

SPECS Climate Prediction for Climate Services

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What: to produce quasi-operational and actionable local climate information

Why: need information with improved forecast quality, a focus on extreme climate events and enhanced communication and services for RCOFs, NHMSs and a wide range of public and private stakeholders

How: with a new generation of reliable European climate forecast systems, including initialised ESMs, efficient regionalisation tools and combination methods, and an enhanced dissemination and communication protocol

Where: over land, focus on Europe, Africa, South America

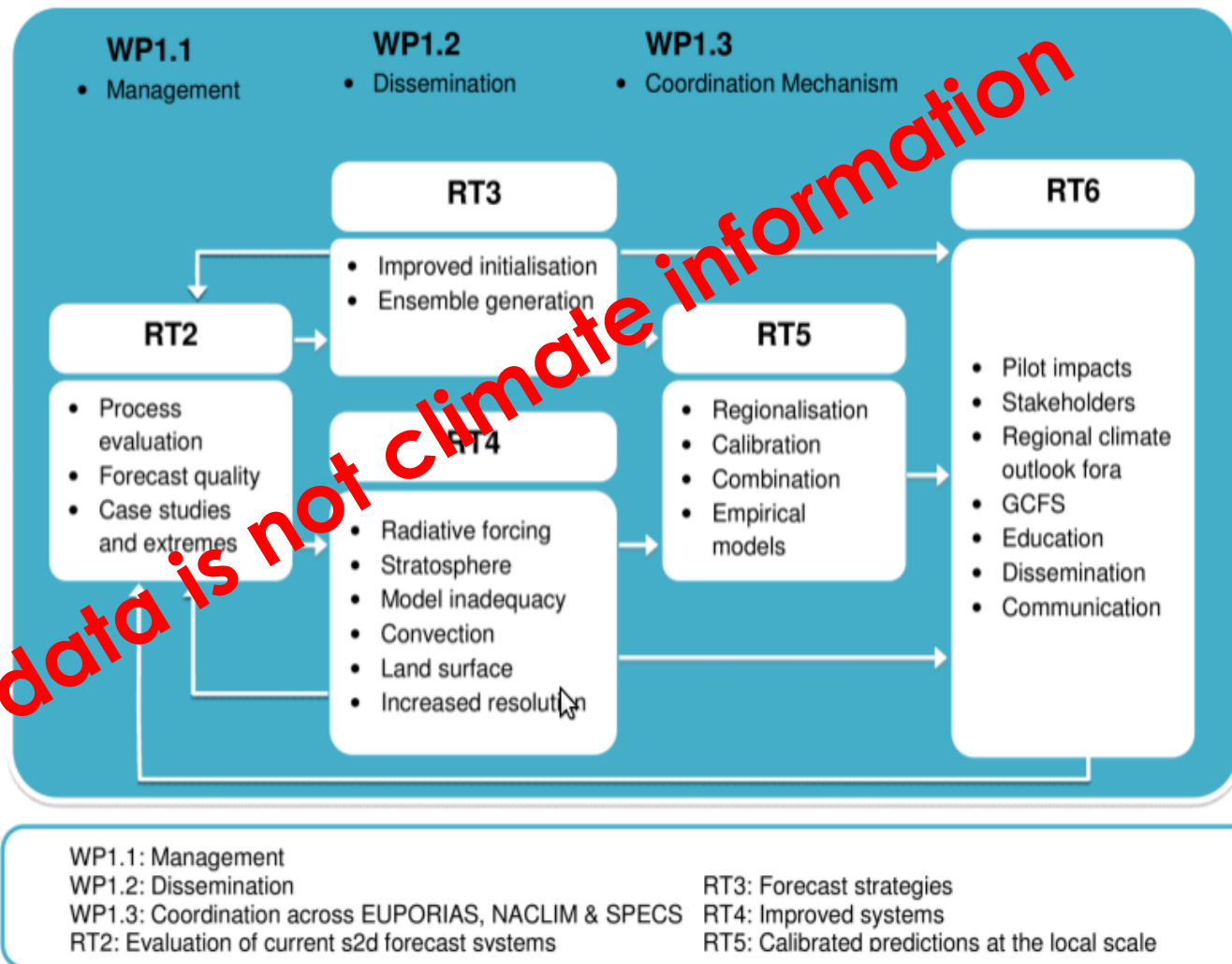
When: seasonal-to-decadal time scales over the longest possible observational period

<http://www.specs-fp7.eu>

SPECS Overview

Strong links to EUPORIAS, but also NACLIM, IS-ENES2, PREFACE, ...

