Met Office   UK 3-month Outlook

Period: December 2021 - February 2022
Issue date: 29.11.2021
Next issue: 20.12.2021

3-month summary	1-month summary	Guide to the Outlook	Shifts in likelihood	What is average?	Q&A

3-month summary

- Mild conditions are around twice as likely as normal
- A cold winter is about half as likely as normal
- Impacts from cold weather are still likely
- Chances of a wet winter are slightly higher than usual
- Moderate increase in the potential for impacts from strong winds later in the period
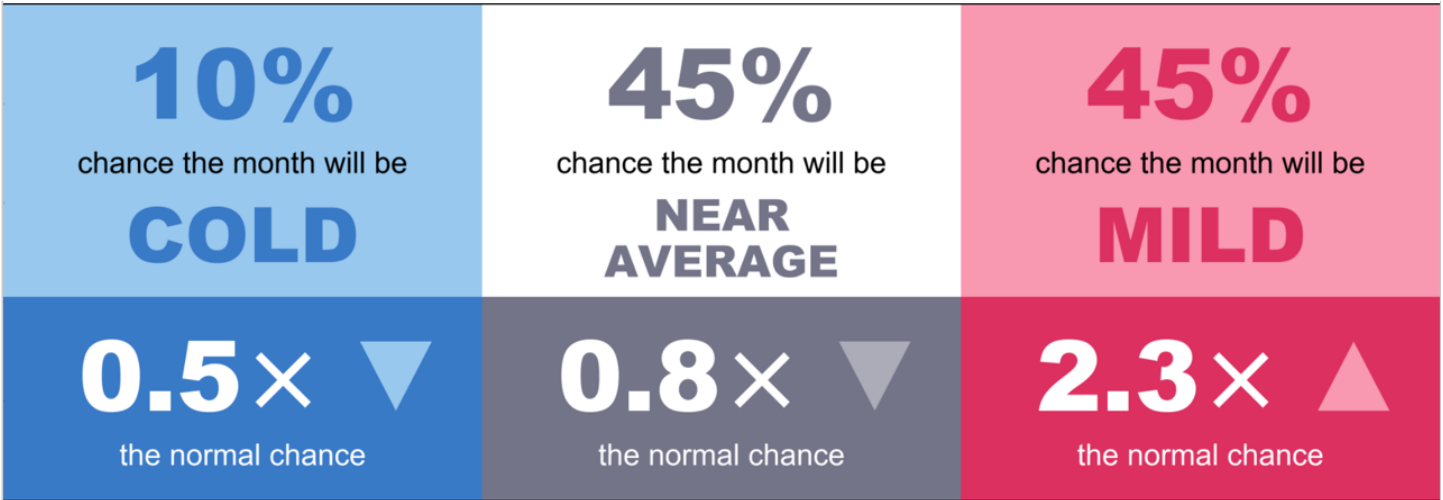
3-month likelihood of impact
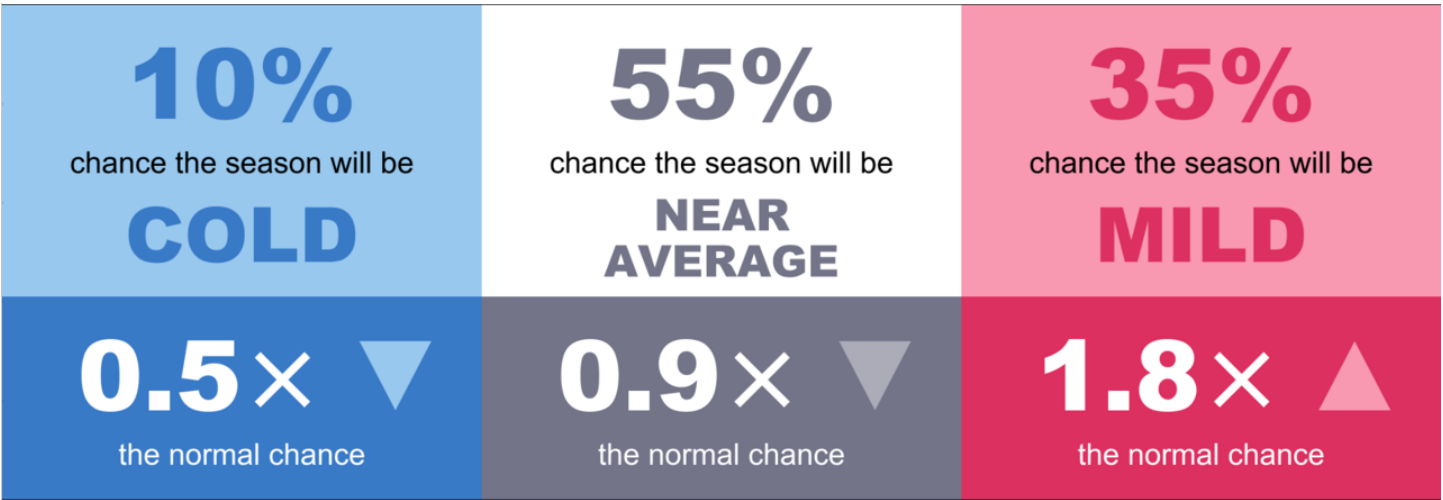
Temperature

