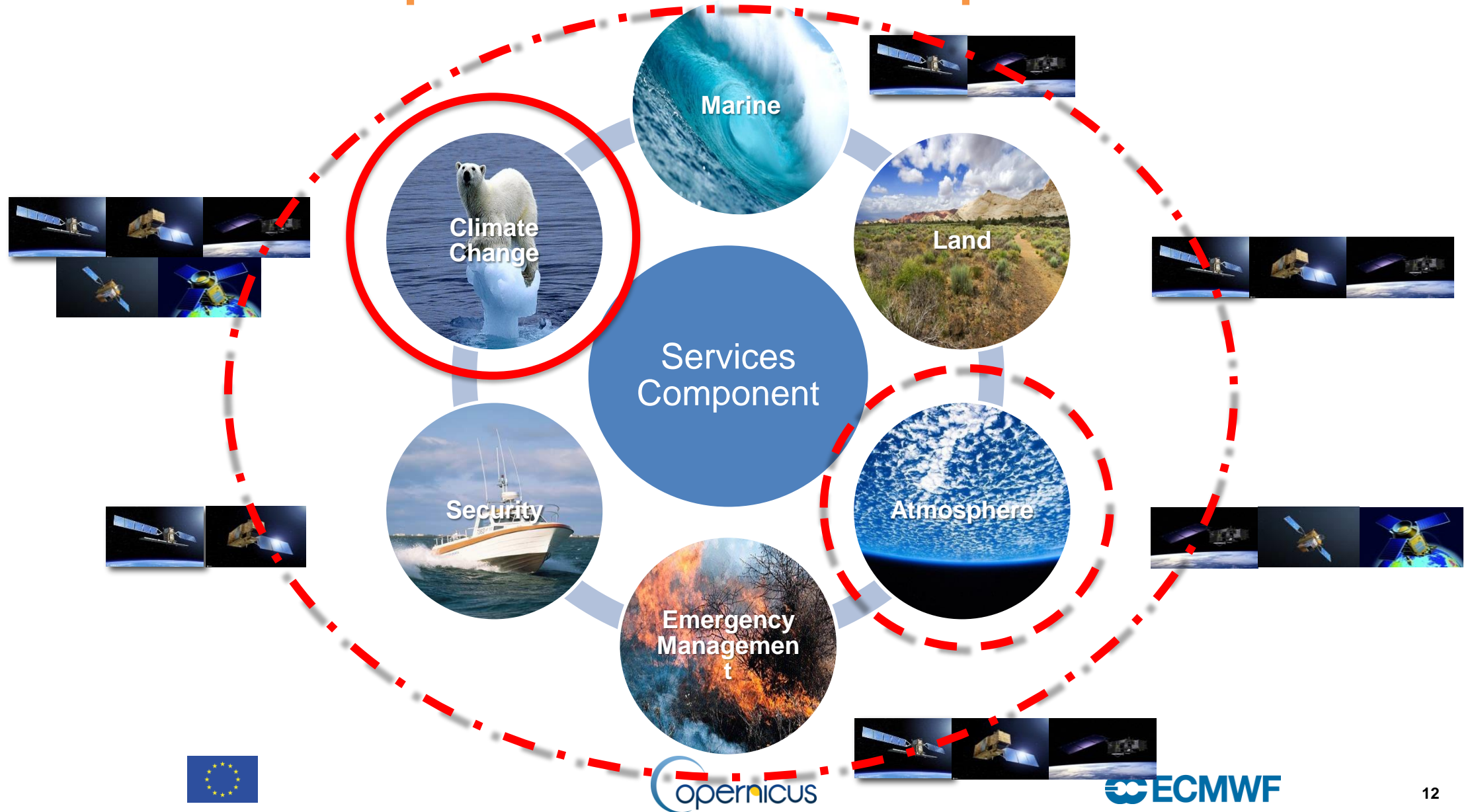
Space Component

In-situ Component





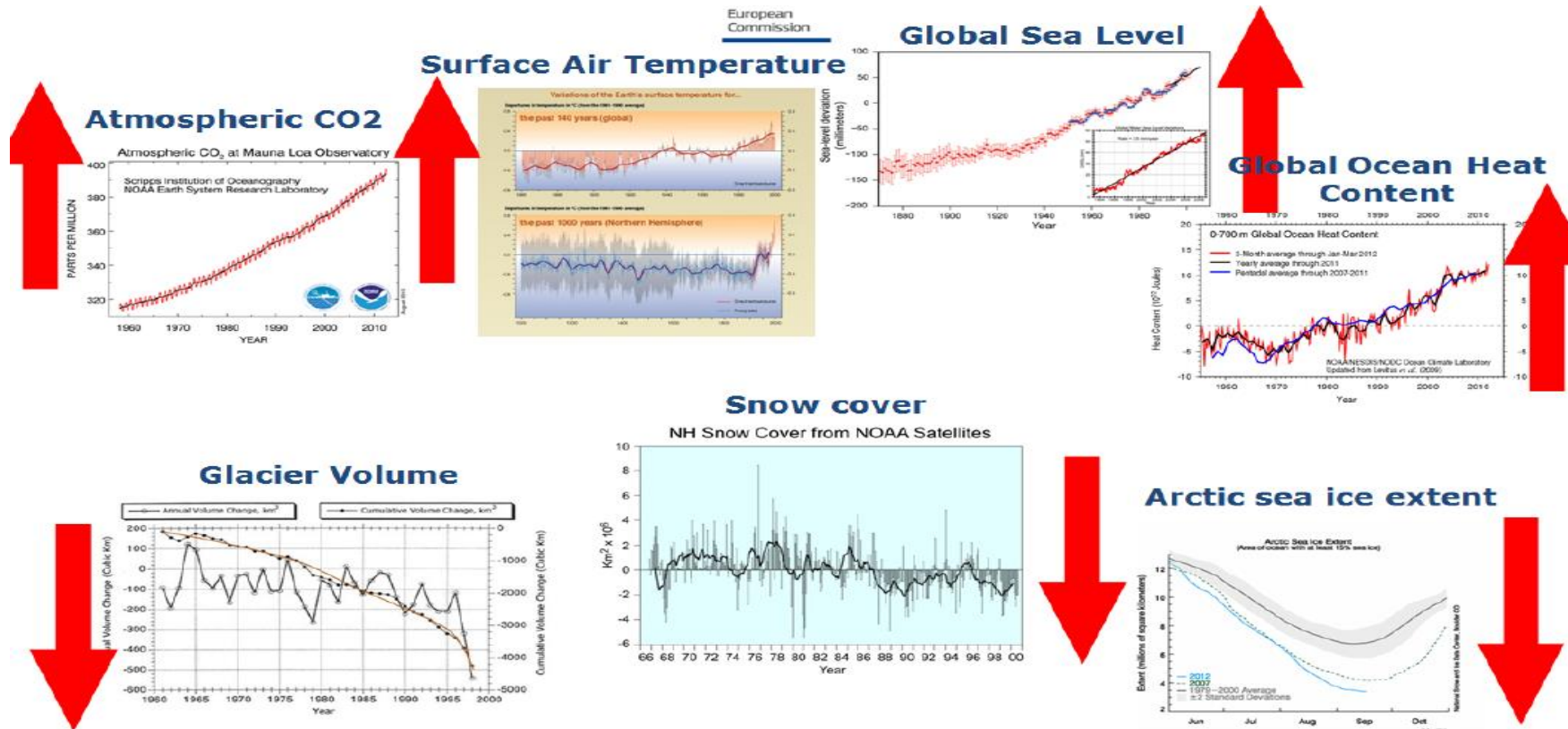
# Copernicus Service Component



# C3S: State of play

From the Copernicus regulation (EU) 377/2014:

"the Climate Change service shall provide information to increase the knowledge base to support **adaptation and mitigation policies**. It shall in particular contribute to the **provision of Essential Climate Variables (ECVs), climate analyses, projections and indicators** at temporal and spatial scales relevant to adaptation and mitigation strategies for various Union's sectoral and societal benefit areas."



## C3S Vision

**To be an authoritative source of climate information for Europe**

**To build upon national investments and complement national climate service providers**

**To support the market for climate services in Europe**

Is the climate changing?

- Earth observations
- Reanalyses

Will climate change continue, accelerate?

