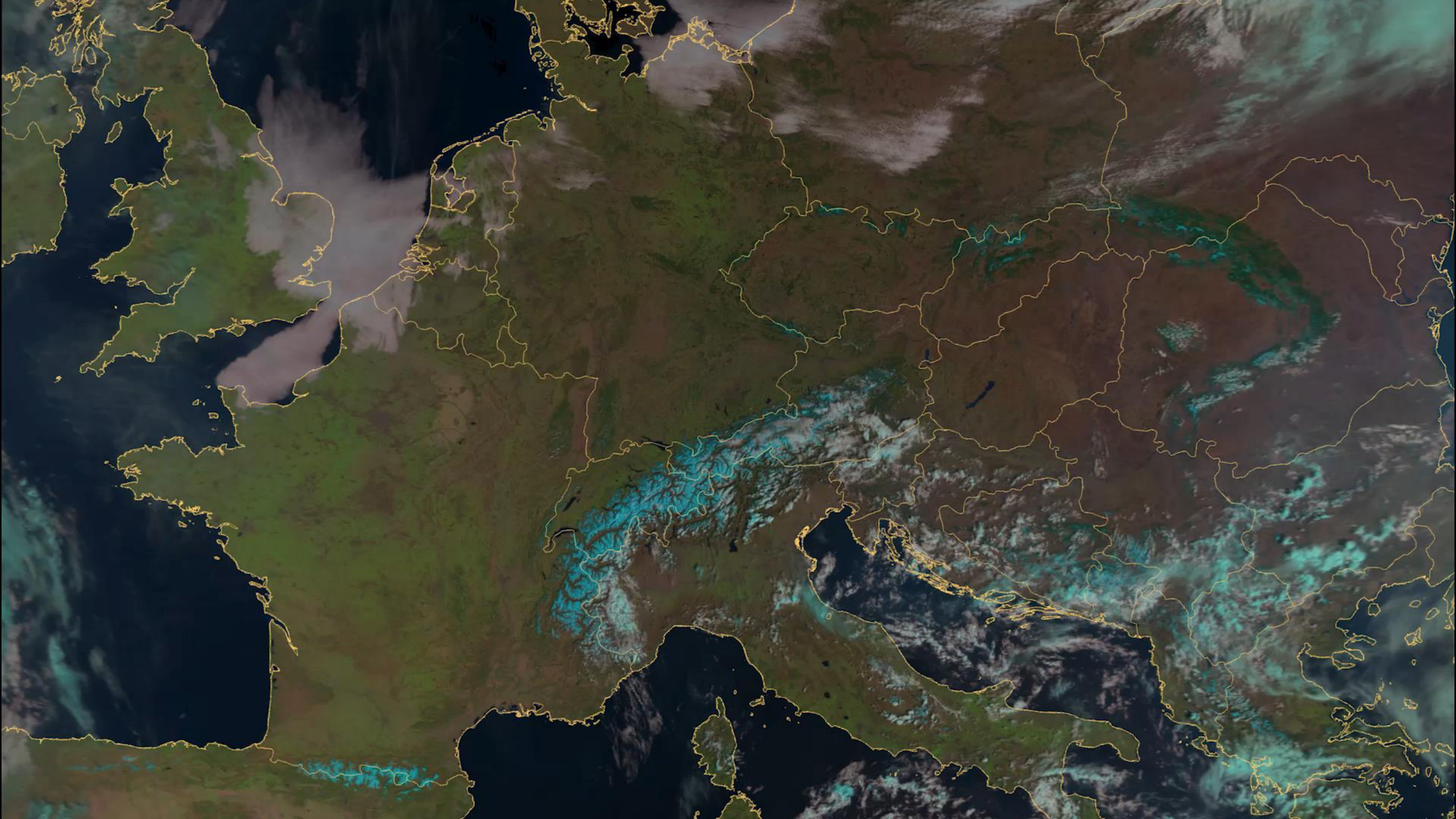
