

## Sub-seasonal to seasonal Outlook

# JULY 2019

The 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](http://www.S2S4E.eu)

### OUTLOOK USER GUIDE

#### PREDICTED TERCILE

- Above
- Normal
- Below

The forecast information provided is probabilistic. Instead of one single model realisation, several realizations are considered (ensemble members), providing a set of several possible outcomes. 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.

#### 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.

This outlook presents forecasts available on the 18<sup>th</sup> of July 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.



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

[s2s4e@bsc.es](mailto:s2s4e@bsc.es)



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

[www.s2s4e.eu](http://www.s2s4e.eu)



Subscribe to the outlooks and register to the DST at:

[www.s2s4e.eu/dst](http://www.s2s4e.eu/dst)



*This project has received funding from the Horizon 2020 programme under grant agreement n°776787. The content of this report reflects only the author's view. The European Commission is not responsible for any use that may be made of the information it contains.*



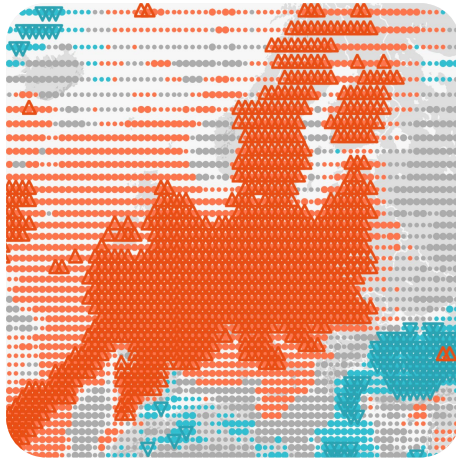
# Temperature forecasts



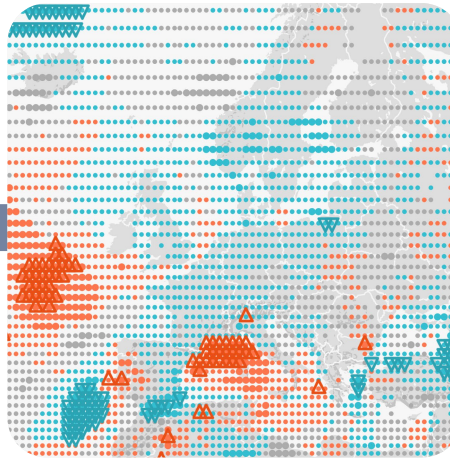
## SUB-SEASONAL

For the week of 22-28 of July, there are very high probabilities for temperatures to be in the upper tercile in Europe. Most affected countries are France, Switzerland, Belgium, The Netherlands, Germany, Italy and the UK, with probabilities above 90%. Some areas in central Europe could experience extreme temperatures (above the 90th percentile). Only Greece and Turkey expect temperatures in the lower tercile. From 29 July to 4 August, temperatures return to normal values or below normal values. For the week of 5-11 August, western Russia shows some higher than normal probability for the upper tercile, and for the week of 12-18 August northern France and Germany could experience colder than normal temperatures.

