Name

Met Office Global Ensemble Prediction System (MOGREPS-G)

Description

THIS DATASET IS CHANGING

As the Met Office is upgrading its operational modelling systems, files uploaded from late January 2026 onward will contain the following changes:

- **19 new parameters.**
- **All MOGREPS-G parameter timesteps will be extended from the current T+198h to T+246h (in 3-hourly intervals).**
- **Change to/addition of "status flag" for parameters available on pressure levels, denoting whether or not the grid point is above the model surface.**
    - **Changes to status flags for the following parameters on pressure levels: relative_humidity, temperature, wind_speed, wind_direction. For example, renaming 'air_temperature_status_flag' to just 'status_flag'.**
    - **Addition of status flag to other parameters on pressure levels.**
    - **Conversion from auxiliary coordinate to ancillary variable.**
    - **Compression alongside the main data.**
- **Renaming/replacement of height_ASL_on_pressure_levels to geopotential_height_on_pressure_levels and height_asl_at_freezing_level to geopotential_height_at_freezing_level.**
- **Reduction in precision to offset data volume increases.**
- **NetCDF (HDF5) files are written with "superblock version 2" rather than the previous "superblock version 0". The superblock is a small piece of metadata at the very beginning of the file that defines the internal layout and capabilities of the file format. This is only expected to affect people using significantly older tools and decoders e.g. built against HDF5 ≤ 1.8.x.**

- **Change to calendar metadata type. In the new version of Iris, the calendar metadata type is now "standard" instead of "gregorian". In NetCDF files, "standard" behaves identically to "gregorian", so the underlying values and data remain the same. This means that users will see "standard" as the calendar metadata going forward, but there is no impact on the actual data or its interpretation.**

Please check your systems are prepared for these changes.

A numerical weather prediction model that produces forecasts for the whole globe up to a week ahead. The projection used is the Equirectangular Latitude-Longitude and the grid resolution is 20km. The data is available as NetCDF files. It's offered on a free, unsupported basis, so we don't recommend using it for any critical business purposes.

Met Office Global Ensemble Prediction System (MOGREPS-G) is based on the Unified Model, which is the Met Office's flagship Numerical Weather Prediction model. The Unified Model uses a technique called hybrid 4D-Var data assimilation, which blends observations with the model to stay close to real-world conditions.

Archive length and latency

The archive contains 30 days of data. The data is typically available approximately 10-11 hours after the model run time.

Timesteps

For data from before January 2026, the following timesteps are available:

- Every hour from 0 to 54 hours or from 0 to 132 hours (depending on the parameter)
- Every 3 hours between 57 to 198 hours or from 135 to 198 hours (depending on the parameter)

For data from after January 2026, the following timesteps are available:

- Every hour from 0 to 54 hours or from 0 to 132 hours (depending on the parameter)
- Every 3 hours between 57 to 198 hours or from 135 to 246 hours (depending on the parameter)

Check the parameter table for full details.

Update frequency

The MOGREPS-G model runs four times per day at 00:00, 06:00, 12:00 and 18:00 UTC.

Parameters

Parameter	**Description**	**Units**	**Levels until January 2026**	**Levels after January 2026**	**Timesteps until January 2026**	**Timesteps after January 2026**
CAPE_mixed_layer_lowest_500m	Convective Available Potential Energy (CAPE) calculated for a parcel that has the thermodynamic properties of the density-weighted mean of the lowest 500m above ground level.	J kg-1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

CAPE_most_unstable_below_500hPa	CAPE (Convective Available Potential Energy) calculated for the most unstable parcel where the most unstable parcel is defined as the parcel with the highest fixed level CAPE launched from any level (including screen-level=1.5m) within 500hPa of the surface pressure.	J kg-1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
CAPE_surface	Value of CAPE (Convection Available Potential Energy) calculated for a surface-based parcel. A surface-based parcel is defined as a parcel initiated with thermodynamic properties at screen level height (1.5m) i.e. the parcel is launched from screen level.	J kg-1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
CIN_mixed_layer_lowest_500m	Any additional energy required to lift a mixed-layer parcel to its level of free convection. A mixed layer parcel is defined as a parcel with thermodynamic properties of the density-weighted mean of the lowest	J kg-1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