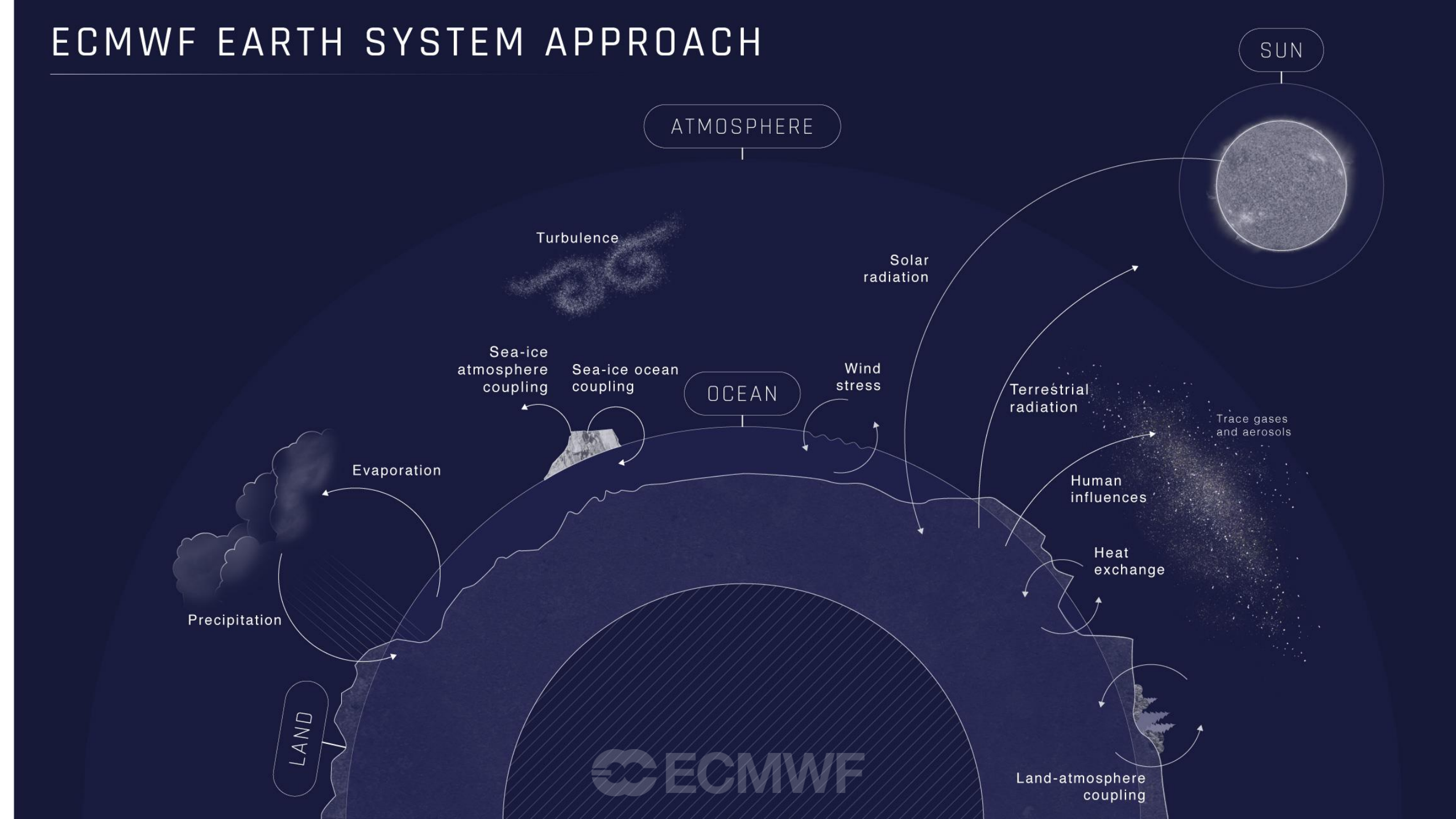
THE STRENGTH OF A COMMON GOAL

