**The list of parameters that are used in our dataset to describe the Earth's surface and atmosphere. The parameters are:**

* ALLSKY\_SFC\_UV\_INDEX (CERES SYN1deg All Sky Surface UV Index): This parameter measures the intensity of ultraviolet (UV) radiation at the Earth's surface. UV radiation is a type of electromagnetic radiation that can damage DNA and cause skin cancer.
* ALLSKY\_SFC\_UVB (CERES SYN1deg All Sky Surface UVB Irradiance): This parameter measures the amount of UVB radiation reaching the Earth's surface. UVB radiation is the type of UV radiation that is most responsible for skin cancer.
* ALLSKY\_SFC\_UVA (CERES SYN1deg All Sky Surface UVA Irradiance): This parameter measures the amount of UVA radiation reaching the Earth's surface. UVA radiation is not as harmful as UVB radiation, but it can still cause skin damage and premature aging.
* TS (MERRA-2 Earth Skin Temperature): This parameter measures the temperature of the Earth's surface, also known as the land surface temperature (LST). LST is important for understanding a variety of environmental processes, such as energy balance, evapotranspiration, and plant growth.
* T2M (MERRA-2 Temperature at 2 Meters): This parameter measures the air temperature at 2 meters above the ground. T2M is a widely used meteorological parameter that is used for forecasting weather, understanding climate change, and assessing the risk of heat waves and other extreme weather events.
* T2MDEW (MERRA-2 Dew/Frost Point at 2 Meters): This parameter measures the dew point temperature at 2 meters above the ground. The dew point temperature is the temperature at which the air must be cooled in order for water vapor to condense into dew.
* T2M RANGE (MERRA-2 Temperature at 2 Meters Range): This parameter measures the range of air temperatures at 2 meters above the ground over a given period of time. T2M RANGE is a useful indicator of temperature variability, which can be important for understanding climate change and its impacts.
* PRECTOTCORR (MERRA-2 Precipitation Corrected): This parameter measures the total precipitation (rain and snow) that falls on the Earth's surface over a given period of time. Precipitation is a key component of the water cycle and is important for agriculture, water resources management, and natural hazard forecasting.
* QV2M (MERRA-2 Specific Humidity at 2 Meters): This parameter measures the amount of water vapor in the air at 2 meters above the ground. Specific humidity is a measure of the water vapor content of the air relative to the air temperature.
* PS (MERRA-2 Surface Pressure): This parameter measures the atmospheric pressure at the Earth's surface. Surface pressure is important for understanding a variety of atmospheric processes, such as weather forecasting and climate change.
* WS10M RANGE (MERRA-2 Wind Speed at 10 Meters Range): This parameter measures the range of wind speeds at 10 meters above the ground over a given period of time. WS10M RANGE is a useful indicator of wind variability, which can be important for understanding climate change and its impacts.
* WS2M (MERRA-2 Wind Speed at 2 Meters): This parameter measures the wind speed at 2 meters above the ground. WS2M is a widely used meteorological parameter that is used for forecasting weather, understanding climate change, and assessing the risk of wind storms and other extreme weather events.
* WS2M\_RANGE (MERRA-2 Wind Speed at 2 Meters Range): This parameter measures the range of wind speeds at 2 meters above the ground over a given period of time. WS2M RANGE is a useful indicator of wind variability, which can be important for understanding climate change and its impacts.

These parameters can be used in a variety of ways, such as:

* Monitoring and forecasting weather conditions
* Studying climate change and its impacts
* Assessing the risk of natural hazards
* Managing water resources
* Planning for renewable energy development
* Supporting agricultural practices

The parameters can be combined in different ways to create new products and services that meet the needs of a variety of users. For example, the UV index and LST can be used to create a heat stress forecast, which can be used to inform public health officials and the public about the risk of heat-related illnesses. Or, the precipitation and soil moisture data can be used to create a drought forecast, which can be used to inform farmers and water resource managers about the potential for drought conditions.

The key difference between WS2M and WS2M\_RANGE is that WS2M measures the wind speed at 2 meters above the ground at a specific point in time, while WS2M\_RANGE measures the range of wind speeds at 2 meters above the ground over a given period of time.

WS2M is a useful parameter for forecasting weather conditions and assessing the risk of wind storms and other extreme weather events. WS2M\_RANGE is a useful indicator of wind variability, which can be important for understanding climate change and its impacts.

Here are some examples of how WS2M and WS2M\_RANGE can be used:

* WS2M:
  + Forecasting the wind speed for a specific location and time.
  + Issuing wind warnings for hazardous wind conditions.
  + Assessing the risk of wind damage to infrastructure and property.
* WS2M\_RANGE:
  + Studying climate change and its impacts on wind patterns.
  + Assessing the potential for wind energy development in a particular area.
  + Designing wind turbines and other wind energy devices to withstand the range of wind speeds that they may experience.

In general, WS2M is a more useful parameter for short-term weather forecasting and wind hazard assessment, while WS2M\_RANGE is a more useful parameter for climate change studies and wind energy development.

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