

**OCA UK Ltd - May 2009 Report
Newsletter for those managing
insurance & supply chain
resources.**

AMBER ALERT

**This month we start with our alert fore-
cast.**

There are a variety of reasons for escalating our own forecast assumptions for a warmer and drier summer than in recent years:

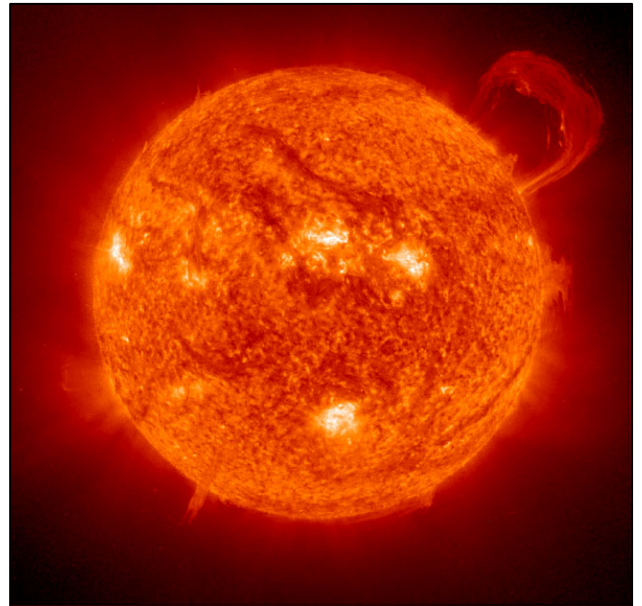
1. With May only days away from finishing the total rainfall for the English lowlands for the Spring period March-April-May is significantly lower than average at many locations.
2. The synoptic set up for medium term weather suggests a continuation with a potentially dry June.
3. The Meteorological Office forecast for Summer beyond June suggests a dry and warm summer.
4. Other respected forecasts see real potential for Central European heat through this Summer period.
5. The vegetation of the UK is in good health after recent warm-wet Summers

For our full forecast assumption see **Page 4**.

Setting the scene:

Pages **2 & 3** of this report deals with the basics of soil and trees and with the climate of the United Kingdom.

As always whilst we think that surge planning is part and parcel of every summer planning regime our forecasts are speculative at this stage.



And finally.....

On **page 5** we will give some weather, soil and tree biology highlights from our main on-line climate centre NEWS area. **Page 6** wonders about a "flip year".

If you have any comments on this newsletter, on any of the content, assumptions or modelling techniques, then contact us as indicated below:

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Additional resources:

For more information on our research visit:

http://www.oca-arb.co.uk/research_unit.htm

Meteorological Office Rainfall & Evapotranspiration Calculating System (MORECS)

The plot you have here is for a geographic area dominated by high plasticity soils and is a plot for trees (rather than grass or bare soil). The clay over its entire depth responds to water in/out over a 36 month window and this geotechnical behaviour makes it the perfect model soil to study without short term rain clouding the issue.

So '0' is every place that water could be in the soil it is. It is fully hydrated and the trees will have to slowly work at extracting the resource so they can move down the profile and under foundations.

Look at 2002 and ask yourself if in weeks 1 - 12 you see a soil at full hydration.

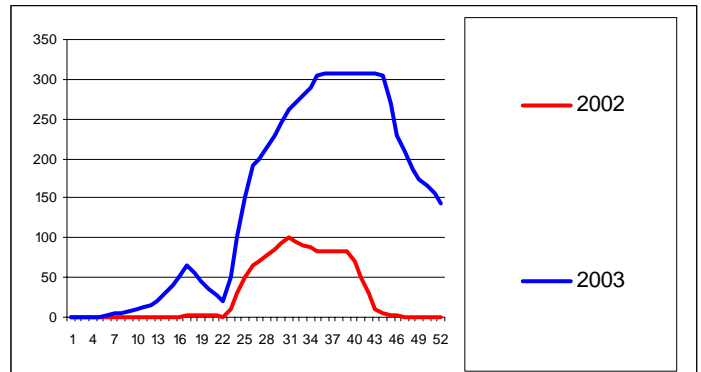
In temperate UK, the period between leaf drop (say November) to bud/leaf burst and the temperature drop (if you are an evergreen), means water loss in this period is effectively '0'.