10% chance the season will be **COLD**	**55%** chance the season will be **NEAR AVERAGE**	**35%** chance the season will be **MILD**
0.5× ▼ the normal chance	**0.9×** ▼ the normal chance	**1.8×** ▲ the normal chance

Precipitation

15% chance the season will be **DRY**	**60%** chance the season will be **NEAR AVERAGE**	**25%** chance the season will be **WET**
0.8× ▼ the normal chance	**1.0×** ▲▼ the normal chance	**1.3×** ▲ the normal chance

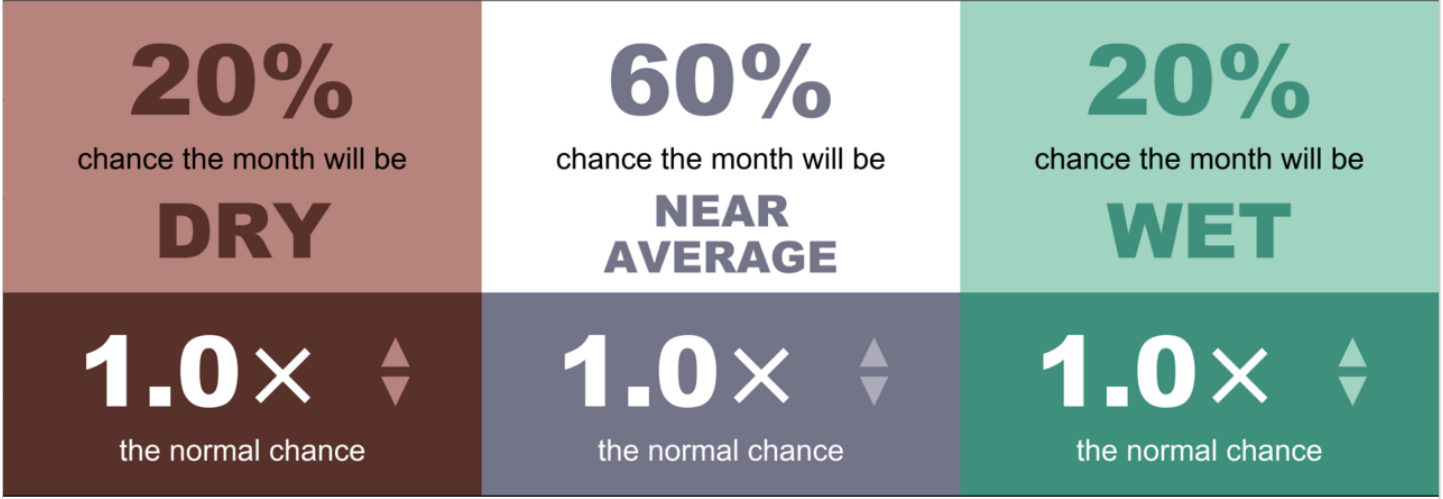| 3-month summary	1-month summary	Guide to the Outlook	Shifts in likelihood	What is average?	Q&A

1-month summary

- Mild conditions are around twice as likely as normal
- A cold month is about half as likely as normal
- Cold weather impacts remain possible
- Chances of wet conditions are close to normal

1-month likelihood of impact

Temperature

10% chance the month will be COLD	45% chance the month will be NEAR AVERAGE	45% chance the month will be MILD
0.5× ▼ the normal chance	0.8× ▼ the normal chance	2.3× ▲ the normal chance

Precipitation

20% chance the month will be DRY	60% chance the month will be NEAR AVERAGE	20% chance the month will be WET
1.0× ↕ the normal chance	1.0× ↕ the normal chance	1.0× ↕ the normal chance

3-month summary	1-month summary	**Guide to the Outlook**	Shifts in likelihood	What is average?	Q&A

Understanding the Outlook

The Outlook uses 3 categories for possible UK temperature and precipitation in the next 1 and 3 months:

COLD, NEAR AVERAGE and MILD for temperature
WET, NEAR AVERAGE and DRY for precipitation

These are linked to observed UK conditions in past years. The NEAR AVERAGE category represents typical conditions for the period and has a normal likelihood of 60%. The higher and lower categories represent more unusual conditions that are more likely to produce impacts. Each has a normal likelihood of 20%.