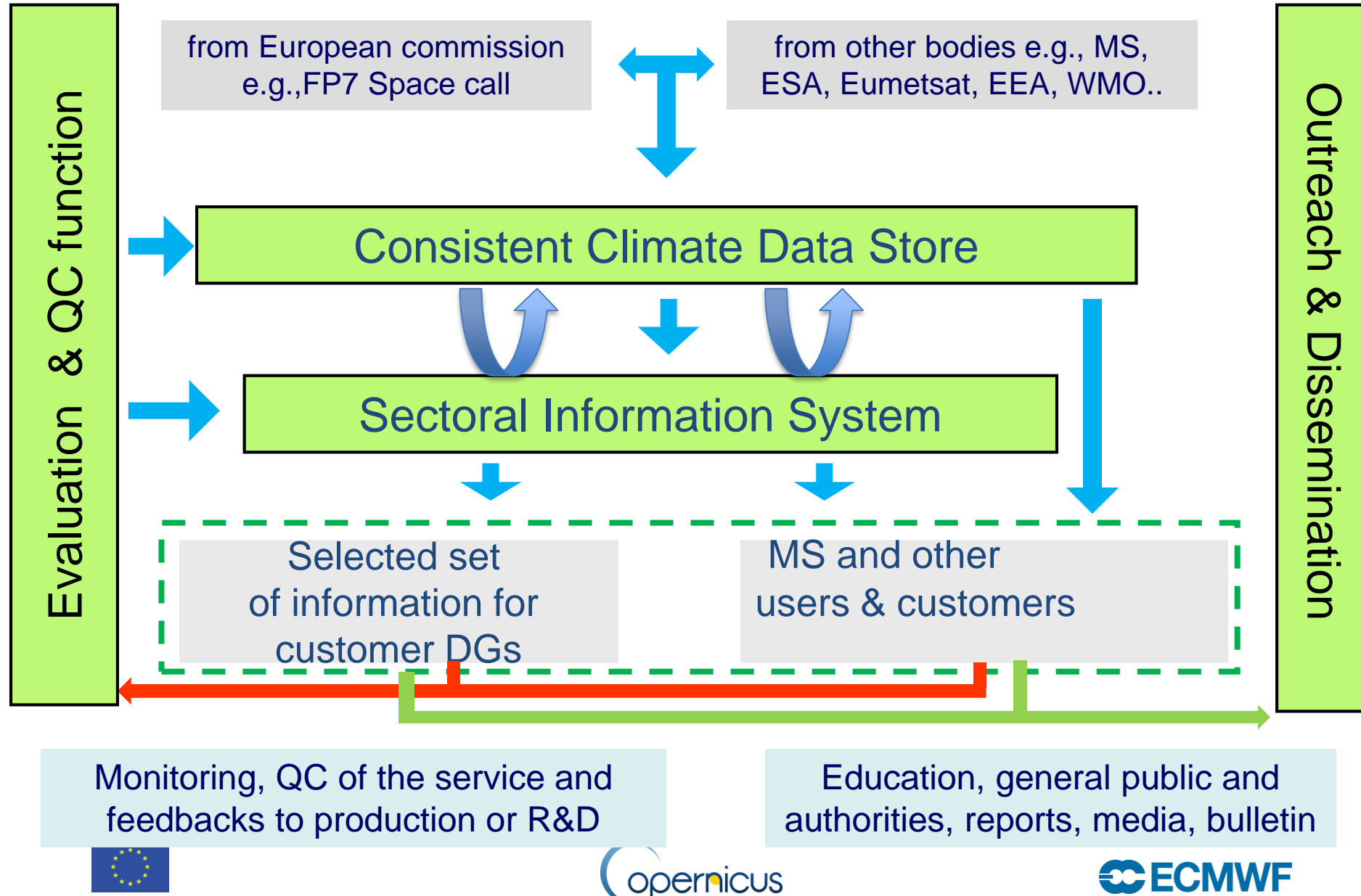
- Predictions
- Projections

What are the societal impacts?

- Climate indicators
- Sectoral information



# C3S: State of Play





## Key needs (from DG – Climate Action – 02/2014)

- **Heterogeneity:** unlike mitigation, developing adaptation policies must address different geographic demands and needs
- **Scales and resolutions:** adaptation policies are implemented at different scales (EU, national, subnational, local)
- **Multiple sectors:** each vulnerable sector requires tailored information and services (various geographic scale).
- **Integration:** adaptation policies require cross-sectoral and scale integration.
- **Uncertainty:** need to address it (climate side)
- **Trans-border policies:** need for standardized data and services beyond (e.g. Biodiversity, Health)

Impact on C3S Web portal functionalities?

