

Sub-seasonal to seasonal Outlook

August 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

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 15th of August 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



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

www.s2s4e.eu



Subscribe to the outlooks and register to the DST at:

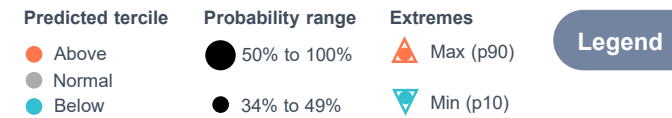
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Temperature forecasts



SUB-SEASONAL

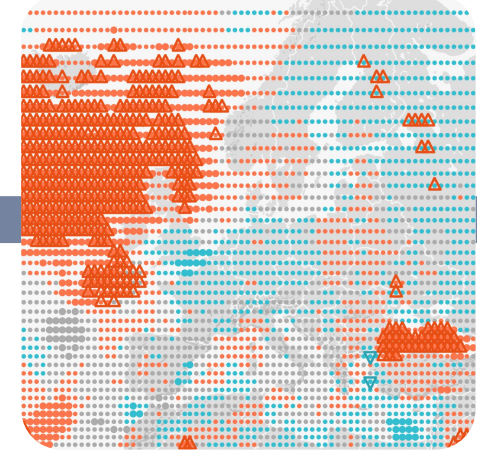
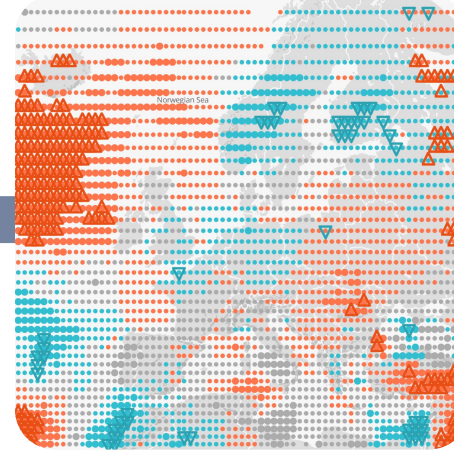
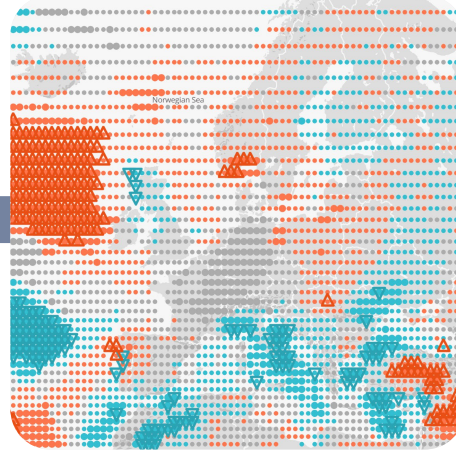
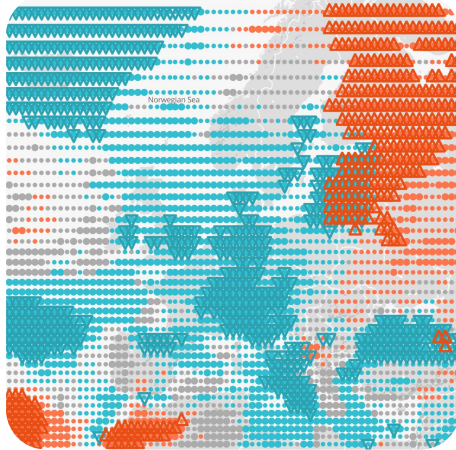
For the week of 19-25 August there is increased likelihood of below normal temperatures in western and central Europe, especially in the United Kingdom, Iceland, the Netherlands and northern Germany. High probability of temperatures below the 10th percentile is expected in these countries as well as in Denmark, the Alpine region, northern Spain and south of Italy. On the other hand, there are fair probabilities of above normal temperatures in eastern areas of Europe (Romania, Ukraine and Finland). For the week of 26 August - 1 September, there are high probabilities of temperatures being in the above normal tercile in Poland, Slovakia, Belarus, Lithuania, Latvia and Estonia. Southern Italy presents some probability of minimal extremes.