The Outlook shows how the chances of occurrence of the categories differ from normal, based on knowledge of expected global meteorological patterns. It does not identify which category will actually occur.

Same 3-month period over the last 10 years

2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
NEAR AVERAGE	NEAR AVERAGE	MILD	NEAR AVERAGE	MILD	MILD	NEAR AVERAGE	MILD	MILD	NEAR AVERAGE
NEAR AVERAGE	NEAR AVERAGE	WET	NEAR AVERAGE	WET	DRY	NEAR AVERAGE	DRY	WET	WET

Same 1-month period over the last 10 years

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
NEAR AVERAGE	NEAR AVERAGE	MILD	NEAR AVERAGE	MILD	MILD	NEAR AVERAGE	MILD	NEAR AVERAGE	NEAR AVERAGE
WET	WET	WET	NEAR AVERAGE	WET	DRY	NEAR AVERAGE	NEAR AVERAGE	NEAR AVERAGE	WET

Outlook in context

Drivers of UK weather for December to February

Global weather patterns can affect UK weather during the coming season, and their influence acts to shift the chances of the categories in the Outlook. Drivers relevant to the current Outlook are:
• A moderate La Niña, which increases the chances of north or north-westerly winds early in winter and westerly winds later in winter
• The warming of UK climate consistent with wider global warming trends
• An easterly phase of the QBO, reducing the chance of westerly winds from the Atlantic

Long-range weather predictions
The Met Office and other prediction centres around the world routinely produce long-range predictions of conditions in the months ahead. There is good agreement between models for an increased chance of high pressure to the west or southwest of the UK in December. There is also reasonable agreement for the 3-month period, with increased likelihood of high pressure to the south of the UK, and low pressure to the north. This is consistent with the expected effect of La Niña and would increase the likelihood of winds from a westerly or north-westerly direction early in the winter, and a west or south-westerly direction later.

Impact
Increased chances of westerly or north-westerly winds imply only a moderate likelihood of December being cold overall. Nevertheless, there remains a chance of colder spells of weather, with associated wintry hazards, including frost, snow, ice, and fog. For the rest of the Outlook, an increased likelihood of westerly winds bringing weather systems from the Atlantic means a greater chance of mild, wet and, at times, windy weather. However, a cold winter remains possible, even if less likely than usual. Additionally, some colder spells may occur even if the winter is not cold overall.

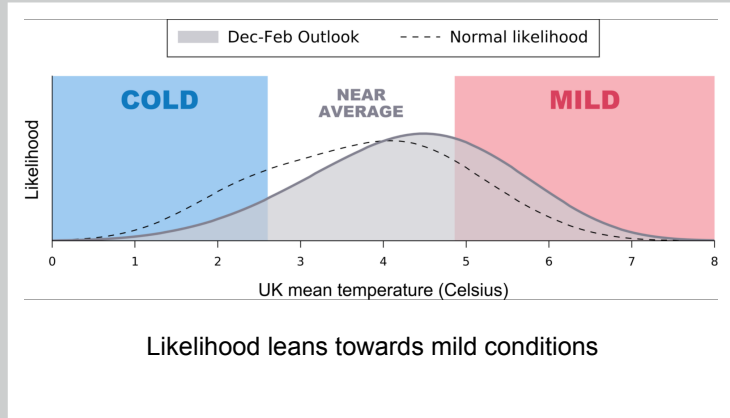| 3-month summary | 1-month summary | Guide to the Outlook | **Shifts in likelihood** | What is average? | Q&A |

Outlook compared to normal likelihood

The curves below show the likelihood of the 1- and 3-month average temperature and precipitation taking specific values. In each case:

• The dashed curve shows the normal likelihood based on how often each value has been recorded in past years
• The solid curve shows the current likelihood based on the Outlook for this year

The differences in these curves show how the probabilities for the coming periods differ compared to past years. Where the solid curve (corresponding to this year's Outlook) lies above the dashed curve (normal likelihood), the temperature or precipitation at that point has a greater-than-normal likelihood of occurring. Likewise, wherever it is below the dashed curve, the likelihood of those values is less than normal.