Forecast System	Project Partners
CNRM-CM5	CNRM, CERFACS
EC-Earth	KNMI, SMHI, BSC, ENEA
IFS/NEMO	ECMWF, UOXF
IPSL-CM5	CNRS
MPI-ESM	MPG, Uni-Hi
UM	UKMET



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WP1.1

- Management

WP1.2

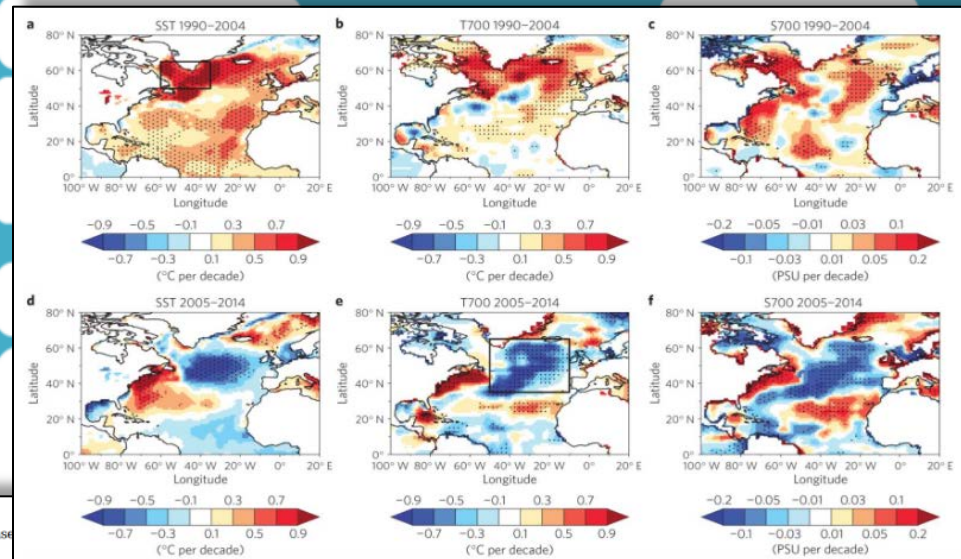
- Dissemination

WP1.3

- Coordination Mechanism

RT2

- Process evaluation
- Forecast quality
- Case studies and extremes



SpecsVerification: Forecast Verification Routines for the SPECS FP7 Project

A collection of new forecast verification routines for the SPECS FP7 project. The emphasis is on comparative verification of ensemble

Version: 0.4-1
Published: 2015-10-23
Author: Stefan Siebert [aut, cre]
Maintainer: Stefan Siebert <s.siebert@exeter.ac.uk>
License: [GPL-2](#) | [GPL-3](#) [expanded from: GPL (≥ 2)]
NeedsCompilation: yes
CRAN checks: [SpecsVerification results](#)

Downloads:
Reference manual: [SpecsVerification.pdf](#)
Package source: [SpecsVerification_0.4-1.tar.gz](#)
Windows binaries: r-devel: [SpecsVerification_0.4-1.zip](#), r-release: [SpecsVerification_0.4-1.zip](#), r-oldrel: [SpecsVerification_0.4-1.zip](#)
OS X Mavericks binaries: r-release: [SpecsVerification_0.4-1.tgz](#), r-oldrel: [SpecsVerification_0.4-1.tgz](#)
Old sources: [SpecsVerification archive](#)

Reverse dependencies:
Reverse depends: [easyVerification](#)
Reverse imports: [s2dverification](#)

Linking:

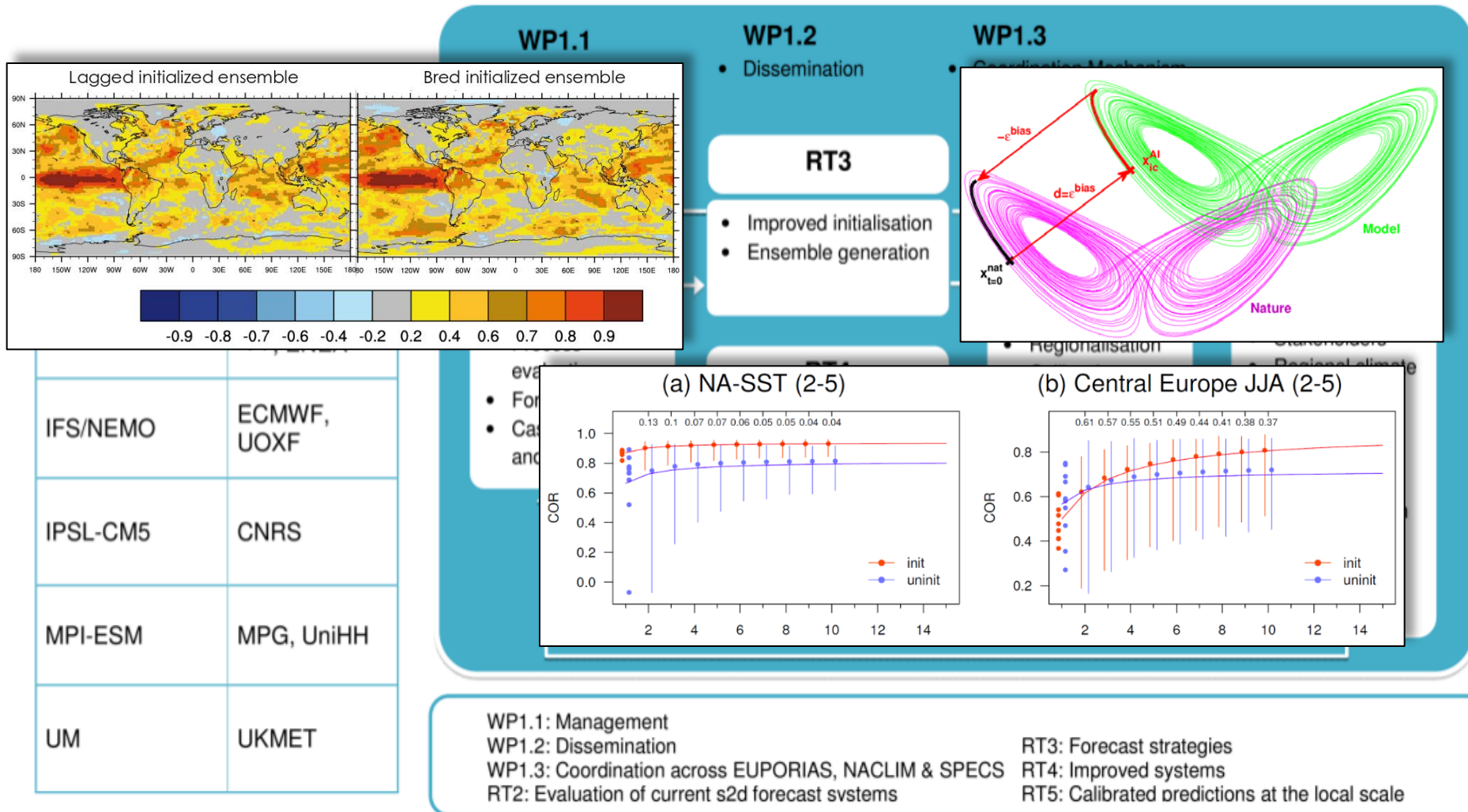
Please use the canonical form <https://CRAN.R-project.org/package=SpecsVerification> to link to this page.