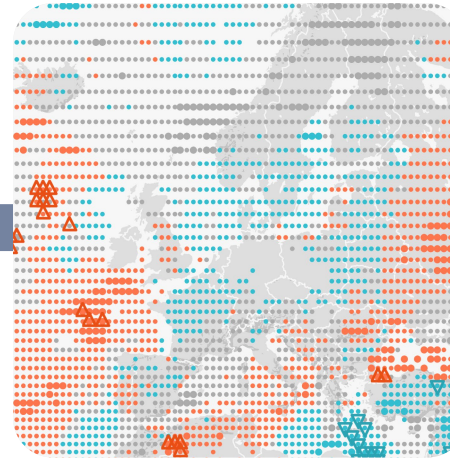
JULY 22 - 28, 2019



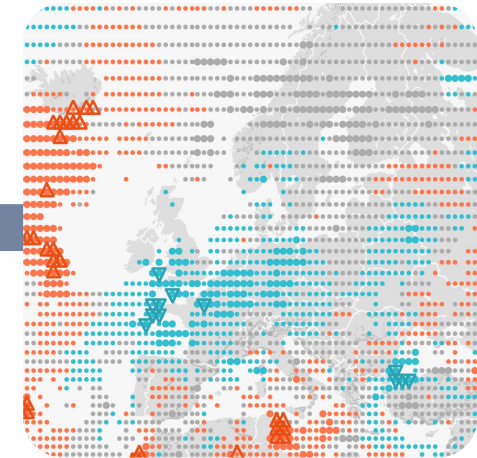
JULY 29 - AUGUST 4, 2019



AUGUST 5 - 11, 2019



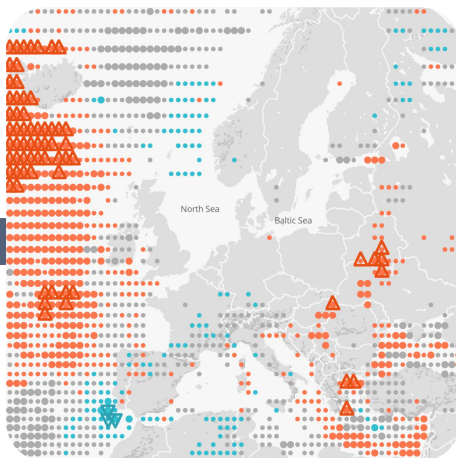
AUGUST 12 - 18, 2019



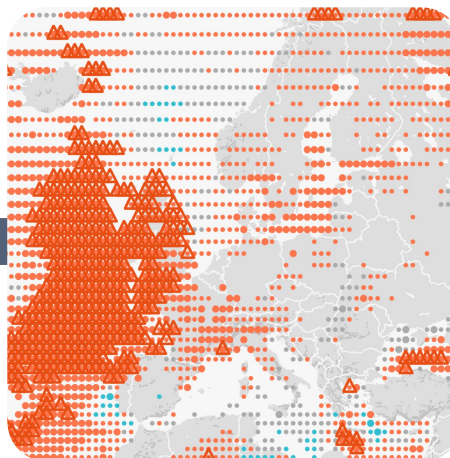
## SEASONAL

In August, above normal temperatures are expected in Eastern Europe, while normal or below normal temperatures are expected in Central Europe. In September, however, it is likely that above normal temperatures dominate in Europe. Particularly in the Atlantic coast and British Isles, it is very likely to register temperatures exceeding the P90. In October, it is likely that the P90 is exceeded in the Bay of Biscay, western France and south of the British Isles. Above normal temperatures are possible in the rest of western Europe, with the exception of the Iberian peninsula. The temperatures for October in central-eastern Europe are predicted to be in the lower tercile.

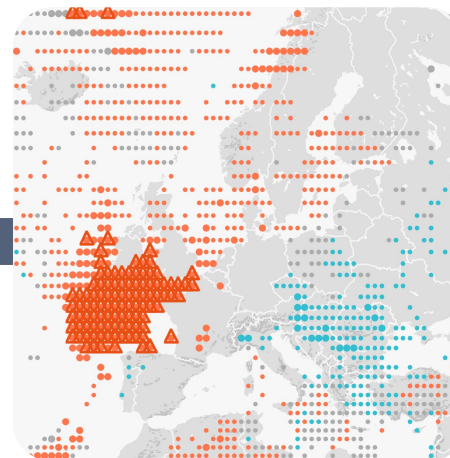
AUGUST 2019



SEPTEMBER 2019



OCTOBER 2019



Browse the global  
forecasts in the DST:

[www.S2S4E.eu/dst](http://www.S2S4E.eu/dst)





