

GRIB Output

| Name | Short name | Units | Level Type | Level | Time Range | Parameter | Type Level |
|--------------------------|------------|--------|------------|-------|------------|-----------|------------|
| AROME hail diagnostic | xhail | kg m-2 | agl | 0 | 0 | 161 | 105 |
| Cloud ice | ciwc | kg m-2 | pl | 100 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 200 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 300 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 400 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 500 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 600 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 700 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 800 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 850 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 900 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 925 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 950 | 0 | 58 | 100 |
| Cloud ice | ciwc | kg m-2 | pl | 1000 | 0 | 58 | 100 |
| Cloud water | cwat | kg m-2 | pl | 100 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 200 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 300 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 400 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 500 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 600 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 700 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 800 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 850 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 900 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 925 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 950 | 0 | 76 | 100 |
| Cloud water | cwat | kg m-2 | pl | 1000 | 0 | 76 | 100 |
| Direct normal irradiance | dni | W m-2 | agl | 0 | 4 | 140 | 105 |
| Geometrical height | h | m | lcl | 0 | 0 | 8 | 5 |
| Geometrical height | h | m | tl | 27315 | 0 | 8 | 20 |

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|---|-------|---------|-----|------|---|-----|-----|
| Geopotential | z | m2 s-2 | pl | 100 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 200 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 300 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 400 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 500 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 600 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 700 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 800 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 850 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 900 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 925 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 950 | 0 | 6 | 100 |
| Geopotential | z | m2 s-2 | pl | 1000 | 0 | 6 | 100 |
| Global radiation flux | grad | W m-2 | agl | 0 | 4 | 117 | 105 |
| Graupel | grpl | kg m-2 | agl | 0 | 4 | 201 | 105 |
| Gust, u-component | ugst | m s*-1 | agl | 10 | 2 | 162 | 105 |
| Gust, v-component | vgst | m s*-1 | agl | 10 | 2 | 163 | 105 |
| High cloud cover | hcc | (0 - 1) | agl | 0 | 0 | 75 | 105 |
| Latent Heat Sublimation | lhsb | J kg-1 | agl | 0 | 4 | 244 | 105 |
| Latent heat flux through evaporation | lhe | W m-2 | agl | 0 | 4 | 132 | 105 |
| Long-wave radiation flux | lwavr | W m-2 | agl | 0 | 0 | 115 | 105 |
| Long-wave radiation flux | lwavr | W m-2 | agl | 0 | 4 | 115 | 105 |
| Low cloud cover | lcc | (0 - 1) | agl | 0 | 0 | 73 | 105 |
| Maximum temperature | tmax | K | agl | 2 | 2 | 15 | 105 |
| Medium cloud cover | mcc | (0 - 1) | agl | 0 | 0 | 74 | 105 |
| Minimum temperature | tmin | K | agl | 2 | 2 | 16 | 105 |
| Mixed layer depth | mld | m | agl | 0 | 0 | 67 | 105 |
| Momentum flux, u-component | uflx | N m-2 | agl | 0 | 4 | 124 | 105 |
| Momentum flux, v-component | vflx | N m-2 | agl | 0 | 4 | 125 | 105 |
| Net long-wave radiation flux (atmosph.top) | nlwrt | W m-2 | toa | 0 | 4 | 114 | 8 |
| Net long-wave radiation flux (atmosph.top) | nlwrt | W m-2 | toa | 0 | 0 | 114 | 8 |
| Net long-wave radiation flux (surface) | nlwrs | W m-2 | agl | 0 | 4 | 112 | 105 |
| Net short-wave radiation flux (atmosph.top) | nswrt | W m-2 | toa | 0 | 4 | 113 | 8 |
| Net short-wave radiation flux (atmosph.top) | nswrt | W m-2 | toa | 0 | 0 | 113 | 8 |

