OUTLOOK

17 February 2020

with

Sub-seasonal forecasts

for the weeks of
17 - 23 February, 24 February - 1 March,
2 - 8 March, and 9 - 15 March 2020

&

Seasonal forecasts

for the months of
March, April and May 2020

The beta version of S2S4E Decision Support Tool (DST) is an operational climate service that integrates, for the first time, sub-seasonal to seasonal climate predictions with renewable energy production and electricity demand.

Find examples of how the DST forecasts can inform the energy sector in the

Case Studies Factsheets

available at:

www.S2S4E.eu

This outlook presents forecasts available on the DST on the 17th of February 2020 for the coming four weeks and next three months. These S2S4E forecasts were made by postprocessing the climate prediction systems NCEP CFSv2 (sub-seasonal) and ECMWF SEAS5 (seasonal), following the methodology described in the **advanced help** of the DST.

OUTLOOK USER GUIDE

PREDICTED TERCILE

- Above
- Normal
- Below

The forecast information provided is probabilistic. Instead of one single model realisation, several realisations are considered (ensemble members), providing a set of several possible outcomes (48 for NCEP CFSv2 and 51 for ECMWF SEAS5). This information is summarised and transmitted in the form of probabilities. Three equiprobable categories (terciles) have been used: below normal, normal and above normal. Each one of these tercile categories contains one third (33.3%) of the events over the reference period. The forecasted probability corresponds to the percentage of ensemble members predicting below normal, normal or above normal conditions, based on the past climatology.

PROBABILITY RANGE

- 50% to 100%
- 34% to 49%

As seen in the DST, regions where the predicted probability of the most likely tercile equals or is higher than 50% are represented with a bigger symbol, to highlight areas of larger probability. Users can customise the exact percentage of predicted probability (from 0 to 100%) in the DST.

EXTREMES

- Max (p90)
- Min (p10)

To provide information about the probability of having very high or very low climate conditions, the DST displays the percentage of members under the 10th percentile and the percentage of members exceeding the 90th percentile. These 10th and 90th percentiles have been computed from the climatological period. Extreme events are shown with a triangle symbol when the probability of an extreme event occurring is over 25%.

SKILL SCORES

In the maps presented in this outlook, only regions with positive skill are shown. Skill scores below 0 are defined as unskilful, those equal to 0 are equal to the climatology forecast, and anything above 0 is an improvement upon climatology, up to 1, which indicates a "perfect" forecast. In the DST, these values have been expressed as percentages, where a skill of 1 would equal to 100% skill. FairRPSS for terciles and Brier Skill Scores for extremes are used.

If you have queries or feedback you can contact us at:

s2s4e@bsc.es

The DST outlooks are released once per month and are available at:

s2s4e.eu/climate-services/outlooks

Subscribe to the outlooks and register to the DST at:

www.s2s4e.eu/dst

Temperature forecasts

Probability terms
Enhanced : 34% - 49%
High: 50% - 70%:
Very High: Greater than 70%

Legend

Predicted tercile
🔴 Above
⚪ Normal
🔵 Below

Probability range
⚫ 50% to 100%
• 34% to 49%

Extremes
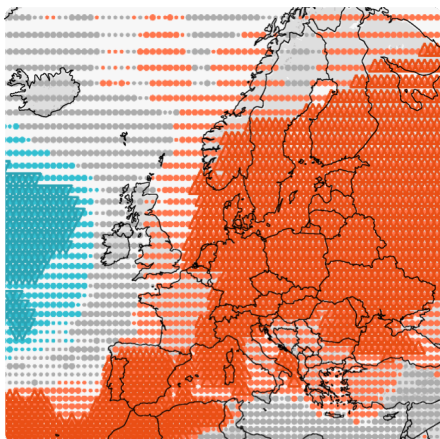🔺 Max (p90)
🔻 Min (p10)
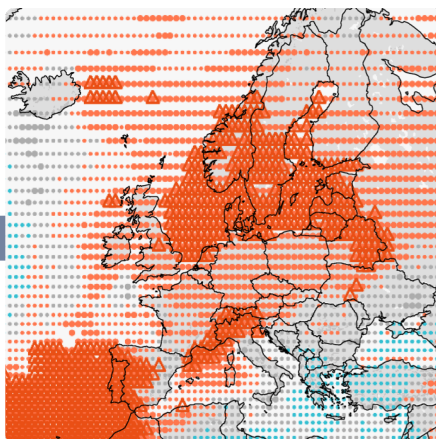
SUB-SEASONAL