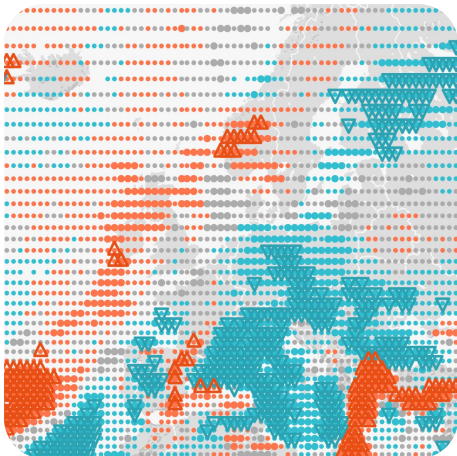
# Wind speed forecasts



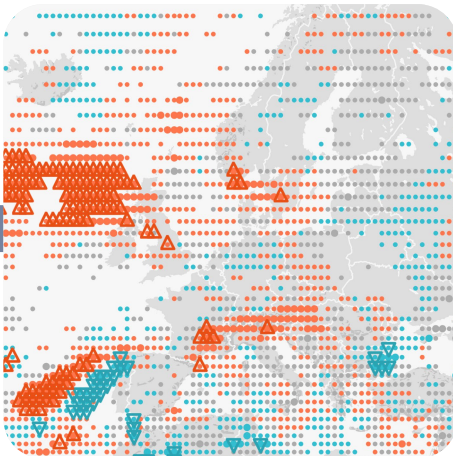
## SUB-SEASONAL

For the week of 22-28 July, wind speeds are expected to be lower than normal, except for: north of the Iberian peninsula, some areas in the south of France, Ireland, Scotland and south of Norway. Some areas around the Gulf of Lion, Italy, central Europe and Finland show some probabilities of lower extremes. For the week of 29th-4th August there are higher probabilities of wind speeds above the upper tercile in the Alps region and south of Scandinavia. For the week of 12-18th of August, wind speed in the Baltic sea is expected to be below normal and above normal in the north of Italy and Caspian Sea.