19 - 25 AUGUST, 2019

26 AUGUST - 1 SEPT 2019

2 - 8 SEPTEMBER, 2019

9 - 15 SEPTEMBER, 2019



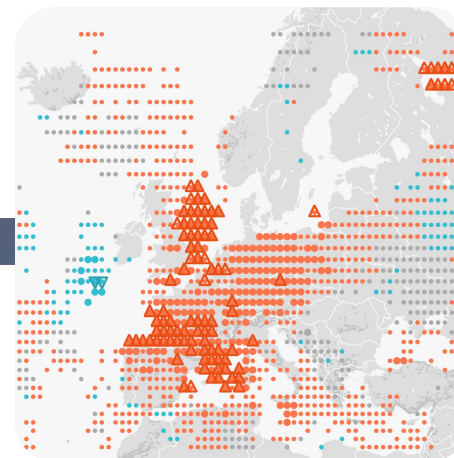
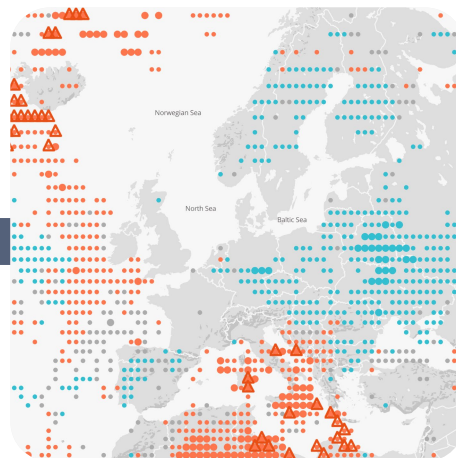
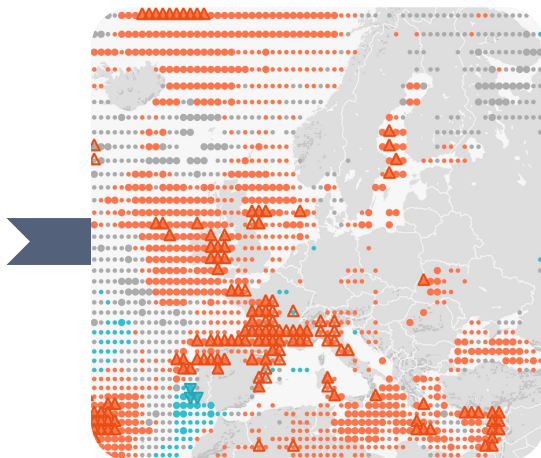
SEASONAL

In September, there are increased probabilities of above normal temperatures in southern France, northern Spain and Ireland. Most European seas (eastern Mediterranean, Black Sea, Baltic and North Sea) will remain relatively hot. In October, however, there is likelihood of below normal temperatures in eastern Europe (especially Belarus) and Scandinavia, while enhanced probabilities of above normal temperatures are predicted in Italy. In November, maps show again a pattern similar to September with increased probabilities of high temperatures over western and central Europe. The forecasts also indicate high probabilities of exceeding the 90th percentile in southern France, northeast Spain and east of British Isles.

SEPTEMBER 2019

OCTOBER 2019

NOVEMBER 2019



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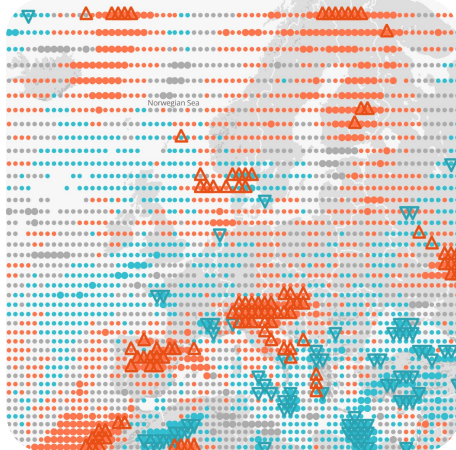
Wind speed forecasts



