RMetS
Royal Meteorological Society

University of Reading

WEEK 2 SUPPLEMENT

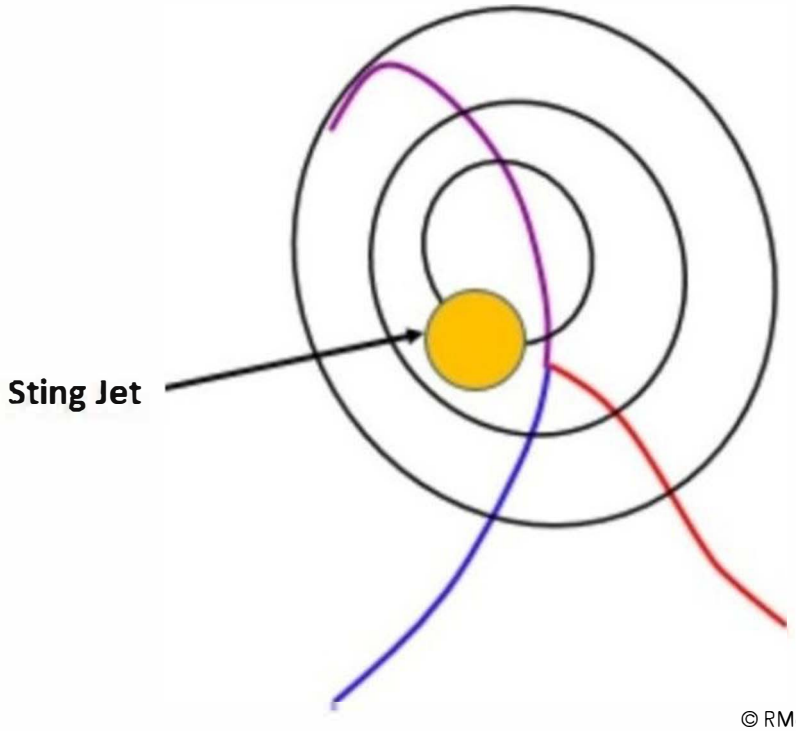
COME RAIN OR SHINE

Understanding the weather

STING JETS

FIGURE 1

Sting Jet.



JET STREAM

FIGURE 1

The jet stream is found above where cold and warm air meets at the ground

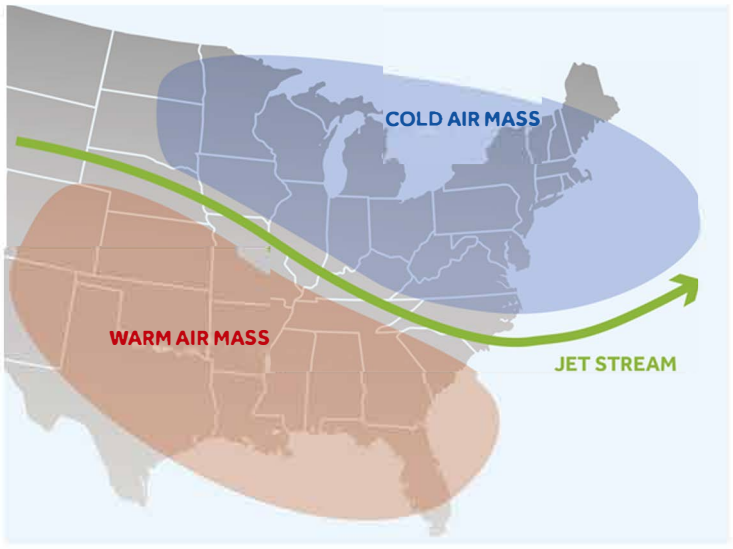


FIGURE 2

The position of the jet stream in a normal summer.

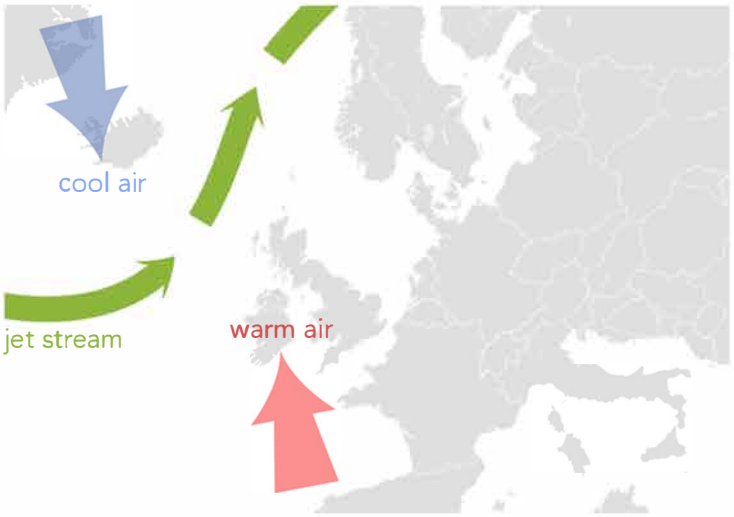


FIGURE 3

The position of the jet stream the summer of 2012.

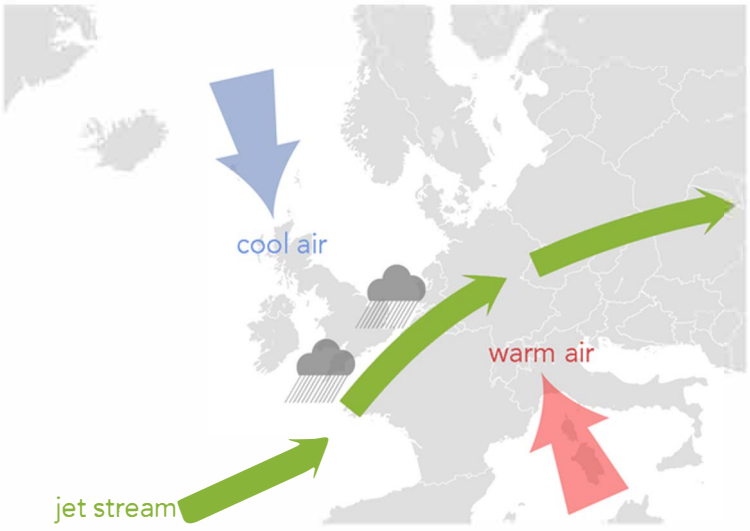
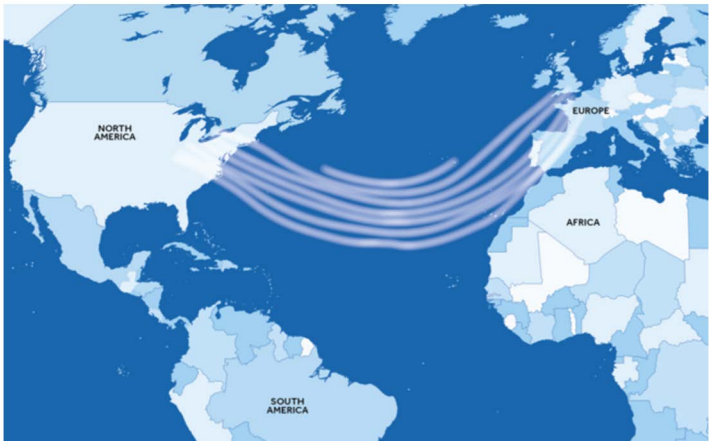