A shift of the solid curve to the left of the dashed curve indicates an increase in the chance of below-average temperature or precipitation. A shift to the right, meanwhile, indicates increased chances of above-average values.
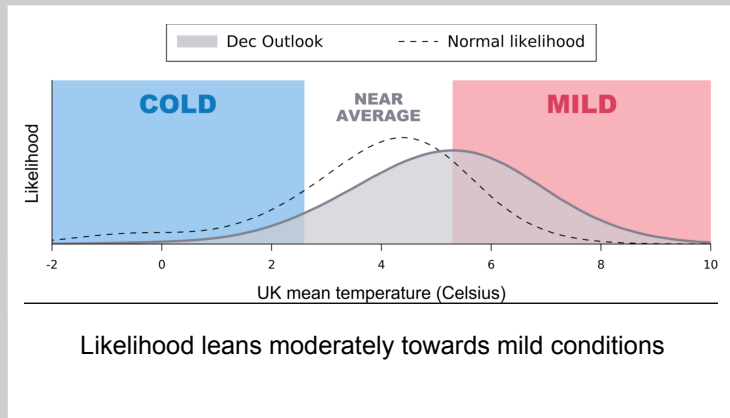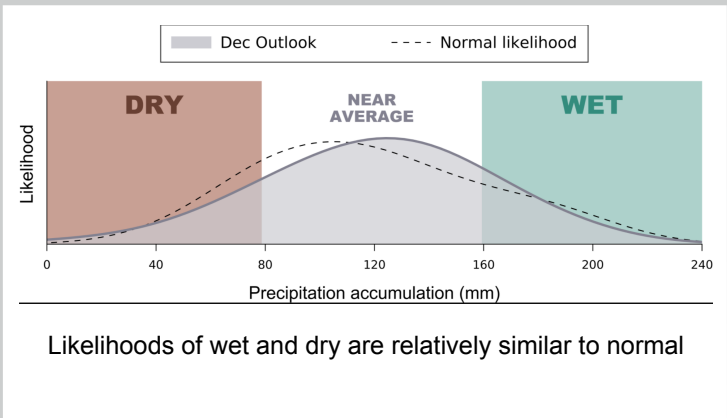
3-month temperature Outlook compared to normal

Likelihood leans towards mild conditions

3-month precipitation Outlook compared to normal

Likelihood leans towards wet conditions

1-month temperature Outlook compared to normal

Likelihood leans moderately towards mild conditions
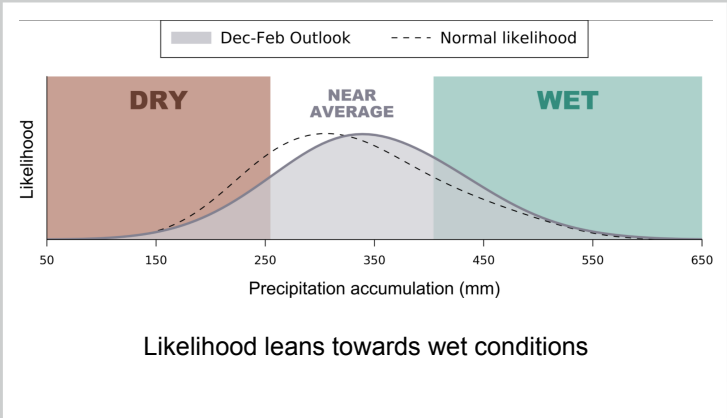
1-month precipitation Outlook compared to normal

Likelihoods of wet and dry are relatively similar to normal

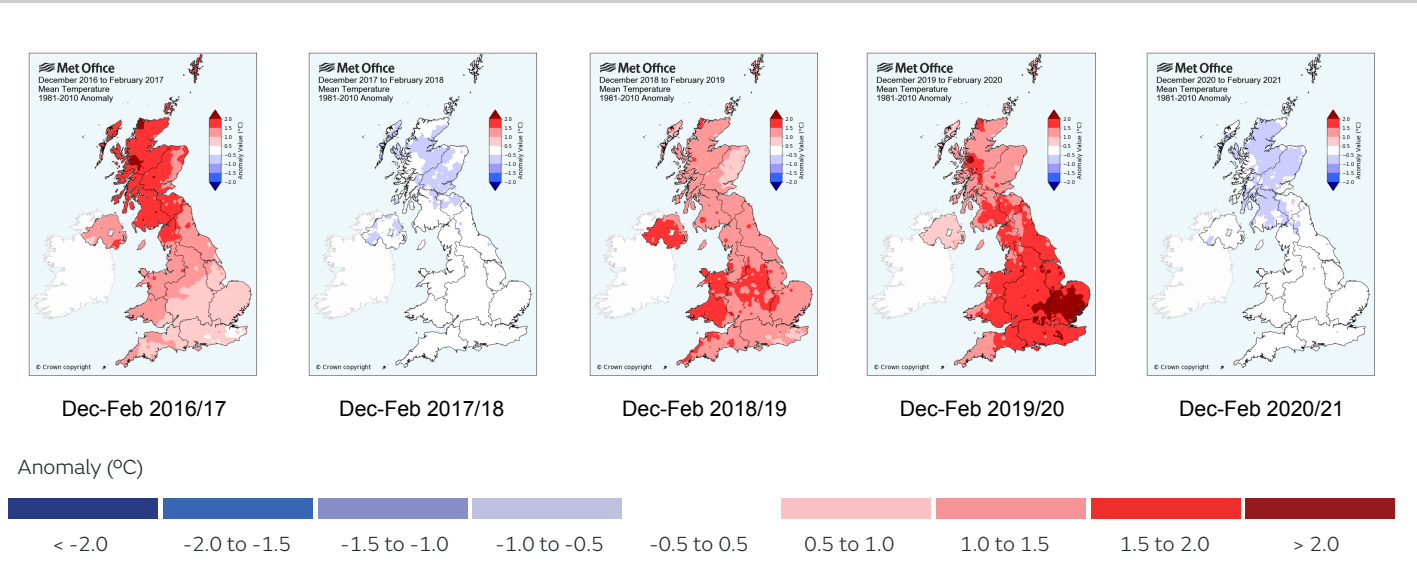| 3-month summary | 1-month summary | Guide to the Outlook | Shifts in likelihood | What is average? | Q&A |