	500m above ground level (AGL).					
CIN_most_unstable_below_500hPa	Any additional energy required to lift the most unstable parcel to its level of free convection. The most unstable parcel is defined as the parcel with the highest fixed-level CAPE launched from any level (including screen-level) within 500hPa of the surface pressure.	J kg-1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
CIN_surface	Any additional energy required to lift a surface-based parcel (i.e. a parcel launched from screen-level (1.5m)) to its level of free convection.	J kg-1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

boundary_layer_depth	The planetary boundary layer (PBL), or atmospheric boundary layer (ABL), or simply the boundary layer (BL), is the lowest part of the atmosphere that is directly influenced by its contact with the surface. In this layer, physical quantities such as flow velocity, temperature and moisture display rapid fluctuations (turbulence) and vertical mixing is strong. The depth of the boundary layer can vary very markedly, particularly between day and night. The boundary layer depth is simply the current thickness of this layer.	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
cloud_amount_below_1000ft_ASL	Fraction of horizontal grid square occupied by cloud below 1,000 feet above sea level.	1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

cloud_amount_of_convective_cloud_on_height_levels	Fraction of horizontal grid square occupied by cloud in the height range centred on the height level (from halfway between the level below and the current level and halfway between the current level and the level above).	1	n/a	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	n/a	Hourly T+0 to T+54 3-hourly T+57 to T+246
cloud_amount_of_convective_cloud_on_pressure_levels	Fraction of horizontal grid square occupied by cloud in the pressure range centred on the pressure level (from halfway between the level below and the current level and halfway between the current level and the level above).	1	n/a	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000	n/a	Hourly T+0 to T+54 3-hourly T+57 to T+246

				22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000		
cloud_amount_of_high_cloud	Fraction of horizontal grid square occupied by cloud in the high-level cloud height range (from the lowest model layer containing the 5574m height level up to but excluding the lowest model layer containing 13608m height level).	1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
cloud_amount_of_low_cloud	Fraction of horizontal grid square occupied by cloud in the low-level cloud height range (from the lowest model layer containing the 111m height level up to but excluding the lowest model layer containing 1949m height level).	1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

cloud_amount_of_medium_cloud	Fraction of horizontal grid square occupied by cloud in the mid-level cloud height range (from the lowest model layer containing the 1949m height level up to but excluding the lowest model layer containing 5574m height level).	1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
cloud_amount_of_total_cloud	Fraction of horizontal grid square occupied by cloud as diagnosed by the model cloud scheme. This is for the whole atmosphere column as seen from the surface or the top of the atmosphere.	1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
cloud_amount_of_total_convective_cloud	Fraction of horizontal grid square occupied by convective cloud as diagnosed by the model convection scheme. This is for the whole atmosphere column as seen from the surface or the top of the atmosphere.	1	n/a	None	n/a	Hourly T+0 to T+132 3-hourly T+135 to T+246

cloud_amount_on_height_levels	Fraction of horizontal grid square occupied by cloud in layers centred on height levels. The levels are height above ground.	1	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246
cloud_amount_on_pressure_levels	Fraction of horizontal grid square occupied by cloud in layers centred on pressure levels.	1	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246

			20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000		
fog_fraction_at_screen_level	Here fog means a visibility of 1000 m or lower. The reduction in visibility is caused water droplets or minute ice crystals forming close to the surface. This quantity represents the fraction of horizontal grid square occupied by fog. An alternative interpretation is that this represents the fractional probability of fog being present at any location in the grid square.	1	height (metres): 1.5	height (metres): 1.5	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

geopotential_height_at_freezing_level	Geopotential height at the 0oC isotherm (freezing level).	m	n/a	None	n/a	Hourly T+0 to T+132 3-hourly T+135 to T+246
geopotential_height_on_pressure_levels	Geopotential height of the pressure levels.	m	n/a	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	n/a	Hourly T+0 to T+54 3-hourly T+57 to T+246

