



Climate Change

C3Surf2



Welcome & introduction





Climate
Change

This is where we left off



C3Surf final GA



Climate
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New faces



CENTRE EUROPEEN DE RECHERCHE ET DE FORMATION AVANCEE EN CALCUL SCIENTIFIQUE

Christian Pagé
Abel Aoun

is-enes
INFRASTRUCTURE FOR THE EUROPEAN NETWORK
FOR EARTH SYSTEM MODELLING



Infrastructure for the European Network for Earth System Modelling (2019 - 2022)

- IS-ENES3 is the third phase of the distributed e-infrastructure of the European Network for Earth System Modelling
- The community aims to develop a better understanding of past and present-day climate and to project future variability and changes through the development and sharing of model components, modelling tools and data infrastructure.
- Christian & Abel developed Python-based tools to calculate the ETCCDI indices



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For use in
the CDS tool
box



need to look critically at the use of current *R*-routines



European
Commission



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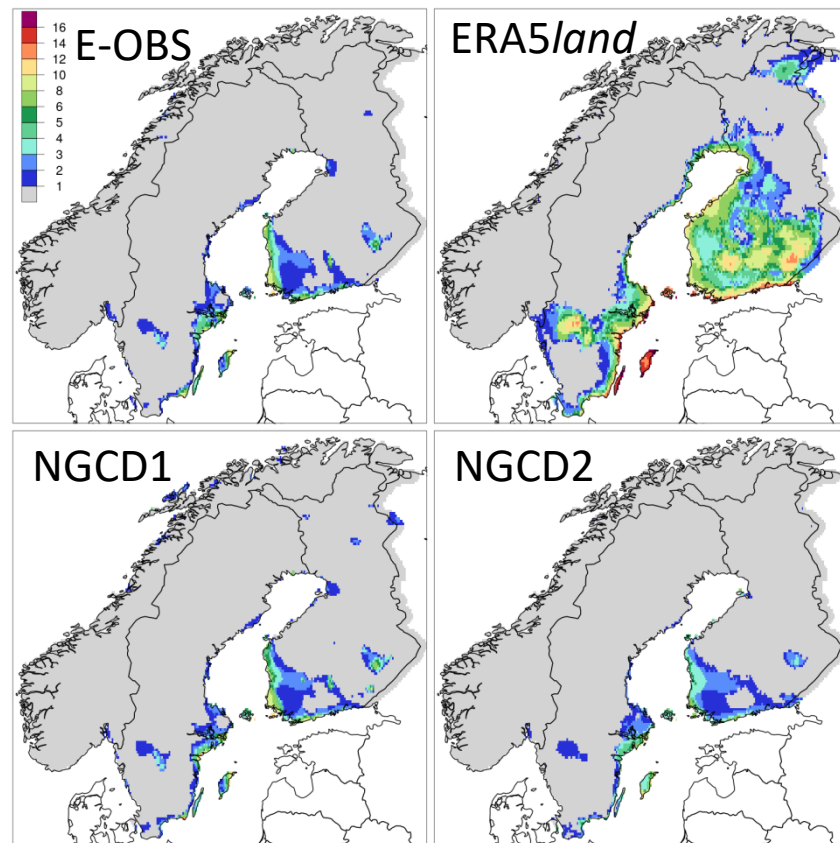
Climate Monitoring with *in-situ* observations

Why in-situ observations **matter**

Number of Tropical Nights ($TN > 20^{\circ}\text{C}$) in summer 2018.

The effect of the lake parametrization in ERA5*land* is rather evident.

Number of tropical nights in ERA5
overestimated





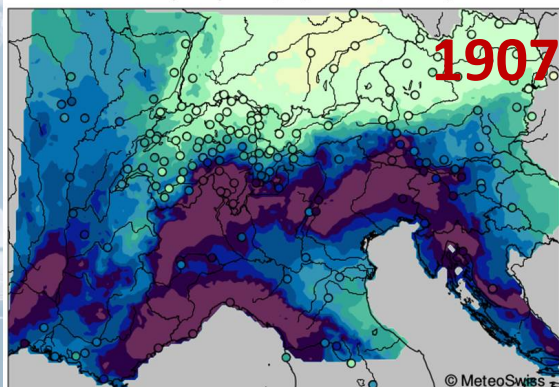
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Climate Monitoring with *in-situ* observations

