

ECMWF & Copernicus

Turning research into operational
services for the benefit of
EU citizens




Europe's eyes on Earth



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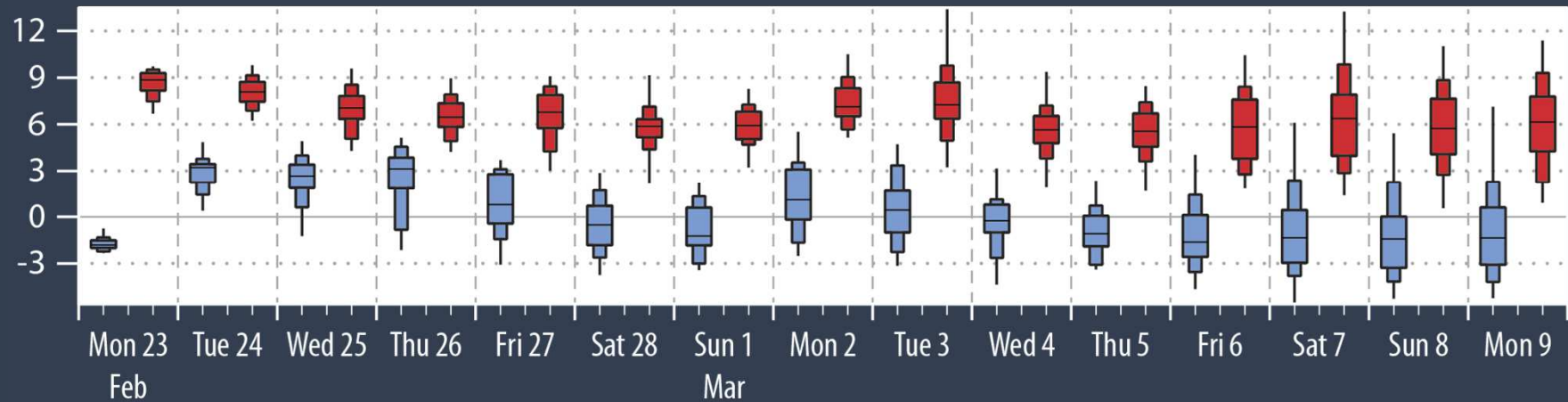
ECMWF



opernicus
Europe's eyes on Earth

40 years of collaboration in global numerical weather prediction

2m min/max Temperature (°C) reduced to 94 m (station height) from 94 m (T319)



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ECMWF

40 years of collaboration on global numerical weather prediction



- A research institute and a 24/7 operational service



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40 years of collaboration on global numerical weather prediction



- A research institute and a 24/7 operational service
- Attracting talented scientists



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ECMWF

40 years of collaboration on global numerical weather prediction



- A research institute and a 24/7 operational service
- Attracting talented scientists
- Supercomputing and networking infrastructure



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ECMWF

40 years of collaboration on global numerical weather prediction



- A research institute and a 24/7 operational service
- Attracting talented scientists
- Supercomputing and networking infrastructure
- International collaborative working



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ECMWF & Copernicus Services

A European partnership



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ECMWF & Copernicus Services
the ambition to serve



our approach:
PUTTING USERS FIRST
COLLABORATION



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Copernicus Atmosphere Monitoring Service



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Copernicus Atmosphere Monitoring Service



MISSION

Supporting the European strategy "Living well within the boundaries of our planet" by combining models and observations to monitor and forecast atmospheric pollution.

Contributing to Europe's green economy by providing timely and accurate information on aerosols, chemical pollutants and greenhouse gases.



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Copernicus Atmosphere Monitoring Service



PORTFOLIO



AIR QUALITY AND ATMOSPHERIC COMPOSITION

European air quality analyses, forecasts and assessments in support of reporting and policy making, pollen forecasts, global transport of constituents/pollutants...



CLIMATE FORCING

Distributions of aerosol components and their radiative impacts, *other radiative forcings...*



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Copernicus Atmosphere Monitoring Service



OZONE LAYER AND UV

Monitoring and forecasting of the ozone layer / hole, UV index, *UV radiation (crops, ecosystems)*...



SOLAR RADIATION

Estimates of solar irradiance at surface, improved potential yield assessments for solar plants...



EMISSIONS AND SURFACE FLUXES

Estimates of human emissions globally and in Europe (high-resolution), emissions by wildfires, surface fluxes of CO₂, CH₄ and N₂O...