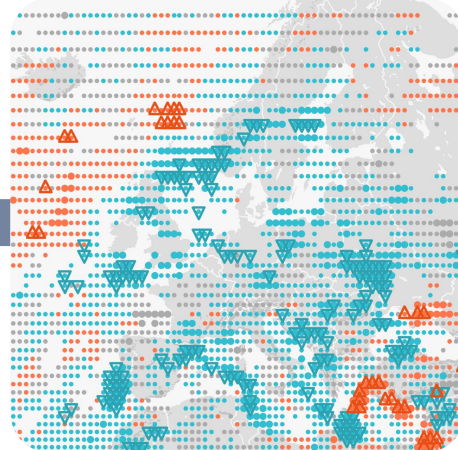
SUB-SEASONAL

From 19-25 August high probabilities of above normal wind speeds are expected in northern Spain, the Alpine region and the Nordic countries. These areas also present some probability of extreme wind speeds. High probabilities of below normal wind speeds are predicted around the Black Sea and southern Balkans. From 26 August - 1 September, there is a high probability of below normal wind speeds over most of Europe. The areas with probability of wind speeds being below the 10th percentile are northwest Spain, the Balkans, Ukraine and the North Sea. From 2-8 September most of Europe shows high probabilities of wind speeds in the normal or below normal tercile, with the exception of northern Scotland and the Baltic Sea and Greece.

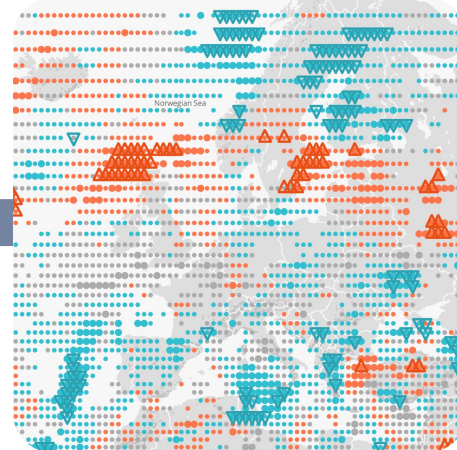
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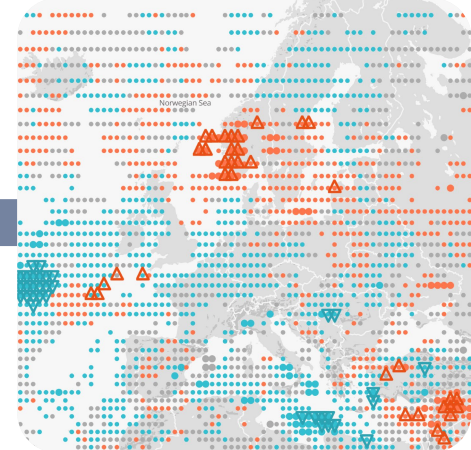
26 AUGUST – 1 SEPT 2019



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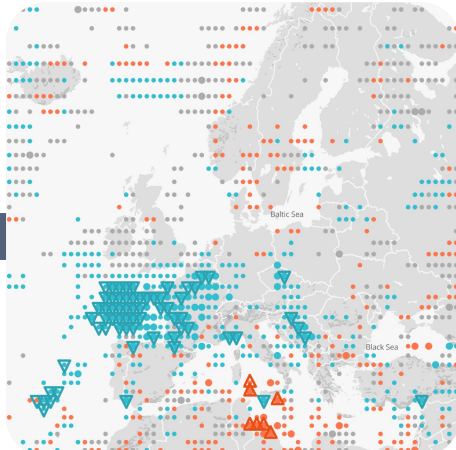
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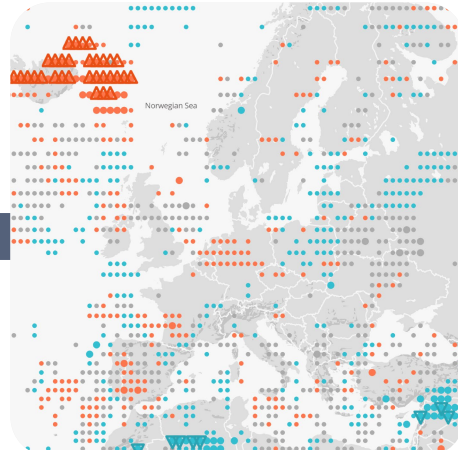
SEASONAL

In September, below normal wind speeds are expected in France, parts of Italy and north-western Balkans. West of France also demonstrates high probabilities of wind speeds below the 10th percentile. In October and November forecasts show more localised patterns over Europe, with increased probability of below normal wind speeds over eastern Europe and stronger winds in western Europe.