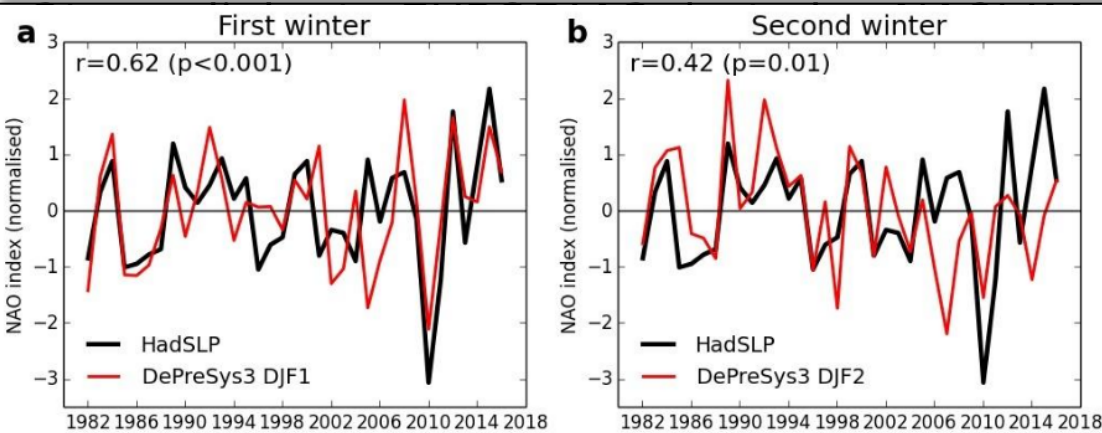
used resolution

EUPORIAS, NACLIM & SPECS
Forecast systems
RT3: Forecast strategies
RT4: Improved systems
RT5: Calibrated predictions at the local scale

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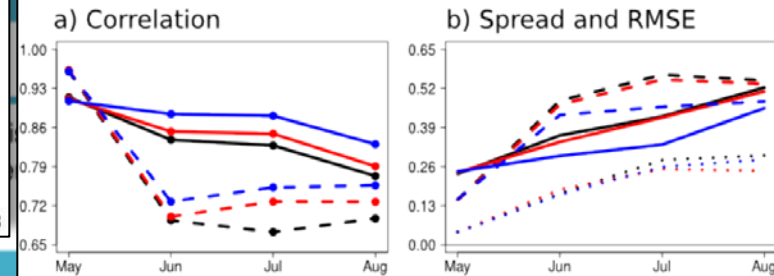


IS-ENES2, PREFACE, ...

WP1.3

Coordination Mechanism

May start dates



- Process evaluation
- Forecast quality

RT4

- Radiative forcing
- Stratosphere
- Model inadequacy
- Convection
- Land surface
- Increased resolution

- Regionalisation
- Calibration
- Combination
- Empirical models

- Stakeholders
- Regional climate outlook fora
- GCFS
- Education
- Dissemination
- Communication

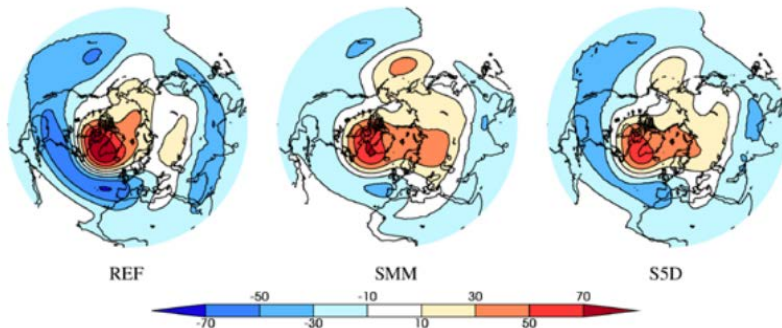
- WP1.1: Management
- WP1.2: Dissemination
- WP1.3: Coordination across EUPORIAS, NACLIM & SPECS
- RT2: Evaluation of current s2d forecast systems

- RT3: Forecast strategies
- RT4: Improved systems
- RT5: Calibrated predictions at the local scale

EC-Earth

KNMI, SMHI,
BSC, ENEA

ECMWF



UM

UKMET

Strong

SantanderMetGroup / **downscaleR** Watch 9 Star 12 Fork 19

Code Issues 8 Pull requests 1 Projects 0 Wiki Pulse Graphs

R package for statistical downscaling

728 commits 4 branches 25 releases 7 contributors

Branch: devel New pull request Find file Clone or download

miturbide bug fix in biasCorrection when applying the "delta" method and cross ... Latest commit c90802d 2 days ago

File	Commit Message	Time
R	bug fix in biasCorrection when applying the "delta" method and cross ...	2 days ago
inst	Added plotClimatology for lattice plots	4 months ago
man-roxygen	minor changes in subsetGrid and man-roxygen/templateObsPredSim	6 months ago
man	Doc update	12 days ago
.gitignore	new .gitignore update	2 years ago
DESCRIPTION	Update DESCRIPTION	12 days ago
NAMESPACE	Doc update	12 days ago
NEWS	Doc update	16 days ago
README.md	Fix typo in README file	12 days ago

NES2, PREFACE, ...