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|---|-------|--------|-----|------|---|-----|-----|
| Net short-wave radiation flux (surface) | mswrs | W m-2 | agl | 0 | 4 | 111 | 105 |
| Precipitable water | pwat | kg m-2 | atm | 0 | 0 | 54 | 200 |
| Pressure | pres | Pa | agl | 0 | 0 | 1 | 105 |
| Pressure | pres | Pa | asl | 0 | 0 | 1 | 103 |
| Rain | rain | kg m-2 | agl | 0 | 4 | 181 | 105 |
| Relative humidity | r | % | agl | 2 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 30 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 50 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 60 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 70 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 80 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 90 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 100 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 125 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 150 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 200 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 300 | 0 | 52 | 105 |
| Relative humidity | r | % | agl | 400 | 0 | 52 | 105 |
| Relative humidity | r | % | pl | 100 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 200 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 300 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 400 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 500 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 600 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 700 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 800 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 850 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 900 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 925 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 950 | 0 | 52 | 100 |
| Relative humidity | r | % | pl | 1000 | 0 | 52 | 100 |
| Sensible heat flux | sshf | W m-2 | agl | 0 | 4 | 122 | 105 |
| Short-wave radiation flux | swavr | W m-2 | agl | 0 | 0 | 116 | 105 |
| Short-wave radiation flux | swavr | W m-2 | agl | 0 | 4 | 116 | 105 |

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|---------------------------|-------|---------|-----|------|---|-----|-----|
| Short-wave radiation flux | swavr | W m-2 | toa | 0 | 4 | 116 | 8 |
| Snow | snow | kg m-2 | agl | 0 | 4 | 184 | 105 |
| Snow | snow | kg m-2 | agl | 0 | 4 | 184 | 105 |
| Snow Sublimation | snsb | kg m-2 | agl | 0 | 4 | 246 | 105 |
| Temperature | t | K | agl | 0 | 0 | 11 | 105 |
| Temperature | t | K | agl | 2 | 0 | 11 | 105 |
| Temperature | t | K | agl | 30 | 0 | 11 | 105 |
| Temperature | t | K | agl | 50 | 0 | 11 | 105 |
| Temperature | t | K | agl | 60 | 0 | 11 | 105 |
| Temperature | t | K | agl | 70 | 0 | 11 | 105 |
| Temperature | t | K | agl | 80 | 0 | 11 | 105 |
| Temperature | t | K | agl | 90 | 0 | 11 | 105 |
| Temperature | t | K | agl | 100 | 0 | 11 | 105 |
| Temperature | t | K | agl | 125 | 0 | 11 | 105 |
| Temperature | t | K | agl | 150 | 0 | 11 | 105 |
| Temperature | t | K | agl | 200 | 0 | 11 | 105 |
| Temperature | t | K | agl | 300 | 0 | 11 | 105 |
| Temperature | t | K | agl | 400 | 0 | 11 | 105 |
| Temperature | t | K | pl | 100 | 0 | 11 | 100 |
| Temperature | t | K | pl | 200 | 0 | 11 | 100 |
| Temperature | t | K | pl | 300 | 0 | 11 | 100 |
| Temperature | t | K | pl | 400 | 0 | 11 | 100 |
| Temperature | t | K | pl | 500 | 0 | 11 | 100 |
| Temperature | t | K | pl | 600 | 0 | 11 | 100 |
| Temperature | t | K | pl | 700 | 0 | 11 | 100 |
| Temperature | t | K | pl | 800 | 0 | 11 | 100 |
| Temperature | t | K | pl | 850 | 0 | 11 | 100 |
| Temperature | t | K | pl | 900 | 0 | 11 | 100 |
| Temperature | t | K | pl | 925 | 0 | 11 | 100 |
| Temperature | t | K | pl | 950 | 0 | 11 | 100 |
| Temperature | t | K | pl | 1000 | 0 | 11 | 100 |
| Total cloud cover | tcc | (0 - 1) | agl | 0 | 0 | 71 | 105 |
| Total precipitation | tp | kg m-2 | agl | 0 | 4 | 61 | 105 |
| Vertical velocity | w | m s-1 | pl | 100 | 0 | 40 | 100 |