So what must happen is that from week 15 there is bud burst, the days lengthen and hopefully the temperature rises.

This spring event means that loss from the soil begins and between week 15 and week 22 grass is the main evaporative vehicle for soil water loss. For these 8 weeks grass dominates the first metre of water loss because grass works early in the spring and summer to get a head start and make seed many months before trees, its an early season specialist.

However, you are not seeing the effect of grass in this chart.

Week 15 is bud burst and the leaves of most trees are out shortly thereafter (go look at a tree). This is because they are under hydraulic pressure from water in the wood of the tree and are blown up like a balloon (put a marigold glove under the tap and turn the tap on).



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Between week 15 and week 22 the tree is setting itself up for work by getting all of its growth done. There's new wood and new places to put this summers sugar harvest from sunlight. In this period they are not in big transpirational mode (water loss), they know they have 8 weeks before the sun is going to be very high in the sky and they can set sail for a summer of making sugars to get them through the next long, cold, wet winter.

Now look at the chart for week 23, the growth phase is substantially complete and the tree turns all of those beautiful solar panels (leaves) up to heaven and points them at Sol.

The soil model suggests that once 300 is reached there is now no freely available water to plants and the plants must either:

- stop working for the year or wait for more rain in the upper soils (say Birch, Beech).
- move down the soil profile and get more water from another clay resource.

The key is how quickly does 300 get reached leading to a need to go find more water? (Do note that even in the wettest year on show, the automation of this process is still clearly in view and does not deviate from the model even when the winter is miserable).

The climate of the United Kingdom

There are many places on this planet in which settled and stable weather systems dominate.

However, presence at a meeting point of the Gulf Stream bringing warm and wet air from the Mediterranean, the Azores high interface with the Arctic high interface and straddling a line of influence between continental Europe, Asia and the Atlantic Ocean, is not one of those places on the planet where reliable forecasts can be made.

The complexity of even one of these elements is daunting. Add in the Jet Stream, El Nino, La Nina, various ocean oscillations and changing output of the sun and before we pause to think about Global Warming (or cooling), the position of the UK leads to some classically unpredictable weather.

Every UK year is different

Years can flip quite dramatically in when rainfall falls. Look at the below anomaly charts for two famous years for claims.

rainfall anomaly for 2003:

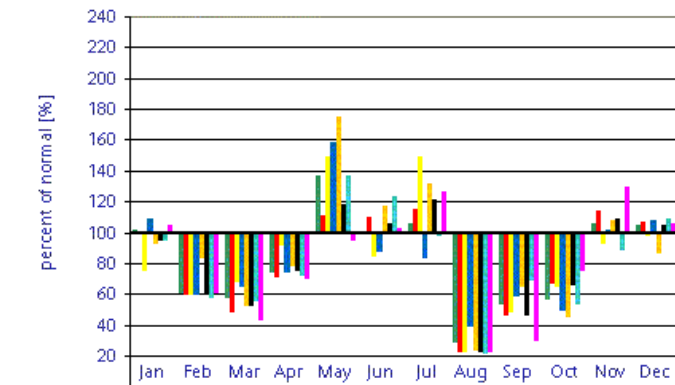


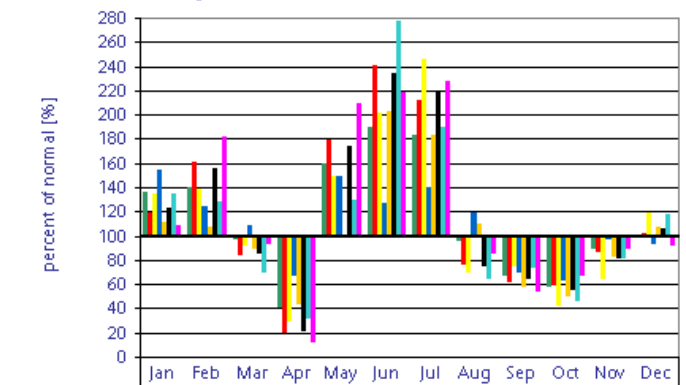
Fig 2. United Kingdom
Some of the influencing factors

If you want to learn more about weather patterns, past weather or MORECS then you can contact the Meteorological sales office on:

Tel: 0870 900 0100

Or just visit: www.metoffice.gov.uk

rainfall anomaly for 2007:



Forecasting assumption 2009

Factor 1

The previous year

The year 2008 was dominated by a significant **June & July** rainfall anomaly and with an ordinary to dull / wet August. This removed all pressure on UK water supplies and to any requirements for plants to work hard for their water requirements.