FIGURE 4

The position of the jet stream in the winter of 2013/14



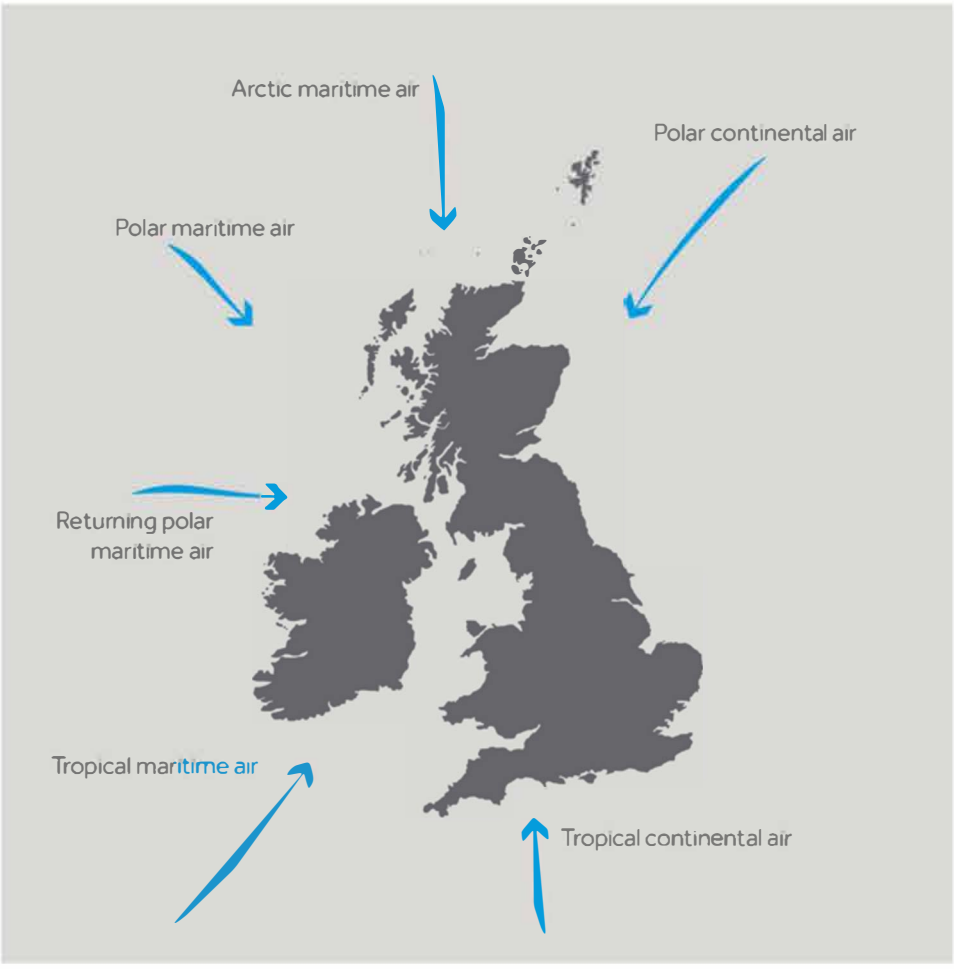
AIR MASS INTRODUCTION

HEADER IMAGE

Cumulus clouds

FIGURE 1

The 6 air masses which can affect the weather in the UK.



AIR MASS INTRODUCTION

FIGURE 1

A satellite image showing Tropical Continental air over much of the UK and continental Europe.

