

Copernicus

Europe's eyes on Earth

WHAT IS COPERNICUS?

Copernicus is the European Union's (EU) flagship programme on monitoring the Earth's environment using satellite and in-situ observations.

Copernicus is a public framework delivering free open access to data and information services in six areas: land, marine and atmosphere monitoring, climate change, emergency management and security.

THE HEAT IS STILL ON

Despite the historic achievement of the Paris Agreement the heat is still on to keep global temperatures under a 2°C warming.

2016 was a record-breaking year for warmth globally as well as a year when CO₂ concentrations failed to dip back to seasonal levels below 400PPM.

Drier conditions also exacerbated wildfires in Siberia and affected agriculture and pastoralist sectors in Eastern and Southern Africa.

HOW CAN COPERNICUS HELP?

To tackle the effects of global warming we constantly need to be aware of the state and health of our planet.

By observing our environment, collecting, storing and analyzing data, Copernicus provides products to enable effective decisions to be made and innovative solutions to be developed.



Copernicus Climate Change Service

1 **INFORMING**
Policy development to protect citizens from climate-related hazards such as high-impact weather events.

2 **IMPROVING**
Planning of mitigation and adaptation practices for key human and societal activities.

3 **PROMOTING**
The development of new services for the benefit of society.

THE COPERNICUS CLIMATE CHANGE SERVICE SECTORAL INFORMATION SYSTEM (SIS)

Building with users the climate information solutions that will help societal and business sectors improve decision-making and planning regarding climate mitigation and adaptation.

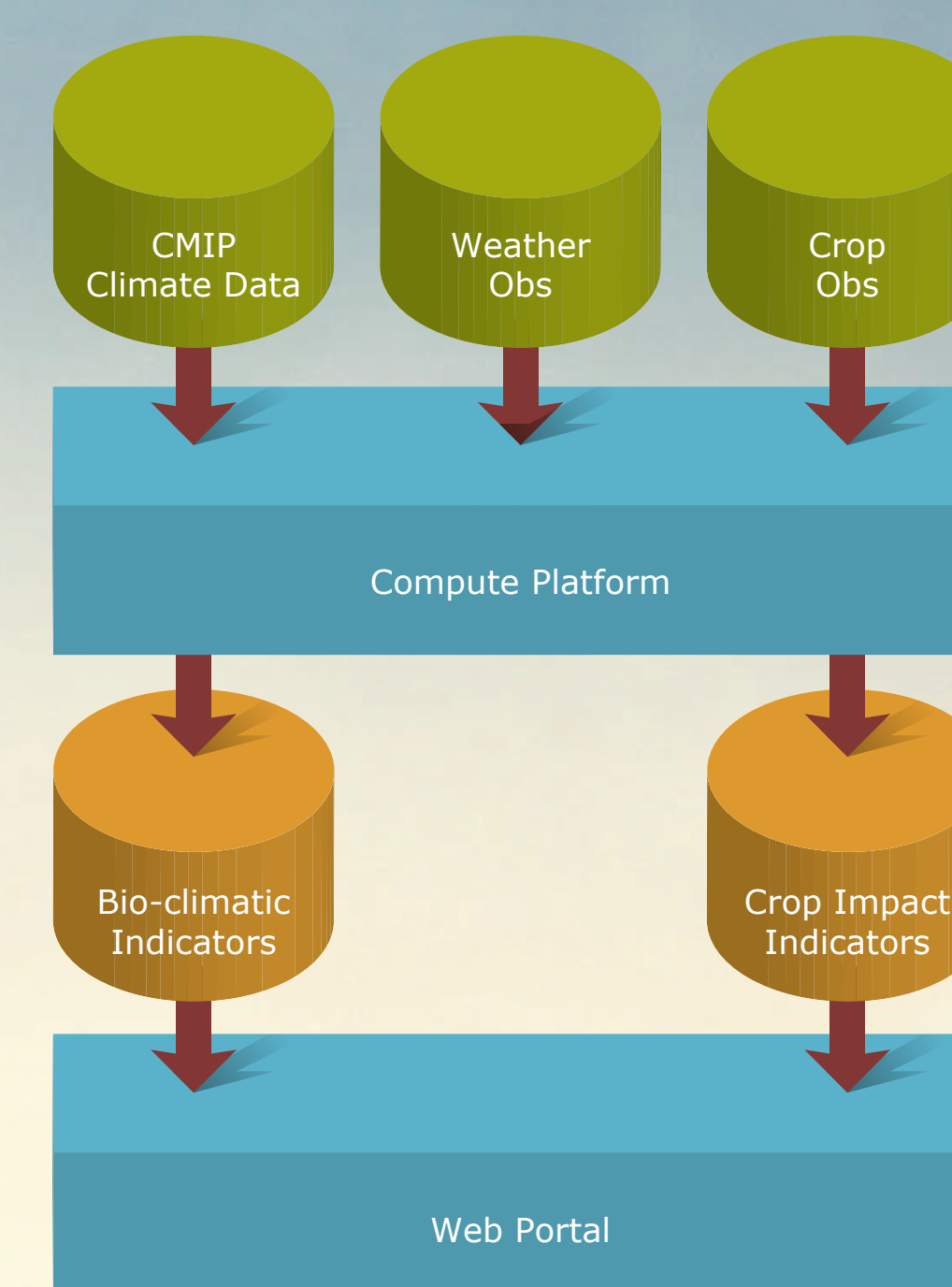
At the moment 7 proof of concepts projects are working with sectors to develop the Copernicus Climate Change Service so that it meets the needs of these users. The projects include, 2 projects for the water sector, 2 for the energy, 1 for insurance, 1 for agriculture and 1 for both infrastructure and health sectors.