height_ASL_at_base_of_convective_inflow	The height of the first level which during the most unstable parcel ascent satisfies the condition that CAPE > 100 J kg-1 and CIN > -250 J kg-1.	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
height_ASL_at_cloud_base_where_cloud_cover_2p5_oktas	Height of the base of the lowest cloud above sea level where there is at least 2.5 oktas (eighths) of cloud cover. This is also referred to as the altitude of the cloud base or (geometric) height above the geoid which is the reference geopotential surface. This to corresponds to scattered cloud.	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
height_ASL_at_cloud_base_where_cloud_cover_4p5_oktas	Height of the base of the lowest cloud above sea level where there is at least 4.5 oktas (eighths) of cloud cover. This is also referred to as the altitude of the cloud base or (geometric) height above the geoid which is the reference geopotential surface. This to corresponds to broken cloud.	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

height_ASL_at_freezing_level	Height of the 0oC isotherm (freezing level) above sea level		None	n/a	Hourly T+0 to T+132 3-hourly T+135 to T+198	n/a
height_ASL_at_mixed_layer_CAPE_equilibrium_level	The height above mean sea level where the mixed layer parcel temperature equals the environment temperature above its level of free convection.	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
height_ASL_at_most_unstable_CAPE_equilibrium_level	The height above mean sea level at which the most unstable parcel ascent is initiated i.e. the height from which the highest column of CAPE has been lifted.	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
height_ASL_at_most_unstable_CAPE_initiation_level	The height above mean sea level at which the most unstable parcel ascent is initiated i.e. the height from which the highest column of CAPE has been lifted.	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

height_ASL_at_top_of_convective_inflow	The height of the first level which during the most unstable parcel ascent no longer satisfies the condition that CAPE > 100 J kg-1 and CIN > -250 J kg-1.	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
height_ASL_at_wet_bulb_freezing_level	Height of the wet bulb freezing level (i.e. where the wet bulb temperature is 0oC) above sea level. This is also referred to as the altitude of the wet bulb freezing level or (geometric) height above the geoid, which is the reference geopotential surface. Wet bulb temperature is defined as the temperature of a parcel of air cooled to saturation (100% relative humidity) by the evaporation of water into it with the latent heat supplied by the parcel.	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

height_ASL_on_pressure_levels	Height above ground level (the surface) of the pressure levels.	m	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	n/a	Hourly T+0 to T+54 3-hourly T+57 to T+198	
height_of_orography	Altitude or (geometric) height above the geoid of the surface (ground). It is worth remembering that orographic height can be negative, particularly in some of the inland sea areas (e.g. Caspian Sea at -27m and Dead Sea at -430m)	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

landsea_mask	Binary indicator of whether at point is considered land (value = 1) or sea (value = 0). This is useful to identify the coastline and characterise points both for StaGE processing of other parameters and for correct interpretation of forecast data by users.	1	None	None	3-hourly T+0 to T+198	3-hourly T+0 to T+246
latent_heat_flux_at_surface	Exchange of heat between the surface and the air on account of evaporation (including sublimation).	W m-2	n/a	None	n/a	Hourly T+0 to T+132 3-hourly T+135 to T+246
precipitation_accumulation-PT01H	Implied depth of the layer of liquid water which has been deposited on the surface in the previous hour. This includes rain, snow and hail, with the ice phase precipitation being considered as a liquid water equivalent (LWE) value. It includes the contribution from the model convection scheme if this is invoked.	m	n/a	None	n/a	Hourly T+1 to T+132

precipitation_accumulation-PT03H	Implied depth of the layer of liquid water which has been deposited on the surface in the previous 3 hours. This includes rain, snow and hail, with the ice phase precipitation being considered as a liquid water equivalent (LWE) value. It includes the contribution from the model convection scheme if this is invoked.	m	n/a	None	n/a	3-hourly T+135 to T+246
precipitation_rate	Instantaneous rate at which liquid water (as a depth) was being deposited on the surface. This includes rain, snow and hail with the ice phase precipitation being considered as a liquid water equivalent (LWE) value. It includes the contribution from the model convection scheme if this is invoked.	m s-1	n/a	None	n/a	Hourly T+0 to T+132 3-hourly T+135 to T+246