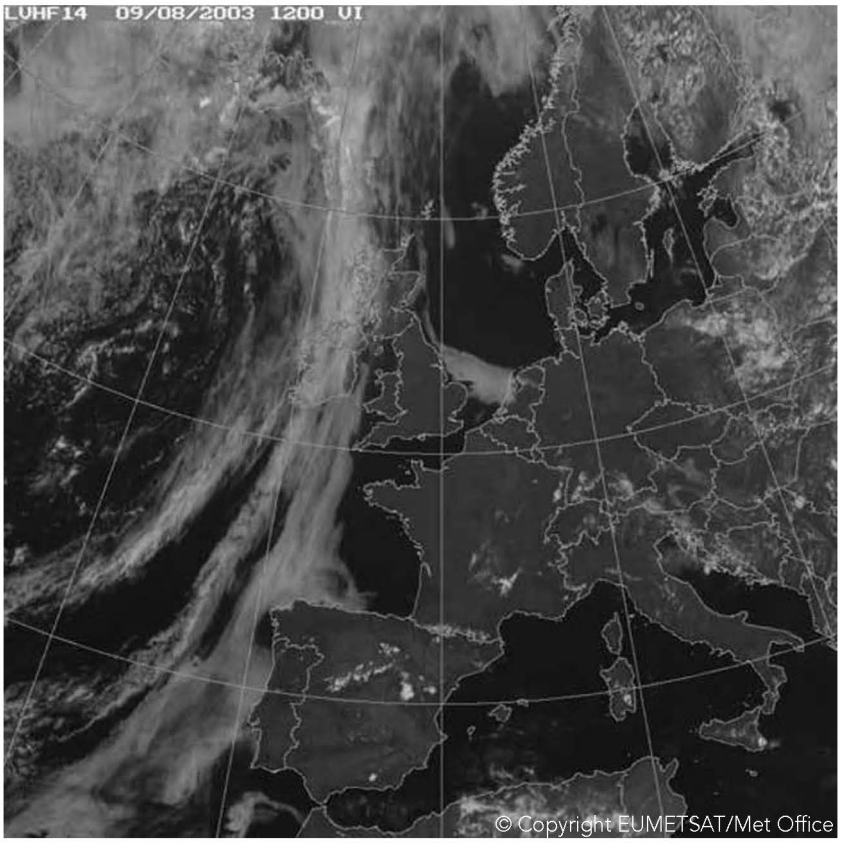


FIGURE 2

A satellite image showing Polar Continental air over the UK and North Sea

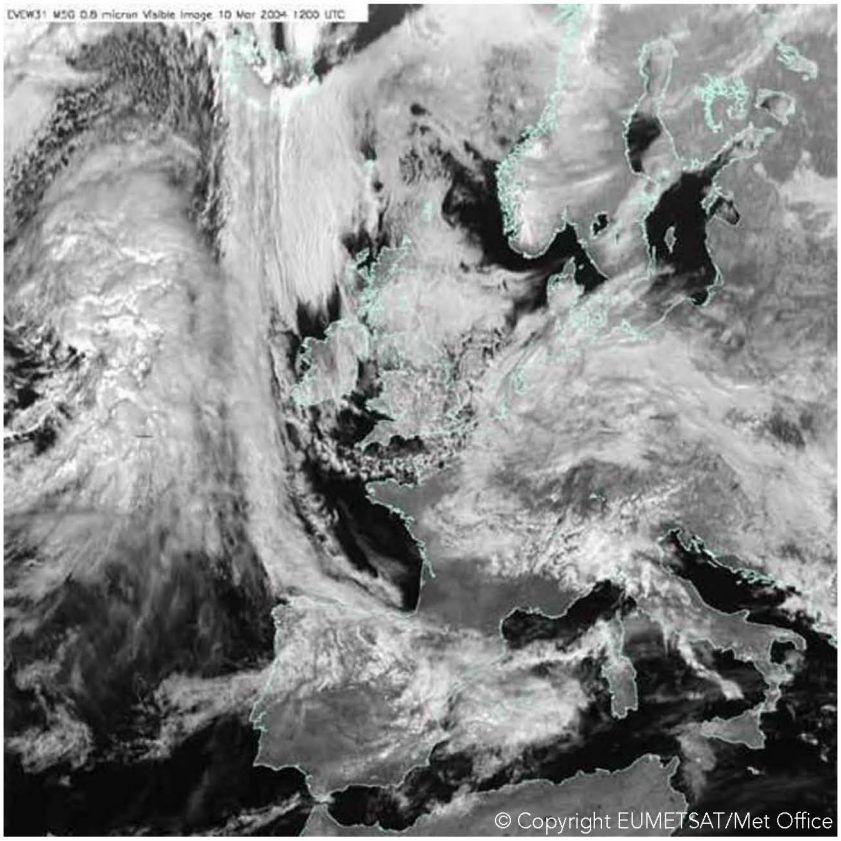


FIGURE 3

A satellite image showing Polar Maritime air over much of the North Atlantic and Europe

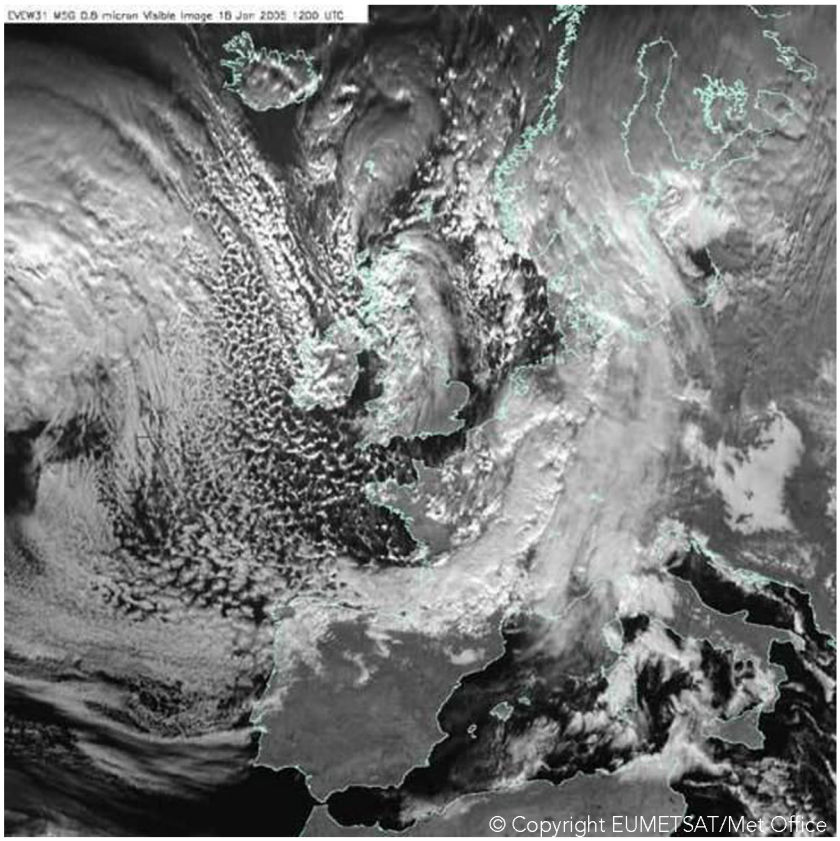
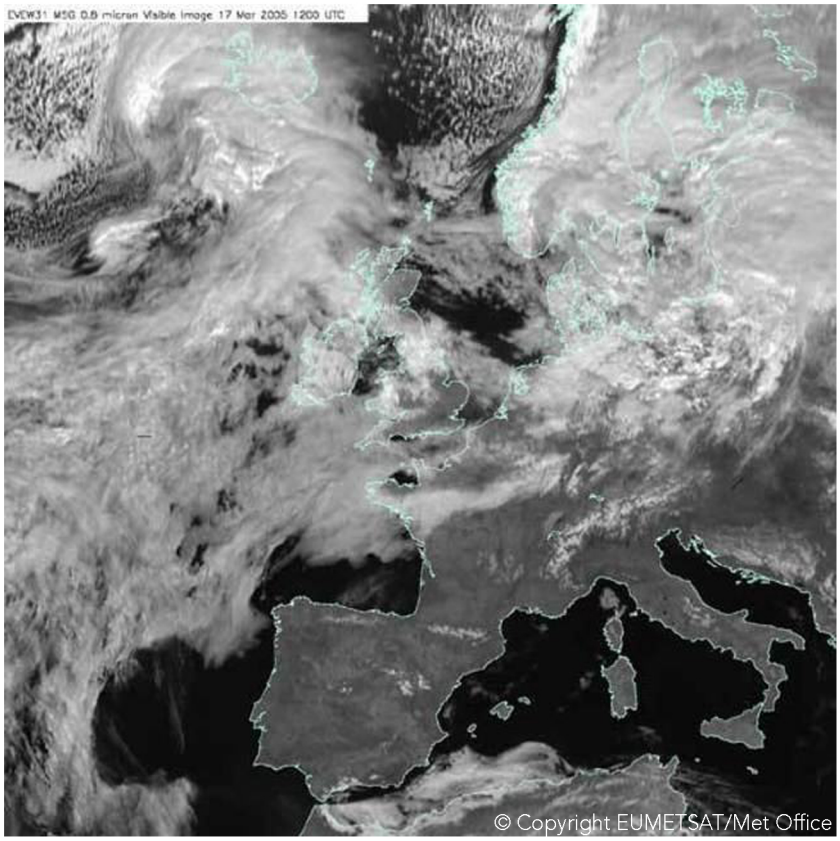


FIGURE 4

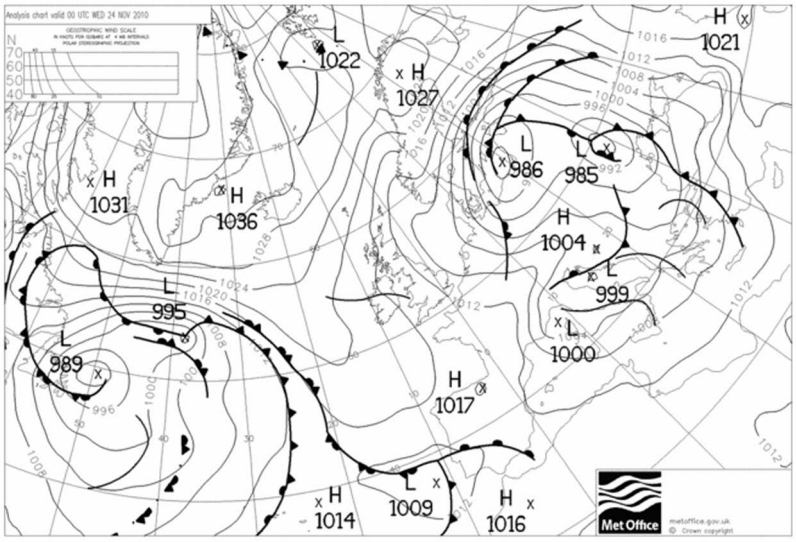
A satellite image showing Tropical Maritime air



