

## Climate Insights Variables Available 17 November 2022

Variable	Description	Units	Scenarios	Percentiles
<b>Cold Spell Duration Index</b>	The cold spell duration index is the annual number of days with at least six consecutive days when the daily minimum temperature falls below the 10 <sup>th</sup> percentile.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Cooling Degree Days</b>	Cooling degree days (CDD) measure annual cumulative degrees above a certain temperature threshold. In this report, the temperature is 22 °C for European countries and 18 °C for the rest of the world.	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Extreme Precipitation (24-hour)</b>	Daily extreme precipitation represents 24-hour extreme rainfall in mm.	mm	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Extreme Precipitation (48-hour)</b>	Extreme precipitation represents 48-hour extreme rainfall in mm.	mm	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Extreme Precipitation (72-hour)</b>	Extreme precipitation represents 72-hour extreme rainfall in mm.	mm	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Maximum Temperature Days Higher 90thp</b>	Number of days with daily maximum temperature above the 90th percentile of daily maximum temperatures of a five-day window centred on each calendar day of a given 30-year reference period (e.g., 1991-2020)	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th

<b>Maximum Temperature Days Lower 10thp</b>	Number of days with daily minimum temperature below the 10th percentile of daily minimum temperatures of a five-day window centred on each calendar day of a given 30-year reference period (e.g., 1991-2020)	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Extreme Temperature Days Lower 2°C</b>	The number of days in a year with daily minimum temperature below 2°.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Extreme Water Level</b>	The extreme water level is the height from storm tides, sea-level rise and changes in land movement (either rising, falling or stable). It is also known as Still High-Water Level at the coast, the technical term for the potential height of ocean water levels during storms.	m	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Land Extreme Wind Speed</b>	The extreme daily wind speed is presented in kilometres or miles per hour. Extreme wind speeds could be derived from hurricanes, typhoons and other tropical depressions, BUT NOT tornado-related winds.	km/h	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Forest Fire Danger Index</b>	The Forest Fire Danger Index measures the potential danger of a bushfire in a given location. It combines a measure of vegetation dryness with humidity, wind speed and air temperature.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Frost Days</b>	The number of days in a year when the minimum air temperature falls below freezing (less than 0°C).	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th

<b>Growing Degree Days 10degC</b>	The yearly growing degree days in cumulative degrees Celsius for the location for baseline (2005) and chosen future year(s) with a base temperature of 10°C.	°C*day/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Growing Degree Days 4degC</b>	The yearly growing degree days in cumulative degrees Celsius for the location for baseline (2005) and chosen future year(s) with a base temperature of 4°C.	°C*day/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Air Heat Wave Days</b>	A heatwave event is defined as a daily maximum and minimum temperature simultaneously exceeding their respective 90th percentiles of time series in the baseline period for at least three consecutive days. Heatwave days are the total number of days that occur in heatwave events. As a 30-year baseline period is applied, the heatwave days are presented as a multiple-year average.	days	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Air Heat Wave Frequency</b>	Heat Wave Frequency refers to the number of heat wave events over a year.	times/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Heating Degree Days</b>	Heating degree days (HDD) measure annual cumulative degrees below a certain temperature threshold. The default base temperature is 18 °C.	°C*day/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Heat Index</b>	The heat index is an index that combines air temperature and relative humidity in shaded areas to posit a human-perceived equivalent temperature, as how hot it would feel if the humidity were some other values in the shade.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Humidex</b>	The humidex is a measure of human-perceived heat. It is calculated from current and dew point temperature, where the dew point temperature is related to relative humidity.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th

<b>Keetch Byram Drought Index</b>	The Keetch-Byram Drought Index is used to identify wildfire potential based on meteorological conditions such as water balance, where a drought factor is balanced with precipitation and soil moisture.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Marine Heatwave Days</b>	A marine heatwave occurs when the daily SST (sea surface temperature) exceeds the calendar-day 90 <sup>th</sup> percentile (SST90) for at least five consecutive days. The SST90 is a daily percentile climatology with a length of 366 days.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Marine Heatwave Frequency</b>	The frequency of marine heatwave events in a year.	times/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Mean Sea Level Rise</b>	The annual mean sea level rise includes the effects of land ice melt, thermal expansion, and changes in the vertical movement of land (some areas are rising, and others are sinking). The results represent the monthly median sea-level rise for future time slices.	cm	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Maximum Temperature Days Higher 20degC</b>	The number of days with daily maximum temperature above 20°C.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Maximum Temperature Days Higher 25degC</b>	The number of days with daily maximum temperature above 25°C.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Maximum Temperature Days Higher 30degC</b>	The number of days with daily maximum temperature above 30°C.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th

<b>Maximum Temperature Days Higher 35degC</b>	The number of days with daily maximum temperature above 35°C.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Maximum Temperature Days Higher 40degC</b>	The number of days with daily maximum temperature above 20°C.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Minimum Temperature Days Higher 90thp</b>	Number of days with daily minimum temperature above the 90th percentile of daily minimum temperatures of a five-day window centred on each calendar day of a given 30-year reference period (e.g., 1991-2020)	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Minimum Temperature Days Lower 10thp</b>	Number of days with daily minimum temperature below the 10th percentile of daily minimum temperatures of a five-day window centred on each calendar day of a given 30-year reference period (e.g., 1991-2020)	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Minimum Temperature Days Lower 2degC</b>	The number of days per year with a minimum temperature lower than 2°C	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Maximum Temperature</b>	The maximum temperature of a month for a particular site.	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Mean Precipitation</b>	The monthly precipitation is in millimetres (mm).	mm	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th

