

LONG TERM WEATHER FORECASTS PREDICTED EUROPEAN DRY HEAT OVER SIX WEEKS IN ADVANCE

Early warnings are helping customers in various sectors prepare for long dry spell

London/Wageningen, 27 July 2018 - As the present heat and the lack of rain impact huge parts of the European economy, many organizations all over Northern Europe are asking themselves, 'Could we have been better prepared?' Long term ('Seasonal') forecasts are the solution. They have been predicting this summer's dry spell several weeks in advance. As with all extreme weather situations, the earlier you know that it's coming, the better you can prepare. This saves money, helps to secure operations, increases safety and enables better planning across all sectors. From Energy and Telecom, through Water Utilities, Automotive, Retail, Shipping, Transport and Public Authorities; all sectors benefit from a reliable early warning system.



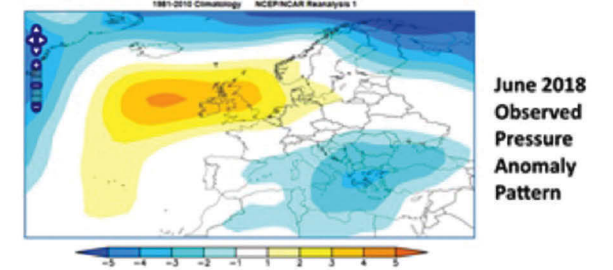
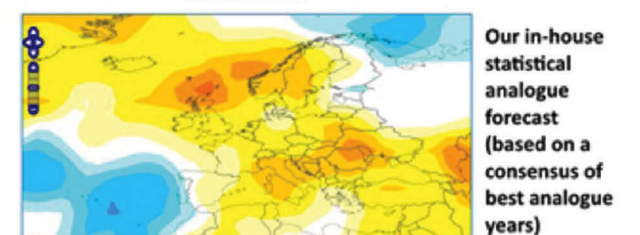
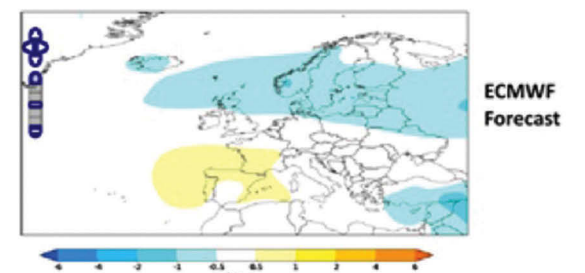
"MeteoGroup provides highly accurate and continuously updated weather analysis and solutions, giving customers all over the world access to the forecasts and weather data they need to support their operations", says Matt Dobson, Senior Meteorologist at MeteoGroup. "Providing expert long-term forecasting for up to six months, our World Climate Service gives customers all the data and tools necessary to develop mid- to long-term plans. Created in partnership with US-based Prescient Weather Ltd., this comprehensive tool combines multi-model input with vast meteorological and climatological expertise."

South West Water

South West Water is one of the MeteoGroup UK customers using long term forecasts. South West Water is the water and waste water service provider for a population of 1.7 million in Cornwall, Devon, and parts of Somerset and Dorset, including nearly half a million people in the Bournemouth area. It's tasked to provide reliable, efficient and high quality drinking water and waste water services throughout these areas.

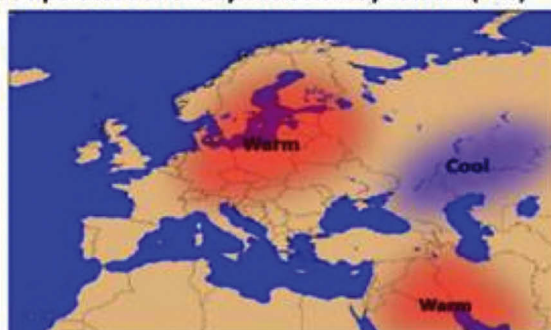
Rob Scarrott, Head of Environment, explains how long-term forecasts are essential in the planning and management of water resources at South West Water: "Our goal is to deliver the best service we can. This includes the target to avoid restrictions on the water our customers use while managing and delivering the region's supplies as efficiently as possible. We have had no restrictions on the use of water supplies (e.g. hosepipe bans) for South West Water customers since 1996 and we've been working very hard to ensure water is always available. This includes ongoing investments in our networks and pumping water to where it is needed most as well as using accurate (long-term) forecasting and monitoring. MeteoGroup long range forecasts are an excellent tool to help us with our planning. In addition they support us with their short-term forecasts and analysis of occurring weather events."

