ERA4CS European Research Area for Climate Services

MEDSCOPE

MEDiterranean Services Chain based On climate PrEdictioncs

Climate predictions in the Mediterranean region to be used in agriculture, water management and renewable energy sectors

Silvio Gualdi (CMCC) +
MEDSCOPE Partner Team

WMO · ESCWA · WMO Northern Africa RCC Network · WMO RA VI RCC Network · SEEVCCC · ACMAD · AEMet Agencia Estatal de Meteorología

11th Session of the Mediterranean Climate Outlook Forum
20th Session of South East European Climate Outlook Forum
13th Session of Climate Outlook Forum for Northern Africa
3rd session of Arab Climate Outlook Forum

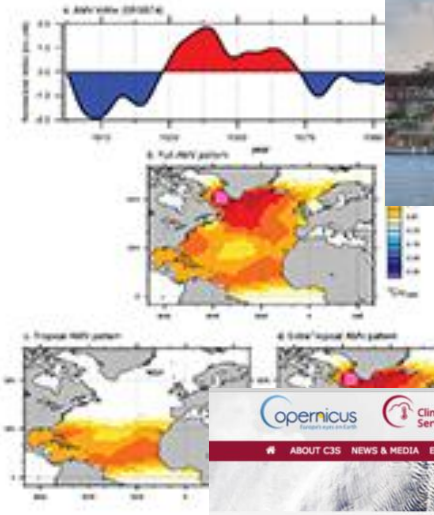
26-29 November 2018
Cairo, Egypt

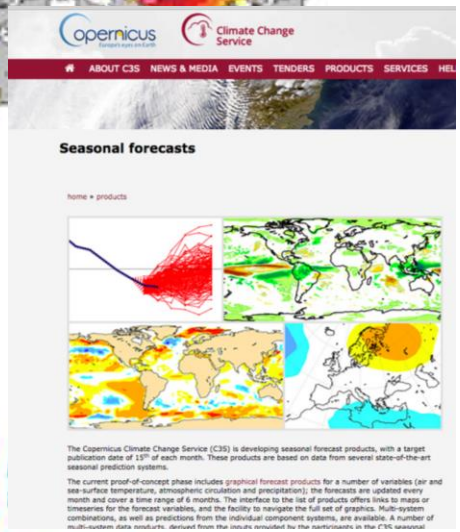
Seasonal Forecasts and Climate Services

Seasonal forecasts provide information about the **probability** of occurrence of climate anomalous conditions in the **coming seasons** helping to tackle possible severe impacts.

Seasonal forecasts are an extraordinary source of data and information for climate service activities

The Rationale





ERA4CS

The MEDSCOPE Project

MEDSCOPE is a **three-year project** that, by leveraging on previous experiences (e.g. CLIMRUN, EUPORIAS, ...), will enhance the **exploitation of climate predictions** from seasonal to decadal timescales, maximising the potential of their **application in different economic sectors**, public and private, of relevance for the Mediterranean region

Working in close relation with a wide basin of users in the Mediterranean area, **MEDSCOPE develops methodologies and tools aimed at improving climate forecast capabilities and related services**, maximising the societal benefit of climate predictions in the Mediterranean.

MEDSCOPE mainly focuses on the **seasonal timescale** **using the wealth of forecasts that is already available**. However, the project explores also the potential of predictions at longer time–scales (multiannual).

ERA4CS European Research Area for Climate Services

MEDSCOPE

The MEDSCOPE Project

METEO FRANCE

RMI

ISAC

cmcc
Centro Euro-Mediterraneo sui Cambiamenti Climatici

INRA
SCIENCE & IMPACT

Plan Bleu
Building the Mediterranean future together

AEMet
Agencia Estatal de Meteorología

BSC
Barcelona Supercomputing Center
Centro Nacional de Supercomputación

MEDSCOPE Overall Objectives

- **Improve comprehension of the mechanisms** driving the climate variability in the Mediterranean area (tropical–extratropical and polar–mid latitudes teleconnections).

- **Provide a set of methods and ready-to-use tools** for **verification and skill assessment**, **downscaling**, **calibration** and **bias adjustment** of the forecasts.