Long historical perspective of precipitation in Greater Alpine Region

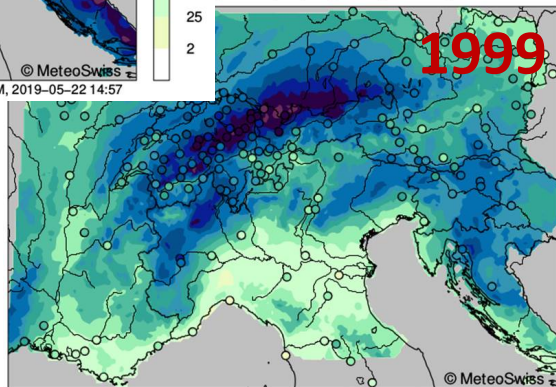
Selection of extremely
wet months in the
Greater Alpine Region

Monthly Precipitation (mm) Oct 1907 (Reconstr.)



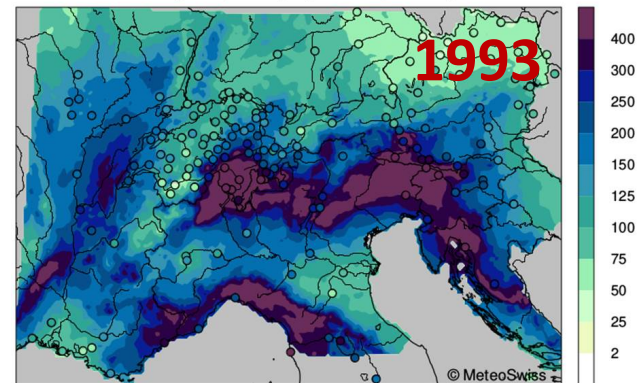
LAPrec1901M, 2019-05-22 14:57

Monthly Precipitation (mm) May 1999 (Reconstr.)



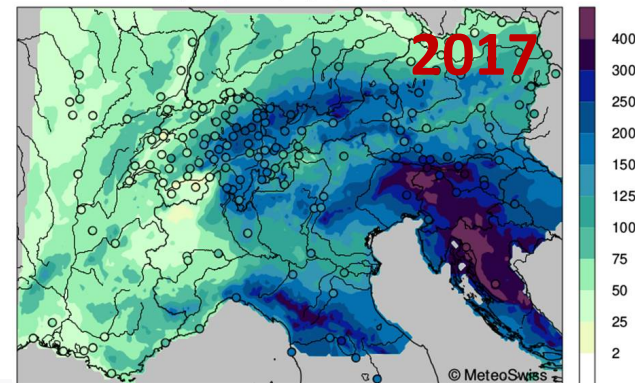
LAPrec1901M, 2019-05-22 18:09

Monthly Precipitation (mm) Oct 1993 (Reconstr.)



LAPrec1901M, 2019-05-22 17:57

Monthly Precipitation (mm) Sep 2017 (Reconstr.)