"The population of the region is set to increase by nearly 20% over the next 30 years and with these extreme weather events, such as the heat and drought of this summer, likely to be more



common, this will have an increased impact on our water resources. The challenge will be to ensure that water scarcity is never an issue. Long term forecasts and the wider support are great tools and have already helped us this summer to be able to proactively plan and react in a faster and more efficient way to

Early Summer Outlook: May-Jun-Jul 2018
Temperature anomaly outlook May-Jun-Jul (MJJ)



Issued Monday 23rd April 2018
Precipitation anomaly outlook May-Jun-Jul (MJJ)



the dry spell that is hitting us now. In all this, MeteoGroup have been exceptionally supportive of our needs as a business.”

Earliest predictions of hot dry summer as early as March “Our team of experienced meteorologists produced a great set of summer forecasts, as early as mid-March, that helped steer our views in the face of conflicting model guidance”, Matt Dobson continues. In mid-March, the seasonal forecasts from World Climate Service (a partnership between MeteoGroup and Prescient Weather) flagged the potential for a major circulation pattern switch over Europe during the spring, with the high pressure over southern/eastern Europe in April transferring to NW Europe by June. At that time we also identified the year of 2006 as one of the closest matching years to the late winter and early spring global pattern. Like 2018, late winter and early spring 2006 were also cold.”

“Comparison of the June Mean Sea Level Pressure forecasts from the March initialised ECMWF Seasonal forecast model, MeteoGroup’s analogue consensus, and the observed anomalies, makes clear that the comprehensive and holistic statistical forecasting approach we use gave us an early warning that unusual high pressure over NW Europe in June 2018 was possible, threatening dry conditions over the UK and Scandinavia.”

“In our Seasonal Forecast Update for late spring and summer, issued mid-April, we were starting to increase our confidence that the northern half of Europe was likely to experience a warm/dry summer and there was potential for significant hot spells in June and July, as per some of our statistical forecast analogues.”

High confidence levels “In our forecast discussions, we made it clear to our customers that high pressure was expected to expand westwards over N Europe during early summer, leading to the dry/warm conditions, while the southern, and especially south east, quarter of Europe would have uncharacteristically wet weather.”

Richard James, Senior Scientist at Prescient Weather and The World Climate Service confirms the exceptional strength of this year’s forecast: “Confidence in the summer forecast was higher than normal this year; we emphasized this in the forecast document and hopefully customers paid attention. In 10 years of producing summer forecasts in this format, we’ve only once before had such high confidence levels for Europe.”

“On this page are 3 statistical analogue models that we created in the April Seasonal forecast for the May-July seasonal period”, Matt Dobson continues. “They are based on past years that observed similar trends in some teleconnection patterns and sea surface temperature anomalies to late winter and spring 2018. They show the probability for above normal pressure and rainfall over Europe, based on what happened in the historical years selected.

“We also identified past years that saw a circulation pattern over Europe, the North Atlantic and Western Russia in the prior winter that most closely matched the mid-late winter period in 2018. Some of these years included 1986, 2006, 2010 and 2013, which all saw a cold late winter and early spring over northern Europe, followed by a strong probability that Scandinavia would experience well above normal temperatures in the May to July period. The resulting analogue is shown in the next map below.”