pressure_at_convective_cloud_base	Air pressure at the base of the lowest convective cloud that diagnosed by the model convection scheme.	Pa	n/a	None	n/a	Hourly T+0 to T+132 3-hourly T+135 to T+246
pressure_at_convective_cloud_top	Air pressure at the top of the highest convective cloud that diagnosed by the model convection scheme.	Pa	n/a	None	n/a	Hourly T+0 to T+132 3-hourly T+135 to T+246
pressure_at_mean_sea_level	Air pressure at mean sea level which is close to the geoid in sea areas. Air pressure at sea level is the quantity often abbreviated as MSLP or PMSL.	Pa	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
pressure_at_surface	Air pressure at the surface (lower boundary of the atmosphere).	Pa	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

pressure_at_tropopause	Air pressure at the tropopause.	Pa	n/a	None	n/a	Hourly T+0 to T+132 3-hourly T+135 to T+246
pressure_on_height_levels	Pressure at the height levels. The levels are height above ground.	Pa	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246
radiation_flux_in_longwave_downward_at_surface	Longwave radiation at the surface from above directed at the ground.	W m-2	n/a	None		Hourly T+0 to T+132 3-hourly T+135 to T+246

radiation_flux_in_longwave_outgoing_at_top_of_atmosphere	Longwave radiation at the top of the atmosphere (TOA) directed away from the ground. Longwave or terrestrial radiation is radiation emitted by the earth, either the surface or clouds or air. This has a standard wavelength distribution based on the temperature of the radiating 'surface' (i.e. much cooler than shortwave radiation, typically <300K).	W m-2	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+195	Hourly T+0 to T+132 3-hourly T+135 to T+243
radiation_flux_in_shortwave_diffuse_downward_at_surface	Shortwave radiation at the surface from above directed at the ground. Diffuse means that the radiation has been scattered by particles in the atmosphere such as cloud droplets and aerosols.	W m-2	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
radiation_flux_in_shortwave_direct_downward_at_surface	Shortwave radiation at the surface from above directed at the ground. Direct means that the radiation has followed a direct path from the sun and is alternatively known as direct insolation.	W m-2	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

radiation_flux_in_shortwave_net_at_surface	The net downward shortwave radiation at the surface from above directed at the ground.	W m-2	n/a	None	n/a	Hourly T+0 to T+132 3-hourly T+135 to T+246
radiation_flux_in_shortwave_total_downward_at_surface	Shortwave radiation at the surface from above directed at the ground. Total means the sum of direct and diffuse solar radiation incident on the surface and is sometimes called global radiation.	W m-2	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
radiation_flux_in_uv_downward_at_surface	Ultraviolet radiation at the surface from above directed at the ground.	W m-2	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+243
radiation_flux_in_uv_upward_at_surface	Ultraviolet radiation at the surface directed away from the ground.	W m-2	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+195	Hourly T+0 to T+132 3-hourly T+135 to T+243
rainfall_accumulation-PT01H	Implied depth of the rain produced by the model precipitation scheme which has been deposited on the surface in the previous hour.	m	None	None	Hourly T+1 to T+132	Hourly T+1 to T+132

	This excludes the rain produced by the model convection scheme.					
rainfall_accumulation-PT03H	Implied depth of the rain produced by the model precipitation scheme which has been deposited on the surface in the previous 3 hours. This excludes the rain produced by the model convection scheme.	m	None	None	3-hourly T+135 to T+198	3-hourly T+135 to T+246
rainfall_accumulation_from_convection-PT01H	Implied depth of the rain produced by the model convection scheme which has been deposited on the surface in the previous hour. The rainfall accumulation can be added to this to get the total rainfall accumulation.	m	None	None	Hourly T+1 to T+132	Hourly T+1 to T+132
rainfall_accumulation_from_convection-PT03H	Implied depth of the rain produced by the model convection scheme which has been deposited on the surface in the previous 3 hours. The rainfall accumulation can be added	m	None	None	3-hourly T+135 to T+198	3-hourly T+135 to T+246

	to this to get the total rainfall accumulation.					
rainfall_rate	Instantaneous rate at which rain (as a depth) was being produced by the model precipitation scheme and deposited on the surface. This excludes the rain produced by the model convection scheme.	m s-1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
rainfall_rate_from_convection	Instantaneous rate at which rain (as a depth) was produced by the model convection scheme and deposited on the surface. The rainfall rate can be added to this to get the total rainfall rate.	m s-1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
rainfall_rate_from_convection_max-PT01H	Maximum instantaneous rate at which rain (as a depth) has been produced by the model convection scheme and deposited on the surface in the previous hour.	m s-1	None	None	Hourly T+1 to T+132	Hourly T+1 to T+132