IDENTIFYING AIR MASSES ON A WEATHER MAP

MAP 1

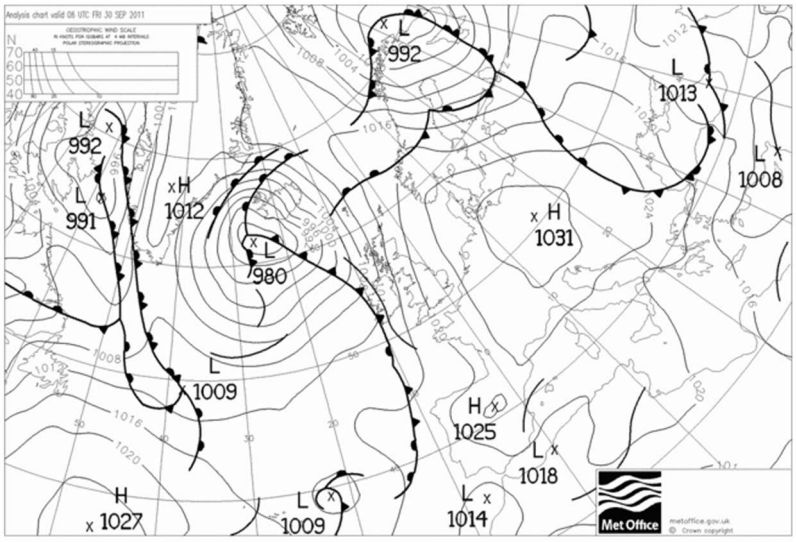
November 2010



http://www.wetter3.de/fax 24-11-10 00 UTC + 00

MAP 2

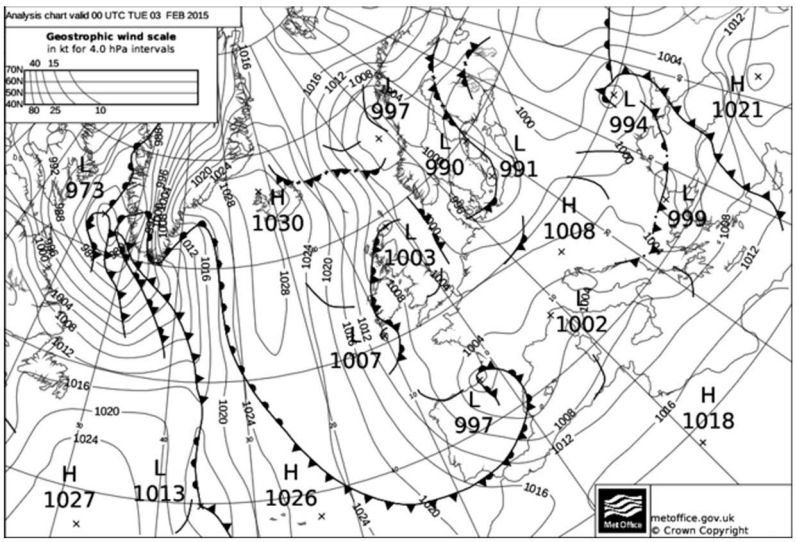
End of September/Beginning of October 2011



Archived by www.wetter3.de 30-09-11 06 UTC

MAP 3

End of January/Beginning of February 2015



TYPES OF RAIN

FIGURE 1

Frontal Rain

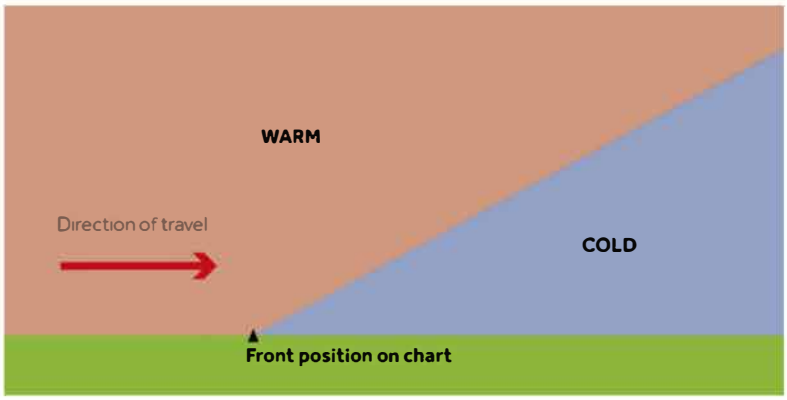


FIGURE 2

Fair weather cumulus clouds.

FIGURE 3

Cumulonimbus cloud over Kettering, UK, August 2014.