Long-term average temperatures (3-month)

This page shows the long-term average temperatures across the UK for the 3-month Outlook period. Long-term average temperatures for the 1-month period are on page 6. Long-term precipitation averages are shown on pages 7 (3-month) and 8 (1-month).
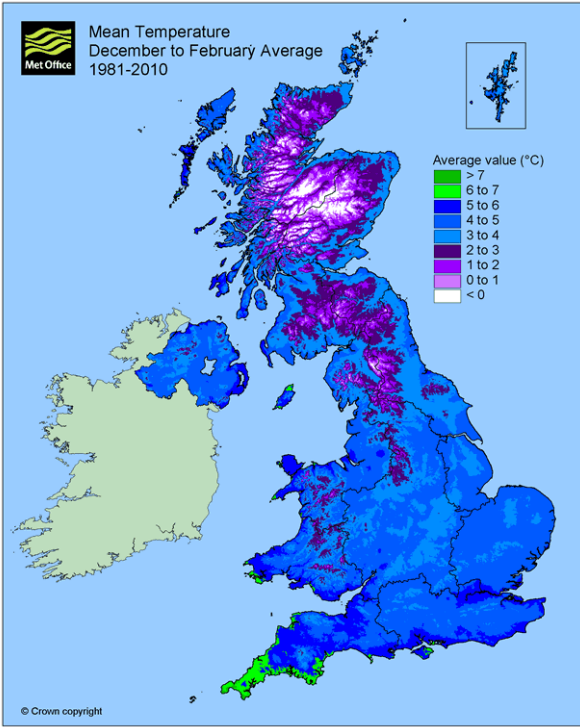
Mean Temperature
December to February Average
1981-2010

Average value (°C)
> 7
6 to 7
5 to 6
4 to 5
3 to 4
2 to 3
1 to 2
0 to 1
< 0

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Average temperatures for December - February based on observations from past years.

Last 5 years' temperatures, difference from average (3-month)

Dec-Feb 2016/17   Dec-Feb 2017/18   Dec-Feb 2018/19   Dec-Feb 2019/20   Dec-Feb 2020/21

Anomaly (°C)

| < -2.0 | -2.0 to -1.5 | -1.5 to -1.0 | -1.0 to -0.5 | -0.5 to 0.5 | 0.5 to 1.0 | 1.0 to 1.5 | 1.5 to 2.0 | > 2.0 |

These maps show how December - February temperatures in the last five years differed from the long-term average temperatures shown in the upper panel. Pink and red colours indicate warmer-than-average conditions while blue shades indicate cooler-than-average conditions. Detailed information on the climate of the UK is available at www.metoffice.gov.uk/climate.

