

Annex A6

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Product Description: Climate Change Expert Module

Web Version (Log-on) and API

1. General

1.1 Munich Re’s Location Risk Intelligence Platform is a software as a service solution (**SaaS**) capable to visualize and process natural hazards and climate risk data as defined in the various **data Editions**. The Location Risk Intelligence Platform is offered in three subscription plans with different functionalities as Business, Corporate and Enterprise. Client chooses one of the three subscription plans.

1.2 The **Climate Change Expert Module** of the Munich Re Location Risk Intelligence delivers climate change-related results (scores and analyses) for specific requested locations. To use the Climate Change Expert Module it is required to license the Climate Change Edition or Climate Financial Impact Edition. The Climate Financial Impact Edition includes the full Climate Change Edition, which itself includes the full Natural Hazards Edition“.

1.3 The **Climate Change Expert Module** results are estimates based on Munich Reinsurance Company’s own or licensed data. The estimates can be used by the Client as a decision-making aid. MR Service cannot therefore pledge or guarantee, either explicitly or implicitly, the completeness or accuracy of information that it has properly compiled.

1.4 The **Climate Change Expert Module** consists of two elements: The **Climate Change Variables** and the **Climate Change Statistics**. The Climate Change Variables are accessible through our web-based Log-on version or via API (Application Programming Interface) while the Climate Change Statistics are exclusively available via API. The usage of our API requires an Enterprise Platform subscription plan (as mentioned under 1.1).

Climate Change Variables

Diversified and extensive set of 35 Climate Change Variables which are based on atmospheric variables (temperature, precipitation, wind, humidity) and build the foundation of five (5) Climate Stress Indices. The number of available Climate Change Variables may vary and an increase or decrease does not constitute a reason for non-fulfilment.

Superior Climate Stress Index	Available Climate Change Variables
Fire Weather Stress Index (FWI)	<ul style="list-style-type: none"> - Length Of Fire Season - Annual FWI Sum - Fire Season FWI Intensity - Moderate Fire Danger Days - High Fire Danger Days - Very High Fire Danger Days - Maximum FWI
Drought Stress Index	<ul style="list-style-type: none"> - Drought Duration Per Year - Drought Severity Per Year - Annual SPEI (Standardised Precipitation-Evapotranspiration Index) Sum - Meteorological Dry Days - Maximum Dry Spell Duration - 10 Day Dry Spell Duration
Heat Stress	<ul style="list-style-type: none"> - Annual Maximum Temperature - Annual Mean Daily Maximum Temperature

	<ul style="list-style-type: none"> - Days In Heatwave - Annual Number Of Days In Hot Period - Days above 30°C - Days above 35°C - Days above 40°C - Tropical Nights - Annual Warm Spell Duration Index Days
Precipitation Stress Index	<ul style="list-style-type: none"> - Maximum Daily Precipitation - Maximum 5-Day Precipitation - Moderate Precipitation Days - Very Heavy Precipitation Days - Extreme Precipitation Days - Precipitation On Very Wet Days - Precipitation On Extreme Wet Days - Annual Precipitation Sum
Cold Stress Index	<ul style="list-style-type: none"> - Annual Minimum Temperature - Annual Mean Daily Minimum Temperature - Frost Days - Ice Days - Annual Cold Spell Duration Index Days

Climate Change Statistics

The Climate Change Statistics represent the underlying statistical uncertainty measures data. For each Climate Stress Index 2 Quantile values are provided in addition to the Stress Index. Each Climate Change Variable (absolute value) is based on six Climate Change Variables statistical parameters. Please see the overview below. The number of available Climate Change Statistics may vary and an increase or decrease does not constitute a reason for non-fulfilment.