European co-operation at its best: **pooling resources**

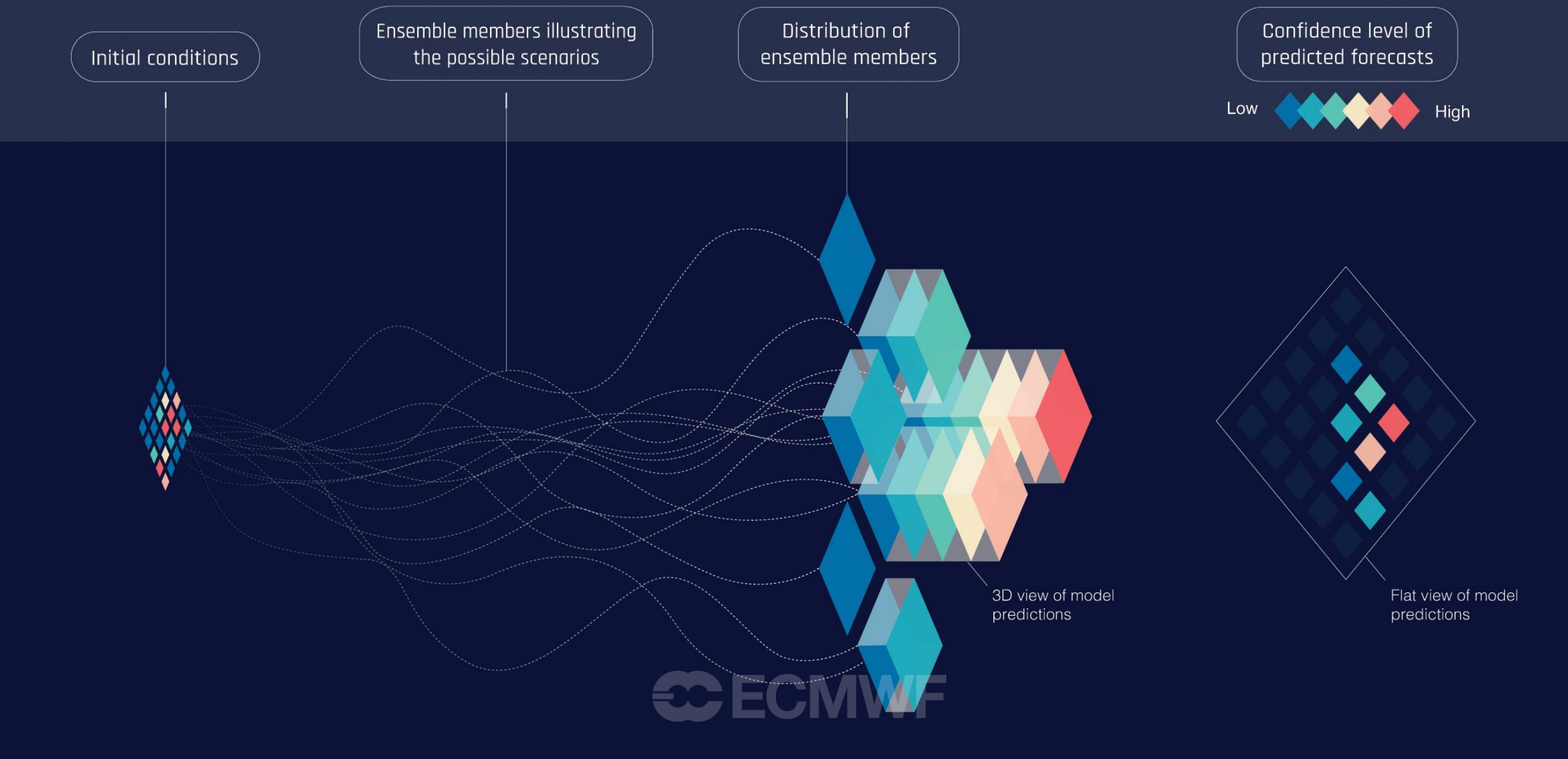


GLOBAL COLLABORATION

ECMWF EARTH SYSTEM APPROACH



ECMWF ENSEMBLE PREDICTION