FIGURE 4

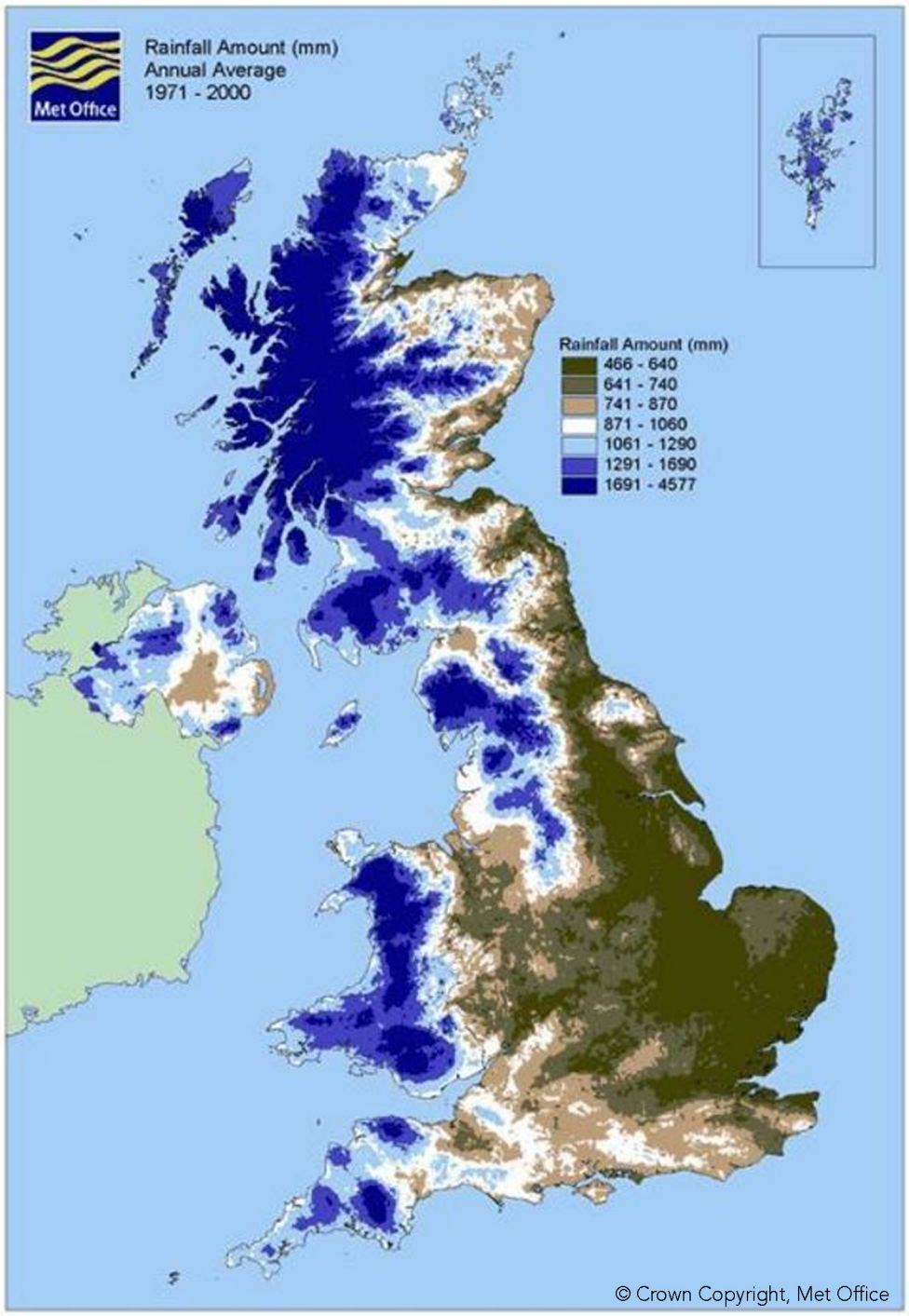
Cumulonimbus with Tornado, USA

FIGURE 5

Orographic cloud forming up-stream of the Matterhorn

FIGURE 6

A rainfall map showing the ra
fall amount (mm) annual aver-
age 1971- 2000



A CASE STUDY OF OROGRAPGHIC RAIN

FIGURE 1

A synoptic or weather chart from 2 September 2013

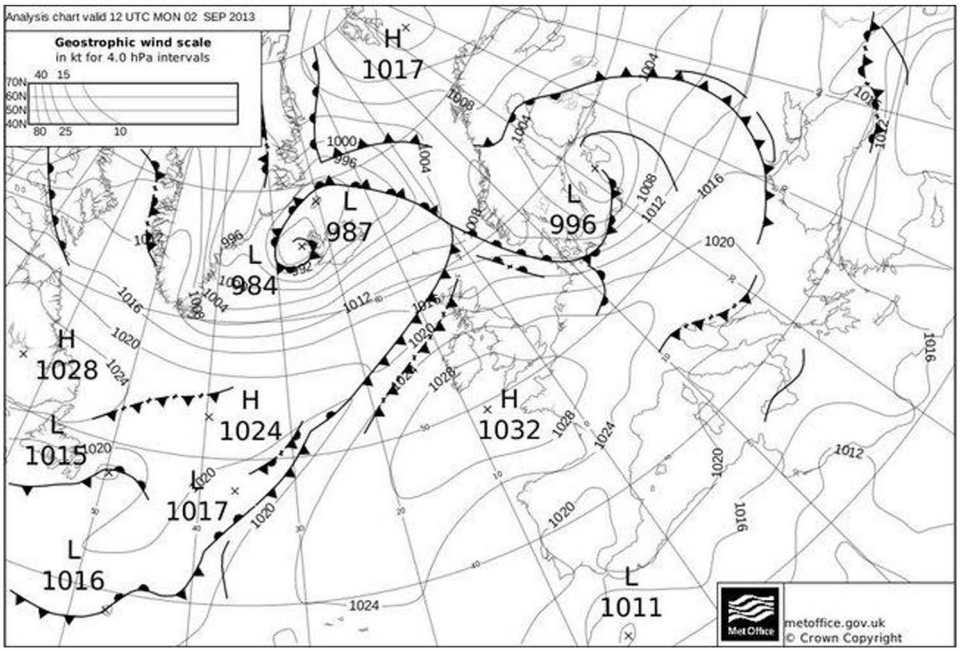


FIGURE 2

A satellite image from 2 September 2013

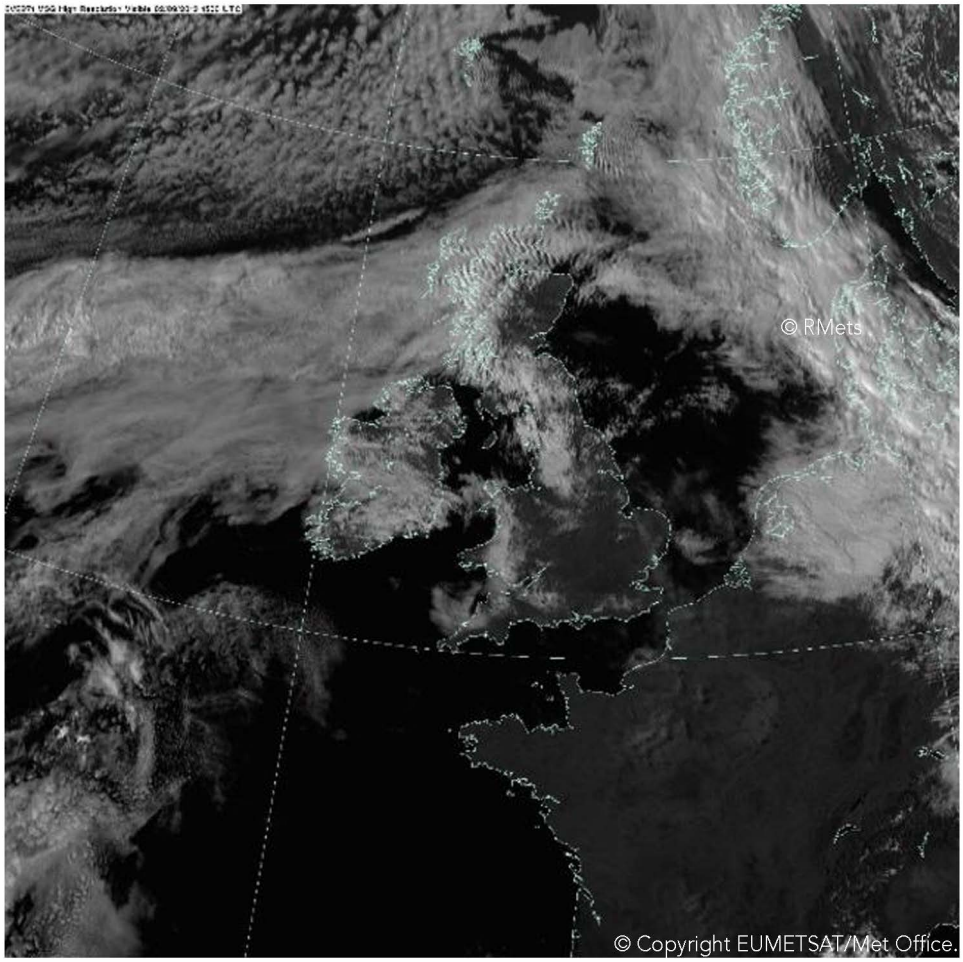


FIGURE 3

A rainfall map of the UK, which shows that it rained over western Scotland