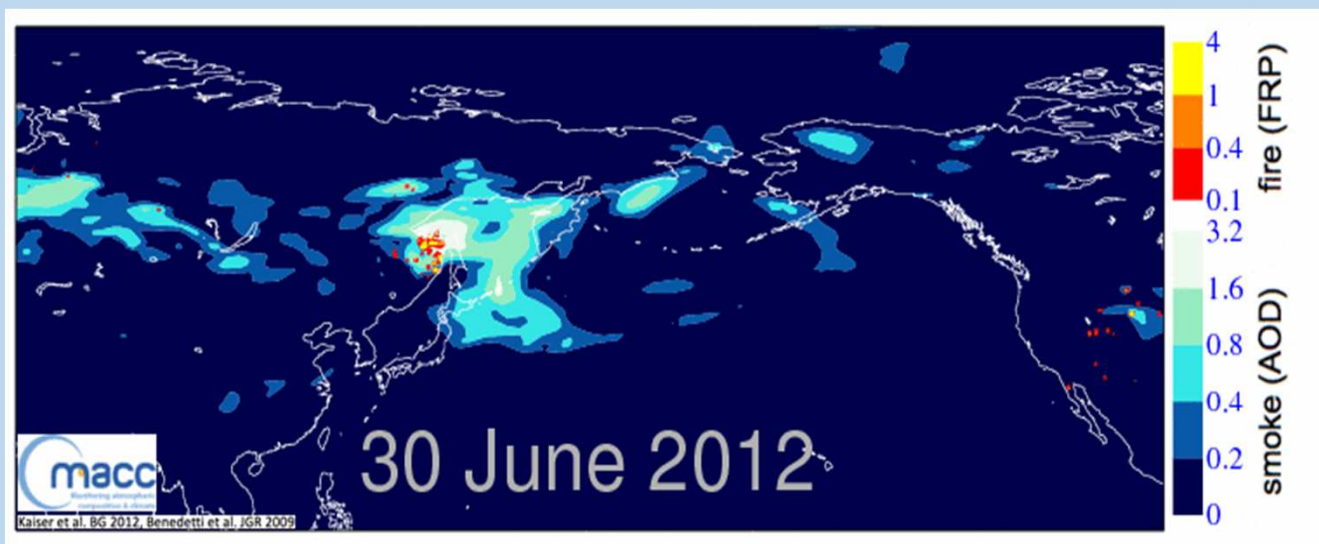
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integrated predictions



Fires and smoke



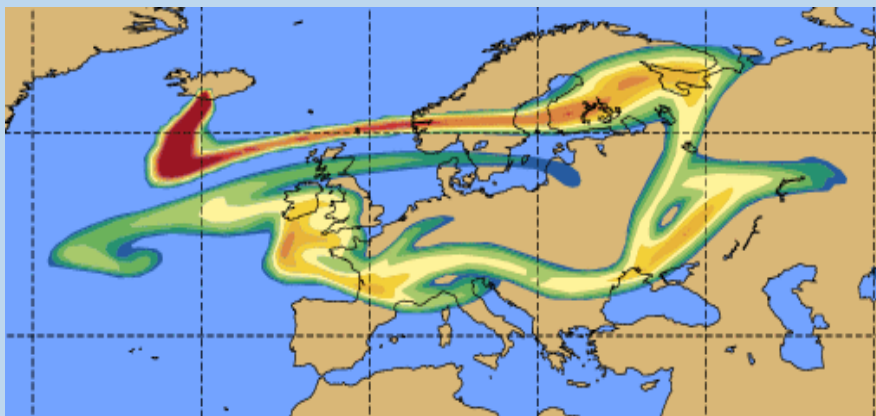
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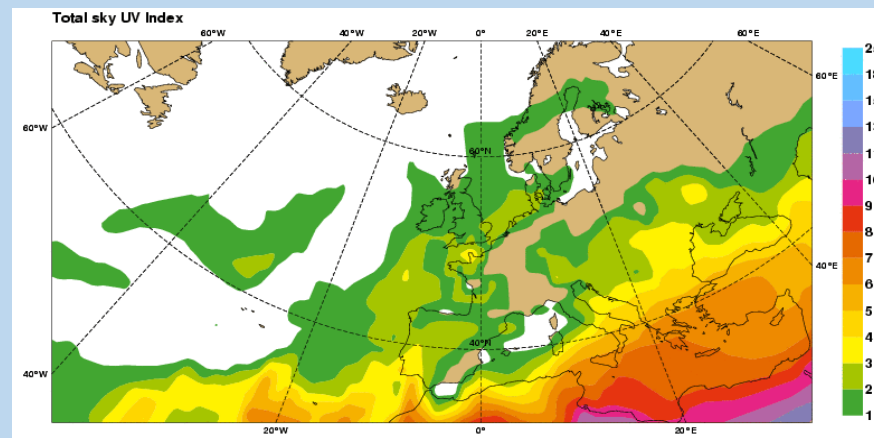
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integrated predictions