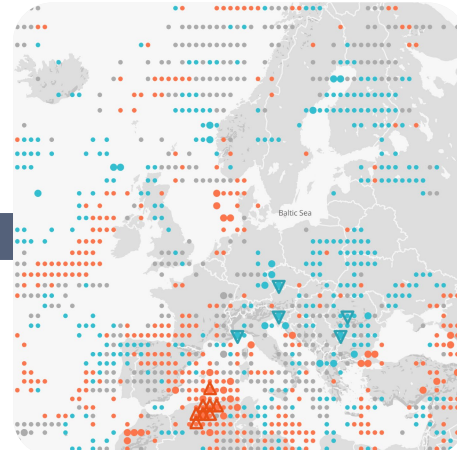
SEPTEMBER 2019



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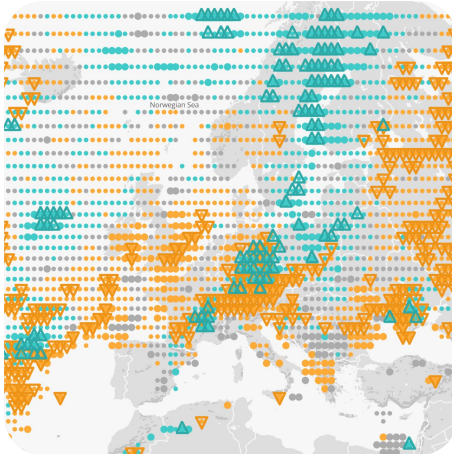
Precipitation forecasts

| Predicted tercile | Probability range | Extremes | Legend |
|---|--|---|--------|
| ▲ Above | ● 50% to 100% | ▲ Max (p90) | |
| ● Normal | ● 34% to 49% | ▼ Min (p10) | |
| ▼ Below | | | |

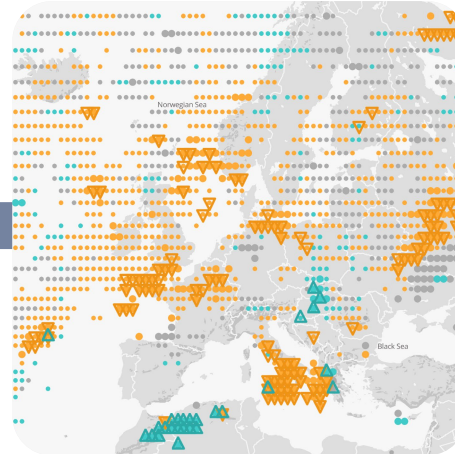
SUB-SEASONAL

From 19-25 August there is increased likelihood of below normal precipitation in the countries along the Atlantic coast and in the Alpine region, the latter also show high probability of precipitation below the 10th percentile. Higher probability of above normal precipitation is expected in the Baltic Sea region and northern Scandinavia. From 26 August - 1 September there is increased likelihood of below normal precipitation in the north of France, Italy, the United Kingdom and south of Scandinavia. For the weeks of 2-8 September and 9-15 September there is generally high probability of below normal precipitation, although skill is low at these timescales in many regions.

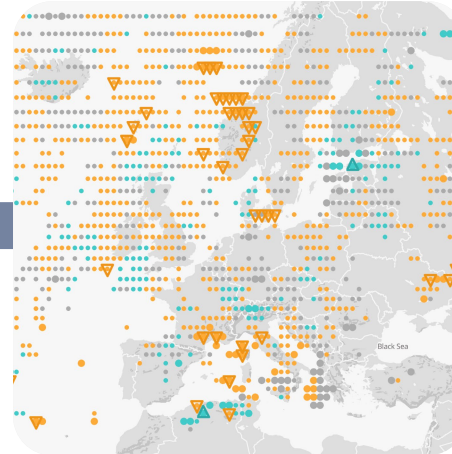
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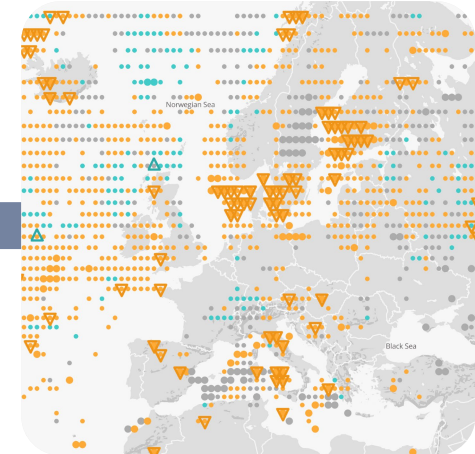
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2 – 8 SEPTEMBER, 2019