Credit: Alfonso Garcia-Rodriguez, Adaptation Unit -  
DG Climate Action

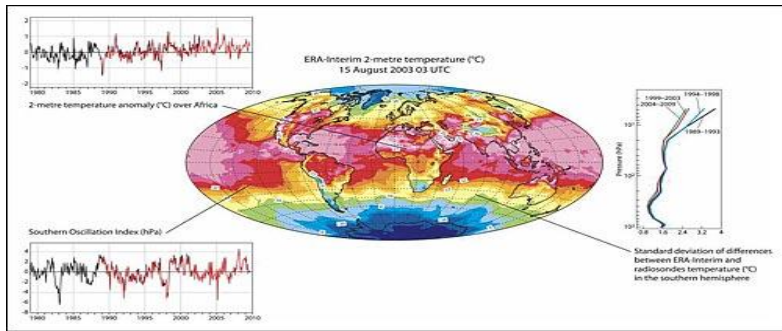




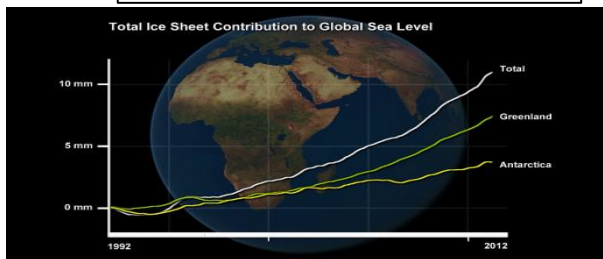
# C3S Service elements: Climate Data Store

Series of ECV datasets and climate indicators

- Observed, reanalysed and simulated
- Relevant to support adaptation/mitigation policies at European level and wider



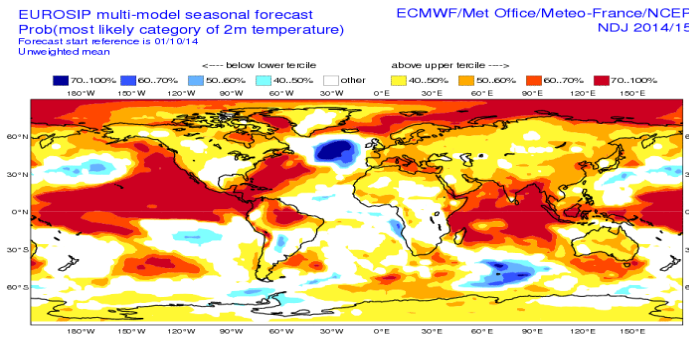
Reanalyses



Other ECV datasets



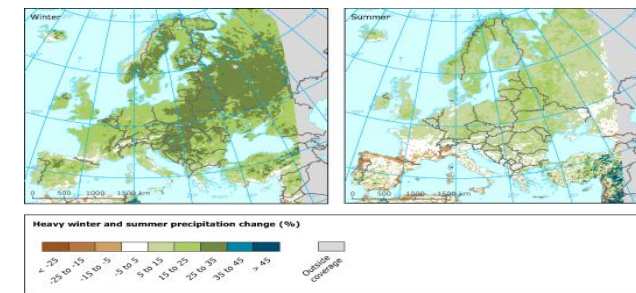
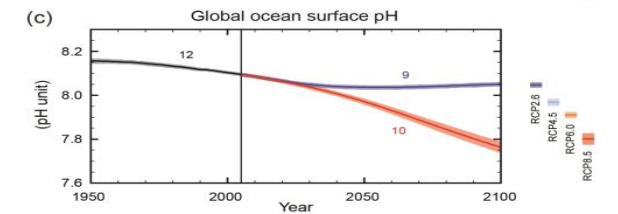
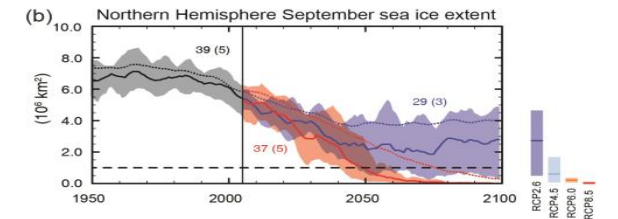
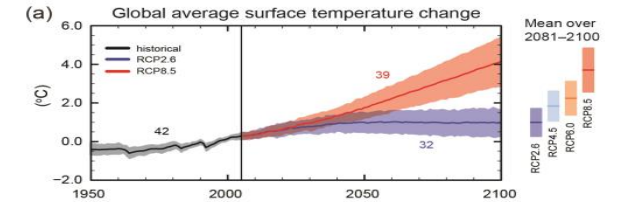
Data collection and data rescue