Prediction system used:
NCEP CFSv2

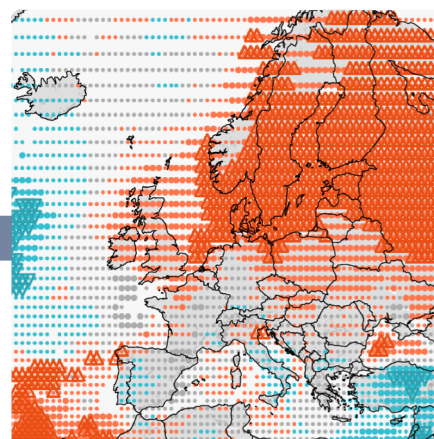Maps show areas where skill (fRPSS) > 0

17 - 23 February

Very high probability of temperatures above normal across Europe (30-60% skill), with risk of high **extremes**.

24 February - 1 March

High probability of temperatures above normal in most of Europe (~20% skill), except for southeastern regions.

2 - 8 March

High probability of temperatures above normal in northern Europe, and **very high** probability around the Baltic Sea (20-30% skill).
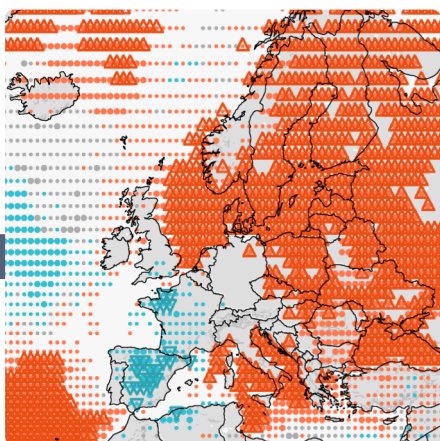
9 - 15 March
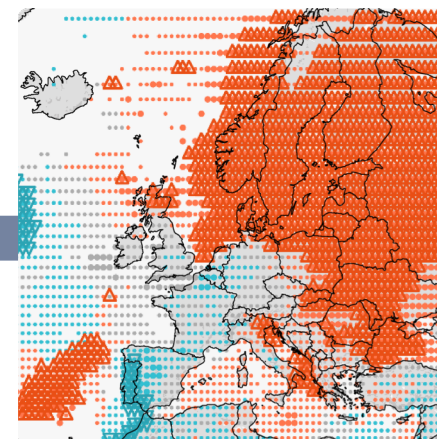
Very high probability of above normal temperatures in the Scandinavian countries (~20% skill) and eastern Europe (~10% skill)
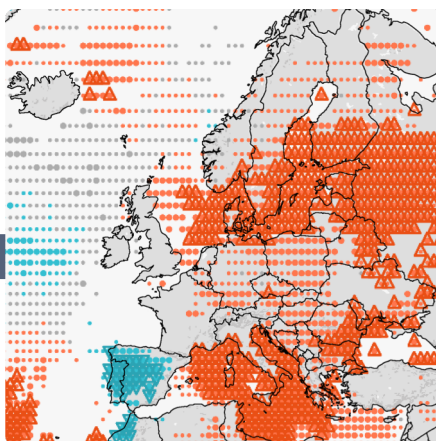
SEASONAL