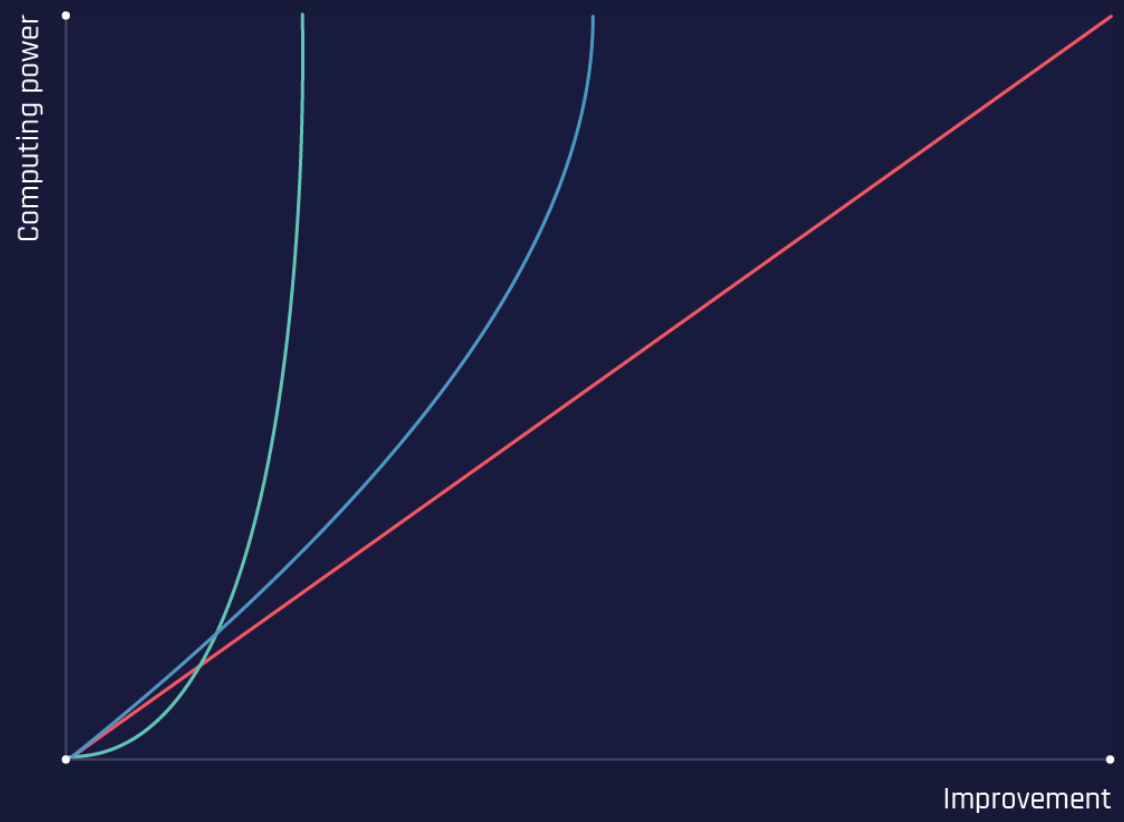


WHY WE NEED SCALABLE SOLUTIONS

The impact of improved forecasts on computing power

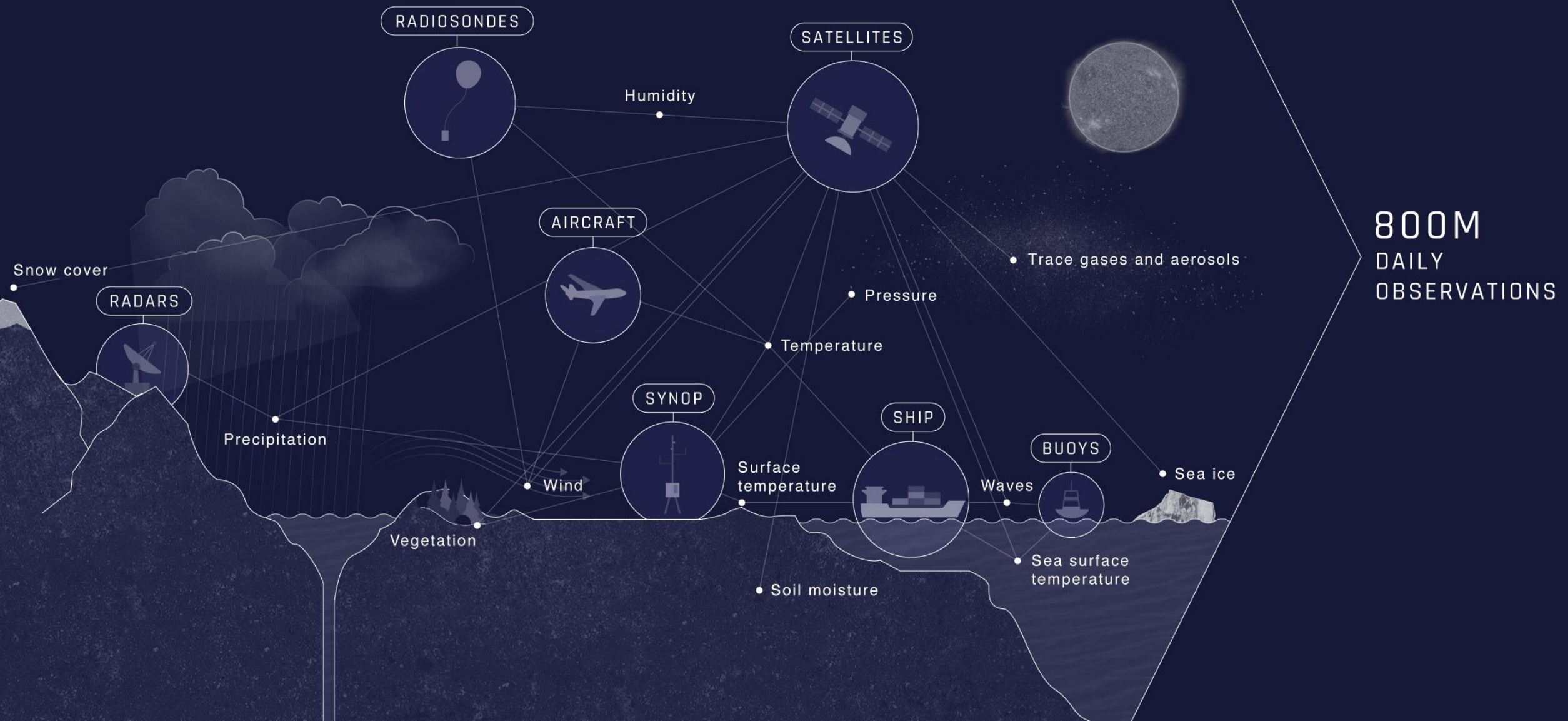
For forecasts that are:	We need:
More accurate	Higher resolution models
Longer in range	More realistic models
More reliable	Larger ensembles

And all of this translates to more computing power:



CAPTURING THE WEATHER

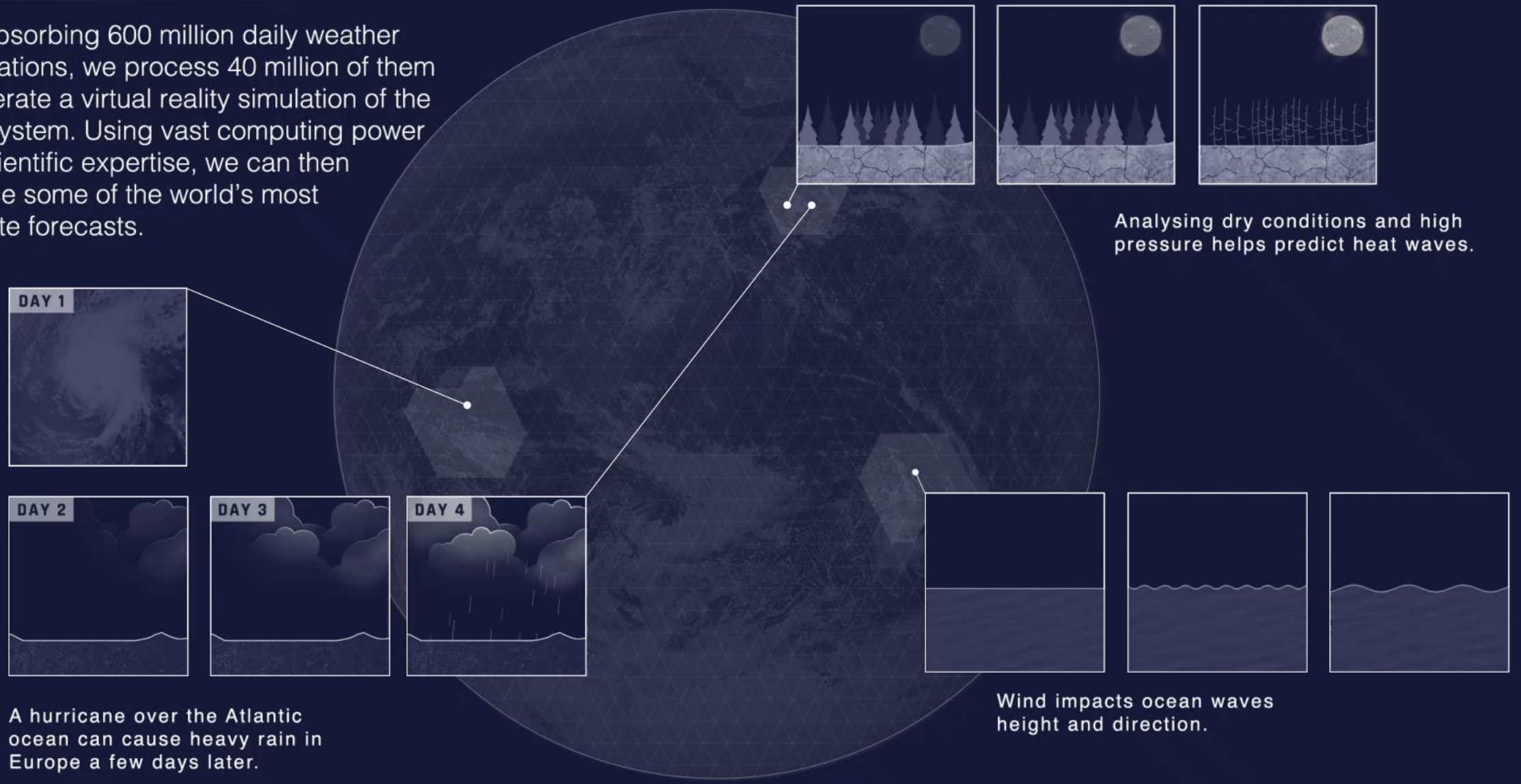
To predict the future, we observe the present. Every day, we absorb 800 million observations to create a detailed snapshot of Earth's weather.