Volcanic eruptions



Solar radiation



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Copernicus Climate Change Service



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Copernicus Climate Change Service



MISSION

An authoritative source of climate information for Europe covering past climate and trends, current state of the climate and projections of possible scenarios of future climate.

Building upon national and international existing efforts

Supporting the market for climate services in Europe



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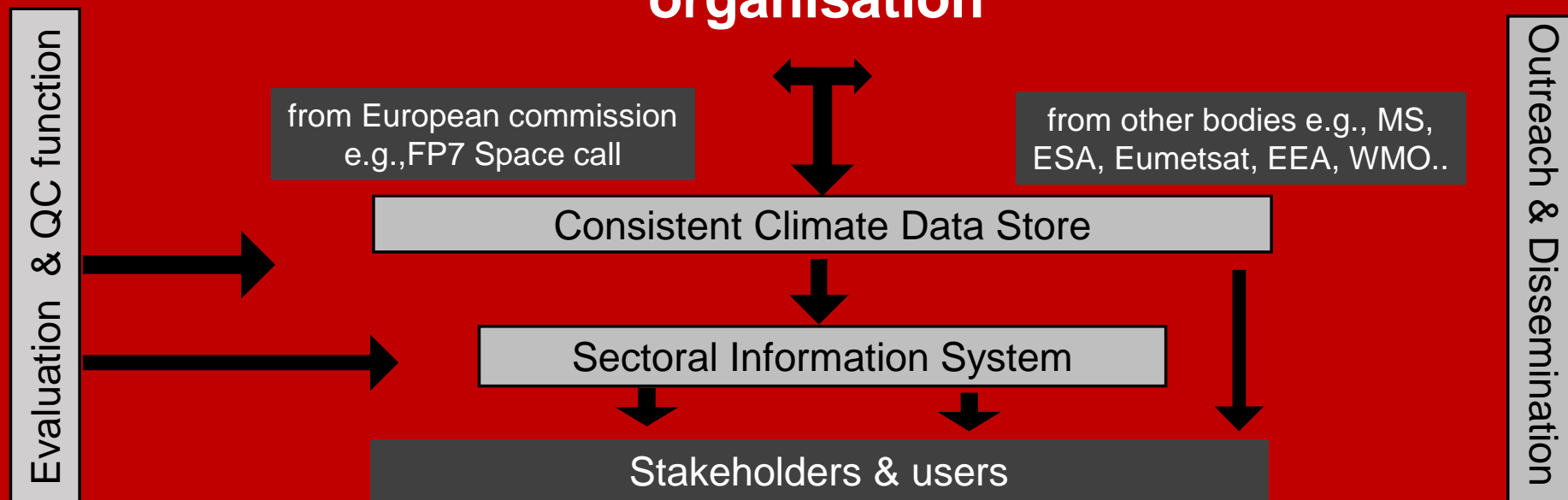
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Copernicus Climate Change Service