Prediction system used:
ECMWF SEAS5
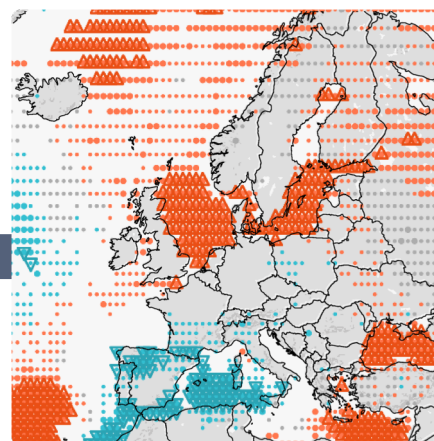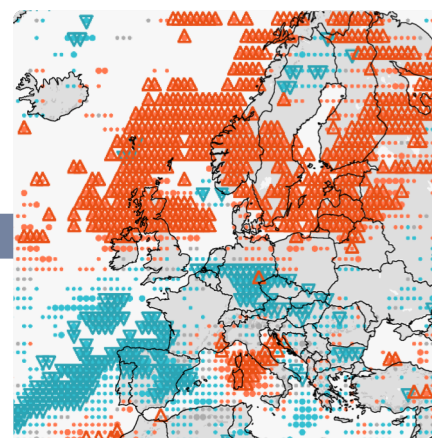
Maps show areas where skill (fRPSS) > 0

March 2020

Very high probability of above normal temperatures in the Baltic Sea and eastern Europe. **High** probability of below normal temperatures in the Iberian Peninsula.

April 2020

High or **very high** probability of above normal temperatures across Europe, but **high** probability of below normal temperatures in the Iberian Peninsula.

May 2020

High probability of above normal temperatures in northern Europe, and **high** probability of below normal temperatures in southwestern Europe.

Browse the global forecasts in the DST:

www.S2S4E.eu/dst

Wind speed forecasts

S2S4E Climate Services for Clean Energy

Probability terms
Enhanced : 34% - 49%
High: 50% - 70%:
Very High: Greater than 70%

Predicted tercile
- Above (orange)
- Normal (grey)
- Below (teal)

Probability range
- 50% to 100% (large dot)
- 34% to 49% (small dot)

Extremes
- Max (p90) (orange triangle up)
- Min (p10) (teal triangle down)

Legend

SUB-SEASONAL

Prediction system used:
NCEP CFSv2

Maps show areas where skill (fRPSS) > 0

17 - 23 February
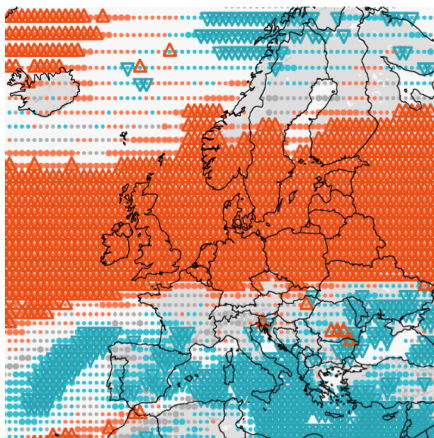
Very high probability of above normal wind speeds in northern Europe (~20% skill), with risk of **extremes**. **High** probability of below normal wind speeds in southern Europe (~20% skill), with risk of **extremes**.
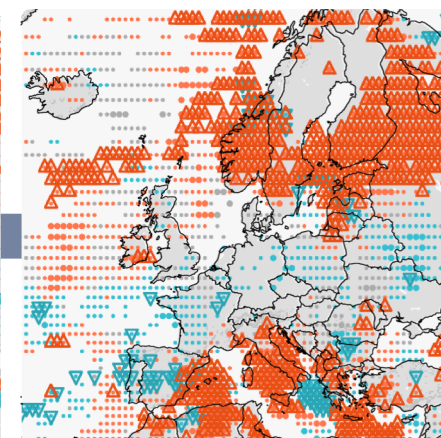
24 February - 1 March
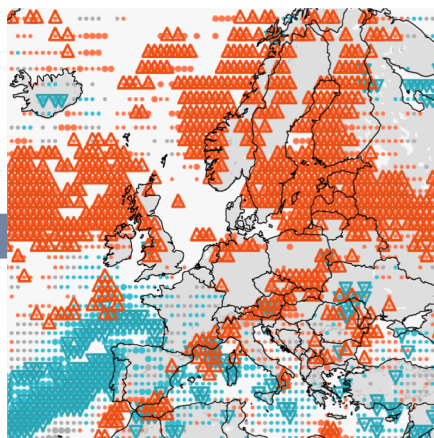
High or **very high** probability of above normal wind speeds in the Scandinavian countries (~10% skill). **High** probability of below normal wind speeds in some Mediterranean areas, west of Portugal and the Bay of Biscay.