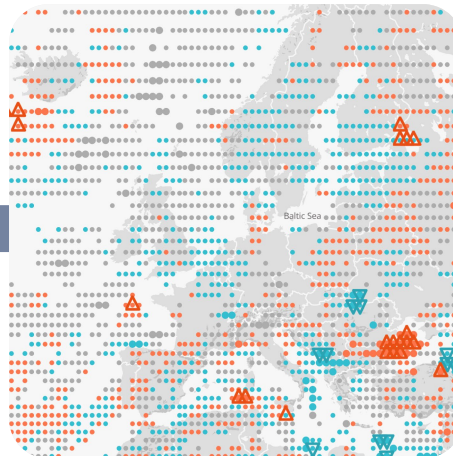
**JULY 22 - 28, 2019**



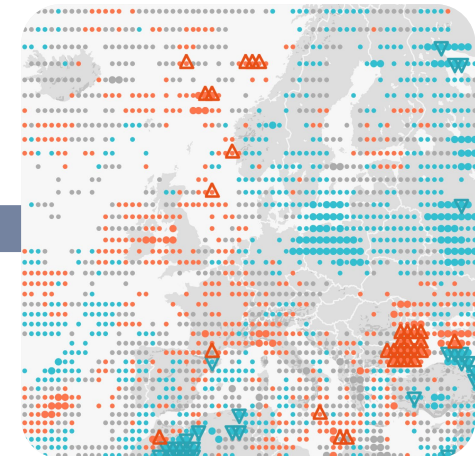
**JULY 29 - AUGUST 4, 2019**



**AUGUST 5 - 11, 2019**



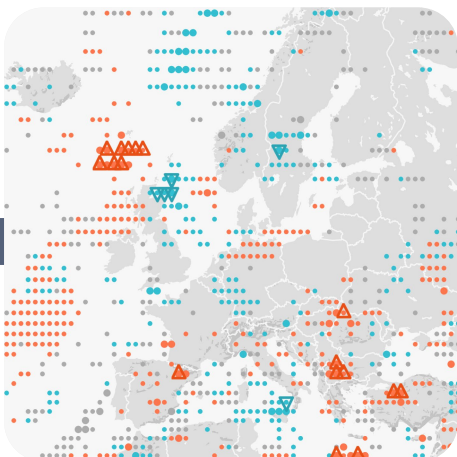
**AUGUST 12 - 18, 2019**



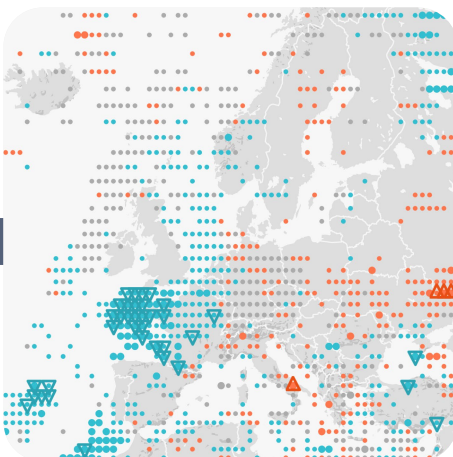
## SEASONAL

Above normal winds are still predicted (as they were in the June forecast) for August in the Iberian peninsula, southern France and the Alpine region. Also, increased probabilities of above normal wind speeds are predicted in the Balkans. Below normal winds are possible in central Europe and North Sea region. In September, winds are very likely to be lower than normal in the Atlantic coast, or even falling behind the P10 in the Bay of Biscay. These areas coincide with the same areas of increased probability of above P90 temperatures. In October, this reduction of winds is probable in Poland and other areas around the Baltic Sea.

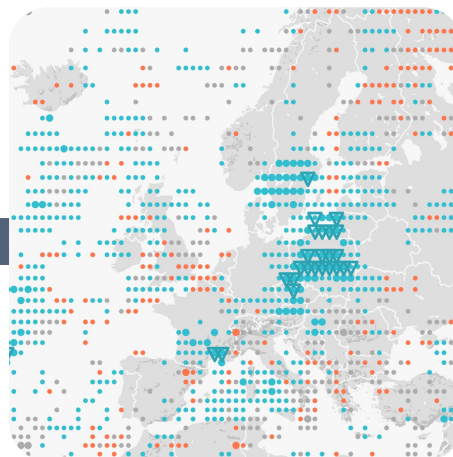
**AUGUST 2019**



**SEPTEMBER 2019**



**OCTOBER 2019**



**Browse the global  
forecasts in the DST:**

[www.S2S4E.eu/dst](http://www.S2S4E.eu/dst)



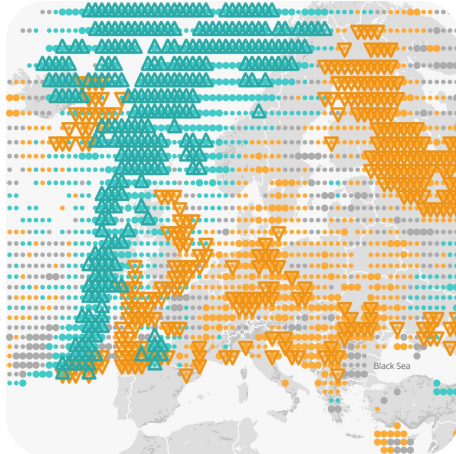
# Precipitation forecasts

Predicted tercile	Probability range	Extremes	Legend
<span style="color: teal;">●</span> Above	<span style="color: black;">●</span> 50% to 100%	<span style="color: teal;">▲</span> Max (p90)	
<span style="color: grey;">●</span> Normal	<span style="color: black;">●</span> 34% to 49%	<span style="color: orange;">▼</span> Min (p10)	
<span style="color: orange;">●</span> Below			