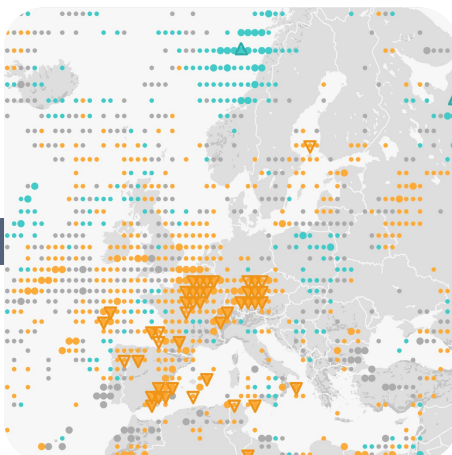
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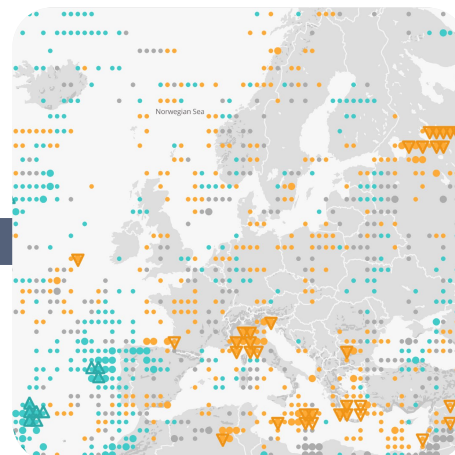
SEASONAL

In September, there is a high probability of dry conditions over southern Germany, France, Ireland and parts of the Iberian Peninsula. Extremely low precipitation (below the 10th percentile) is up to four times more probable in these regions. In October, increased probability of dry conditions is foreseen over northern Italy, eastern Mediterranean, and to a lesser extent over particular localized areas in Europe. Forecasts for November indicate localized patterns of above normal precipitation in the British Isles.

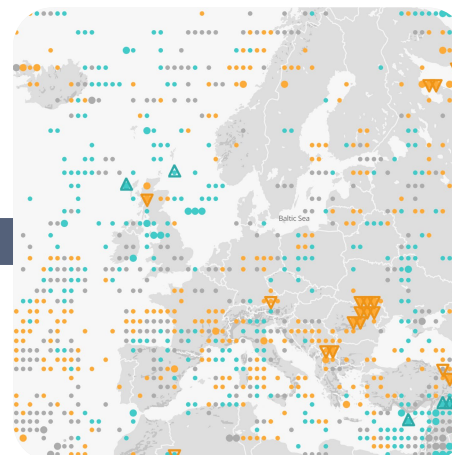
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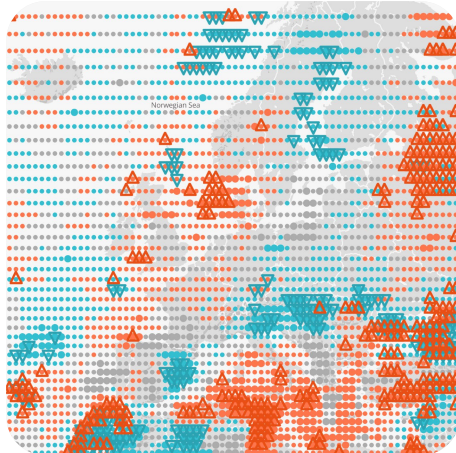
Solar radiation forecasts



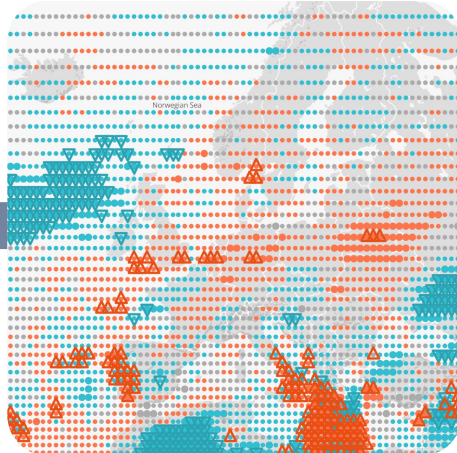
SUB-SEASONAL

From 19-25 August there is increased likelihood of above normal radiation in parts of southern Scandinavia, western Germany and northern France, southern Italy and Bulgaria. From 26 August - 1 September there is a high probability of above normal radiation in Belarus. For the week of 2-8 September there is increased likelihood of above normal radiation in the countries around the North Sea, and increased likelihood of below normal radiation in Spain. For the week of 9-15 September, above normal radiation is expected in the countries around the Baltic Sea and the south west of the Iberian Peninsula.