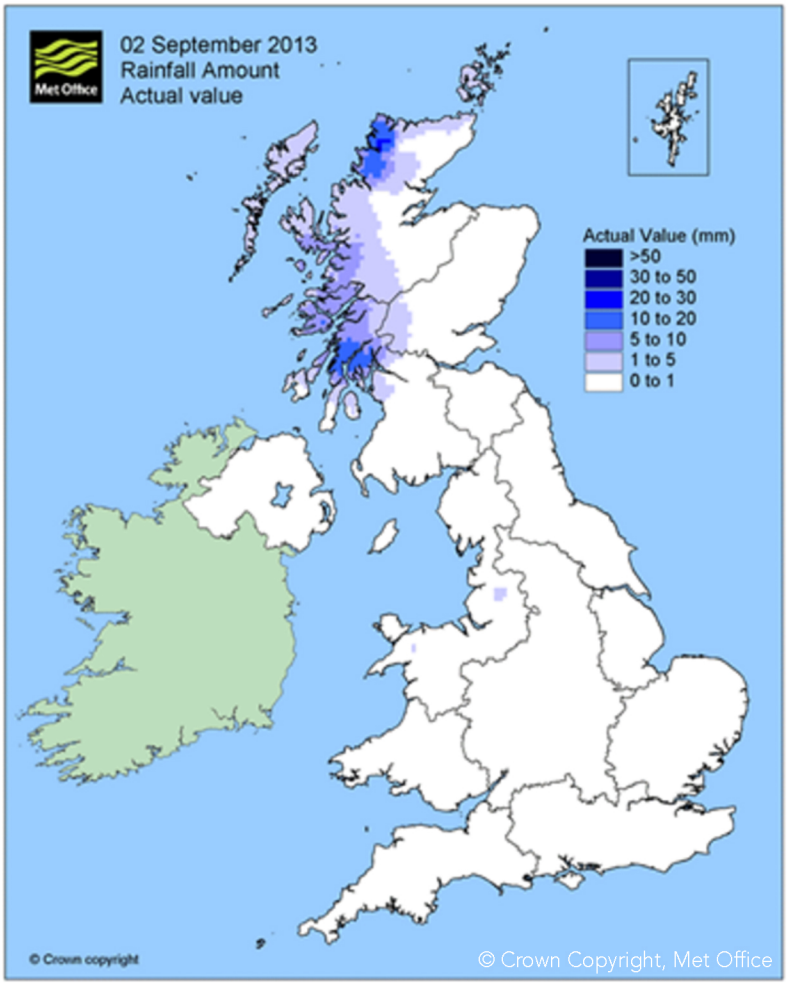
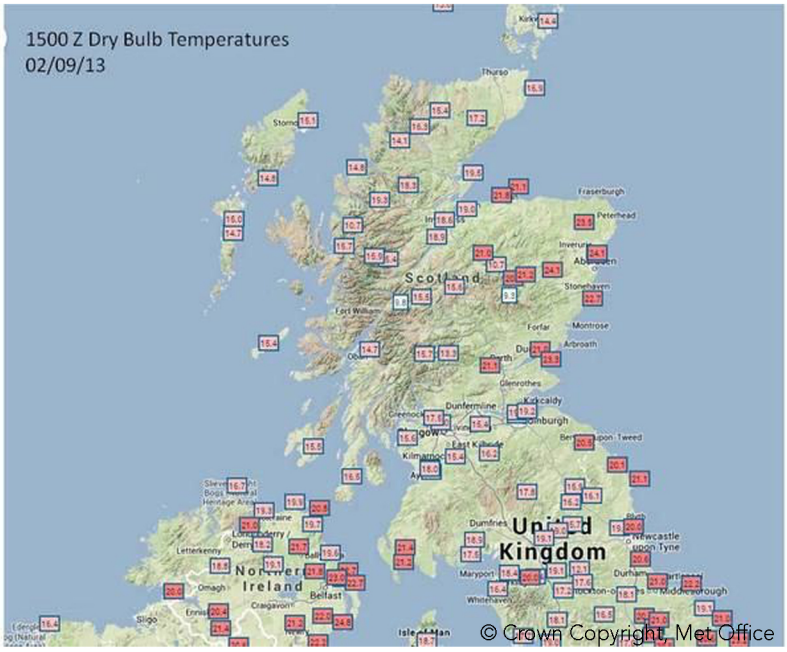


FIGURE 4

Temperature measurements made around the UK at 3pm GMT on 2 September 2013



WILL IT SNOW

HEADER IMAGE

The UK covered in snow on 24 December 2010.

FIGURE 1

A weather chart for Europe which shows the thickness of the bottom half of the atmosphere. Anywhere with values below 528dam (blues and purples) is cold enough for snow

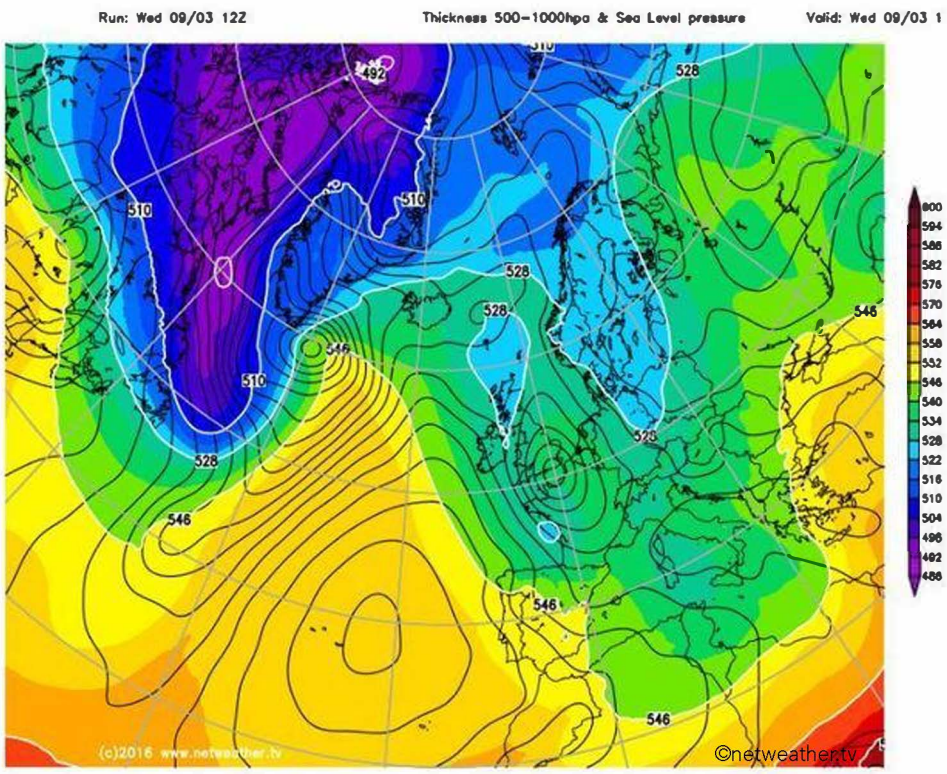
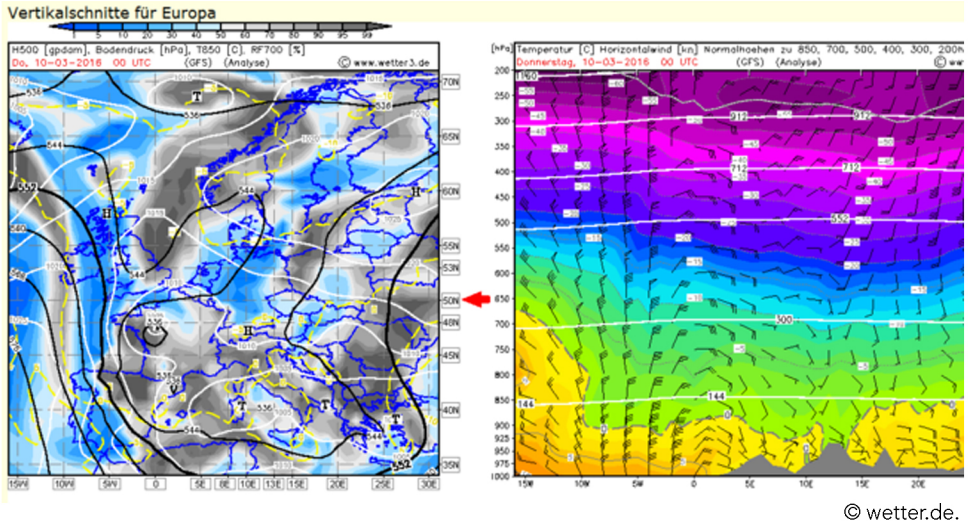