Multi model seasonal forecast products



Data reprocessing



Climate projections



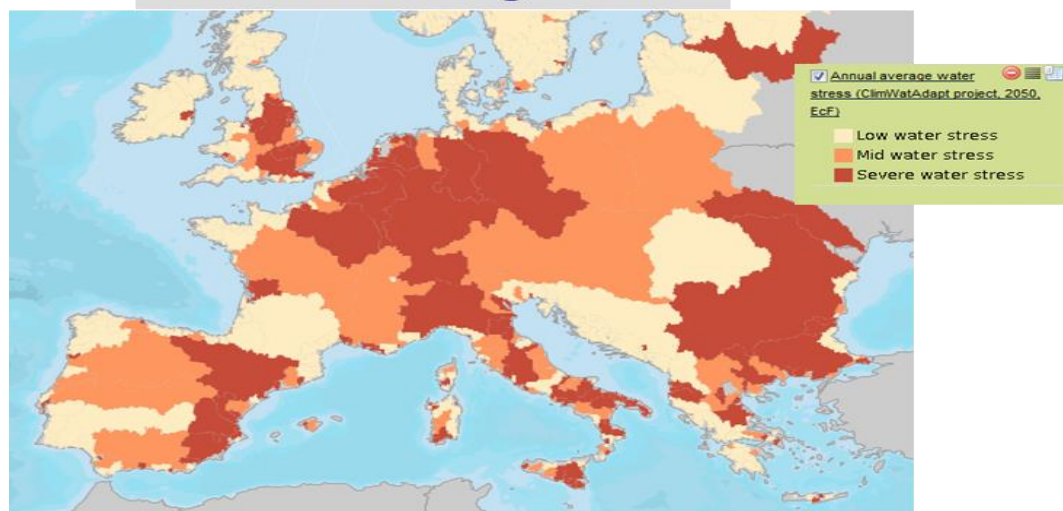
# C3S Service elements: Sectoral Information System

## Tailored climate indicators for primary users:

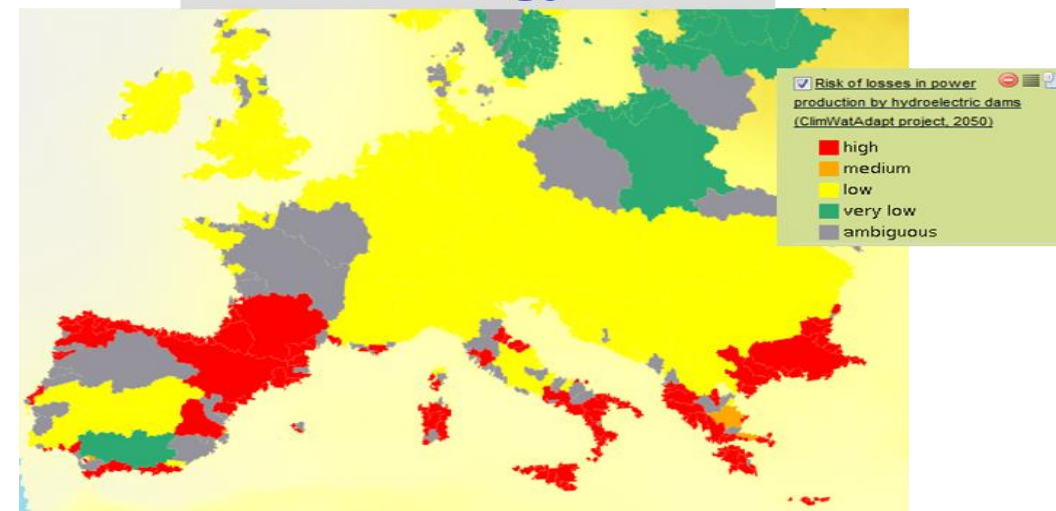
- Institutional users at European level, EEA Climate-Adapt,...
- Science users, innovation and business development