rainfall_rate_from_convection_max-PT03H	Maximum instantaneous rate at which rain (as a depth) has been produced by the model convection scheme and deposited on the surface in the previous 3 hours.	m s-1	None	None	3-hourly T+135 to T+198	3-hourly T+135 to T+246
rainfall_rate_max-PT01H	Maximum instantaneous rate at which rain (as a depth) has been produced by the model precipitation scheme and deposited on the surface in the previous hour. This excludes the rain produced by the model convection scheme.	m s-1	None	None	Hourly T+1 to T+132	Hourly T+1 to T+132
rainfall_rate_max-PT03H	Maximum instantaneous rate at which rain (as a depth) has been produced by the model precipitation scheme and deposited on the surface in the previous 3 hours. This excludes the rain produced by the model convection scheme.	m s-1	None	None	3-hourly T+135 to T+198	3-hourly T+135 to T+246

relative_humidity_at_screen_level	Fractional relative humidity (ratio of the partial pressure of water vapour to the equilibrium vapour pressure of water) at screen level (1.5m above the surface).	1	height (metres): 1.5	height (metres): 1.5	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
relative_humidity_on_height_levels	Fractional relative humidity (ratio of the partial pressure of water vapour to the equilibrium vapour pressure of water) on height above ground levels.	1	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246

relative_humidity_on_pressure_levels	Fractional relative humidity (ratio of the partial pressure of water vapour to the equilibrium vapour pressure of water) on pressure levels.	1	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246
sensible_heat_flux_at_surface	Exchange of heat between the surface and the air by motion of air, also called turbulent heat flux.	W m-2	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

snow_depth_water_equivalent	Liquid water equivalent (LWE) depth of the snow lying on the surface (ground). Typically, water is 10 times as dense as snow, so multiplying by 10 gives an approximate depth of the snow, although wet snow can be significantly denser and powder snow much less dense.	m	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
snowfall_accumulation-PT01H	Implied depth of the (LWE) snow (as a depth) produced by the model precipitation scheme and deposited on the surface in the previous hour. This excludes the snow produced by the model convection scheme.	m	None	None	Hourly T+1 to T+132	Hourly T+1 to T+132
snowfall_accumulation-PT03H	Implied depth of the (LWE) snow (as a depth) produced by the model precipitation scheme and deposited on the surface in the previous 3 hours. This excludes the snow produced by the model convection scheme.	m	None	None	3-hourly T+135 to T+198	3-hourly T+135 to T+246

snowfall_accumulation_from_convection-PT01H	Implied depth of the (LWE) snow (as a depth) produced by the model convection scheme and deposited on the surface in the previous hour. The snowfall accumulation can be added to this to get the total snowfall accumulation.	m	None	None	Hourly T+1 to T+132	Hourly T+1 to T+132
snowfall_accumulation_from_convection-PT03H	Implied depth of the (LWE) snow (as a depth) produced by the model convection scheme and deposited on the surface in the previous 3 hours. The snowfall accumulation can be added to this to get the total snowfall accumulation.	m	None	None	3-hourly T+135 to T+198	3-hourly T+135 to T+246
snowfall_rate	Instantaneous rate at which liquid water equivalent (LWE) snow (as a depth) was produced by the model precipitation scheme and deposited on the surface. This excludes the snow produced by the model convection scheme.	m s-1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

snowfall_rate_from_convection	Instantaneous rate at which liquid water equivalent (LWE) snow (as a depth) has been produced by the model convection scheme and deposited on the surface. The snowfall rate can be added to this to get the total snowfall rate.	m s-1	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
snowfall_rate_from_convection_max-PT01H	Maximum instantaneous rate at which liquid water equivalent (LWE) snow (as a depth) has been produced by the model convection scheme and deposited on the surface in the previous hour.	m s-1	None	None	Hourly T+1 to T+132	Hourly T+1 to T+132
snowfall_rate_from_convection_max-PT03H	Maximum instantaneous rate at which liquid water equivalent (LWE) snow (as a depth) has been produced by the model convection scheme and deposited on the surface in the previous 3 hours.	m s-1	None	None	3-hourly T+135 to T+198	3-hourly T+135 to T+246