LAPrec1901M, 2019-05-22 18:47

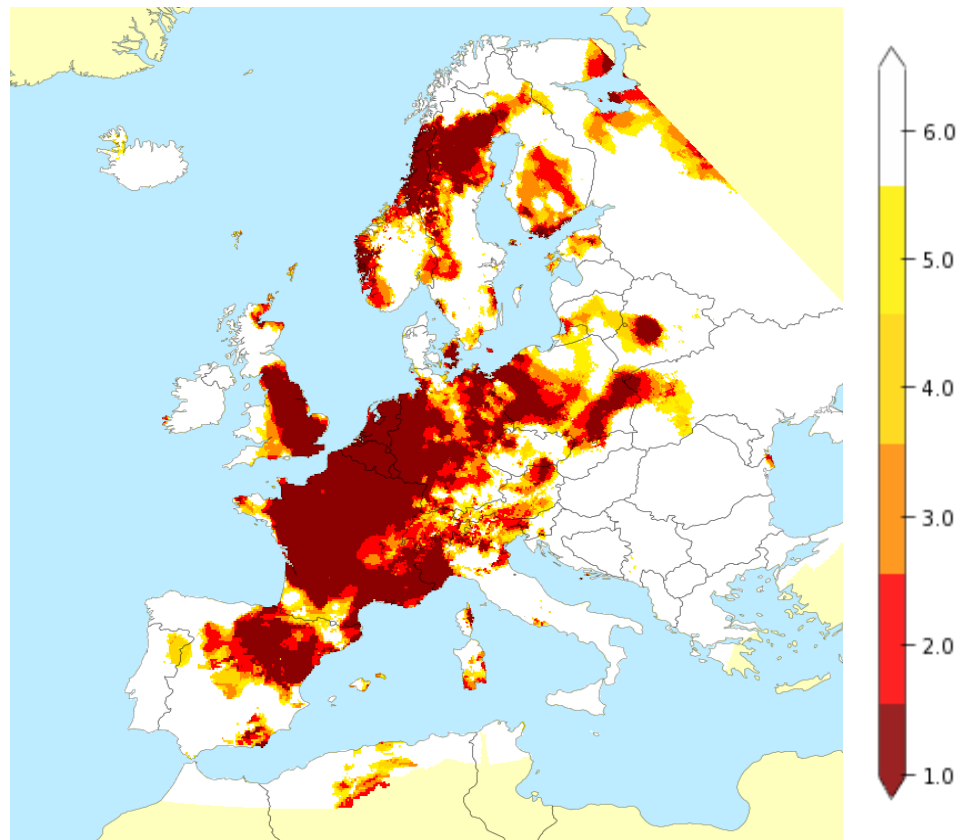


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Climate Monitoring with *in-situ* observations

Monitoring **hot days** in July 2019

Map shows the *ranking* of the highest maximum temperature reached in June and July 2019, starting from 1950. This indicates record-breaking temperatures in west Europe



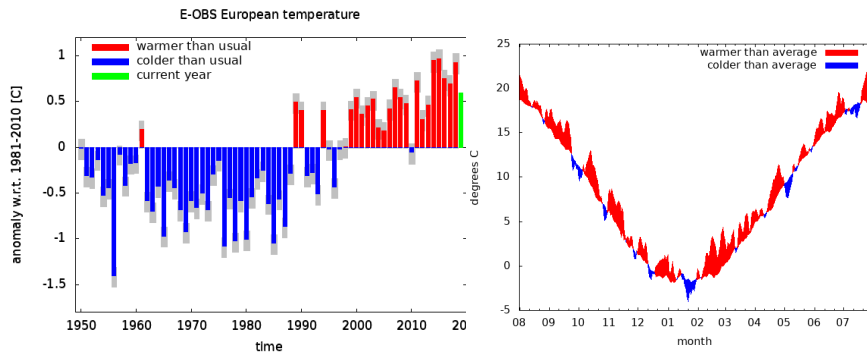
map made it to the front page



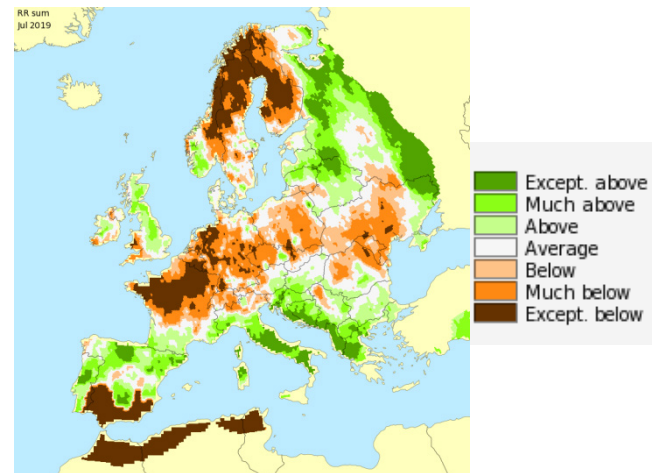
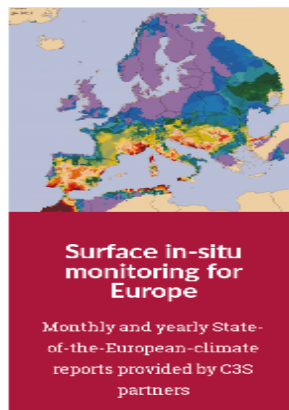
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Climate Monitoring with *in-situ* observations

Monitoring hot days in July 2019



The *State-of-the-Climate* bulletin for July 2019 combines a quantification of these extreme events with an overview of weather and climate of that month





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| Time | Topic |
|-------------|--|
| 10:00-10:05 | Welcome and opening |
| 10:05-10:20 | Introduction to each other |
| 10:20-10:50 | Copernicus 2 and the C3S2_311 Lot3 contract: Collection and Processing of In Situ Observations (Hans Hersbach) Copernicus 2 contract management (Angeliki Tsapatsari) |
| Break | |
| 11:00-11:45 | Contribution of all partners Which products/tasks do you focus on |
| 11:45-12:00 | Next steps Subcontracts & financial |
| Break | |
| 12:15-12:35 | State of the climate |
| 12:35-12:45 | Any other business & Final remarks |