SPOTLIGHT ON AGRICULTURE

The Agriculture project takes available, high-quality climate data, and translates them into products useful to the agricultural sector, building a system which allows climate variables to be fused with agricultural information.

For the purpose of the proof of concept phase, the project is concentrating on woody crops – namely forestry, vines and olives – that are high investment, multi-year yield, and responsive to cumulative change – i.e. climate affected.

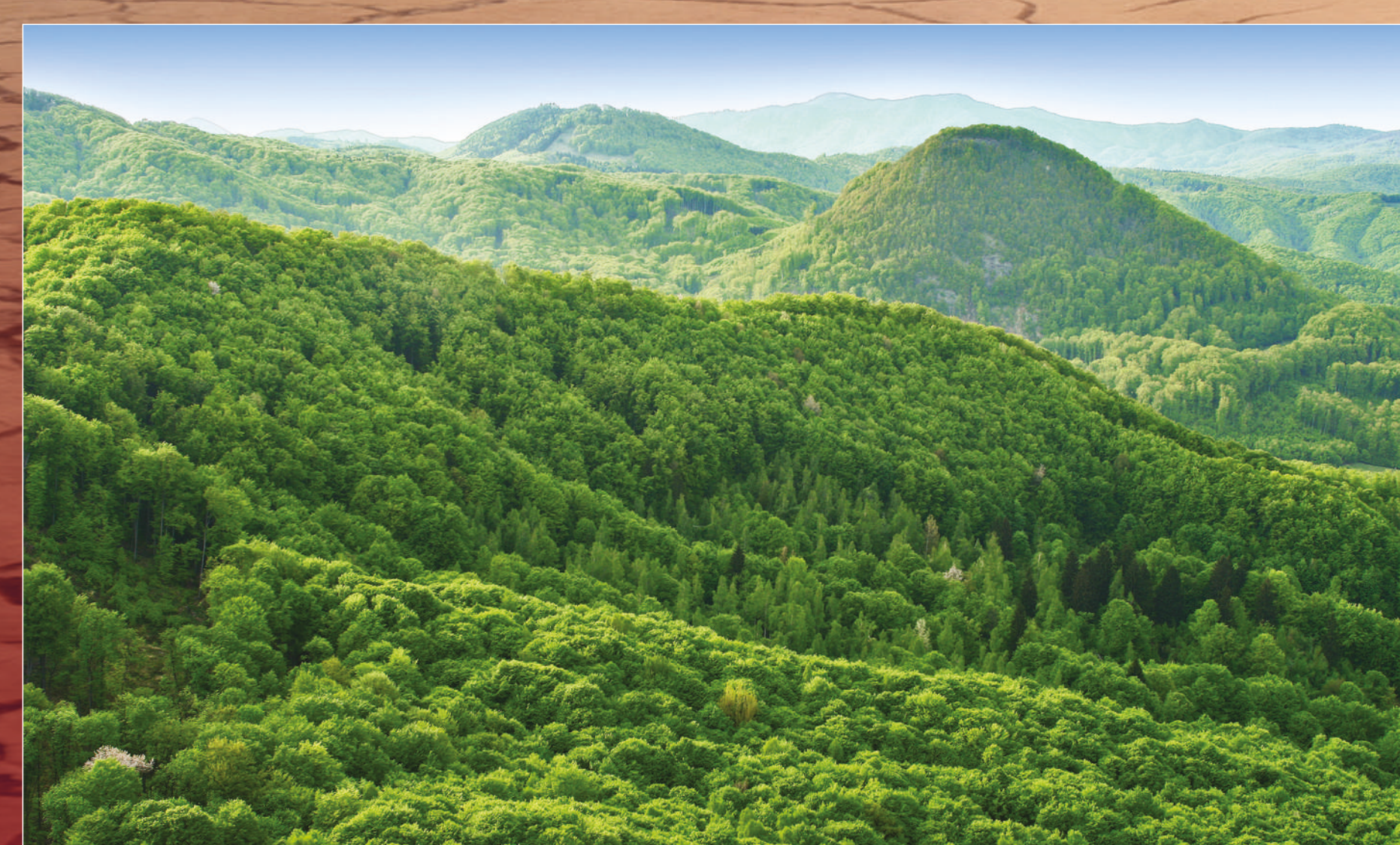
There are many variables that impact on the productivity of such crops that make the demonstrator applicable to the challenges in developing countries including: water availability, light, temperature, day length, phenology, local conditions, past history, future trends.



DEVELOPING DROUGHT, PEST IMPACT AND PHENOLOGICAL INDICATORS FOR POTENTIAL ADAPTATION ANYWHERE IN THE WORLD

FORESTRY

A drought stress indicator from modelled climate and agricultural data will be used to predict the growth or decline of certain forest types depending on the climatic changes expected in the future.



OLIVES

A pest impact indicator from modelled climate and agricultural data. The link between the growth cycle of the fruit fly population and its sensitivity to changing climatic conditions will be used to predict future outbreaks of pest infestation.



VINES

A phenological indicator from using modelled climate and agricultural data that predicts the future timescales of the phenological stages of the local varieties of grape, which have proven sensitive to changing climatic conditions.