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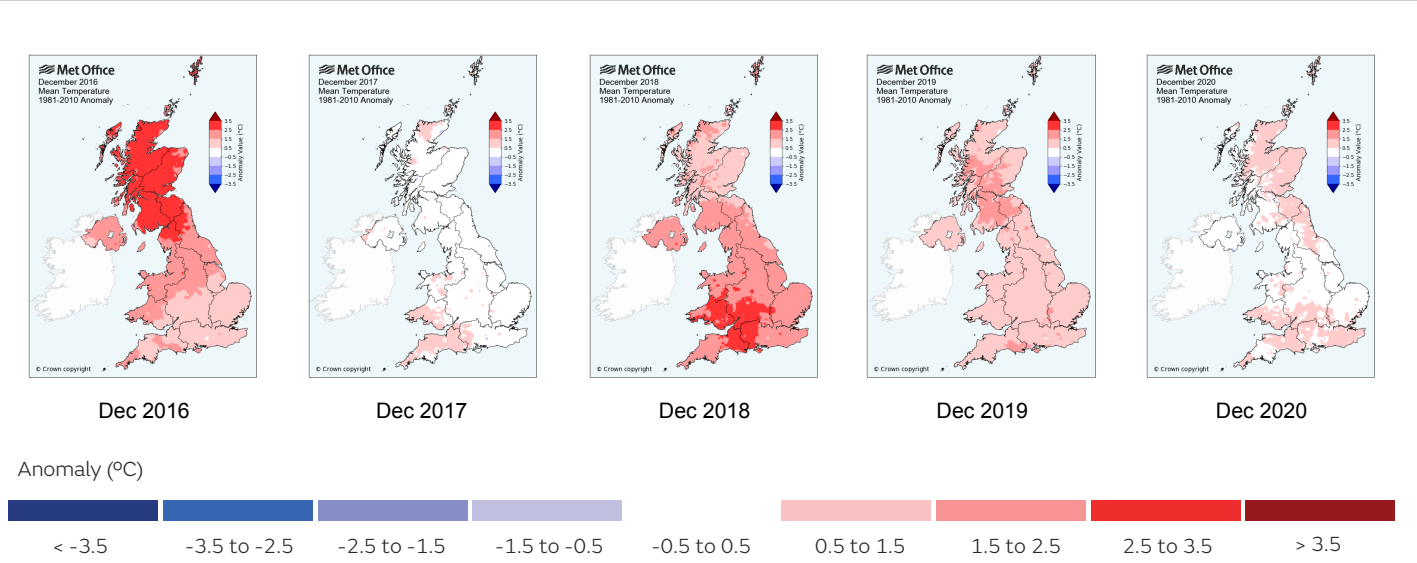| 3-month summary	1-month summary	Guide to the Outlook	Shifts in likelihood	What is average?	Q&A

Long-term average temperatures (1-month)

This page shows the long-term average temperatures across the UK for the 1-month Outlook period.

Average temperatures for December based on observations from past years.

Last 5 years' temperatures, difference from average (1-month)

Dec 2016   Dec 2017   Dec 2018   Dec 2019   Dec 2020

Anomaly (°C)

< -3.5	-3.5 to -2.5	-2.5 to -1.5	-1.5 to -0.5	-0.5 to 0.5	0.5 to 1.5	1.5 to 2.5	2.5 to 3.5	> 3.5
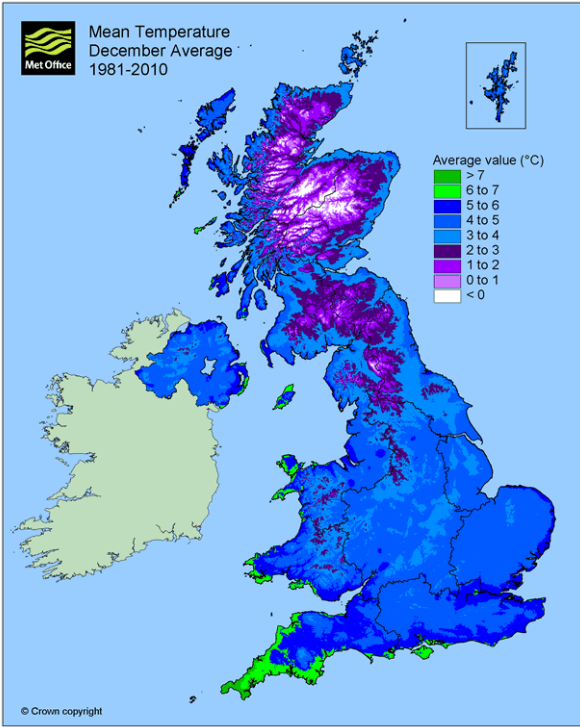
These maps show how December temperatures in the last five years differed from the long-term average temperatures shown in the upper panel. Pink and red colours indicate warmer-than-average conditions while blue shades indicate cooler-than-average conditions. Detailed information on the climate of the UK is available at www.metoffice.gov.uk/climate.

| 3-month summary	1-month summary	Guide to the Outlook	Shifts in likelihood	What is average?	Q&A

Long-term average precipitation (3-month)

