School of Earth and Environment

Sustainability Research Institute

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On the use of seasonal to decadal climate predictions in Europe

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Marta Bruno Soares & Suraje Dessai
m.soares@leeds.ac.uk

Centre for Climate Change Economics and Policy

EUPORIAS

SEVENTH FRAMEWORK PROGRAMME

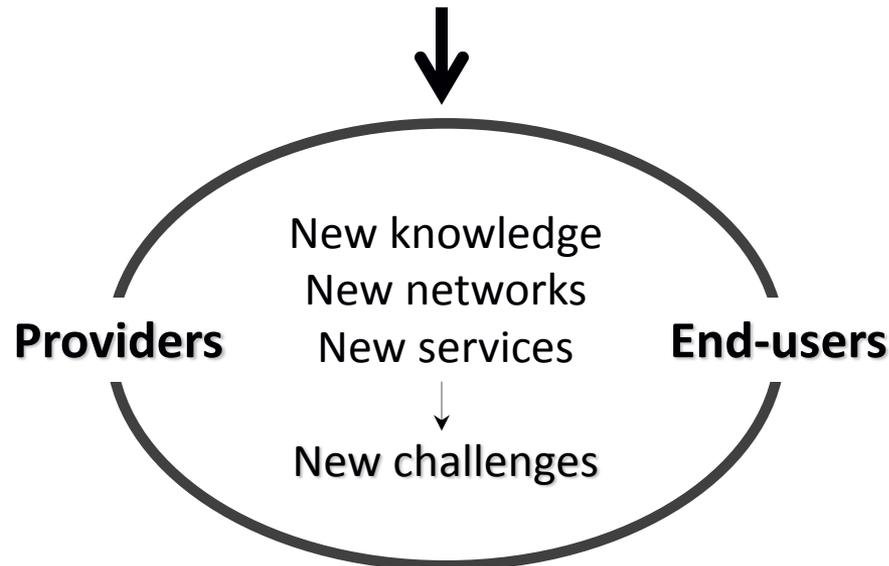**UNIVERSITY OF LEEDS**

- Range of European projects and initiatives looking at climate information and services e.g. CIRCLE 2, JPI Climate, CLIMRUN, ECLISE, EUPORIAS, IS-ENES;

- Potential to use new types of information for decision-making e.g. seasonal forecasts;

- Provision of climate and adaptation services across Europe.

Providers New knowledge
New networks
New services
↓
New challenges **End-users**

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- EUPORIAS: **EU**ropean **P**rovision **O**f **R**egional **I**mpact **A**ssessment on a **S**easonal-to-decadal timescales;

- Led by UK Met Office; 24 partners; 15 WPs; 60 stakeholders.

- Prototypes of climate impact prediction services on seasonal to decadal (S2D) timescales (a month up to a year; 2 to 10 years); co-production between producers and users;
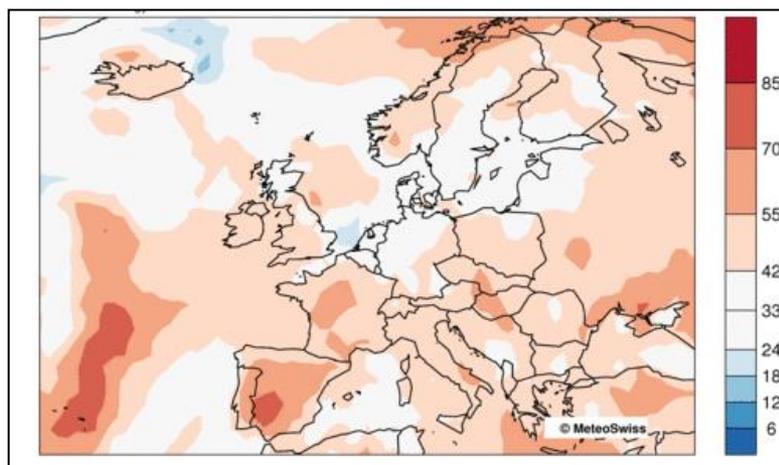
Seasonal forecast: 3-monthly mean temperature to be above average conditions for temperatures from May to July 2012.

 Source: MeteoSwiss

(Areas shaded in orange and red correspond to temperatures above average conditions).

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3. Assessing users' needs

- Assess users' needs with regard to S2D climate predictions across European sectors;

- Tasks and methods:

1. Systematic literature review

Understand the practical use of S2D predictions for decision-making across European sectors

2. Workshop with European Climate Services providers

Elicit knowledge from those at interface between the producers & users of S2D predictions

3. Interviews with stakeholders and other users

Understand stakeholders and other users' needs with regard to S2D predictions

4. Survey of users' needs + 5. workshop developers of S2D predictions

Literature review and workshop reports available at www.euporias.eu

4. Some preliminary findings

4.1. Provision of S2D climate predictions

- Central role of ECMWF and National Met Offices (NMHSs);

- Responsibility for producing/providing S2D climate predictions:

  - NMHSs responsibility (resources & credibility);

  - EU as a potential centralising source of S2D climate predictions;

    "*What is of interest to us are the skills, we don't care [who] produce them. The better the skill the better for us*" *(insurance sector interview).*

- Provision of S2D raw data (model data) as a public good; value added to information generally associated to private services;

- Some organisations (i.e. international/more resources) tend to use other providers of climate information e.g. consultancies.