## Data and tools to support public and commercial applications and policy development

### Water management



### Energy



- ~ 30 ECV datasets and ~ 8-10 Sectors to be addressed by 2020



# C3S Service elements: Evaluation and Quality Control

## User engagement

- Workshops, surveys, reports,...
- User forums to ensure interaction and capacity building

## Continual evaluation of C3S products and services

- Translation of user requirements into technical specifications
- Identification of gaps in the Service (decadal prediction?)
- Provision of guidance on dataset resolution requirements
- Recommendations for new service components
- Liaison with research programmes (H2020, others)
- Strong interaction with CDS & SIS (multi-disciplinary)
- Scientific and technical assessments



# C3S Service elements: Outreach and dissemination

## Web content provision and management

- Coherence throughout the C3S, interfaces between pillars, etc.

## Public outreach:

- All media, e.g. press, newsletters, climate impact visuals, twitter..
- Annual State of Climate for Europe
- Downstream application and service providers

## Coordination with national outreach efforts

- On communicating events, findings, etc.

## Liaison with public authorities

- Market/communicate C3S products

Events (conferences, seminars, summer schools, ..)

Training and educational material, smartphone apps, etc.



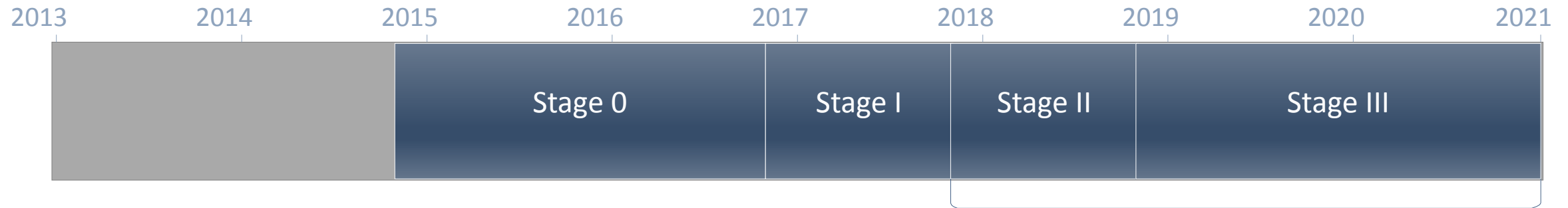


# Copernicus Climate Change (C3) service

## Provisional timing

Stage 0 - Proof of Concept
Stage I - Pre-Operational
Stage II - Operational ~20 ECVs, ~5-6 Sectors
Stage III - Operational ~30 ECVs, ~8-10 Sectors

PoC + Pre-operational Phase



Operational Phase

Consistent Climate Data Store - ~ 30 ECVs & ~ 10 indicators –  
Based on observed, reanalysed and/or model simulated datasets

## C3S approach: User engagement

Initial proof-of-concept activities will be procured during 2015, and will expand as the C3S develops throughout the preoperational and operational stages

For some activities, workshops will first be organised to consolidate the scope of these components of the C3S

Four workshops will be organised during 2015:

- Workshop on “C3S technical infrastructure” – 3-6 March 2015 **“CDS WORKSHOP”**
- Workshop on “Climate Projections” – 20-22 April 2015 (tentative)
- Workshop on “Communicating Climate Information” – mid-June 2015 (tentative)
- Workshop on “Observation requirements for C3S” – 29 June – 2 July 2015



# Conclusions

C3S (Copernicus Climate Change Service) is just starting (signature on 11/11/2014)

C3S builds upon national capacities (observations, infrastructure, R&D, existing services..) and EU funded R&D projects

C3S complements and enhance these capacities, to “operationally” serve EU DGs needs and beyond

User engagement is essential during proof-of-concept phase

C3S promotes market development by providing datasets, tools and best practices

C3S activities are largely competitively procured





Delivering Climate Change  
Information for Europe

What will the service provide

PROCUREMENT

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

The Copernicus Climate Change Service implemented by ECMWF is part of the Copernicus programme coordinated and managed by the European Commission.



# Copernicus Climate Change Service



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## JOB

ECMWF has started its first phase of recruitment to build up the Copernicus team and [further vacancies will be advertised online.](#)

## TENDERS

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

ECMWF has published Prior Information Notices in the Official Journal of the European Union (OJEU) for several Copernicus procurements. An Information Day took place in Brussels on Monday 2nd February 2015.  
[Click here for further information.](#)