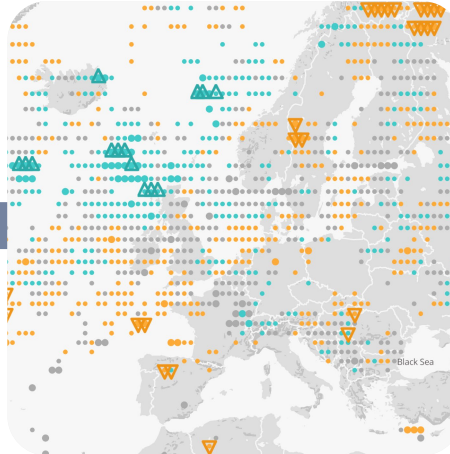
## SUB-SEASONAL

For the week of 22-28 July, high temperatures and dry conditions are predicted for most of Europe. Only the UK, Ireland and Norway show probabilities for the lower tercile. The week of 29-4 August demonstrates low precipitation for the south of Europe, although skill values begin to drop. For weeks 3 and 4, skill for precipitation is generally too low.

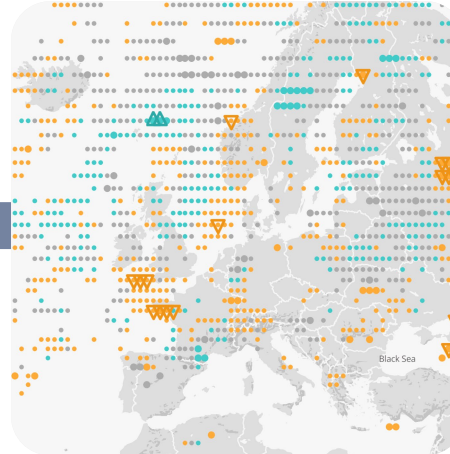
JULY 22 - 28, 2019



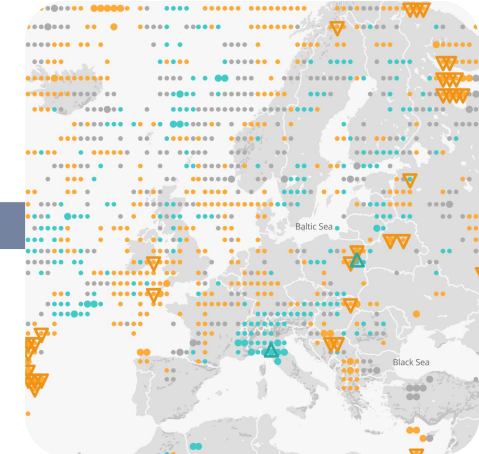
JULY 29 - AUGUST 4, 2019



AUGUST 5 - 11, 2019



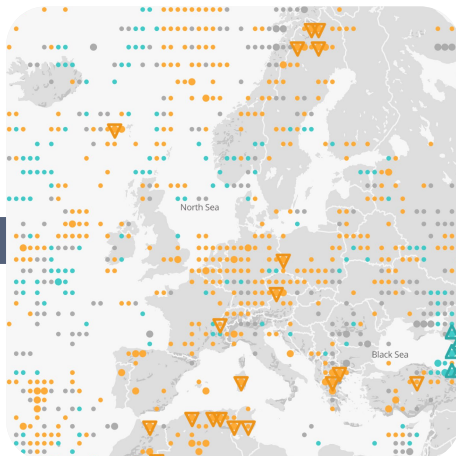
AUGUST 12 - 18, 2019



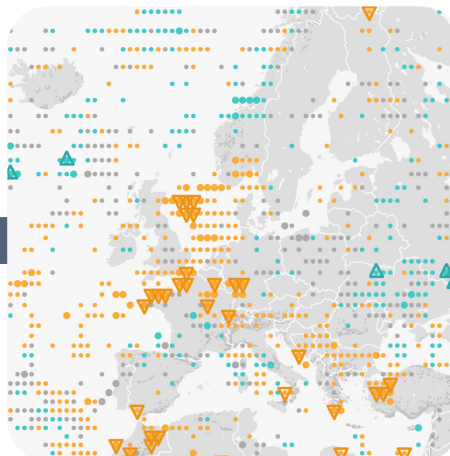
## SEASONAL

Dry conditions are predicted in August in most of Europe, with homogeneous patterns depicted in Iberia, Germany, Poland and Greece. The latter region shows high probability of values falling behind the P10. In September, dry conditions are likely in the North Sea towards Northern France, and other areas in central Europe as well as the Adriatic sea region. Above normal precipitation is predicted in the easternmost part of Europe. In October, drought relief is likely in the North Sea region and Germany, but below normal precipitation is still probable in Poland, Adriatic, Balkans and Greece. In the latter country, the amount of precipitation is predicted to fall below the P10.