This page shows the long-term average precipitation across the UK for the 3-month Outlook period.
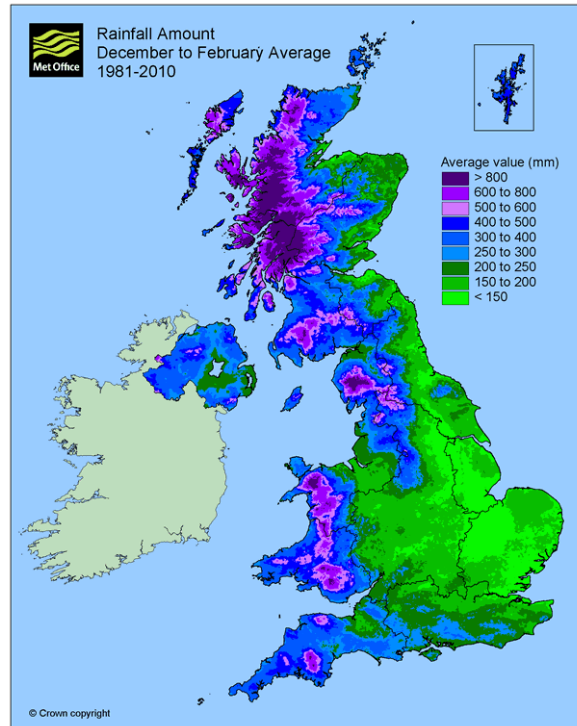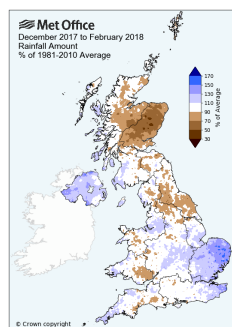

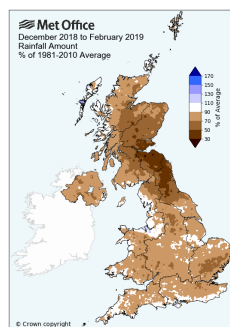Average precipitation for December - February based on observations from past years.

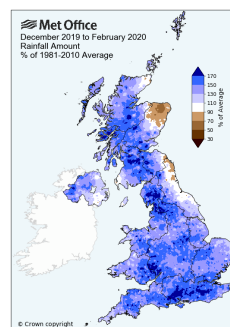# Last 5 years' precipitation, difference from average (3-month)
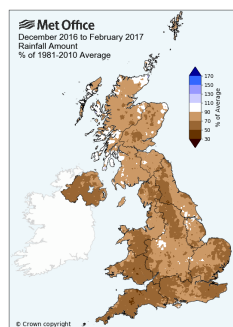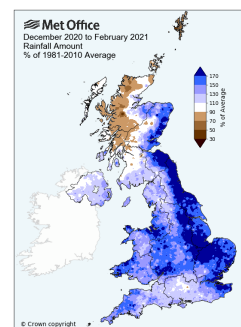

Dec-Feb 2016/17   Dec-Feb 2017/18   Dec-Feb 2018/19   Dec-Feb 2019/20   Dec-Feb 2020/21

% of average

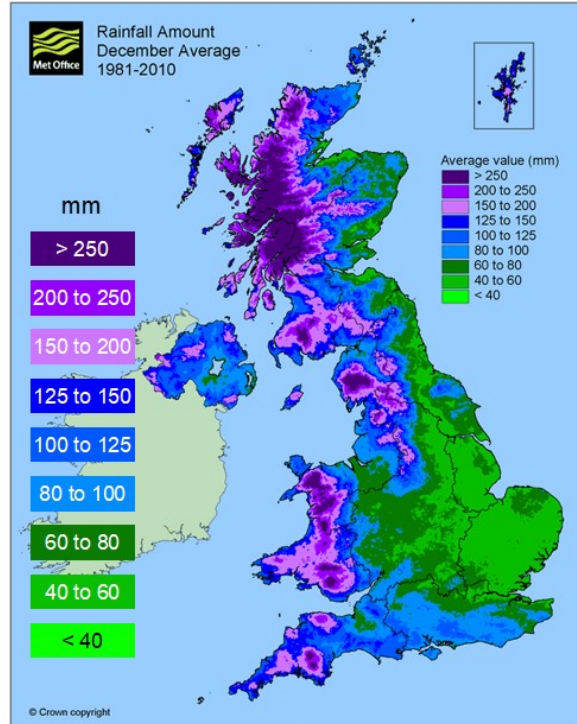| < 30	30 to 50	50 to 70	70 to 90	90 to 110	110 to 130	130 to 150	150 to 170	> 170

These maps show how December - February precipitation in the last five years differed from the long-term average precipitation shown in the upper panel. Brown colours indicate drier-than-average conditions while blue shades indicate wetter-than-average conditions. Detailed information on the climate of the UK is available at www.metoffice.gov.uk/climate.