4.2. Use of S2D climate predictions

- Current use of S2D climate predictions:

    - Few users of seasonal forecasts in the energy, water, health, transport, and insurance sectors; Forecasts used (to different extents) in operational models or as complementary information;

    - Perceived barriers: linked to low skill/lack of reliability but also usability & accessibility by end-users (cf. Lemos et al., 2012); lack of understanding of users' needs; tradition of performing historical analysis;

    - No use of decadal climate predictions – unchartered territory;

- Potential for using S2D climate predictions:

    - Potential to use seasonal forecasts but also decadal predictions if available (benefit in >10 year planning horizon);

    - Potential for exploring 'windows of opportunity' in Europe (i.e. when stronger predictability occurs due to stronger signals in the forecast);

- Complexity of chains of S2D provision e.g. EDF's case;
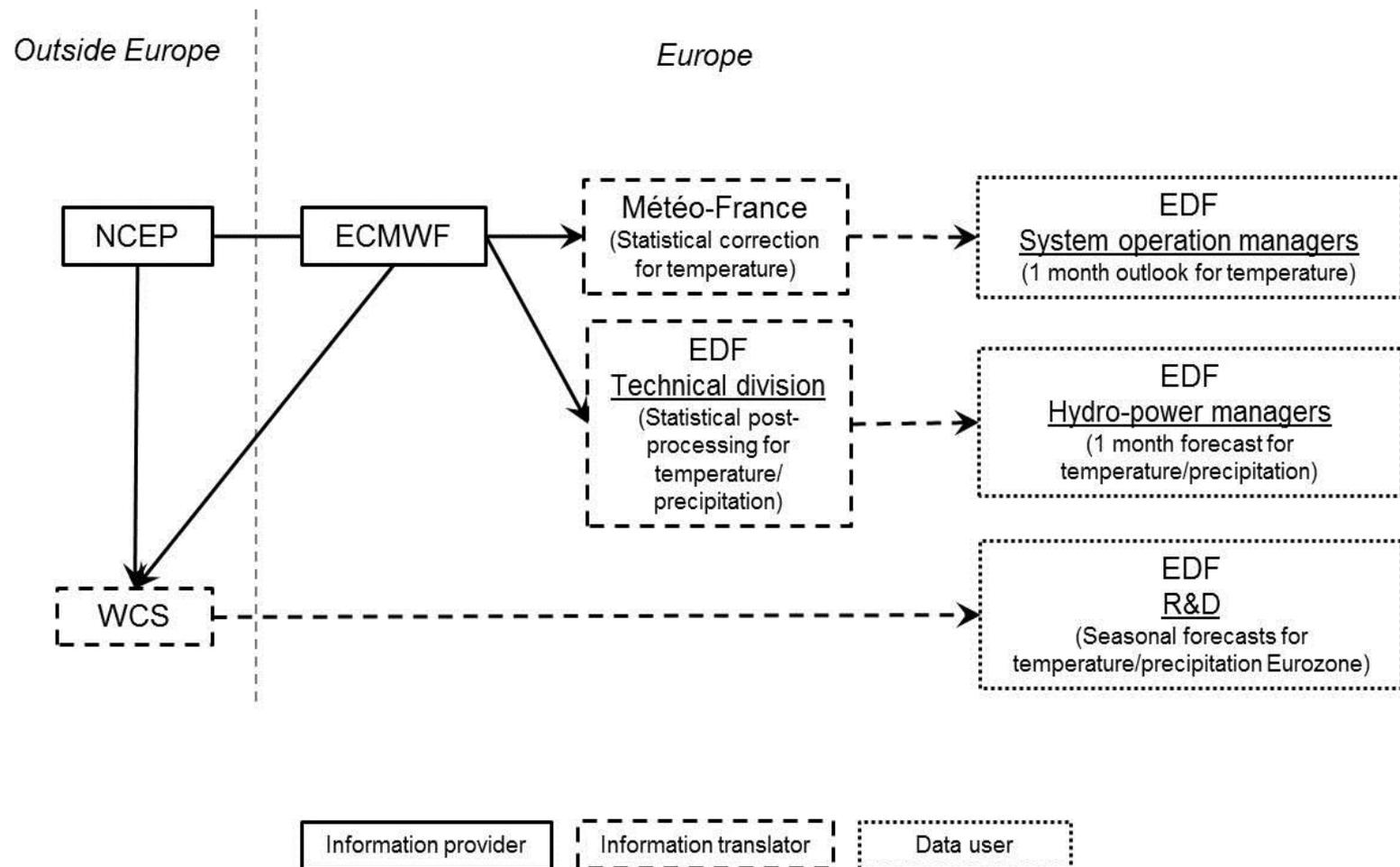
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- 'Provider'and 'user' as fluid and relative concepts (e.g. NMHSs as both producers and users of climate information);

- Processes of transformation: value added to information through chains of provision (from data to knowledge); role of boundary organisations;

- <u>Wider issues</u>:

  - Potential role of S2D climate predictions in the context of climate and adaptation services in Europe;

  - Linkages between emerging S2D climate predictions and the weather and climate communities;

  - Organisation and integration of climate services across Europe;

  - Catering for diverging needs – defining the 'winners' & 'losers'.

5. Next steps

- Finishing interviews with EUPORIAS stakeholders and other users;

- Launch European survey on users' needs;

- Workshop with developers of S2D climate predictions;

- Accompanying the development of the S2D predictions prototypes in EUPORIAS: potential to closely examine processes of co-design/production (e.g. development of S2D climate predictions and prototypes, use of information, and added value).

Thank you!

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For more information: www.euporias.eu

Or contact

Marta Bruno Soares: m.soares@leeds.ac.uk