WP1.3

Coordination Mechanism

Forecast System

CNRM-CM

EC-Earth

IFS/NEMO

IPSL-CM5

CNRS

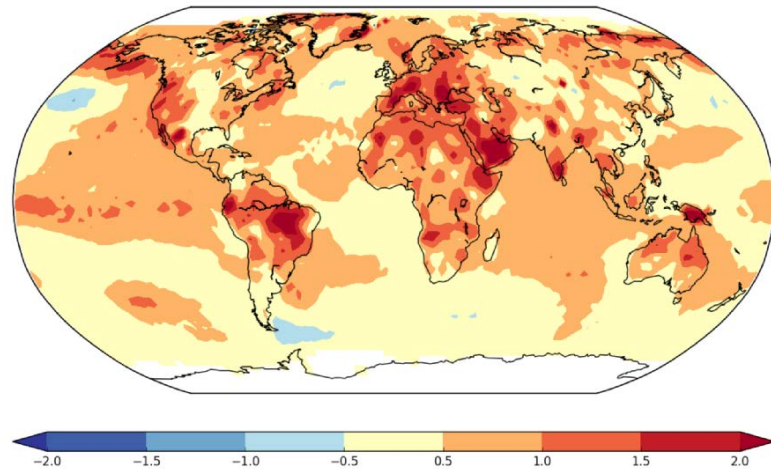
MPI-ESM

MPG, Uni

UM

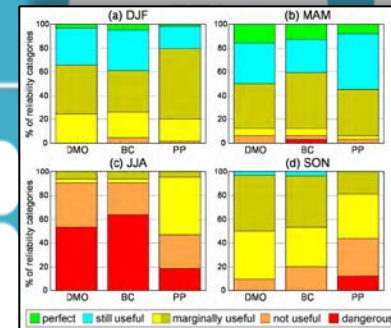
UKMET

SPECS Empirical Seasonal Forecast: surface air temperature (JJA 2016)
Ensemble mean anomaly (wrt 1981-2010)
Ensemble size: 51 | Forecast generation date: 10/05/2016



RT5

- Regionalisation
- Calibration
- Combination
- Empirical models



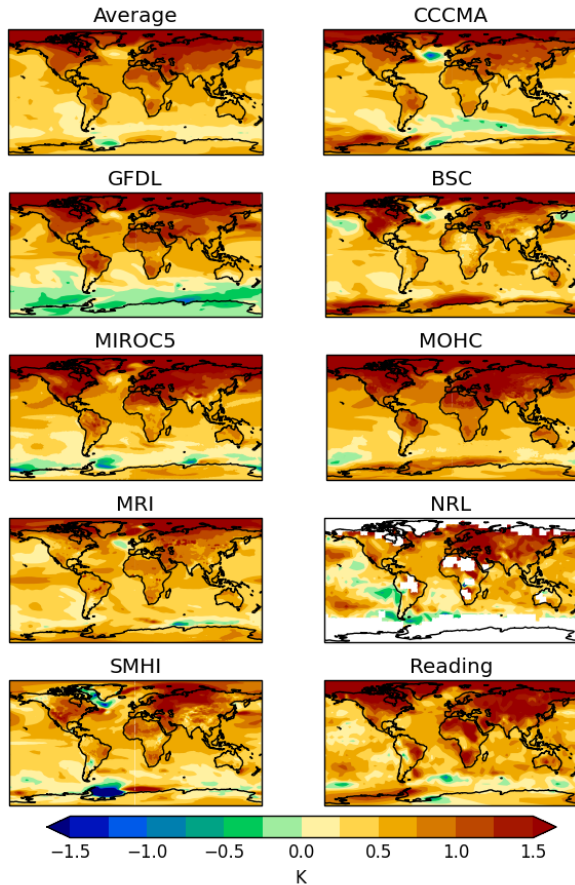
- GCFS
- Education
- Dissemination
- Communication

RT3: Forecast strategies

RT4: Improved systems

RT5: Calibrated predictions at the local scale

2015 predictions for 2016-2020 surface temperature



SPECS Fact sheet #2

What is a decadal prediction?

October 2014

Weather is chaotic which limits its predictability to one or two weeks. This means that it will never be possible to extend normal weather forecasts to seasonal time-scales and beyond.

For example, we will never be able to predict the weather on a specific date in a specific place years in advance. However, **changes in prevailing weather over the course of several months to years are potentially predictable**. For instance we may be able to say if a particular region might expect, on average, colder winters or drier summers. Such changes in weather patterns occur due to the interaction of the atmosphere with more slowly varying parts of the Earth system.