Type	Available Statistics
Climate Change Stress Index Statistics	<ul style="list-style-type: none"> - 0.1 Quantile of Stress Index - 0.9 Quantile of Stress Index
Climate Change Variables Statistics	<ul style="list-style-type: none"> - Absolute/Relative Change Median - 0.1 Quantile of Absolute/Relative Change - 0.9 Quantile of Absolute/Relative Change - Standard Deviation of Absolute/Relative Change - Change of Robustness - Number of Models

Climate Change Variables & Statistics availability sorted per superior Climate Stress Index	Fire Weather Stress IndexSSP	Drought Stress IndexSSP	Heat Stress IndexSSP	Precipitation Stress IndexSSP	Cold Stress IndexSSP
Current	✓	✓	✓	✓	✓
SSP1-/ RCP 2.6, Year 2030	✓	x	✓	✓	✓
SSP1-/ RCP 2.6, Year 2040	✓	x	✓	✓	✓

SSP1-/ RCP 2.6, Year 2050	✓	x	✓	✓	✓
SSP1-/ RCP 2.6, Year 2100	✓	x	✓	✓	✓
SSP2-/ RCP 4.5, Year 2030	✓	✓	✓	✓	✓
SSP2-/ RCP 4.5, Year 2040	✓	✓	✓	✓	✓
SSP2-/ RCP 4.5, Year 2050	✓	✓	✓	✓	✓
SSP2-/ RCP 4.5, Year 2100	✓	✓	✓	✓	✓
SSP3-/ RCP 7.0, Year 2030	✓	x	✓	✓	✓
SSP3-/ RCP 7.0, Year 2040	✓	x	✓	✓	✓
SSP3-/ RCP 7.0, Year 2050	✓	x	✓	✓	✓
SSP3-/ RCP 7.0, Year 2100	✓	x	✓	✓	✓
SSP5-/ RCP 8.5, Year 2030	✓	✓	✓	✓	✓
SSP5-/ RCP 8.5, Year 2040	✓	✓	✓	✓	✓
SSP5-/ RCP 8.5, Year 2050	✓	✓	✓	✓	✓
SSP5-/ RCP 8.5, Year 2100	✓	✓	✓	✓	✓

Table I – Availability of scenarios / timelines for each Climate Change Variable & Statistic as segmented in the related Stress index

✓ = Available
 x = Not Available

2. API Services of the Climate Change Expert Module

2.1 Specific Climate Change Expert Module API Services

Climate Change	
Variables	FireWeatherStressVariablesCurrent, FireWeatherStressVariablesSSP126Y2030, FireWeatherStressVariablesSSP126Y2040, FireWeatherStressVariablesSSP126Y2050, FireWeatherStressVariablesSSP126Y2100, FireWeatherStressVariablesSSP245Y2030, FireWeatherStressVariablesSSP245Y2040, FireWeatherStressVariablesSSP245Y2050, FireWeatherStressVariablesSSP245Y2100, FireWeatherStressVariablesSSP370Y2030, FireWeatherStressVariablesSSP370Y2040, FireWeatherStressVariablesSSP370Y2050, FireWeatherStressVariablesSSP370Y2100, FireWeatherStressVariablesSSP585Y2030, FireWeatherStressVariablesSSP585Y2040, FireWeatherStressVariablesSSP585Y2050, FireWeatherStressVariablesSSP585Y2100 DroughtStressVariablesCurrent, DroughtStressVariablesSSP245Y2030, DroughtStressVariablesSSP245Y2040, DroughtStressVariablesSSP245Y2050, DroughtStressVariablesSSP245Y2100, DroughtStressVariablesSSP585Y2030,