FIGURE 3

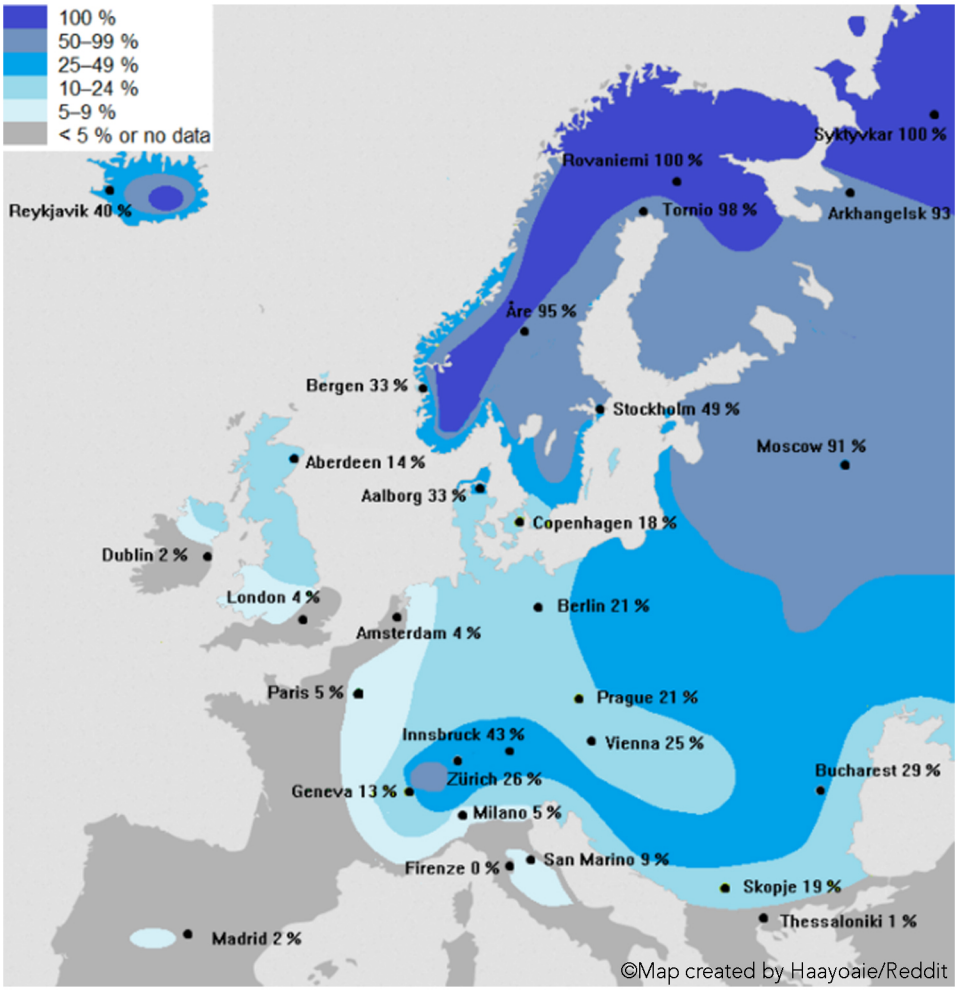
The Wetter3 gives you a horizontal weather map (left) with a moveable red pointer (centre) which allows you to select the latitude of the longitude/height cross section through the atmosphere shown on the right. This lets you see how the temperature of the atmosphere falls with height.



© wetter.de.

FIGURE 4

The probability of snow at Christmas across Europe.



INTRODUCTION TO ANTICYCLONES

FIGURE 1

The weather map corresponding to Figure 2, showing the location of the anticyclone