“By considering the trends observed in many of these analogue years, we were able to confirm to our customers that there does appear to be a link to years between very cold, blocked and easterly spells in late winter and then unusually warm and dry conditions over northern Europe in the early to mid summer that follows.

“In mid-May our June-August (Summer Forecast) confirmed our view that summer 2018 would be dominated by warm/dry anomalies over N Europe. By this time there was good agreement between the statistical indicators and the models.

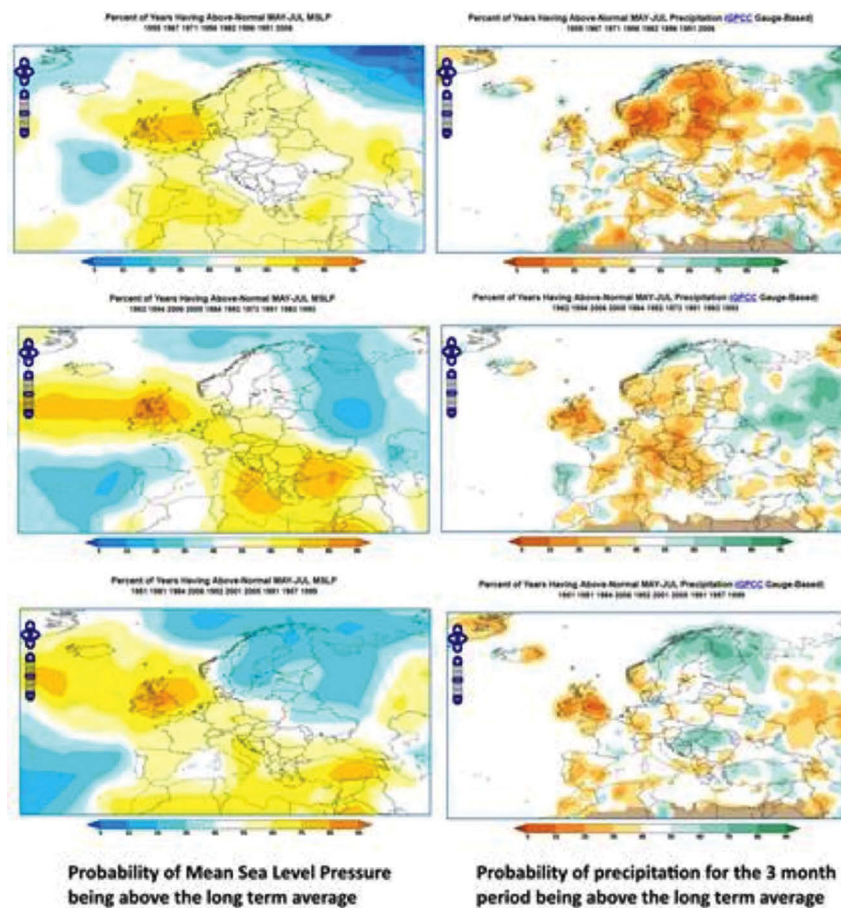
About MeteoGroup

MeteoGroup is the global weather authority. We combine accurate science with advanced technology and local expertise with global reach. MeteoGroup is trusted by hundreds of government agencies, thousands of companies and millions of consumers. With offices in 12 countries around the world, MeteoGroup is perfectly placed to provide local services to a global audience.

Author Contact Details

Ward van Beek T
MeteoGroup | The global weather authority

- Tel: +31 (0)65 103 4 301
- Email: Ward.VanBeek@meteogroup.com
- Web: www.meteogroup.com

