



Climate Change

DECM project meeting, Oslo, 12/10/2017

Observational interaction between QA4Seas and other C3S lots

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- Introduction
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 - Format
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 - Coordination with other lots
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- Discussion



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Introduction

- Observations are used in QA4Seas to verify the forecasts of models provided in the Climate Data Store (CDS)
- WP2 (“CDS inventory”) has to make recommendations on variables, datasets, formats, both from model outputs and observations that should be included in the CDS, focusing on seasonal datasets
- 3 milestones and 1 deliverable have specific focus on observations



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The observational datasets in QA4Seas

- M2.1: User-oriented table of available ECVs relevant to seasonal forecast evaluation (M1)
- D2.1: User-oriented inventory of ECVs (M9)
- Based on user recommendations, a list of datasets (both from models, reconstructions and observations) “required” or frequently used for seasonal verification was provided, with a detailed list of resolution, format, time coverage,...



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The observational datasets in QA4Seas

Gridded observational and satellite product datasets		Reanalyses
EOBS	CRU	ERA-INTERIM
HADISST	CRUTEM4	MERRA
HADSLP	GPCP	JRA55
ISCCP	ERSST	ORAS4
NSIDC_daac	GHCN	GLORYS
Quikscat	HADCRUT4	NCEP/NCAR
WFDEI EOBS



Data update

- One criteria in the choice of the datasets is their availability/time coverage
- A list of use cases for verification has been defined in WP4 containing more or less recent “real” events

=> need to distinguish/rank datasets according to their update pace:

- Operational (reanalysis: erainterim, era5,...)
- “Closed” (1979-2016)
- Updated “from time to time” (for example: GPCC -> 2017/07)



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Format requirements

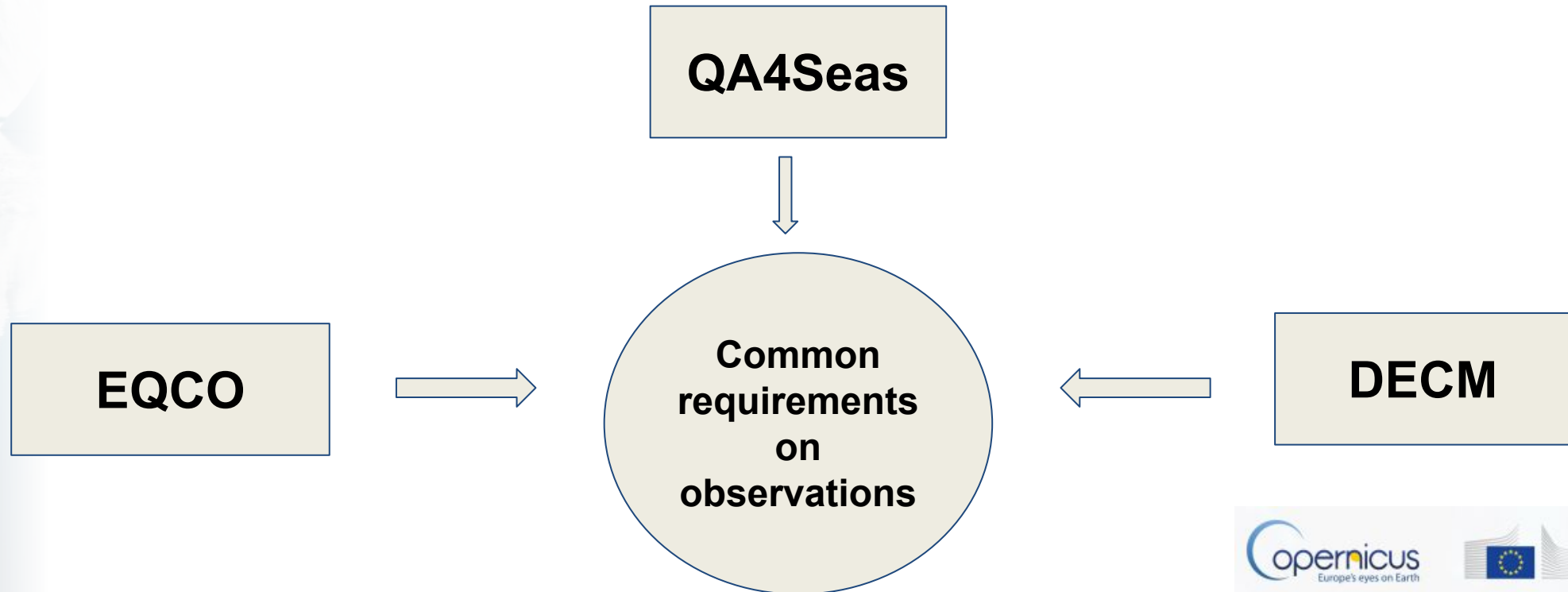
- For the model data providers of the CDS, a “[File Structure for C3S netCDF Files](#)” has been created
- It contains a list of metadata, variable names, dimensions as well as a file and directory structure and file format (NetCDF4 compressed) that the providers of (model) data to the CDS must comply
- This document and requirements are done, a priori, for model outputs, what about observations? Need for standardization at least of format