	<p>DroughtStressVariablesSSP585Y2040, DroughtStressVariablesSSP585Y2050, DroughtStressVariablesSSP585Y2100</p> <p>HeatStressVariablesCurrent, HeatStressVariablesSSP126Y2030, HeatStressVariablesSSP126Y2040, HeatStressVariablesSSP126Y2050, HeatStressVariablesSSP126Y2100, HeatStressVariablesSSP245Y2030, HeatStressVariablesSSP245Y2040, HeatStressVariablesSSP245Y2050, HeatStressVariablesSSP245Y2100, HeatStressVariablesSSP370Y2030, HeatStressVariablesSSP370Y2040, HeatStressVariablesSSP370Y2050, HeatStressVariablesSSP370Y2100, HeatStressVariablesSSP585Y2030, HeatStressVariablesSSP585Y2040, HeatStressVariablesSSP585Y2050, HeatStressVariablesSSP585Y2100</p> <p>PrecipitationStressVariablesCurrent, PrecipitationStressVariablesSSP126Y2030, PrecipitationStressVariablesSSP126Y2040, PrecipitationStressVariablesSSP126Y2050, PrecipitationStressVariablesSSP126Y2100, PrecipitationStressVariablesSSP245Y2030, PrecipitationStressVariablesSSP245Y2040, PrecipitationStressVariablesSSP245Y2050, PrecipitationStressVariablesSSP245Y2100, PrecipitationStressVariablesSSP370Y2030, PrecipitationStressVariablesSSP370Y2040, PrecipitationStressVariablesSSP370Y2050, PrecipitationStressVariablesSSP370Y2100, PrecipitationStressVariablesSSP585Y2030, PrecipitationStressVariablesSSP585Y2040, PrecipitationStressVariablesSSP585Y2050, PrecipitationStressVariablesSSP585Y2100</p> <p>ColdStressVariablesCurrent, ColdStressVariablesSSP126Y2030, ColdStressVariablesSSP126Y2040, ColdStressVariablesSSP126Y2050, ColdStressVariablesSSP126Y2100, ColdStressVariablesSSP245Y2030, ColdStressVariablesSSP245Y2040, ColdStressVariablesSSP245Y2050, ColdStressVariablesSSP245Y2100, ColdStressVariablesSSP370Y2030, ColdStressVariablesSSP370Y2040, ColdStressVariablesSSP370Y2050, ColdStressVariablesSSP370Y2100, ColdStressVariablesSSP585Y2030, ColdStressVariablesSSP585Y2040, ColdStressVariablesSSP585Y2050, ColdStressVariablesSSP585Y2100</p>
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Climate Change Expert	
Stress Index, Statistics	<p>FireWeatherStressIndexStatisticsCurrent, FireWeatherStressIndexStatisticsSSP126Y2030, FireWeatherStressIndexStatisticsSSP126Y2040, FireWeatherStressIndexStatisticsSSP126Y2050, FireWeatherStressIndexStatisticsSSP126Y2100, FireWeatherStressIndexStatisticsSSP245Y2030, FireWeatherStressIndexStatisticsSSP245Y2040, FireWeatherStressIndexStatisticsSSP245Y2050,</p>