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organisation



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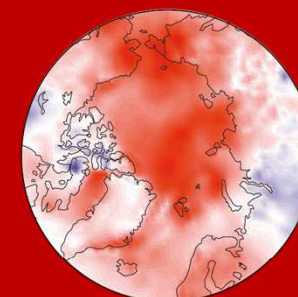
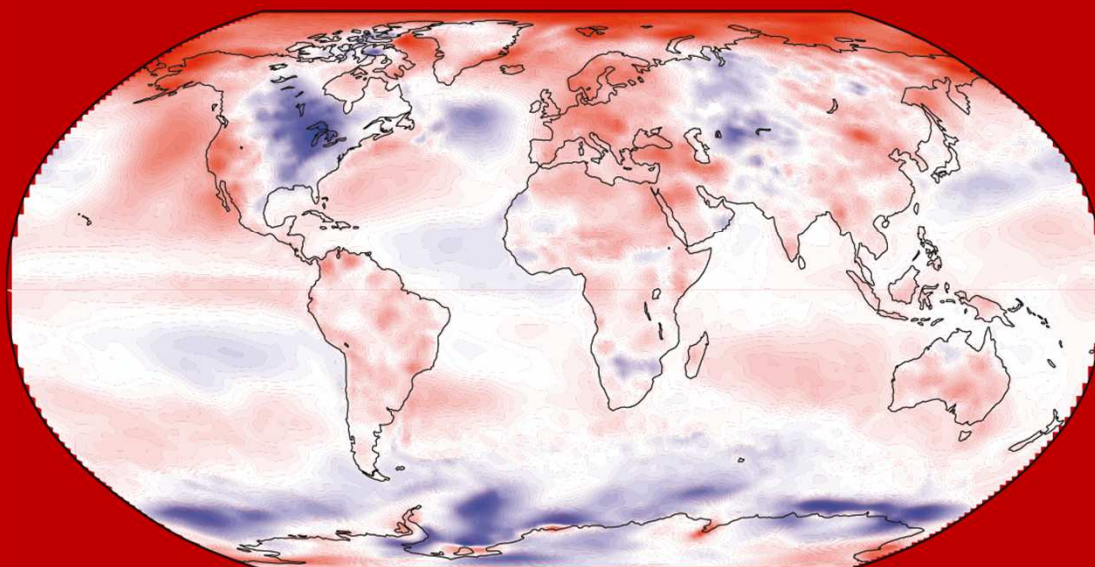


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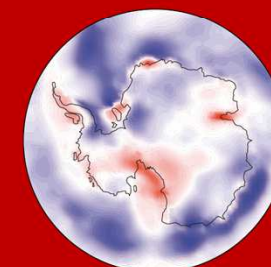


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Two-metre temperature anomaly (K) for 2014 relative to 1981-2010



Arctic pattern of
temperature anomalies



Antarctic pattern of
temperature anomalies



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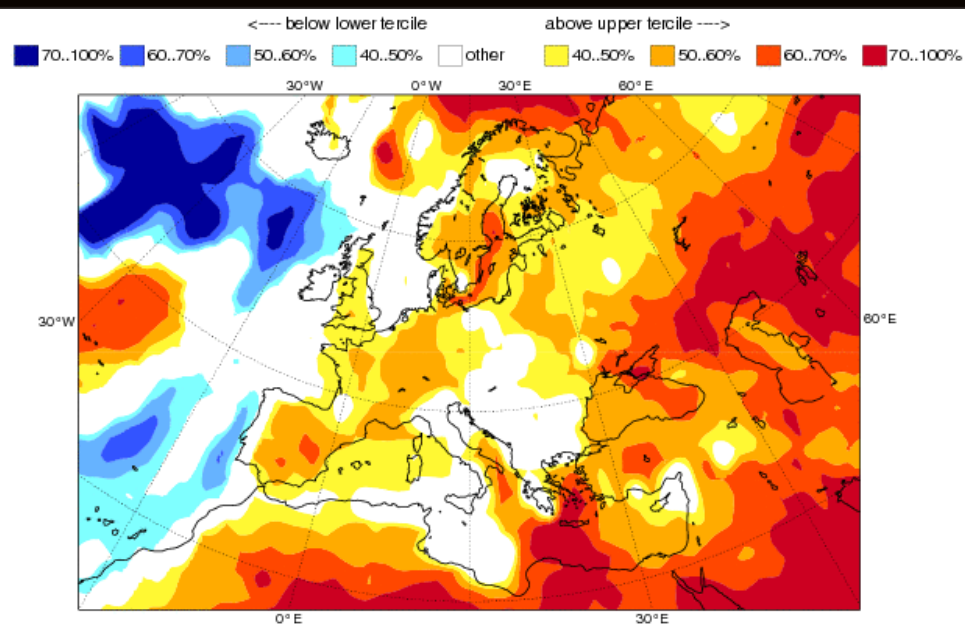
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Seasonal forecast