Factor 2

The current model status for soils (MORECS)

The dry Spring is an important precursor to any severe Summer soil moisture deficits and current soil moisture levels at key locations are currently in reach of high summer totals. Forecasts by respected organisations are beginning to point to a drier and warmer than average June.

Factor 3

The current plant health status

Since the last significant plant stress event during 2003, there has been a succession of warm and wet summers and a mix of ordinary and wet winters.

Plant health as a macro vegetation factor is driven by water availability and ease of access to water in the soil. With few stress periods of intense heat and prolonged dryness for the last four years and particularly after 2007-2008, plant health as a broad indicator is high and the plant community will respond quickly to any dry period in good health.

Factor 4

Societal issues

There is a high appreciation of subsidence as a factor of modern property ownership. Given the credit crunch of 2007—2008 and the low level of sales, of first time buyers and of mobility generally, there may be a dampening in identified subsidence cases from this source.

However, with property owners concerned about equity values in their homes and with concerns associated with falling average sale prices, pressure from suspected building subsidence may cause

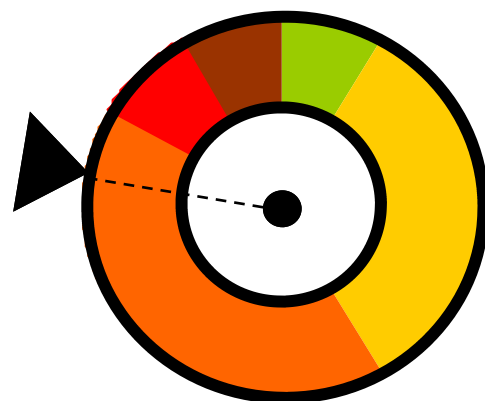
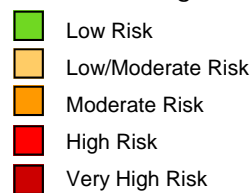


CURRENT FORECAST

Various commentators and those investing in meteorological long term forecasts are now forecasting a **warm and dry UK summer and with a hot/dry central Europe.**

Based on all of the data available the current forecast for a 2009 warm and dry summer now changes our own assessment to an increased risk of higher Soil Moisture Deficits across the English lowlands.

The risk of a full blown event year is now rated as moderate - high amber.



The next forecast will be in 30 days time.

Meteorological Office Medium Term Summer Forecast

For the UK and much of western Europe rainfall is likely to be near or below average. A repeat of the very wet summers of 2007 and 2008 is unlikely.

Below-average rainfall is likely over eastern Europe

For the UK and much of Europe temperatures are likely to be above average

Issued May 28th 2009

Does May weather "set" the Summer?

Some Mays preceding famous hot dry summers:

1984- dull cold wet in the SE, sunny in the NW

1989- one of the driest & sunniest on record, rather warm

1990- also warm dry sunny

1995- variable, hot first week, wintry second week, overall close to average temperature

2003- unsettled, westerly, dull & wet in the NW

2006- hot first 12 days, then unsettled and westerly

As you can see quite a mixed bunch!

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"Plenty of fine and settled weather in the coming weeks"

Darren Bett
Met Office Forecast Meteorologist

MAY 21, 2 PM "I KNOW HOT WHEN I SEE IT!"

The one place this summer that will probably defy the recent global trends of cooling is eastern and central Europe. In fact, the setup for extreme heat for the summer season in this area is similar to 2003, though with the Nino coming on, I am not thinking that it will be that warm. Besides, water is cooling in the Eastern Atlantic, and that is an invitation to stop excessive heat in the west. But when one looks at the Mediterranean, one can see it's very similar to what we saw in '03."