	<p>FireWeatherStressIndexStatisticsSSP245Y2100, FireWeatherStressIndexStatisticsSSP370Y2030, FireWeatherStressIndexStatisticsSSP370Y2040, FireWeatherStressIndexStatisticsSSP370Y2050, FireWeatherStressIndexStatisticsSSP370Y2100, FireWeatherStressIndexStatisticsSSP585Y2030, FireWeatherStressIndexStatisticsSSP585Y2040, FireWeatherStressIndexStatisticsSSP585Y2050, FireWeatherStressIndexStatisticsSSP585Y2100</p> <p>DroughtStressIndexStatisticsCurrent, DroughtStressIndexStatisticsSSP245Y2030, DroughtStressIndexStatisticsSSP245Y2040, DroughtStressIndexStatisticsSSP245Y2050, DroughtStressIndexStatisticsSSP245Y2100, DroughtStressIndexStatisticsSSP585Y2030, DroughtStressIndexStatisticsSSP585Y2040, DroughtStressIndexStatisticsSSP585Y2050, DroughtStressIndexStatisticsSSP585Y2100</p> <p>HeatStressIndexStatisticsCurrent, HeatStressIndexStatisticsSSP126Y2030, HeatStressIndexStatisticsSSP126Y2040, HeatStressIndexStatisticsSSP126Y2050, HeatStressIndexStatisticsSSP126Y2100, HeatStressIndexStatisticsSSP245Y2030, HeatStressIndexStatisticsSSP245Y2040, HeatStressIndexStatisticsSSP245Y2050, HeatStressIndexStatisticsSSP245Y2100, HeatStressIndexStatisticsSSP370Y2030, HeatStressIndexStatisticsSSP370Y2040, HeatStressIndexStatisticsSSP370Y2050, HeatStressIndexStatisticsSSP370Y2100, HeatStressIndexStatisticsSSP585Y2030, HeatStressIndexStatisticsSSP585Y2040, HeatStressIndexStatisticsSSP585Y2050, HeatStressIndexStatisticsSSP585Y2100</p> <p>PrecipitationStressIndexStatisticsCurrent, PrecipitationStressIndexStatisticsSSP126Y2030, PrecipitationStressIndexStatisticsSSP126Y2040, PrecipitationStressIndexStatisticsSSP126Y2050, PrecipitationStressIndexStatisticsSSP126Y2100, PrecipitationStressIndexStatisticsSSP245Y2030, PrecipitationStressIndexStatisticsSSP245Y2040, PrecipitationStressIndexStatisticsSSP245Y2050, PrecipitationStressIndexStatisticsSSP245Y2100, PrecipitationStressIndexStatisticsSSP370Y2030, PrecipitationStressIndexStatisticsSSP370Y2040, PrecipitationStressIndexStatisticsSSP370Y2050, PrecipitationStressIndexStatisticsSSP370Y2100, PrecipitationStressIndexStatisticsSSP585Y2030, PrecipitationStressIndexStatisticsSSP585Y2040, PrecipitationStressIndexStatisticsSSP585Y2050, PrecipitationStressIndexStatisticsSSP585Y2100</p> <p>ColdStressIndexStatisticsCurrent, ColdStressIndexStatisticsSSP126Y2030, ColdStressIndexStatisticsSSP126Y2040, ColdStressIndexStatisticsSSP126Y2050, ColdStressIndexStatisticsSSP126Y2100, ColdStressIndexStatisticsSSP245Y2030,</p>
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	<p>ColdStressIndexStatisticsSSP245Y2040, ColdStressIndexStatisticsSSP245Y2050, ColdStressIndexStatisticsSSP245Y2100, ColdStressIndexStatisticsSSP370Y2030, ColdStressIndexStatisticsSSP370Y2040, ColdStressIndexStatisticsSSP370Y2050, ColdStressIndexStatisticsSSP370Y2100, ColdStressIndexStatisticsSSP585Y2030, ColdStressIndexStatisticsSSP585Y2040, ColdStressIndexStatisticsSSP585Y2050, ColdStressIndexStatisticsSSP585Y2100</p>
<p>Variables, Statistics</p>	<p>FireWeatherStressVariablesStatisticsCurrent, FireWeatherStressVariablesStatisticsSSP126Y2030, FireWeatherStressVariablesStatisticsSSP126Y2040, FireWeatherStressVariablesStatisticsSSP126Y2050, FireWeatherStressVariablesStatisticsSSP126Y2100, FireWeatherStressVariablesStatisticsSSP245Y2030, FireWeatherStressVariablesStatisticsSSP245Y2040, FireWeatherStressVariablesStatisticsSSP245Y2050, FireWeatherStressVariablesStatisticsSSP245Y2100, FireWeatherStressVariablesStatisticsSSP370Y2030, FireWeatherStressVariablesStatisticsSSP370Y2040, FireWeatherStressVariablesStatisticsSSP370Y2050, FireWeatherStressVariablesStatisticsSSP370Y2100, FireWeatherStressVariablesStatisticsSSP585Y2030, FireWeatherStressVariablesStatisticsSSP585Y2040, FireWeatherStressVariablesStatisticsSSP585Y2050, FireWeatherStressVariablesStatisticsSSP585Y2100</p> <p>DroughtStressVariablesStatisticsCurrent, DroughtStressVariablesStatisticsSSP245Y2030, DroughtStressVariablesStatisticsSSP245Y2040, DroughtStressVariablesStatisticsSSP245Y2050, DroughtStressVariablesStatisticsSSP245Y2100, DroughtStressVariablesStatisticsSSP585Y2030, DroughtStressVariablesStatisticsSSP585Y2040, DroughtStressVariablesStatisticsSSP585Y2050, DroughtStressVariablesStatisticsSSP585Y2100</p> <p>HeatStressVariablesStatisticsCurrent, HeatStressVariablesStatisticsSSP126Y2030, HeatStressVariablesStatisticsSSP126Y2040, HeatStressVariablesStatisticsSSP126Y2050, HeatStressVariablesStatisticsSSP126Y2100, HeatStressVariablesStatisticsSSP245Y2030, HeatStressVariablesStatisticsSSP245Y2040, HeatStressVariablesStatisticsSSP245Y2050, HeatStressVariablesStatisticsSSP245Y2100, HeatStressVariablesStatisticsSSP370Y2030, HeatStressVariablesStatisticsSSP370Y2040, HeatStressVariablesStatisticsSSP370Y2050, HeatStressVariablesStatisticsSSP370Y2100, HeatStressVariablesStatisticsSSP585Y2030, HeatStressVariablesStatisticsSSP585Y2040, HeatStressVariablesStatisticsSSP585Y2050, HeatStressVariablesStatisticsSSP585Y2100</p>