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QA4Seas requirements on coordination with other lots (M2.3)

- Task 2.3: “The contractor will participate in the workshops organised by the contributors to the different C3S 51 lots to **identify redundancies in the requirements for observational ECVs** (including those from reanalyses and observations) and to **identify synergies between the datasets** used for seasonal prediction and climate projection, allowing for a coordinated response to the user needs.”





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QA4Seas requirements on coordination with other lots (M2.3)

- Milestone 2.3, submitted at M12, after Barcelona's workshop on EQC in June, lists the different needs, requirements and usages of observations in the 3 C3S 51 lots:
 - EQCO
 - QA4Seas
 - DECM



SAVE THE DATE

Copernicus Climate Change Service
Evaluation and Quality Control workshop

Date: 12-14 June 2017

Location: Barcelona Supercomputing Center, Barcelona, Spain

Register: <https://climate.copernicus.eu/events/evaluation-and-quality-control-workshop>

C3S EQC workshop

The event will focus on:

- Progress to date for each of the contracts - (Observations, Seasonal, Climate and User Requirements)
- Identification of any gaps that we should address
- How the EQC function should work once C3S is operational





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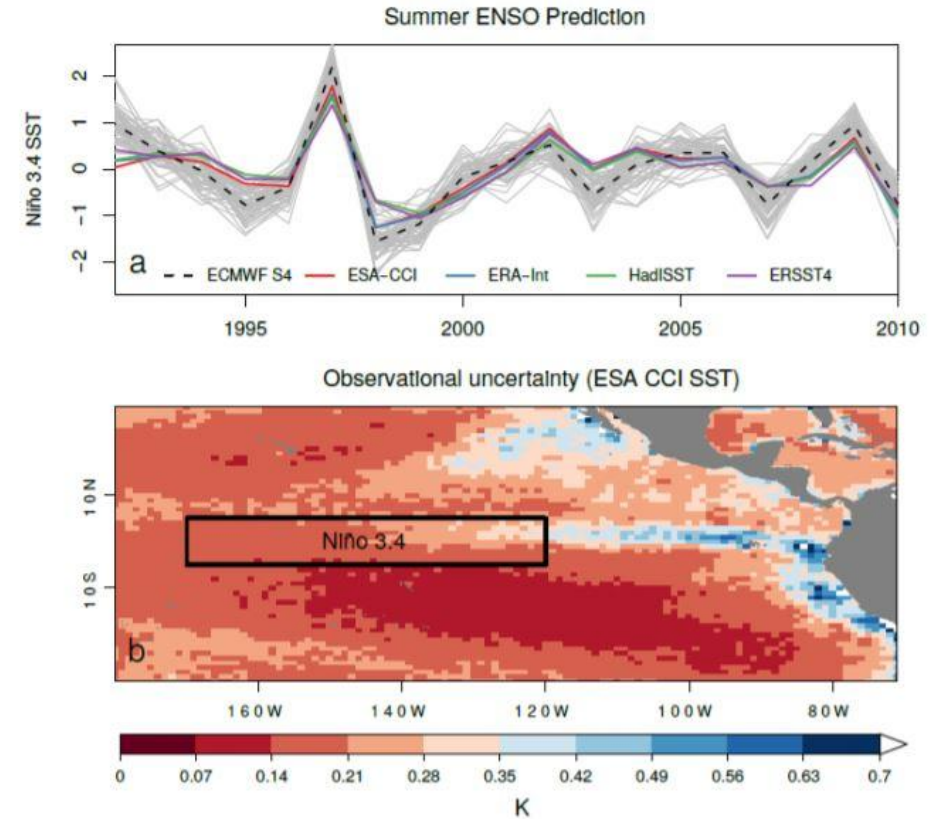
QA4Seas requirements on coordination with other lots (M2.3)

- Points mentioned during the EQC workshop:
 - Results of surveys led by the different lots mention the importance of observations => how can we give a synchronized answer to the users
 - Discussion on definitions for data quality for observations took place with several issues involving several C3S51 lots. The importance of quality flags for the metadata of observations
 - Validation is confronted with quality of the validation sources (sampling issues, particularly in old observations), coverage of ECV parameter space (does it cover all possible prior states and ECV values) and whether the correct statistics have been calculated (especially in instruments for which not all the relevant information exists)



How to deal with observational uncertainties

Choice of observational dataset and accounting for observational uncertainty can have a huge impact on the prediction and the verification





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Format requirements: how to unify the needs?