Weather is a result of energy moving through the Earth system. Energy is originally radiated to the Earth from the Sun, with most being re-emitted or reflected back to space. The amount that remains in the Earth system is modulated by many things: some emerge naturally within the system (*internal variability*), whilst others are controlled by external factors such as variations in solar output, greenhouse gases, and atmospheric particles.

- Model inadequacy
- Convection
- Land surface

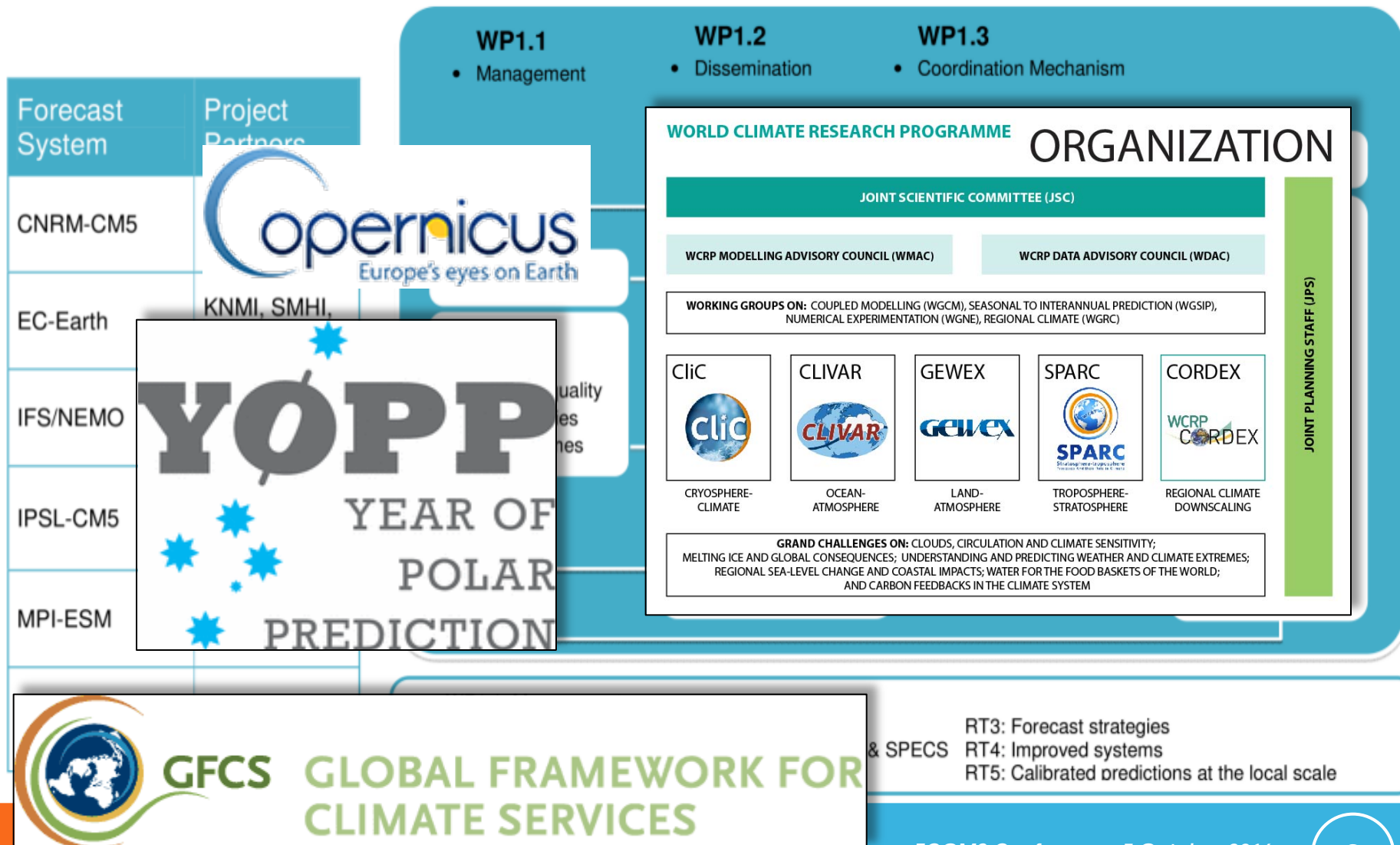
RT6

- Pilot impacts
- Stakeholders
- Regional climate outlook fora
- GCFS
- Education
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