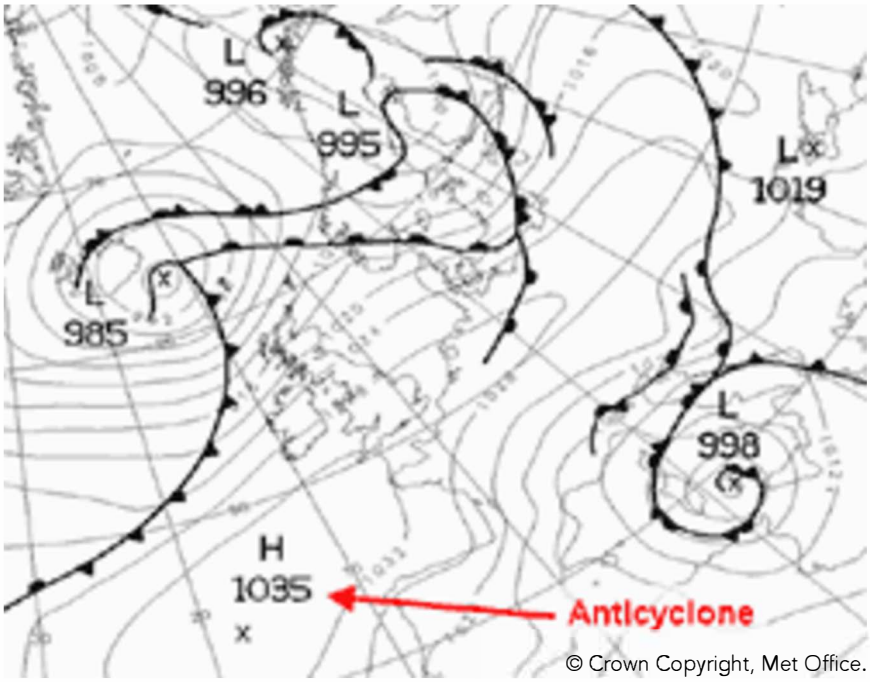


FIGURE 2

A satellite image showing clear skies associated with an anticyclone

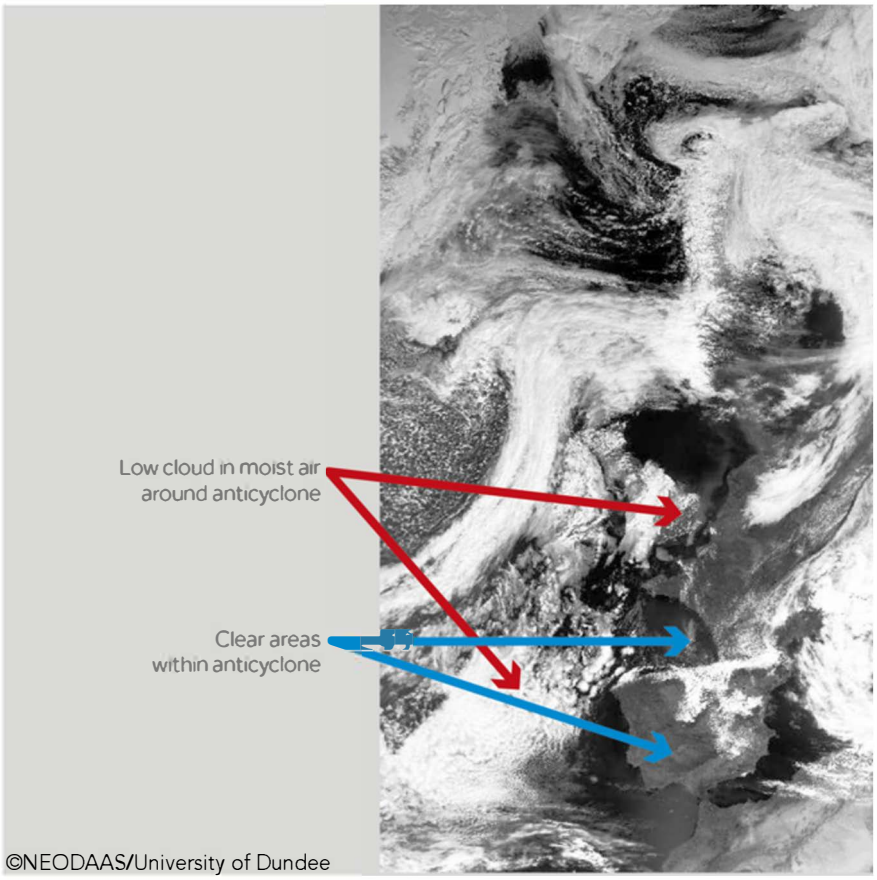


FIGURE 3

A schematic diagram showing how the wind fields around a large anticyclone and small depression interact

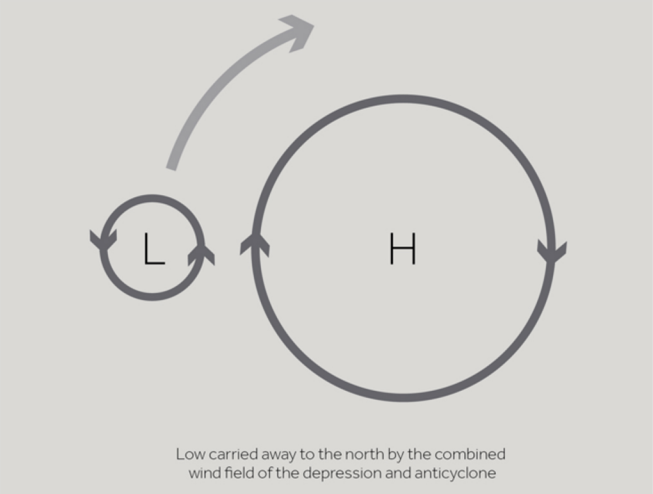


FIGURE 4

A typical synoptic chart or weather map from July 2013

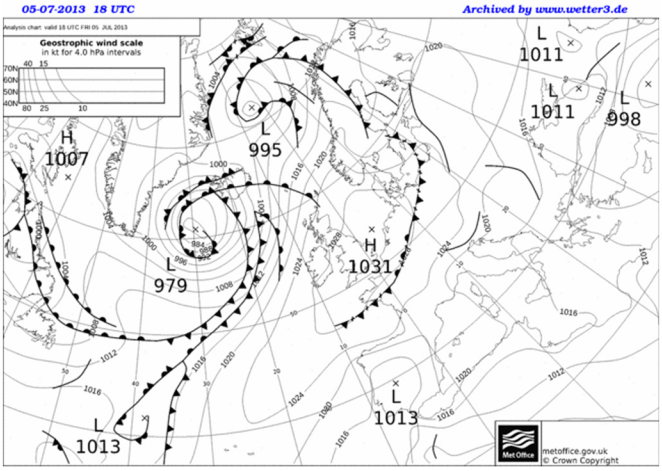


FIGURE 5

A typical satellite image from July 2013

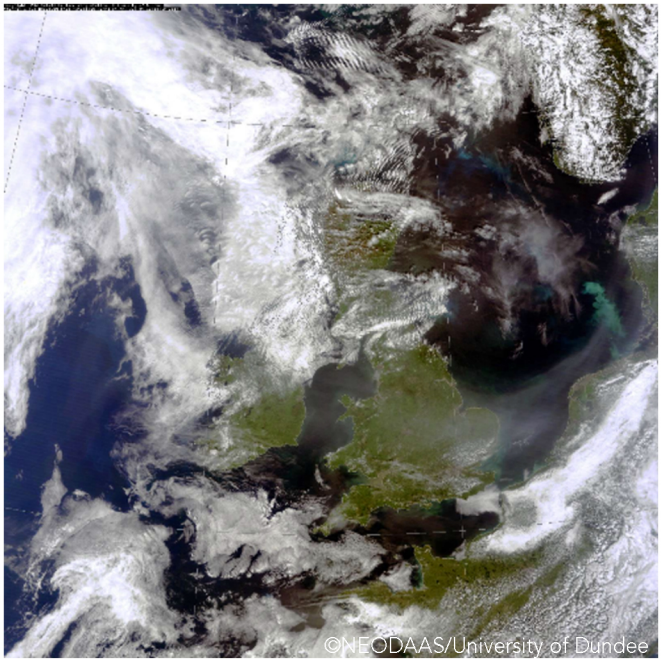


FIGURE 6

A typical synoptic chart or weather map from March 2013.

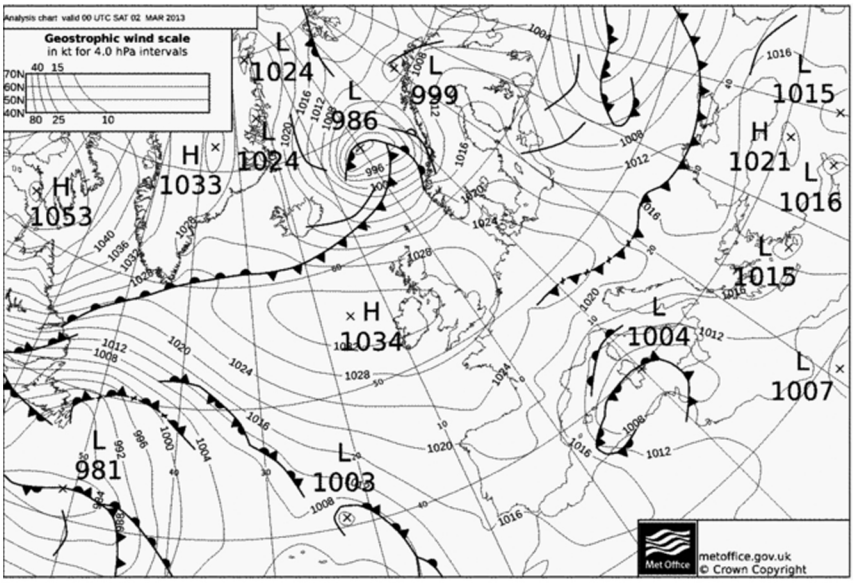


FIGURE 7

Sheep in a field near Pwllglas.