2 - 8 March

High or **very high** probability of above normal wind speeds in the Scandinavian countries and the UK. **High** probability of below normal wind speeds in the Iberian Peninsula and Germany (<10% skill).
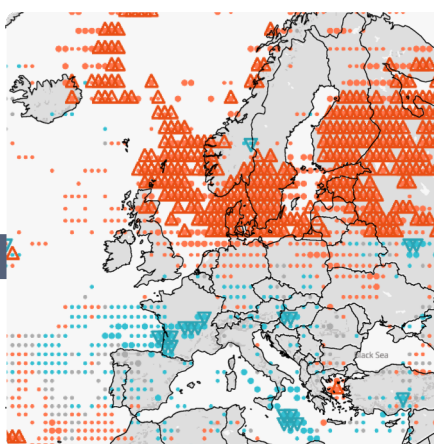
9 - 15 March

High probability of above normal wind speeds in the Scandinavian countries, and **high** probability of below normal wind speeds in some Mediterranean areas (<10% skill).
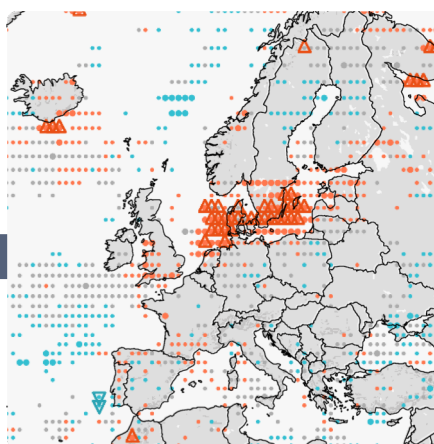
SEASONAL

Prediction system used:
ECMWF SEAS5

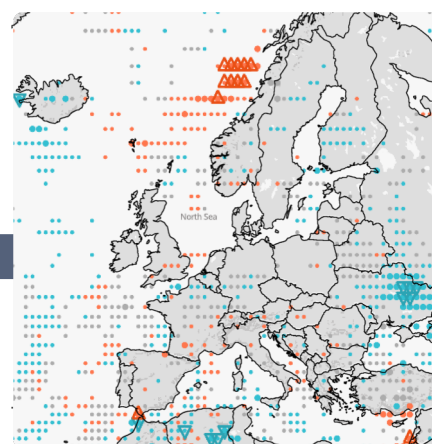Maps show areas where skill (fRPSS) > 0

March 2020

High probability of above normal wind speeds in northern Europe. **High** probability of below normal wind speeds in France.

April 2020

Very high probability of above normal wind speeds in Denmark, and **high** probability of above normal winds in southern Sweden, the Baltic countries and parts of the UK.

May 2020

Forecasts show no clear signals; probabilities similar to climatology.