- If QA4Seas pushes for a “standardization” of observational datasets in the CDS, we need an agreement from the other lots, depending on which datasets, data organization they use
- Who is using which observational datasets and what are the needs in terms of temporal coverage/availability
- Do other contracts have format requirements, even it is “just for models”?



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Other conclusions from M2.3

- Need to coordinate with other projects related with observations to understand users' needs:
 - MAGIC
 - FIDUCEO



Fiduceo

Fidelity and uncertainty in climate data records from Earth Observations



MAGIC



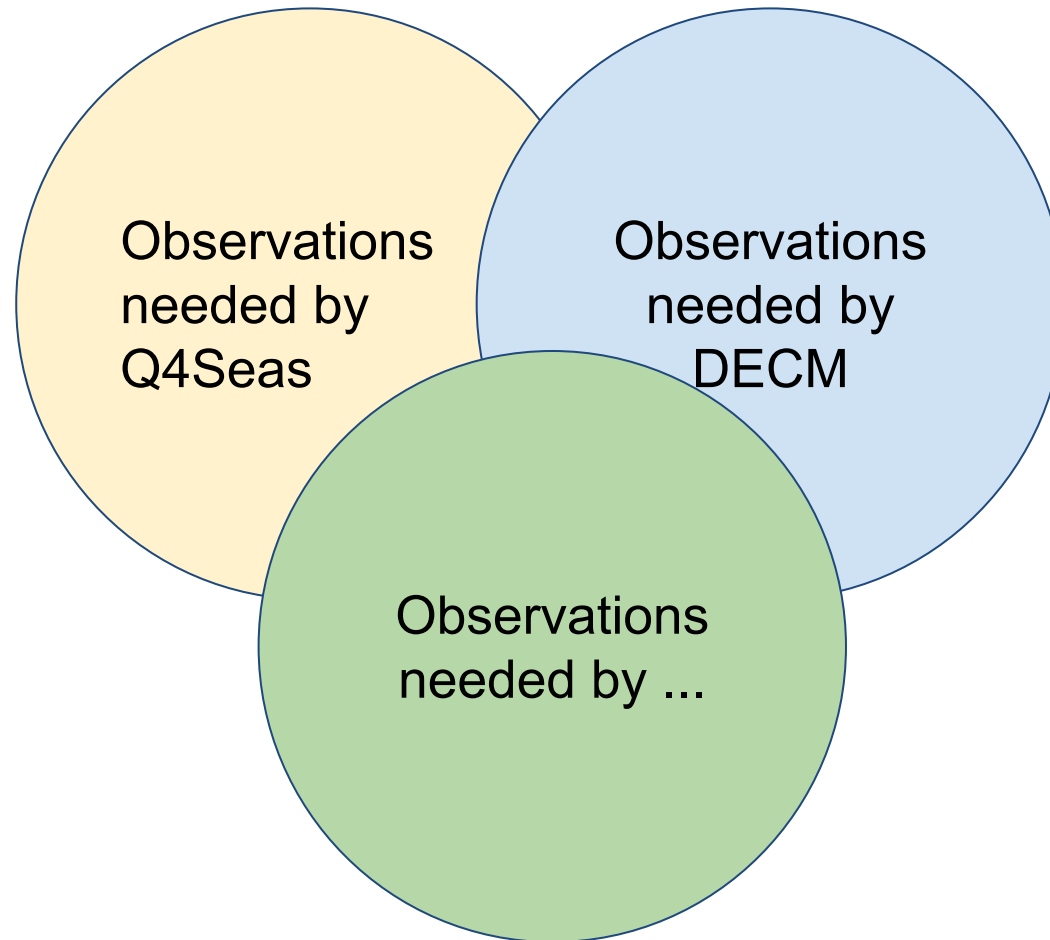
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Discussion

- What are the common points and differences between DECM and QA4Seas in terms of observations?
- And with other lots?



- Do we need the same datasets/variables?





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Discussion

- Could we/do we need to agree on a common metadata scheme?





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Discussion

- How do we go further than a milestone or a workshop? Interlots working group?



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Thank you!

For any further question:

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