

# MOGREPS-UK parameters - 19 May 2019

Description	Full Description	Units	File Pattern	Time Steps (Summary)	Time Interpretation
boundary layer depth	"Depth" or "height" of the (atmosphere) planetary boundary layer the part of the atmosphere whose behaviour is directly influenced by its contact with a planetary surface.	m	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-boundary_layer_depth.nc	Hourly (1-126)	Instantaneous
cloud amount below 1000ft ASL	Fraction of horizontal grid square occupied by cloud below 1000 feet above sea level.	1	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-cloud_amount_below_1000ft_ASL.nc	Hourly (1-126)	Instantaneous
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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-cloud_amount_of_high_cloud.nc	Hourly (1-126)	Instantaneous
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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-cloud_amount_of_low_cloud.nc	Hourly (1-126)	Instantaneous
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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-cloud_amount_of_medium_cloud.nc	Hourly (1-126)	Instantaneous
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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-cloud_amount_of_total_cloud.nc	Hourly (0-126)	Instantaneous
cloud amount on height levels	Fraction of horizontal grid square occupied by cloud in layers centred on height levels.	1	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-cloud_amount_on_height_levels.nc	Hourly (1-126)	Instantaneous
fog fraction at screen level	Here fog means a visibility of 1000 m or lower. The reduction in visibility is caused by 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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-fog_fraction_at_screen_level.nc	Hourly (0-126)	Instantaneous
height ASL at cloud base where cloud cover > 2.5 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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-height_ASL_at_cloud_base_where_cloud_cover_2p5_oktas.nc	Hourly (0-126)	Instantaneous
height ASL at cloud base where cloud cover > 4.5 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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-height_ASL_at_cloud_base_where_cloud_cover_4p5_oktas.nc	Hourly (1-126)	Instantaneous
height ASL at freezing level	Height of the 0degC isotherm (freezing level) above sea level. This is also referred to as the altitude of the freezing level or (geometric) height above the geoid which is the reference geopotential surface.	m	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-height_ASL_at_freezing_level.nc	Hourly (0-126)	Instantaneous
height ASL at wet bulb freezing level	Height of the wet bulb freezing level (i.e. where the wet bulb temperature is 0degC) 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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-height_ASL_at_wet_bulb_freezing_level.nc	Hourly (1-126)	Instantaneous
height of orography	Altitude or (geometric) height above the geoid of the surface (ground).	m	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-height_of_ography.nc	0h	Instantaneous
landsea mask	Binary indicator of whether at point is considered land (value = 1) or sea (value = 0).	1	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-landsea_mask.nc	0h	Instantaneous
lightning flash accumulation (1 hour)	Number of lightning flashes per square metre in the previous hour.	meter^-2	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-lightning_flash_accumulation-PT01H.nc	Hourly (1-126)	Accumulation in previous hour
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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-pressure_at_mean_sea_level.nc	Hourly (0-126)	Instantaneous
pressure at surface	Air pressure at the surface (lower boundary of the atmosphere).	Pa	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-pressure_at_surface.nc	Hourly (1-126)	Instantaneous
pressure on height levels	Pressure at the height levels. These are height above ground.	Pa	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-pressure_on_height_levels.nc	Hourly (0-126)	Instantaneous
radiation flux in longwave downward at surface	Longwave radiation at the surface from above directed at the ground. In accordance with common usage in geophysical disciplines "flux" implies per unit area called "flux density" in physics.	W m-2	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-radiation_flux_in_longwave_downward_at_surface.nc	Hourly (1-125)	Instantaneous
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. In accordance with common usage in geophysical disciplines "flux" implies per unit area called "flux density" in physics.	W m-2	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-radiation_flux_in_shortwave_diffuse_downward_at_surface.nc	Hourly (1-126)	Instantaneous
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". In accordance with common usage in geophysical disciplines "flux" implies per unit area called "flux density" in physics.	W m-2	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-radiation_flux_in_shortwave_direct_downward_at_surface.nc	Hourly (1-126)	Instantaneous
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". In accordance with common usage in geophysical disciplines "flux" implies per unit area called "flux density" in physics.	W m-2	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-radiation_flux_in_shortwave_total_downward_at_surface.nc	Hourly (1-125)	Instantaneous
rainfall accumulation (1 hour)	Implied depth of the rain produced by the model precipitation scheme which has been deposited on the surface in the previous hour. For the Global models (which run a convection scheme) the "rainfall accumulation from convection" must be added to this to get the total rainfall accumulation (this is not required for the UK models as they do not run a convection scheme).	m	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-rainfall_accumulation-PT01H.nc	Hourly (1-126)	Accumulation in previous hour
rainfall accumulation (15 minute)	Implied depth of the rain produced by the model precipitation scheme which has been deposited on the surface in the previous 15 minutes. For the Global models (which run a convection scheme) the "rainfall accumulation from convection" must be added to this to get the total rainfall accumulation (this is not required for the UK models as they do not run a convection scheme).	m	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-rainfall_accumulation-PT15M.nc	15 Minutes (15m-126)	Accumulation in previous 15 minutes
rainfall rate	Instantaneous rate at which rain (as a depth) which has been produced by the model precipitation scheme is being deposited on the surface. For the Global models (which run a convection scheme) the "rainfall rate from convection" must be added to this to get the total rainfall rate (this is not required for the UK models as they do not run a convection scheme).	m s-1	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-rainfall_rate.nc	15 Minutes (15m-126)	Instantaneous