Browse the global forecasts in the DST:

www.S2S4E.eu/dst

Precipitation forecasts

Probability terms
Enhanced : 34% - 49%
High: 50% - 70%:
Very High: Greater than 70%

Predicted tercile
- Above
- Normal
- Below

Probability range
- 50% to 100%
- 34% to 49%
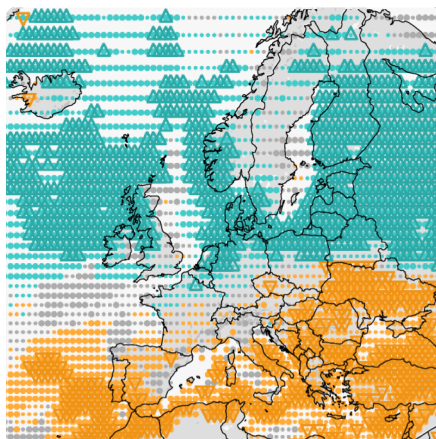
Extremes
- Max (p90)
- Min (p10)

Legend

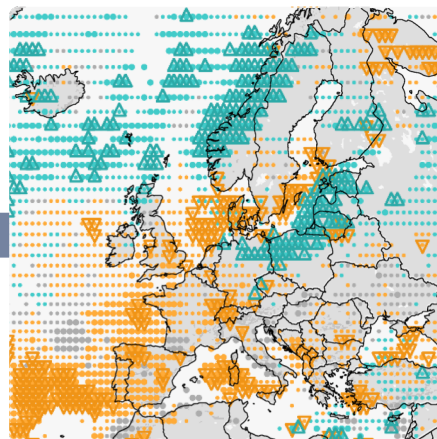## SUB-SEASONAL

Prediction system used:
NCEP CFSv2

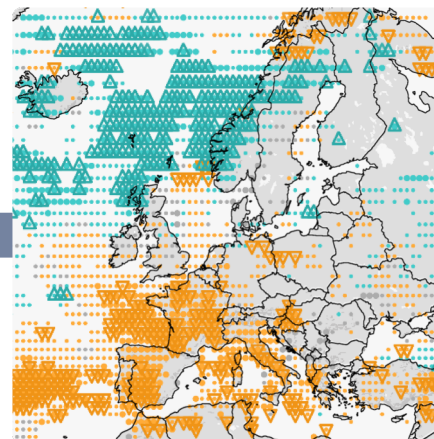Maps show areas where skill (fRPSS) > 0

17 - 23 February

High probability of above normal precipitation in the north of Europe, and **high** probability of below normal precipitation in the south of Europe (20-30% skill).
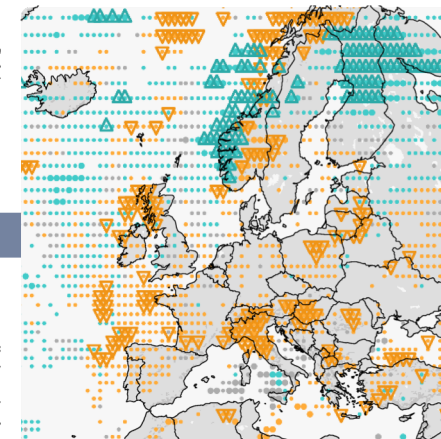
24 February - 1 March

High probability of above normal precipitation in Norway, and **high** probability of below normal precipitation in the Iberian Peninsula and France (10-20% skill).

2 - 8 March

High probability of above normal precipitation in Norway, and **high** probability of below normal precipitation in the Mediterranean region (<10% skill).
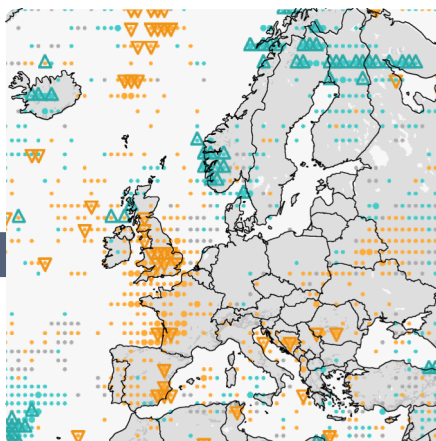
9 - 15 March

High probability of above normal precipitation in Finland (<10% skill).