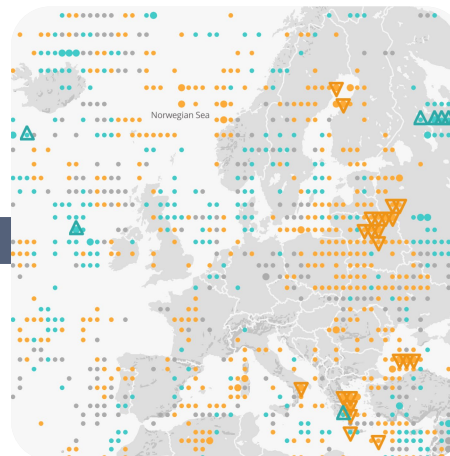
AUGUST 2019



SEPTEMBER 2019



OCTOBER 2019



Browse the global forecasts in the DST:

[www.S2S4E.eu/dst](http://www.S2S4E.eu/dst)





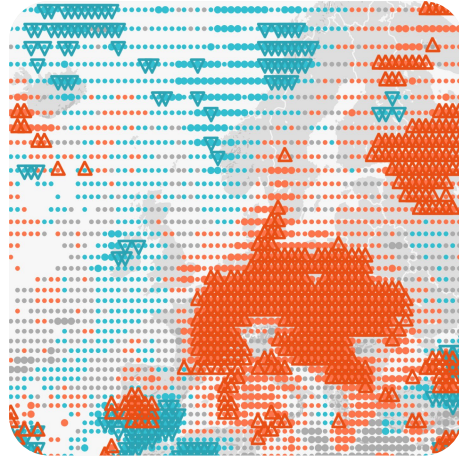
# Solar radiation forecasts



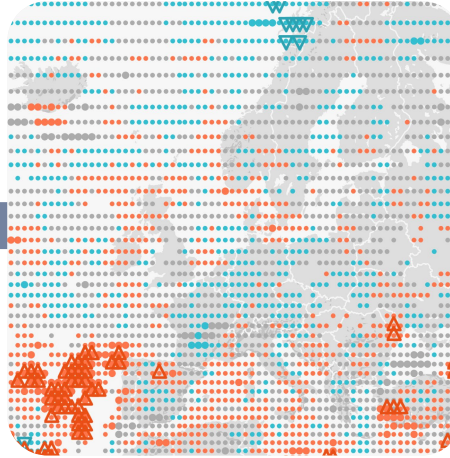
## SUB-SEASONAL

High solar radiation values are expected for the week of 22-28 July, especially in Central Europe and the Balkans, where there is increased probability of extreme values (above p90). For the following weeks, prediction patterns are not so clear.