May-June-July

Surface temperature



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A SECTORAL APPROACH



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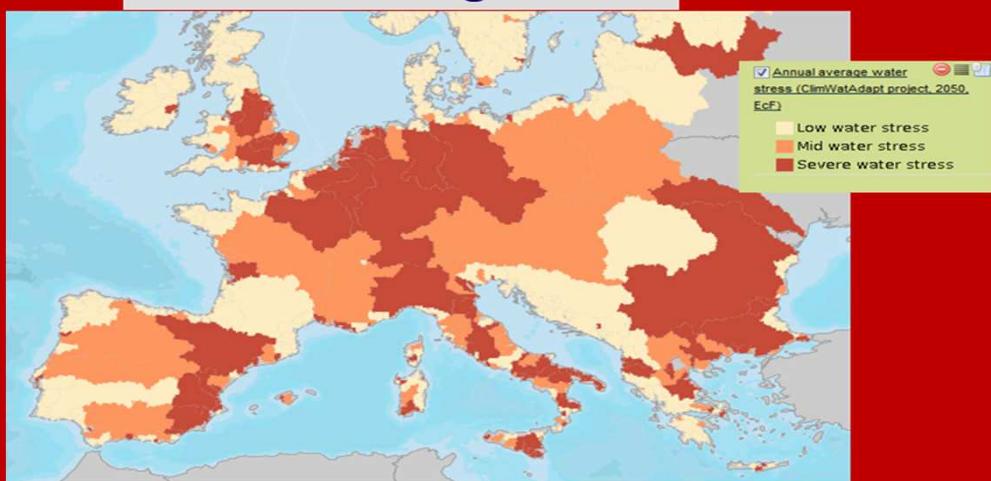


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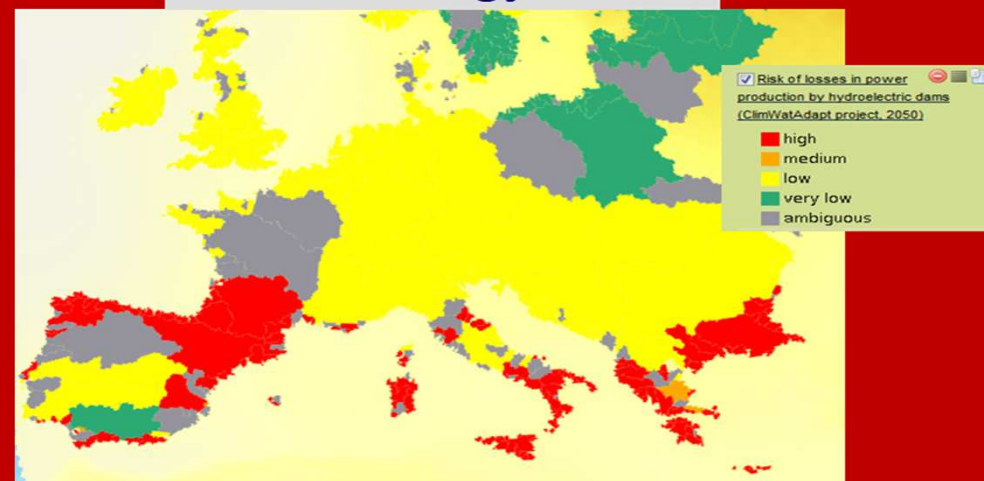


A SECTORAL APPROACH

Water management



Energy



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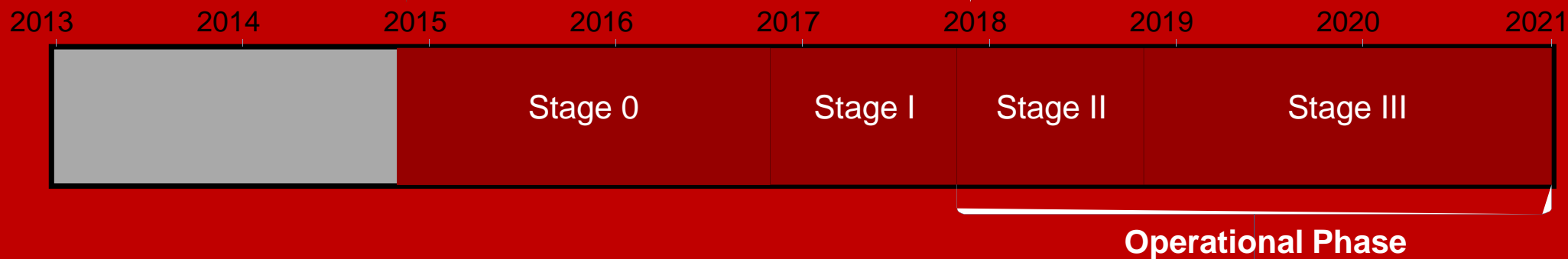


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TIMELINE

Proof of Concept + Pre-operational Phase



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