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|--|-------|--------|-----|------|---|-----|-----|
| Vertical velocity | w | m s-1 | pl | 200 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 300 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 400 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 500 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 600 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 700 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 800 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 850 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 900 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 925 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 950 | 0 | 40 | 100 |
| Vertical velocity | w | m s-1 | pl | 1000 | 0 | 40 | 100 |
| Water equivalent of accumulated snow depth | sf | kg m-2 | agl | 0 | 0 | 65 | 105 |
| Water evaporation | wevap | kg m-2 | agl | 0 | 4 | 245 | 105 |
| u-component of wind | u | m s-1 | agl | 10 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 30 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 50 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 60 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 70 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 80 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 90 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 100 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 125 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 150 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 200 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 300 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | agl | 400 | 0 | 33 | 105 |
| u-component of wind | u | m s-1 | pl | 100 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 200 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 300 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 400 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 500 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 600 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 700 | 0 | 33 | 100 |

| | | | | | | | |
|---------------------|---|-------|-----|------|---|----|-----|
| u-component of wind | u | m s-1 | pl | 800 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 850 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 900 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 925 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 950 | 0 | 33 | 100 |
| u-component of wind | u | m s-1 | pl | 1000 | 0 | 33 | 100 |
| v-component of wind | v | m s-1 | agl | 10 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 30 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 50 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 60 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 70 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 80 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 90 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 100 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 125 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 150 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 200 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 300 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | agl | 400 | 0 | 34 | 105 |
| v-component of wind | v | m s-1 | pl | 100 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 200 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 300 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 400 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 500 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 600 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 700 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 800 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 850 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 900 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 925 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 950 | 0 | 34 | 100 |
| v-component of wind | v | m s-1 | pl | 1000 | 0 | 34 | 100 |

GL post processed model output

| Name | Short name | Units | Level Type | Level | Time Range | Parameter | Type Level |
|---|------------|---------|------------|-------|------------|-----------|------------|
| Cloud base | cb | m | atm | 0 | 0 | 186 | 200 |
| Cloud top | ct | m | atm | 0 | 0 | 187 | 200 |
| Graupel | grpl | kg m-2 | atm | 0 | 0 | 201 | 200 |
| Icing index | icei | - | agl | 0 | 0 | 135 | 105 |
| Lightning | lgt | - | atm | 0 | 0 | 211 | 200 |
| Precipitation Type | prtp | - | agl | 0 | 0 | 144 | 105 |
| Pseudo satellite: cloud top temperature (infrared) | psct | - | agl | 0 | 0 | 136 | 105 |
| Pseudo satellite: cloud water reflectivity (visible) | pscw | - | agl | 0 | 0 | 139 | 105 |
| Pseudo satellite: water vapour Tb | pstb | - | agl | 0 | 0 | 137 | 105 |
| Pseudo satellite: water vapour Tb + correction for clouds | pstbc | - | agl | 0 | 0 | 138 | 105 |
| Rain | rain | kg m-2 | atm | 0 | 0 | 181 | 200 |
| Snow | snow | kg m-2 | atm | 0 | 0 | 184 | 200 |
| Total cloud cover | tcc | (0 - 1) | agl | 2 | 0 | 71 | 105 |
| Visibility | vis | m | agl | 0 | 0 | 20 | 105 |

SURFEX Model Output

| Name | Short name | Units | Level Type | Level | Time Range | Parameter | Type Level |
|------------------|------------|--------|------------|-------|------------|-----------|------------|
| Soil Moisture | sm | kg m-3 | sfc | 0 | 0 | 86 | 111 |
| Soil Moisture | sm | kg m-3 | sfc | 20 | 0 | 86 | 111 |
| Soil Moisture | sm | kg m-3 | sfc | 300 | 0 | 86 | 111 |
| Soil Temperature | st | K | sfc | 0 | 0 | 85 | 111 |
| Soil Temperature | st | K | sfc | 20 | 0 | 85 | 111 |
| Soil Temperature | st | K | sfc | 300 | 0 | 85 | 111 |
| Surface soil ice | ssi | m3 m-3 | sfc | 0 | 0 | 193 | 111 |
| Surface soil ice | ssi | m3 m-3 | sfc | 20 | 0 | 193 | 111 |
| Surface soil ice | ssi | m3 m-3 | sfc | 300 | 0 | 193 | 111 |