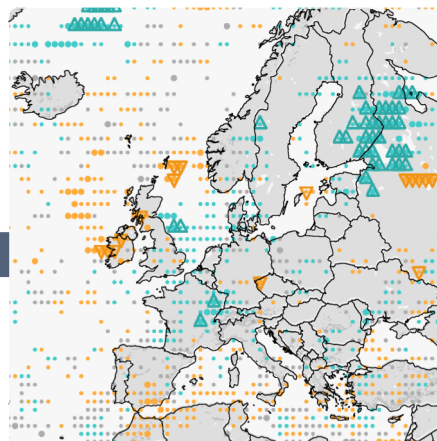## SEASONAL

Prediction system used:
ECMWF SEAS5

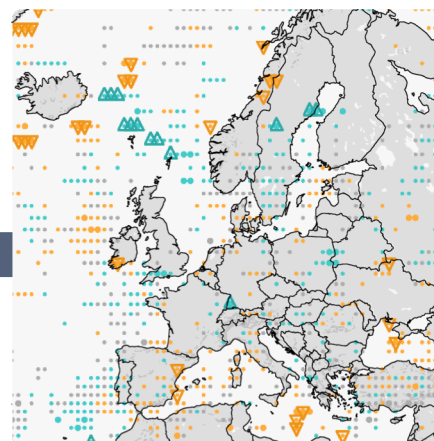Maps show areas where skill (fRPSS) > 0

March 2020

High probability of below normal precipitation in the British Isles, France, Spain and the Balkans.

April 2020

High probability of below normal precipitation in parts of the British Isles and Spain. **High** probability of above normal precipitation north of the Alps.

May 2020

Forecasts show no clear signals; probabilities similar to climatology.

Browse the global forecasts in the DST:

www.S2S4E.eu/dst

S2S4E
Climate Services for Clean Energy

Probability terms
Enhanced : 34% - 49%
High: 50% - 70%:
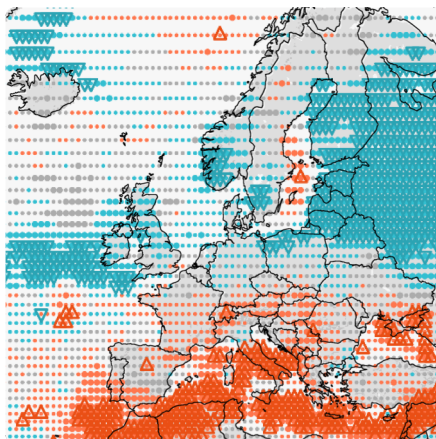**Very High**: Greater than 70%