snowfall_rate_max-PT01H	Maximum instantaneous rate at which liquid water equivalent (LWE) snow (as a depth) has been produced by the model precipitation scheme and deposited on the surface in the previous hour. This excludes the snow produced by the model convection scheme.	m s-1	None	None	Hourly T+1 to T+132	Hourly T+1 to T+132
snowfall_rate_max-PT03H	Maximum instantaneous rate at which liquid water equivalent (LWE) snow (as a depth) has been produced by the model precipitation scheme and deposited on the surface in the previous 3 hours. This excludes the snow produced by the model convection scheme.	m s-1	None	None	3-hourly T+135 to T+198	3-hourly T+135 to T+246
soil_mass_concentration_of_water_on_soil_levels	Mass per unit volume of water in all phases contained in the layer surrounding a soil depth level.	kg m-3	depth (metres): 0.05 0.225 0.675 2.0	depth (metres): 0.05 0.225 0.675 2.0	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246
soil_temperature_on_soil_levels	Temperature of the soil at a soil depth level.	K	depth (metres): 0.05	depth (metres):	Hourly T+0 to T+54	Hourly T+0 to T+54

			0.225 0.675 2.0	0.05 0.225 0.675 2.0	3-hourly T+57 to T+198	3-hourly T+57 to T+246
specific_humidity_at_screen_level	The ratio of the mass of water vapour in the air relative to the total mass of the air at screen level (1.5m)	kg kg-1	n/a	height (metres): 1.5	n/a	Hourly T+0 to T+132 3-hourly T+135 to T+246
specific_humidity_on_height_levels	The ratio of the mass of water vapour in the air relative to the total mass of the air on height levels. Levels are height above ground.	kg kg-1	n/a	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	n/a	Hourly T+0 to T+54 3-hourly T+57 to T+246

specific_humidity_on_pressure_levels	The ratio of the mass of water vapour in the air relative to the total mass of the air on pressure levels.	kg kg-1	n/a	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	n/a	Hourly T+0 to T+54 3-hourly T+57 to T+246
temperature_at_screen_level	Instantaneous air temperature at screen level (1.5m).	K	height (metres): 1.5	height (metres): 1.5	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
temperature_at_screen_level_max-PT01H	Maximum instantaneous air temperature at screen level (1.5m) in the previous hour.	K	height (metres): 1.5	height (metres): 1.5	Hourly T+1 to T+132	Hourly T+1 to T+132
temperature_at_screen_level_max-PT03H	Maximum instantaneous air temperature at screen level	K	height (metres): 1.5	height (metres): 1.5	3-hourly T+135 to T+198	3-hourly T+135 to T+246

	(1.5m) in the previous 3 hours.					
temperature_at_screen_level_min-PT01H	Minimum instantaneous air temperature at screen level (1.5m) in the previous hour.	K	height (metres): 1.5	height (metres): 1.5	Hourly T+1 to T+132	Hourly T+1 to T+132
temperature_at_screen_level_min-PT03H	Minimum instantaneous air temperature at screen level (1.5m) in the previous 3 hours.	K	height (metres): 1.5	height (metres): 1.5	3-hourly T+135 to T+198	3-hourly T+135 to T+246
temperature_at_surface	Temperature at the surface interface between the air and the ground.	K	None	None	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
temperature_of_dew_point_at_screen_level	Instantaneous dew point temperature (temperature at which a parcel of air reaches saturation upon being cooled at constant pressure and specific humidity) at screen level (1.5m).	K	height (metres): 1.5	height (metres): 1.5	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
temperature_on_height_levels	Air temperature on pressure levels. The levels are height above ground.	K	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246