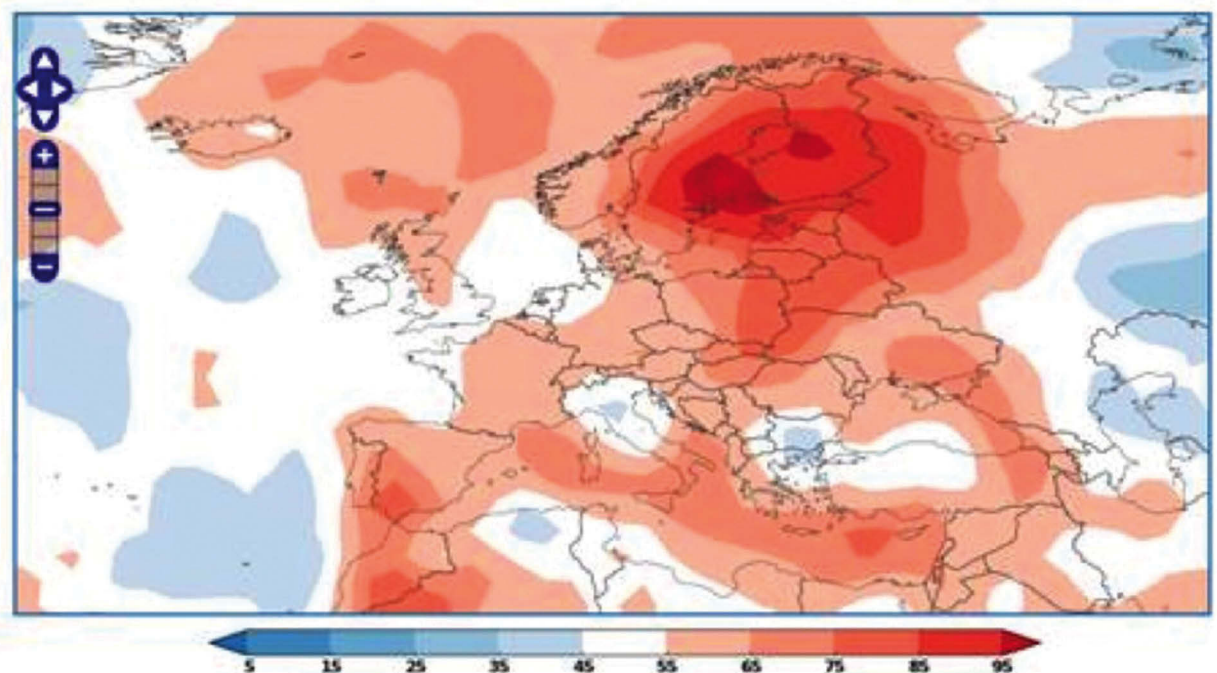


Statistical model based on past years that were best matching to 2018 for Tropical Sea Surface Temperature Anomalies in March

Statistical model based on past years that were in a similar phase of the ~11year solar cycle to 2018

Statistical model based on past years that saw the most similar evolution of the NAO index to late winter and spring 2018

Percent of Years Having Above-Normal MAY-JUL 2m Temperature 1960 1963 1966 1968 1986 1999 2006 2010 2013



Summer Outlook: Jun-Jul-Aug 2018

Temperature anomaly outlook Jun-Jul-Aug (JJA)



Issued Thursday 17th May 2018

Precipitation anomaly outlook Jun-Jul-Aug (JJA)



HEADLINES

- Seasonal warm anomalies from UK across to Central and Eastern Europe and also far SE Europe and S Scandinavia.
- Elevated risk of several heat waves affecting the major population centres in Cent, W and N Europe, esp. June & July.
- Seasonal dry/calm anomalies from the UK, N France and Central Europe across to the Baltic, Ukraine and W Russia.
- Scattered seasonal wet anomalies (increased extent of thunderstorms) in regions surrounding Adriatic & Aegean Seas.

KEY DRIVERS

- Lingering North Atlantic SST anomalies related to late winter negative NAO and blocking patterns (some similarities to 2013)
- Dissipating La Nina anomalies. Relatively cool tropical Atlantic SSTs (similar to spring 2012 - 2015, rather than 2016 & 2017)
- Persistent high pressure over Cent, N and NW Europe and northwards displaced low pressure track (summer positive NAO)
- Slow moving 'cut off' low pressure areas over Cent Mediterranean region (again, typical during summertime positive NAO).