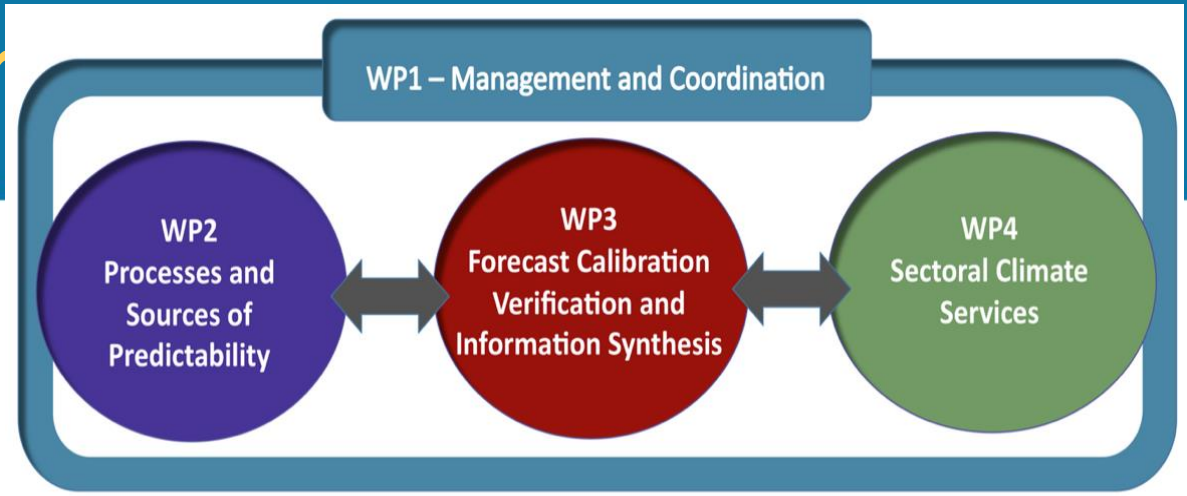
- **Provide prototypes of end-user tailored products and services** based on climate forecasts at seasonal and multi-annual timescales, in relevant economic sectors for the Mediterranean, such as **wind energy, water management (hydrology), and agriculture and forestry (and fire risk)**.

ERA4CS European Research Area for Climate Services

MEDSCOPE

The MEDSCOPE Pr

Project's structure:



WP1 (Management and Coordination): ensure the overall project monitoring, internal and external communication as well as administration and reporting. It will supervise and facilitate the collaboration and interactions among project WPs and within the team.

WP2 (Processes and Sources of Predictability): **explore the mechanisms of variability and predictability** in the Mediterranean, focusing on those linked with predictable signals in the **oceans** or associated with **land-atmosphere interaction** processes (**telconnections**) → **sensitivity experiments**.

WP3 (Forecast Calibration, verification and information synthesis): **develop methodologies to extract usable information from predictions**. It will produce tools for prediction **verification, calibration, downscaling, ensemble member combination and selection** that will be **publicly released via a toolbox and shared among partners and users.**

WP4 (Sectoral Climate Services):**demonstrate the feasibility of climate services** and generate prototypes for three important sectors for the Mediterranean: **renewable energy, hydrology (including water resources management) and agriculture and forestry**.

Expected (main) impacts:

➢ **MEDSCOPE** steers collaboration and networking between climate prediction providers and specialized end-users in the **Mediterranean region** → **building a community that shares knwoledge, methodologies, paractices, tools and data**

➢ **MEDSCOPE** **contributes to demonstrate the feasibility and usefulness of climate predictions** for the three considered priority sectors. The use of the tools produced within MEDSCOPE could easily **extend benefits to other areas** of the and to a **wider number of sectors**.

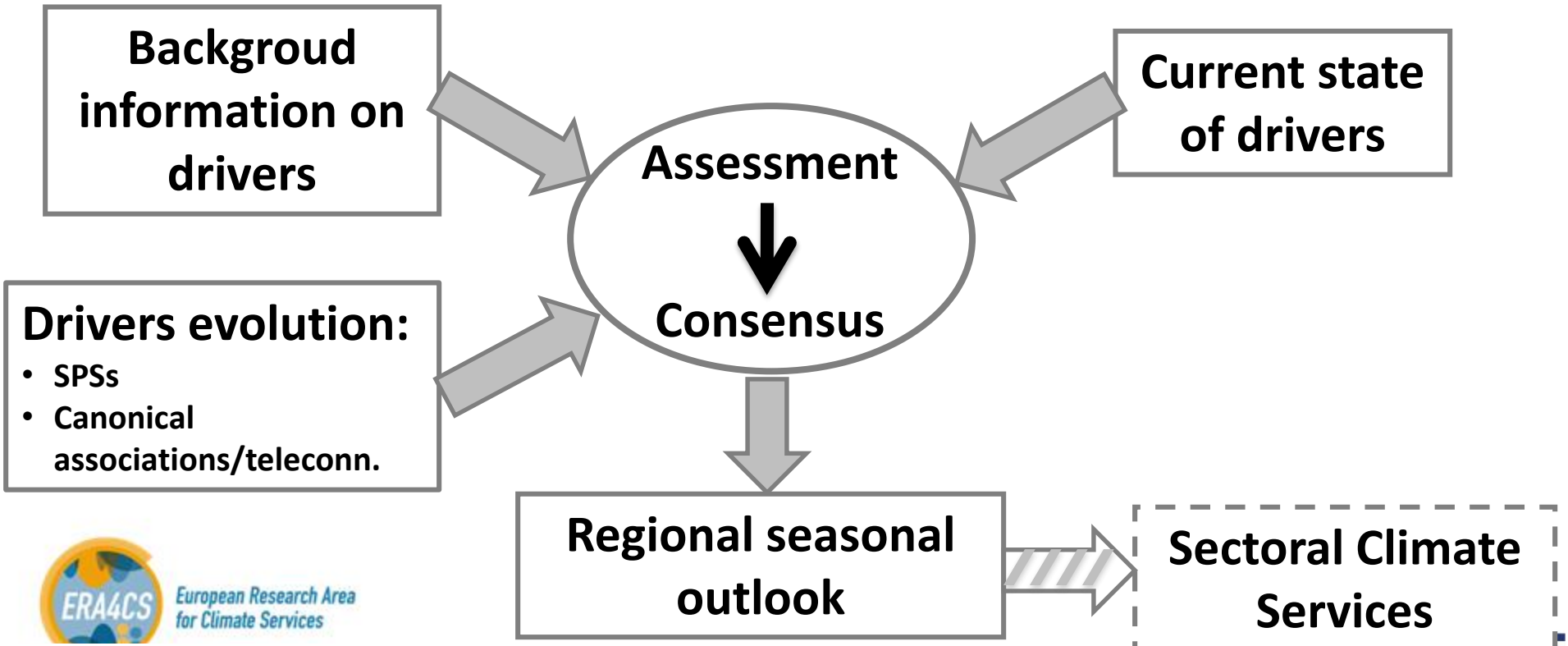
➢ **MEDSCOPE** societal **impacts will be channelled** mainly through the already existing **network of experts** in operational climate prediction **operating under the umbrella of the MedCOF**.