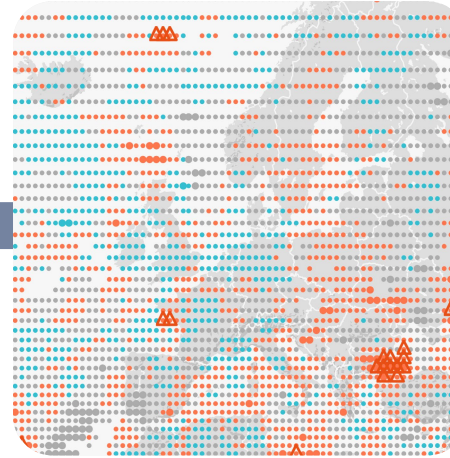
JULY 22 - 28, 2019



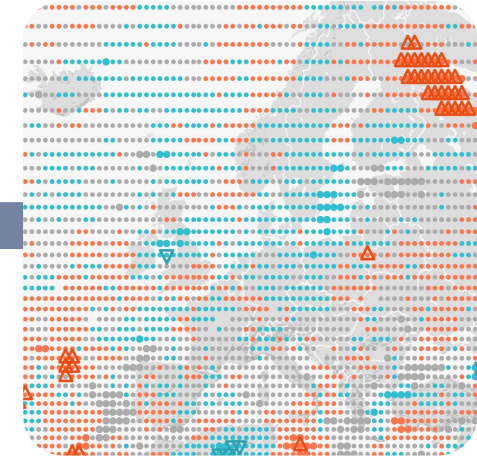
JULY 29 - AUGUST 4, 2019



AUGUST 5 - 11, 2019



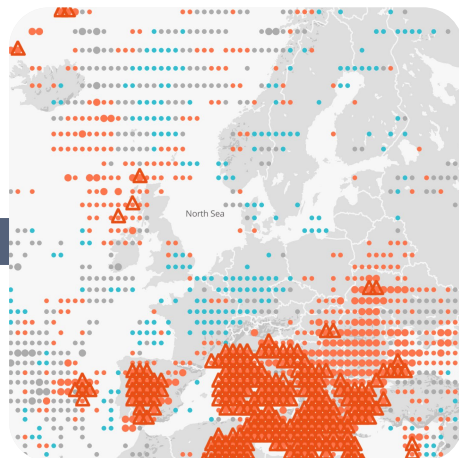
AUGUST 12 - 18, 2019



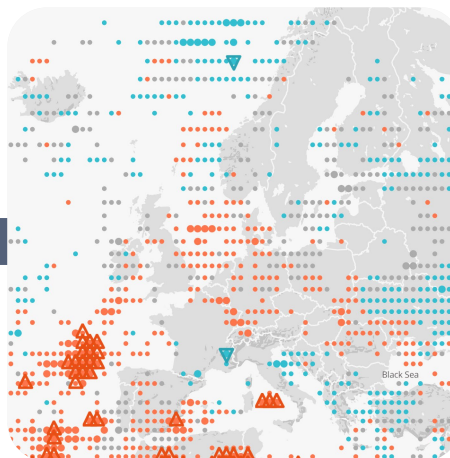
## SEASONAL

Forecasts for August show a homogeneous pattern of above normal solar radiation with increased probabilities in the Mediterranean region moving towards the Carpathians. On the other hand, below normal solar radiation is predicted in central Europe, including countries such as France or Germany. In September, this pattern is likely to reverse, in exception of the Iberian peninsula and the North Sea, where above normal solar radiation values are probable to persist. In October, a pattern of below normal solar radiation values is likely to appear in the south of the North Sea area penetrating into France. Several areas in the Mediterranean such as the north Adriatic Sea and Iberia Peninsula are probable to receive more solar radiation than normal.

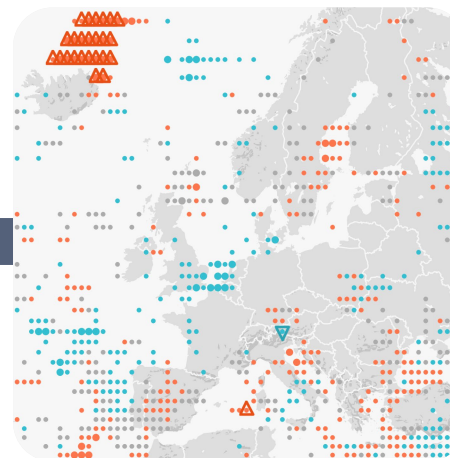
AUGUST 2019



SEPTEMBER 2019



OCTOBER 2019



Browse the global forecasts  
in the DST:

[www.S2S4E.eu/dst](http://www.S2S4E.eu/dst)