Solar radiation forecasts
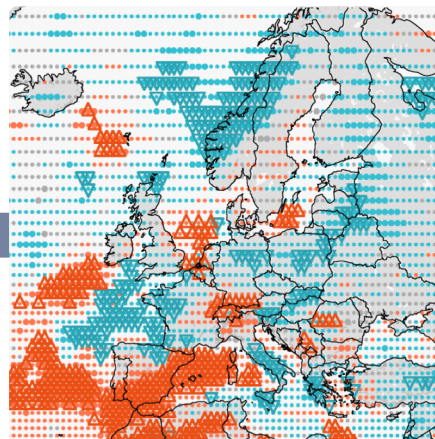
SUB-SEASONAL

Prediction system used:
NCEP CFSv2

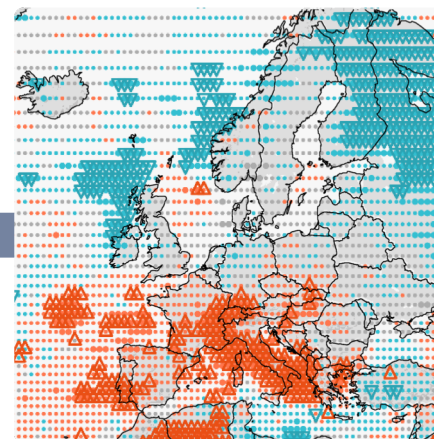Maps show areas where skill (fRPSS) > 0

17 - 23 February

High probability of above normal solar radiation in the Mediterranean region and southern Europe (~50% skill). **Very high** probability of below normal solar radiation in northeast Europe.
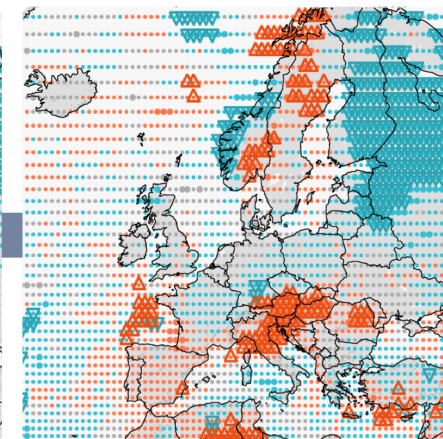
24 February - 1 March

High probability of above normal solar radiation in the south of the Iberian Peninsula (~30% skill). **Very high** probability of below normal solar radiation in parts of northern Europe.

2 - 8 March

High probability of above normal solar radiation in the south of Europe (30-50% skill). **High** probability of below normal solar radiation in northeast Europe.
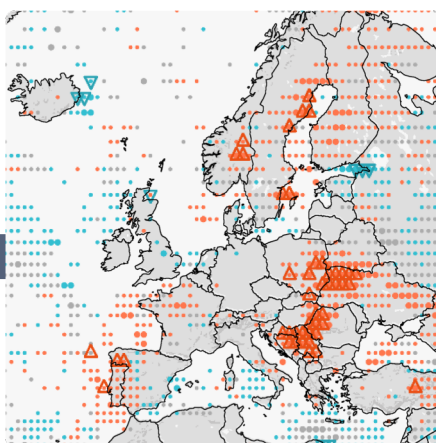
9 - 15 March

High probability of above normal solar radiation in Austria, northern Italy, Slovenia, Croatia and Hungary (<20% skill). **High** probability of below normal solar radiation in northeast Europe.
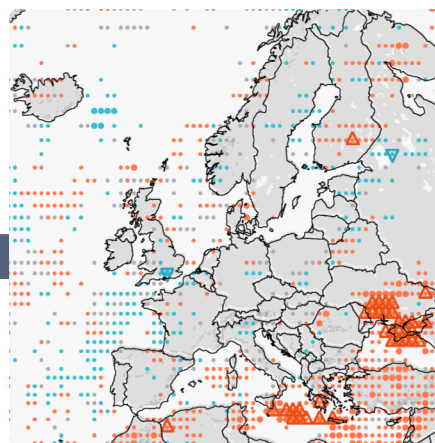
SEASONAL

Prediction system used:
ECMWF SEAS5
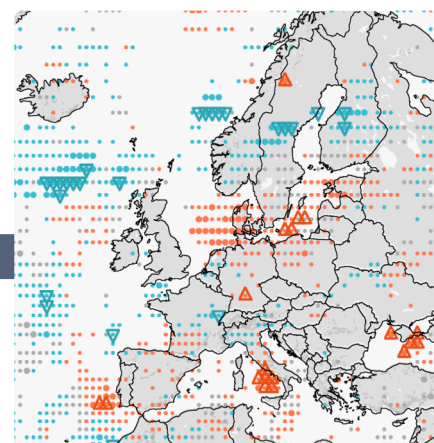
Maps show areas where skill (fRPSS) > 0

March 2020

High probability of above normal solar radiation in parts of eastern Europe and the Balkans.

April 2020

High probability of above normal solar radiation in eastern Mediterranean and Turkey.

May 2020

High probability of above normal solar radiation in Denmark, Poland and the Baltic countries.

Browse the global forecasts in the DST:

www.S2S4E.eu/dst