800M
DAILY
OBSERVATIONS

VIRTUAL WORLD

After absorbing 600 million daily weather observations, we process 40 million of them to generate a virtual reality simulation of the Earth system. Using vast computing power and scientific expertise, we can then produce some of the world's most accurate forecasts.



Analysing dry conditions and high pressure helps predict heat waves.

A hurricane over the Atlantic ocean can cause heavy rain in Europe a few days later.

Wind impacts ocean waves height and direction.

ECMWF

BEYOND THE WEATHER FORECAST

ECMWF's forecasting system is now giving us even more vital predictions about Earth's environmental developments. These forecasts can protect infrastructure, promote economic development and save lives.

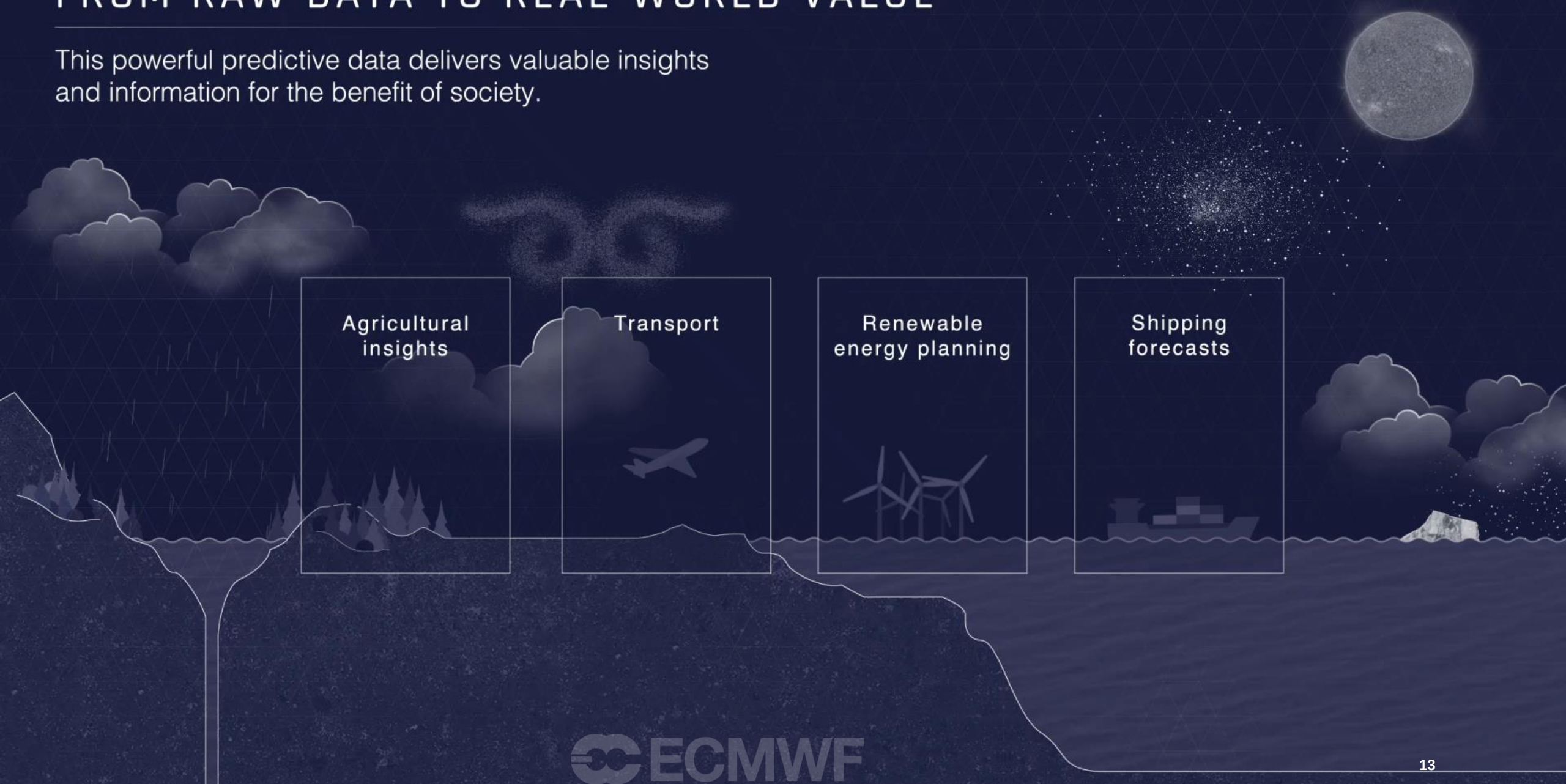
Prediction of dry conditions and strong winds can help assess the risk of disasters like the California wildfires.

Precipitation and soil moisture conditions help predict flood hazards.

ECMWF

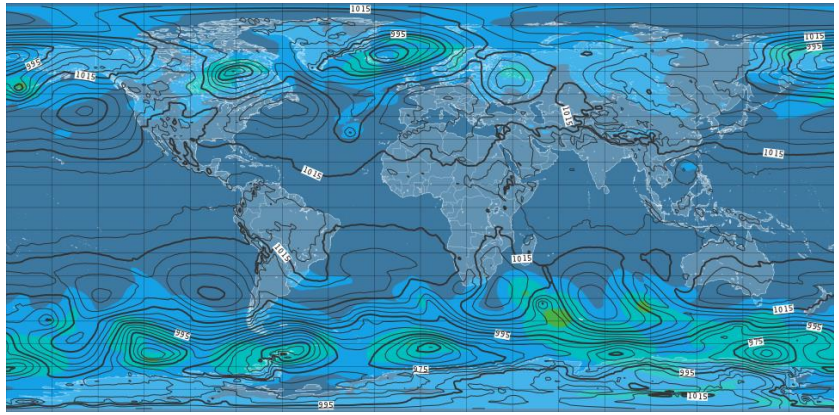
FROM RAW DATA TO REAL-WORLD VALUE

This powerful predictive data delivers valuable insights and information for the benefit of society.