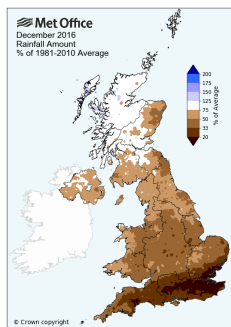| 3-month summary | 1-month summary | Guide to the Outlook | Shifts in likelihood | **What is average?** | Q&A |

Long-term average precipitation (1-month)

This page shows the long-term average precipitation across the UK for the 1-month Outlook period.
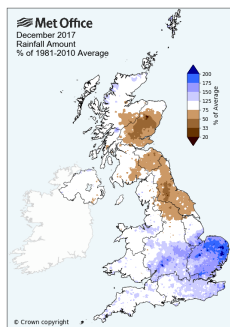

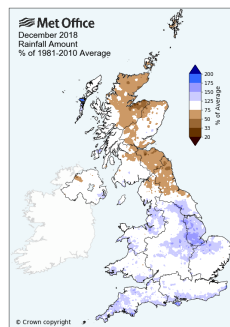Average precipitation for December based on observations from past years.

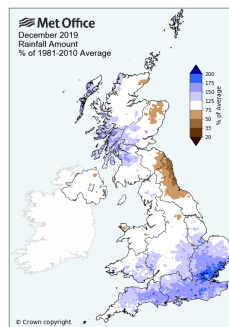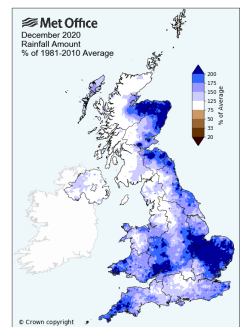# Last 5 years' precipitation, difference from average (1-month)

Dec 2016   Dec 2017   Dec 2018   Dec 2019   Dec 2020

% of average

| < 20 | 20 to 33 | 33 to 50 | 50 to 75 | 75 to 125 | 125 to 150 | 150 to 175 | 175 to 200 | > 200 |

These maps show how December precipitation in the last five years differed from the long-term average precipitation shown in the upper panel. Brown colours indicate drier-than-average conditions while blue shades indicate wetter-than-average conditions. Detailed information on the climate of the UK is available at www.metoffice.gov.uk/climate.

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Q&A

Q. What is the point of the Outlook, who is it meant for?
A. This Outlook is produced for planners in government and business who make risk-based decisions. These users are aware of the complexities of this type of outlook and will include those factors in their decision-making process.

Q. How did you decide on the Outlook? What are the main factors affecting it?
A. It is based on information from observations, several numerical prediction systems and expert judgement. See the 'Outlook in Context' section of the Outlook for more details.

Q. Is the Outlook for the whole country?
A. The Outlook is for the average of conditions over the UK as a whole. Regional deviations from the UK average can occur. For example, average UK precipitation can result from below-average rainfall for the northwest and above-average for the southeast.

Q. How confident are you in this Outlook?
A. The percentages in the 'Likelihood of Impact' sections of the Outlook give the level of confidence.

Q. Does this Outlook mean there is an increased chance of storms and flooding?
A. Whilst the Outlook shows a slight increase in the chances of having a wetter than normal winter it cannot specify the severity, duration, or timings of specific weather events and therefore details of any potential impacts. Keep up to date with the latest National Severe Weather Warnings and forecast information for your area on our forecast pages and check the risk of flooding in your areas via the Environment Agency, SEPA and Natural Resources Wales websites.

Q. The Outlook mentions impacts from cold weather. Does this mean we will see snow and a white Christmas?
A. Broadly speaking, milder UK winters have less snow, but colder, snowy periods are often embedded within winters that are mild overall. Information about the Christmas period can be obtained nearer the time from our shorter-range forecasts on the website https://www.metoffice.gov.uk/

About the Outlook

The Outlook presented here is for the United Kingdom as a whole and is based on information from observations, several numerical prediction systems and expert judgement. It is updated monthly to reflect the latest information on global weather patterns and their effect on the UK. The Outlook is designed to be used in conjunction with shorter-range forecasts – detailed weather forecast information is available on the Met Office website (https://www.metoffice.gov.uk).

Information for December will be superseded by the long-range information on the public weather forecast web page, starting from 1 December 2020.

In this product, temperature refers to the average of daytime maxima and night-time minima. All numerical values relate to averages (temperature) or totals (precipitation – rain, sleet, snow and hail) over 1 or 3 months, which are further averaged over the UK land area as a whole. Normal likelihood and long-term averages are established using the period 1981-2010.