Copernicus Atmosphere Monitoring Service

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1. Introduction

Some of today's most important environmental concerns relate to the composition of the atmosphere. The increasing concentration of the greenhouse gases and the cooling effect of aerosol are prominent drivers of a changing climate, but the extent of their impact is often still uncertain.

At the Earth's surface, aerosols, ozone and other reactive gases such as nitrogen dioxide determine the quality of the air around us, affecting human health and life expectancy, the health of ecosystems and the fabric of the built environment. Ozone distributions in the stratosphere influence the amount of ultraviolet radiation reaching the surface. Dust, sand, smoke and volcanic aerosols affect the safe operation of transport systems and the availability of power from solar generation, the formation of clouds and rainfall, and the remote sensing by satellite of land, ocean and atmosphere.

To address these environmental concerns there is a need for data and processed information. The Copernicus Atmosphere Monitoring Service (CAMS) has been developed to meet these needs, aiming at supporting policymakers, business and citizens with enhanced atmospheric environmental information.

2. Data

2.1. Parameter Family

2.1.1. Greenhouse gas

2.1.2. Reactive gas

2.2. Global Analyses

2.2.1. Global analyses of chemical species - ozone

2.2.2. Global analyses of chemical species - carbon monoxide

2.2.3. Global analyses of chemical species - nitrogen dioxide

2.2.4. Global analyses of chemical species - sulphur dioxide

2.2.5. Global analyses of chemical species - formaldehyde

2.3. Global Reanalysis

2.3.1. MACC global reanalysis of assimilated chemical species - ozone

2.3.2. MACC global reanalysis of assimilated chemical species - carbon monoxide

2.3.3. MACC global reanalysis of assimilated chemical species - nitrogen dioxide

2.3.4. MACC global reanalysis of assimilated chemical species - sulphur dioxide

2.3.5. MACC global reanalysis of assimilated chemical species - formaldehyde

2.4. Global Forecasts

2.4.1. Global forecasts of assimilated chemical species - ozone

2.4.2. Global forecasts of assimilated chemical species - carbon monoxide

2.4.3. Global forecasts of assimilated chemical species - nitrogen dioxide

2.4.4. Global forecasts of assimilated chemical species - sulphur dioxide

2.4.5. Global forecasts of assimilated chemical species - formaldehyde

2.4.6. Global forecasts of non-assimilated chemical species

2.4.7. Global forecasts of greenhouse gases - carbon dioxide

2.4.8. Global forecasts of greenhouse gases - methane

2.5. Policy Support

2.5.1. Green scenarios

2.5.2. European air quality assessment reports

2.5.3. Country source-receptor calculations

3. Methodology