ERA4CS European Research Area for Climate Services

MEDSCOPE

Matching between MEDSCOPE and MedCOF

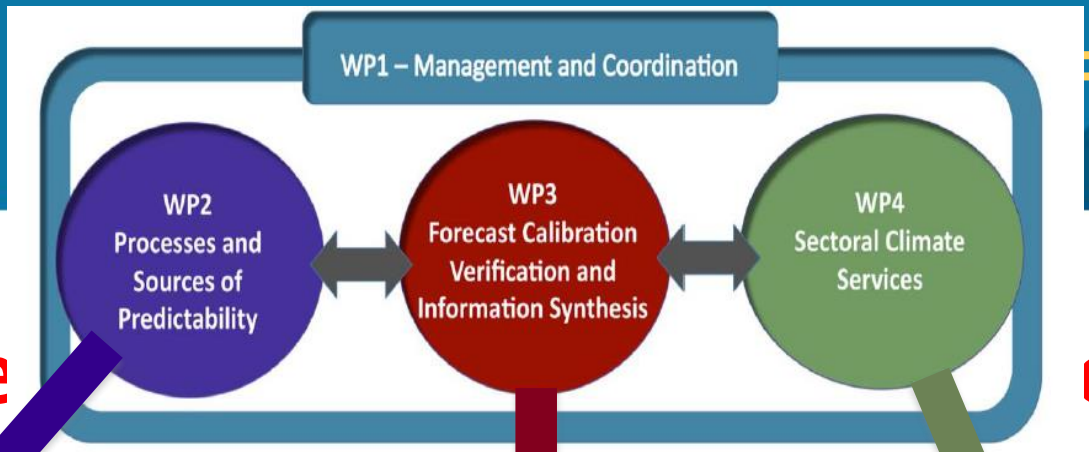
Current consensus practice in MedCOF



ERA4CS European Research Area for Climate Services

courtesy of Ernesto Rodriguez

Matching



Curre edCOF

Backgroud information on drivers

rrent state f drivers

Assessment

↓

Consensus

Drivers evolution:

- **SPSs**
- **Canonical associations/teleconn.**

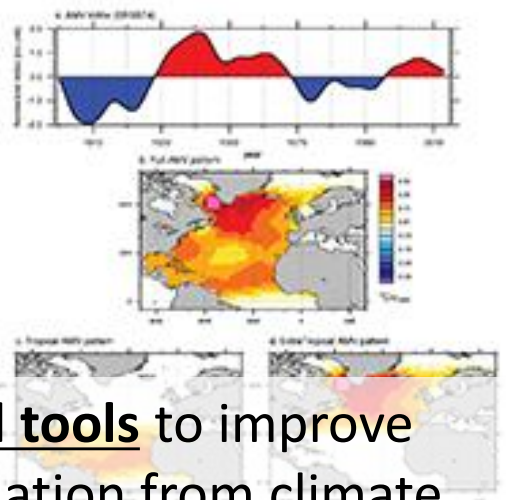
Regional seasonal outlook

Sectoral Climate Services

ERA4CS European Research Area for Climate Services

courtesy of Ernesto Rodriguez

In conclusion, MEDSCOPE will …



… provide a **substantial advancement of scientific understanding** of the climate predictability on seasonal– to– decadal timescales in the Mediterranean.

… develop and release **advanced tools** to improve the extraction of relevant information from climate prediction systems and assess their robustness and uncertainty.

… serve as a **community builder** for future **climate service** activities based on climate predictions in the **Mediterranean**, contributing to the building of a common and shared knowledge.

Thank you

MEDSCOPE

www.medscope-project.eu

ERA4CS European Research Area for Climate Services