	<p>PrecipitationStressVariablesStatisticsCurrent, PrecipitationStressVariablesStatisticsSSP126Y2030, PrecipitationStressVariablesStatisticsSSP126Y2040, PrecipitationStressVariablesStatisticsSSP126Y2050, PrecipitationStressVariablesStatisticsSSP126Y2100, PrecipitationStressVariablesStatisticsSSP245Y2030, PrecipitationStressVariablesStatisticsSSP245Y2040, PrecipitationStressVariablesStatisticsSSP245Y2050, PrecipitationStressVariablesStatisticsSSP245Y2100, PrecipitationStressVariablesStatisticsSSP370Y2030, PrecipitationStressVariablesStatisticsSSP370Y2040, PrecipitationStressVariablesStatisticsSSP370Y2050, PrecipitationStressVariablesStatisticsSSP370Y2100, PrecipitationStressVariablesStatisticsSSP585Y2030, PrecipitationStressVariablesStatisticsSSP585Y2040, PrecipitationStressVariablesStatisticsSSP585Y2050, PrecipitationStressVariablesStatisticsSSP585Y2100</p> <p>ColdStressVariablesStatisticsCurrent, ColdStressVariablesStatisticsSSP126Y2030, ColdStressVariablesStatisticsSSP126Y2040, ColdStressVariablesStatisticsSSP126Y2050, ColdStressVariablesStatisticsSSP126Y2100, ColdStressVariablesStatisticsSSP245Y2030, ColdStressVariablesStatisticsSSP245Y2040, ColdStressVariablesStatisticsSSP245Y2050, ColdStressVariablesStatisticsSSP245Y2100, ColdStressVariablesStatisticsSSP370Y2030, ColdStressVariablesStatisticsSSP370Y2040, ColdStressVariablesStatisticsSSP370Y2050, ColdStressVariablesStatisticsSSP370Y2100, ColdStressVariablesStatisticsSSP585Y2030, ColdStressVariablesStatisticsSSP585Y2040, ColdStressVariablesStatisticsSSP585Y2050, ColdStressVariablesStatisticsSSP585Y2100</p>
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