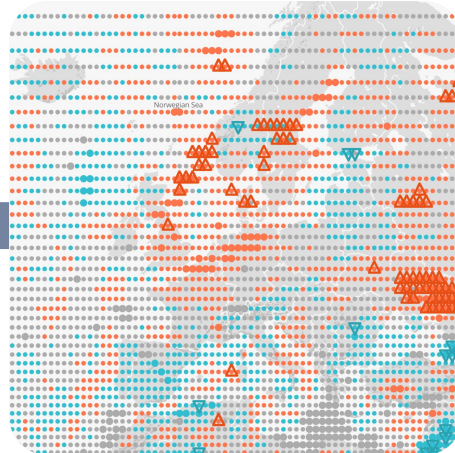
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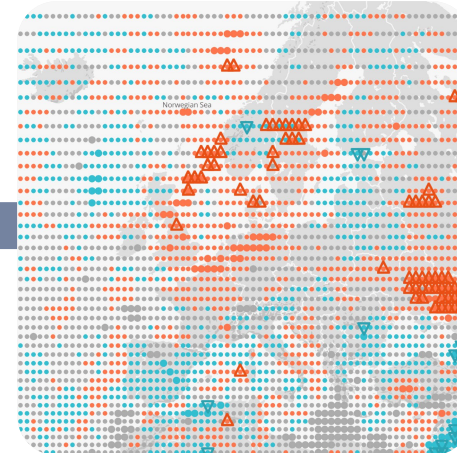
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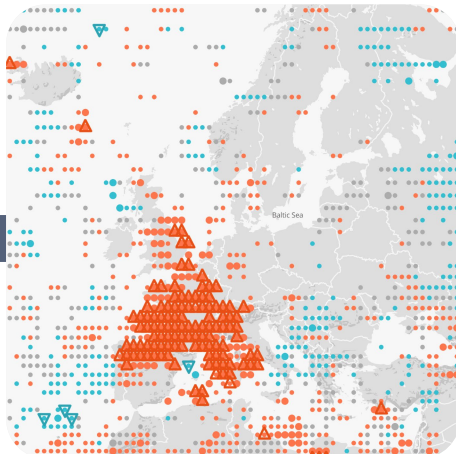
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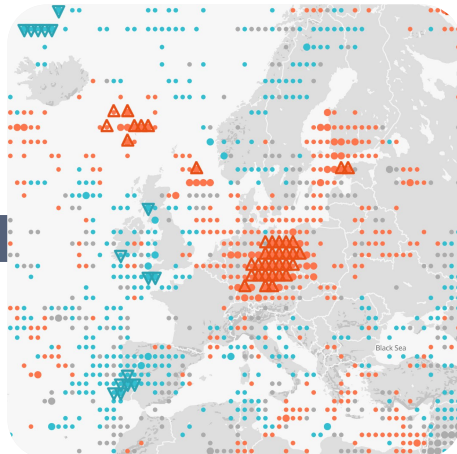
SEASONAL

In September, forecasts show increased likelihood of above normal radiation over western Europe, with high probabilities of exceeding the 90th percentile. Similarly, in October there are increased probabilities of high radiative conditions over Germany, Czech Republic, Poland and southern Finland, with likelihood of below normal conditions over the Iberian Peninsula. In November no clear patterns are expected, although normal or above normal radiation seems likelier over central and eastern Europe.

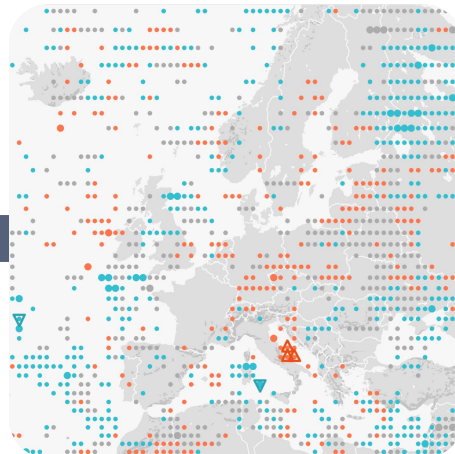
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