rainfall rate (max in 1 hour)	Maximum instantaneous rate at which rain (as a depth) which has been produced by the model precipitation scheme was being deposited on the surface in previous hour. This excludes the rain produced by the the model convection scheme so for Global models (which invoke the convection scheme) this is not a maximum total rainfall rate.	m s-1	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-rainfall_rate_max-PT01H.nc	Hourly (1-126)	Maximum in previous hour
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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-relative_humidity_at_screen_level.nc	Hourly (0-126)	Instantaneous
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 levels.	1	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-relative_humidity_on_height_levels.nc	Hourly (1-126)	Instantaneous
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. NOTE: At present there is an error in the calculation of this quantity for the Global Model which is resulting it being generated as a mass per unit area (Kg m-2) rather than a depth (m).	m	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-snow_depth_water_equivalent.nc	Hourly (1-126)	Instantaneous
snowfall accumulation (1 hour)	Implied depth of the layer of liquid water equivalent (LWE) snow produced by the model precipitation scheme which has been deposited on the surface in previous hour. For the Global models (which run a convection scheme) the "snowfall accumulation from convection" must be added to this to get the total snowfall accumulation (this is not required for the UK models as they do not run a convection scheme).	m	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-snowfall_accumulation-PT01H.nc	Hourly (1-126)	Accumulation in previous hour
snowfall accumulation (15 minute)	Implied depth of the layer of liquid water equivalent (LWE) snow produced by the model precipitation scheme which has been deposited on the surface in previous 15 minutes. For the Global models (which run a convection scheme) the "snowfall accumulation from convection" must be added to this to get the total snowfall accumulation (this is not required for the UK models as they do not run a convection scheme).	m	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-snowfall_accumulation-PT15M.nc	15 Minutes (15m-126)	Accumulation in previous 15 minutes
snowfall rate	Instantaneous rate at which liquid water equivalent (LWE) snow (as a depth) which has been produced by the model precipitation scheme is being deposited on the surface. For the Global models (which run a convection scheme) the "snowfall rate from convection" must be added to this to get the total snowfall rate (this is not required for the UK models as they do not run a convection scheme).	m s-1	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-snowfall_rate.nc	15 Minutes (15m-126)	Instantaneous
snowfall rate from convection (max in 1 hour)	Maximum instantaneous rate at which liquid water equivalent (LWE) snow (as a depth) which has been produced by the model convection scheme was being deposited on the surface in previous hour.	m s-1	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-snowfall_rate_max-PT01H.nc	Hourly (1-126)	Maximum in previous 3 hours
temperature at screen level	Air temperature at screen level (1.5m).	K	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-temperature_at_screen_level.nc	Hourly (0-126)	Instantaneous
temperature at screen level (max in 1 hour)	Maximum instantaneous air temperature at screen level (1.5m) in the previous hour.	K	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-temperature_at_screen_level_max-PT01H.nc	Hourly (1-126)	Maximum in previous hour
temperature at screen level (min in 1 hour)	Minimum instantaneous air temperature at screen level (1.5m) in previous hour.	K	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-temperature_at_screen_level_min-PT01H.nc	Hourly (1-126)	Minimum in previous hour
temperature at surface	Temperature at the surface interface between the air and the ground.	K	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-temperature_at_surface.nc	Hourly (1-126)	Instantaneous
temperature of dew point at screen level	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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-temperature_of_dew_point_at_screen_level.nc	Hourly (0-126)	Instantaneous
temperature on height levels	Air temperature on height levels. These are height above ground	K	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-temperature_on_height_levels.nc	Hourly (0-126)	Instantaneous
visibility at screen level	Horizontal distance at which something can be seen horizontally from screen level (1.5m).	m	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-visibility_at_screen_level.nc	Hourly (0-126)	Instantaneous
wet bulb potential temperature on pressure levels	Wet bulb potential temperature (temperature that a parcel of air at any level would have if starting at the wet bulb temperature it were brought at a saturated adiabatic lapse rate to the standard pressure of 1000hPa) on pressure levels.	K	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-wet_bulb_potential_temperature_on_pressure_levels.nc	Hourly (1-126)	Instantaneous
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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-wind_direction_at_10m.nc	Hourly (0-126)	Instantaneous
wind direction on height levels	Wind on a height level 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 on height levels" replaces "x wind on height levels" and "y wind on height levels"	degrees	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-wind_direction_on_height_levels.nc	Hourly (0-126)	Instantaneous
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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-wind_gust_at_10m.nc	Hourly (1-126)	Instantaneous
wind gust at 10m (max in 1 hour)	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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-wind_gust_at_10m_max-PT01H.nc	Hourly (1-126)	Maximum in previous hour
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. NOTE: This with "wind speed at 10m" replaces "x wind at 10m" and "y wind at 10m"	m s-1	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-wind_speed_at_10m.nc	Hourly (0-126)	Instantaneous
wind speed at 10m (max in 1 hour)	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	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-wind_speed_at_10m_max-PT01H.nc	Hourly (1-126)	Maximum in previous hour
wind speed on height levels	Wind on a height level is defined as a two-dimensional (horizontal) air velocity vector with no vertical component. The speed is the magnitude of velocity. NOTE: This with "wind direction on height levels" replaces "x wind on height levels" and "y wind on height levels"	m s-1	[YYYYMMDD]T[hhmm]Z-PT[nnnn]H[mm]M-wind_speed_on_height_levels.nc	Hourly (0-126)	Instantaneous