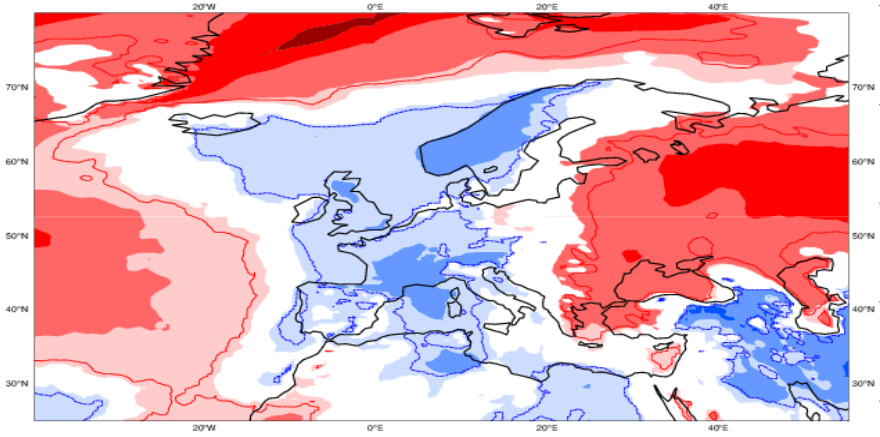
Deliverables: Global NWP at all ranges

Medium-range prediction



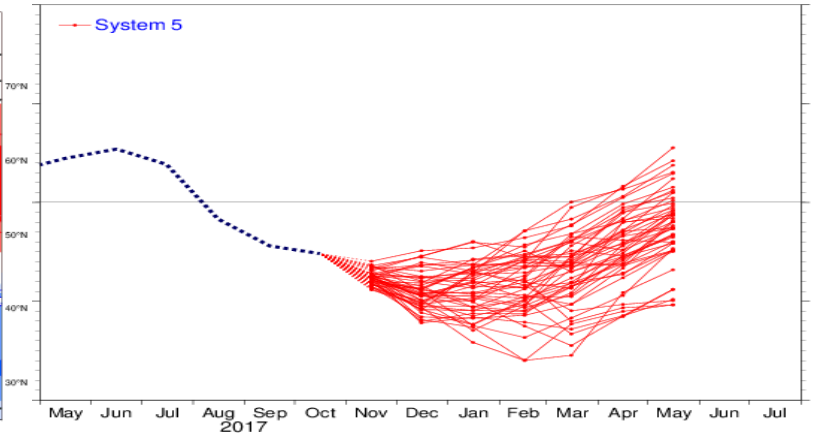
High-resolution mean sea level pressure and ensemble spread

Monthly forecast plumes



Weekly anomaly – 2m temperature over Europe

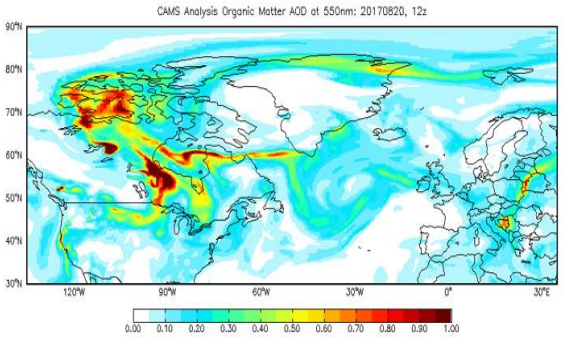
Long-range prediction



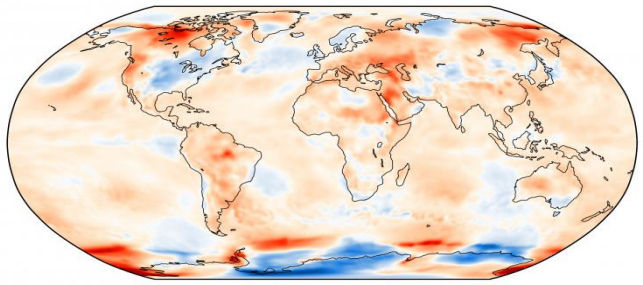
El Nino SST anomaly plume

Working with the EU: Environmental information

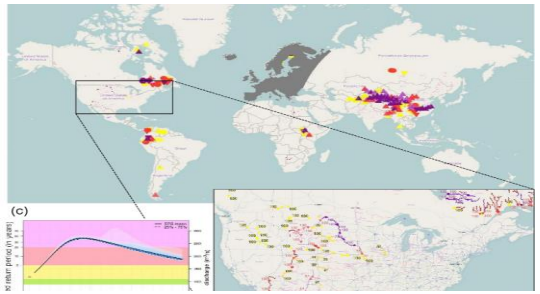
Atmosphere Monitoring



Climate Change



Flood forecasting



Fire forecasting