<b>Monthly Mean Temperature</b>	The monthly mean temperature is the degrees Celsius	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Minimum Temperature</b>	The monthly mean minimum temperature in degrees Celsius	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Potential Evapotranspiration</b>	The monthly amount of evaporation in mm would occur if an adequate supply of water were available.	mm	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Relative Humidity</b>	The monthly mean relative humidity in per cent	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Soil Temperature (289 cm)</b>	The monthly soil temperature at a depth of 289 cm.	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Soil Temperature (7 cm)</b>	The monthly soil temperature is at a depth of 7 cm.	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Soil Temperature (100 cm)</b>	The monthly soil temperature is at a depth of 100 cm.	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Soil Temperature (28 cm)</b>	The monthly soil temperature at a depth of 28 cm.	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Soil Moisture (289 cm)</b>	The monthly soil moisture at a depth of 289 cm.	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th

<b>Monthly Soil Moisture (7 cm)</b>	The monthly soil moisture at a depth of 7 cm.	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Soil Moisture (100 cm)</b>	The monthly soil moisture at a depth of 100 cm.	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Soil Moisture (28 cm)</b>	The monthly soil moisture at a depth of 28 cm.	°C	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Solar Radiation</b>	The monthly median solar radiation in MJ/M2/day for the location for baseline (2005) and chosen future year(s). The result represents the statistical median derived from the GCM and RCM monthly solar radiation patterns.	MJ/(m <sup>2</sup> *day)	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Monthly Wind Speed</b>	The monthly median wind speed in m/s for the location for baseline (2005) and chosen future year(s). The result represents the statistical median derived from the GCM and RCM monthly mean wind speed patterns.	m/s	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>SPEI Drought Probability 12mon</b>	Standardised Precipitation and Evapotranspiration (SPEI) considers precipitation and temperature to identify increases in drought severity linked with higher water demand by evapotranspiration. This variable examines changes over a 12-month period.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>SPEI Drought Probability 1mon</b>	Standardised Precipitation and Evapotranspiration (SPEI) considers precipitation and temperature to identify increases in drought severity linked with higher water demand by evapotranspiration. This variable examines changes over a one-month period.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th

<b>SPEI Drought Probability 24mon</b>	Standardised Precipitation and Evapotranspiration (SPEI) considers precipitation and temperature to identify increases in drought severity linked with higher water demand by evapotranspiration. This variable examines changes over a 24-month period.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>SPEI Drought Probability 3mon</b>	Standardised Precipitation and Evapotranspiration (SPEI) considers precipitation and temperature to identify increases in drought severity linked with higher water demand by evapotranspiration. This variable examines changes over a three-month period.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>SPEI Drought Probability 6mon</b>	Standardised Precipitation and Evapotranspiration (SPEI) considers precipitation and temperature to identify increases in drought severity linked with higher water demand by evapotranspiration. This variable examines changes over a six-month period.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>SPI Drought Probability 12mon</b>	The Standardised Precipitation Index (SPI) predicts the probability of drought using a long-term precipitation database for the desired period. In this case, that period is 12 months.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>SPI Drought Probability 1mon</b>	The Standardised Precipitation Index (SPI) predicts the probability of drought using a long-term precipitation database for the desired period. In this case, that period is one month.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>SPI Drought Probability 24mon</b>	The Standardised Precipitation Index (SPI) predicts the probability of drought using a long-term precipitation database for the desired period. In this case, that period is 24 months.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th



<b>SPI Drought Probability 3mon</b>	The Standardised Precipitation Index (SPI) predicts the probability of drought using a long-term precipitation database for the desired period. In this case, that period is three months.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>SPI Drought Probability 6mon</b>	The Standardised Precipitation Index (SPI) predicts the probability of drought using a long-term precipitation database for the desired period. In this case, that period is six months.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Temperature Humidity Index for Cattle</b>	The temperature humidity index (THI) for cattle accounts for the combined effects of environmental temperature and relative humidity to assess the risk of heat stress.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Temperature Humidity Index for Comfort Livestock</b>	The temperature humidity index (THI) for comfort describes behavioural changes in large animals due to discomfort (seeking shade, submerging in mud, etc.).	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Temperature Humidity Index for Physiology Livestock</b>	The temperature humidity index for physiology is based on meteorological values to evaluate evaporative cooling mechanisms.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Apparent Temperature</b>	Apparent temperature is the temperature perceived by humans based on the combined effects of relative humidity, air temperature and wind speed.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Modified Discomfort Index</b>	The modified discomfort index (MDI) calculates a human-perceived equivalent temperature using ambient temperature and wet-bulb temperature.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th

<b>Normal Effective Temperature</b>	The normal effective temperature identifies the effective temperature felt by humans for certain parameters, including air temperature, relative humidity and wind speed.	%	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Warm Spell Duration Index</b>	The annual number of days with at least six consecutive days when the daily maximum temperature exceeds the 90 <sup>th</sup> percentile in the calendar five-day window.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>The following indices are only available under request.</b>				
<b>Mean Temperature Days &gt; 24°C</b>	The number of days per year with a mean temperature exceeding 24°C	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Mean Temperature Days &gt; 30°C</b>	The number of days per year with a mean temperature exceeding 30oC	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Mean Temperature Days &lt;10°C</b>	The number of days in a year where the temperature drops below 10°C.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Mean Temperature Days &lt;18°C</b>	The number of days in a year where the temperature drops below 18°C.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Mean Temperature Days &lt;6°C</b>	The number of days in a year where the temperature drops below 6°C.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th
<b>Minimum Temperature Days &gt;20°C</b>	The number of days in a year where the temperature exceeds 20°C.	days/year	SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0 & SSP5-8.5	5th, 50th & 95th