			1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000		
temperature_on_pressure_levels	Air temperature on pressure levels.	K	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246

visibility_at_screen_level	Horizontal distance at which something can be seen horizontally from screen level (1.5m).	m	height (metres): 1.5	height (metres): 1.5	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
wet_bulb_potential_temperature_on_pressure_levels	Wet bulb potential temperature on pressure levels. Wet bulb potential temperature is defined as the temperature that a parcel of air would have if it were brought down to the standard pressure of 1000hPa following a saturated adiabatic lapse rate.	K	pressure (Pascals): 85000 70000 50000	pressure (Pascals): 85000 70000 50000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246
wind_direction_at_10m	Wind at 10m above the surface is defined as a two-dimensional (horizontal) air velocity vector with no vertical component. In meteorological reports the direction of the wind vector is given as the direction from which it is blowing. Note: This with wind speed at 10m replaces x wind at 10m and y wind at 10m.	degrees	height (metres): 10	height (metres): 10	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246

wind_direction_on_height_levels	Wind on height levels is defined as a two-dimensional (horizontal) air velocity vector with no vertical component. In meteorological reports the direction of the wind vector is given as the direction from which it is blowing. The levels are height above ground.	degrees	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246
wind_direction_on_pressure_levels	Wind on pressure levels is defined as a two-dimensional (horizontal) air velocity vector with no vertical component. In meteorological reports the direction of the wind vector is given as the direction from which it is blowing. The levels are pressure levels.	degrees	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246

			20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000		
wind_gust_at_10m	Diagnosed instantaneous wind gust at 10m. This can be considered as the extreme rather than steady wind speed that might be experienced at this specific time.	m s-1	height (metres): 10	height (metres): 10	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
wind_gust_at_10m_max-PT01H	Maximum diagnosed instantaneous wind gust at 10m in the previous hour. This can be considered as the extreme wind speed that might be experienced in this period.	m s-1	height (metres): 10	height (metres): 10	Hourly T+1 to T+132	Hourly T+1 to T+132
wind_gust_at_10m_max-PT03H	Maximum diagnosed instantaneous wind gust at 10m in the previous 3 hours. This can be considered as the extreme wind speed that	m s-1	height (metres): 10	height (metres): 10	3-hourly T+135 to T+198	3-hourly T+135 to T+246

	might be experienced in this period.					
wind_speed_at_10m	Wind at 10m above the surface is defined as a two-dimensional (horizontal) air velocity vector with no vertical component. The speed is the magnitude of velocity.	m s-1	height (metres): 10	height (metres): 10	Hourly T+0 to T+132 3-hourly T+135 to T+198	Hourly T+0 to T+132 3-hourly T+135 to T+246
wind_speed_at_10m_max-PT01H	Maximum diagnosed instantaneous wind speed at 10m in the previous hour. This can be considered as the extreme wind speed that might be experienced in this period.	m s-1	n/a	height (metres): 10	n/a	Hourly T+1 to T+132
wind_speed_at_10m_max-PT03H	Maximum diagnosed instantaneous wind speed at 10m in the previous 3 hours. This can be considered as the extreme wind speed that might be experienced in this period.	m s-1	n/a	height (metres): 10	n/a	3-hourly T+135 to T+246

wind_speed_on_height_levels	Wind on height levels is defined as a two-dimensional (horizontal) air velocity vector with no vertical component. The speed is the magnitude of velocity. The levels are height above ground.	m s-1	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246
wind_speed_on_pressure_levels	Wind on pressure levels is defined as a two-dimensional (horizontal) air velocity vector with no vertical component. The speed is the magnitude of velocity.	m s-1	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000	Hourly T+0 to T+54 3-hourly T+57 to T+198	Hourly T+0 to T+54 3-hourly T+57 to T+246

			20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000		
wind_vertical_velocity_on_height_levels	Speed of the vertical component of the air motion at a height levels. Upwards is positive and downwards is negative. The levels are height above ground.	m s-1	n/a	height (metres): 5 10 20 30 50 75 100 150 200 250 300 400 500 600 700 800 1000 1250 1500 1750 2000 2250 2500 2750 3000 3250 3500 3750 4000 4500 5000 5500 6000	n/a	Hourly T+0 to T+54 3-hourly T+57 to T+246

wind_vertical_velocity_on_pressure_levels	Speed of the vertical component of the air motion at a pressure levels. Upwards is positive and downwards is negative.	m s-1	n/a	pressure (Pascals): 100000 97500 95000 92500 90000 85000 80000 75000 70000 65000 60000 55000 50000 45000 40000 37500 35000 32500 30000 27500 25000 22500 20000 17500 15000 12500 10000 7000 5000 4000 3000 2000 1000	n/a	Hourly T+0 to T+54 3-hourly T+57 to T+246