Joe Bastardi
Accuweather Forecast Blog

Netweather Forecast updated 27th May - Summer & early Autumn

This updated forecast covers the full summer period as well as the start of Autumn. Spring has finished as it began - on a mild note, with May likely to be between 0.5 and 1 degree above the norm for the time of year. The current expectation is that summer will also begin with temperatures slightly warmer than average, perhaps moving closer to average as the season wears on. Across the UK as a whole rainfall is anticipated to be above average across the summer months, but with some quite significant regional variations.

In recent years the jetstream has generally been further south of it's usual summer location, often tracking right over the top or to the south of the UK, which has lead to some very wet spells, current indications are that this pattern may well re-occur at times this summer, particularly during June and July. This doesn't necessarily mean a repeat performance of the flooding and ongoing wet, cool spells seen during the previous 2 years, but as mentioned during the previous update, it is something we will continue to monitor.

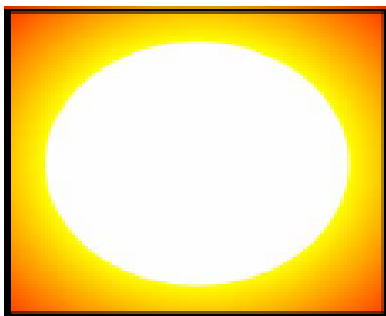
Netweather.tv 27 May 2009 (Copyright)

FLIP YEAR?

A question for all of us managing claims - could 2009 be a “flip” from a wet phase to a dry phase?

The “flip” usually heralds a change, the last “flip” from dry phase to wet phase was August 2006 and prior to that it was the “flip” in Summer 2003 that ended the 1998—spring 2003 wet phase. At the start of the year we discussed this issue in depth.....

Welcome to 2009.....



2009 Claims Scorchers or Claims Wash Out?

The rain started to fall on the 1st August 2006 and it hasn't really stopped now for 29 months (that's 870 days or 20880 hours), of course we might almost ask; "well whose counting"?

Of course the answer should be every one of us concerned about managing subsidence claims effectively.

Talking about a scorcher for 2009 is of course potentially a classic case of wish fulfillment for a claims sector rapidly downsizing and de-skilling. However, for all of us involved in the cyclical impacts of staffing and maintaining skills in downturn an appreciation of what the weather does each year is fundamental.

It is clear that for UK subsidence claims being driven by climate there are two distinct phases:

- A Wet phase
- A Dry phase

Whilst most people often think of dry or drought or event years such as 1976, 1989, 1995 or 2003, in actual fact these years were the boundary year for claim volume upturn and repudiation rate downturn in a climatic shift from wet phase to dry phase.

So instead of talking about a dry year we should be talking about a dry phase. (1975—1977,

1989—1991, 1995—1997, 2003—2006.) Looked at this way between 1976 and the present there were 12 of 33 years or roughly a third of the time when claim levels and repudiations were significantly elevated.

Equally instead of talking about a wet year such as 1992 we should be talking about a wet phase i.e. 1992-1994 and of course our current 2006-2007-2008. In fact as stated the boundary from dry to wet in this current period can be dated precisely from 01-08-2006 and so therefore back to our 870 days of wet phase.

So right now for all of us desperately juggling claims handling resources we appear to be deeply in the gloom of an extended wet phase period, however wet phases end with an event year and these event years appear suddenly – literally; "out of the blue".

If we look at the run up to 2003 we can see that 2000, 2001 and 2002 were wet phase and unremarkable British Summers (wet does not mean flood in our world it means little pressure on soil water from trees). There were almost no key indicators except the statistical probability of a dry year and a somewhat dry spring in early 2003 to alert us of any likely change. The only key point is the status of the vegetation itself, after 3 years of warm wet soil conditions the trees were in great shape across the UK and a stored potential for plant growth and soil drying existed – as we say the plant community was "locked and loaded" ready to cause problems when pressure on soil water accelerated.

That's the conundrum, it's a bit like our own mortality, you know it will happen, you know it cannot be avoided, but it's coming and it's often a surprise.

Statistically a dry phase is due, the overall trend is firmly stated by the Meteorological Office for warming and yet the best we can do is to predict against the probability and look to the skies each July.