

# Climate data processing for climate resilience

## Tajikistan and Kyrgyzstan

Data access, processing and methodological concepts

Webinar  
17. - 27. 11.2020

**DAY 04**  
**Data Families**



## FAIR Guiding principles

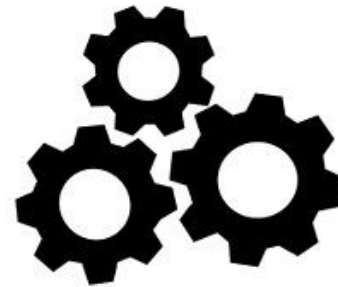
F<sub>indable</sub>



A<sub>ccessible</sub>



I<sub>nteroperable</sub>



R<sub>eusable</sub>

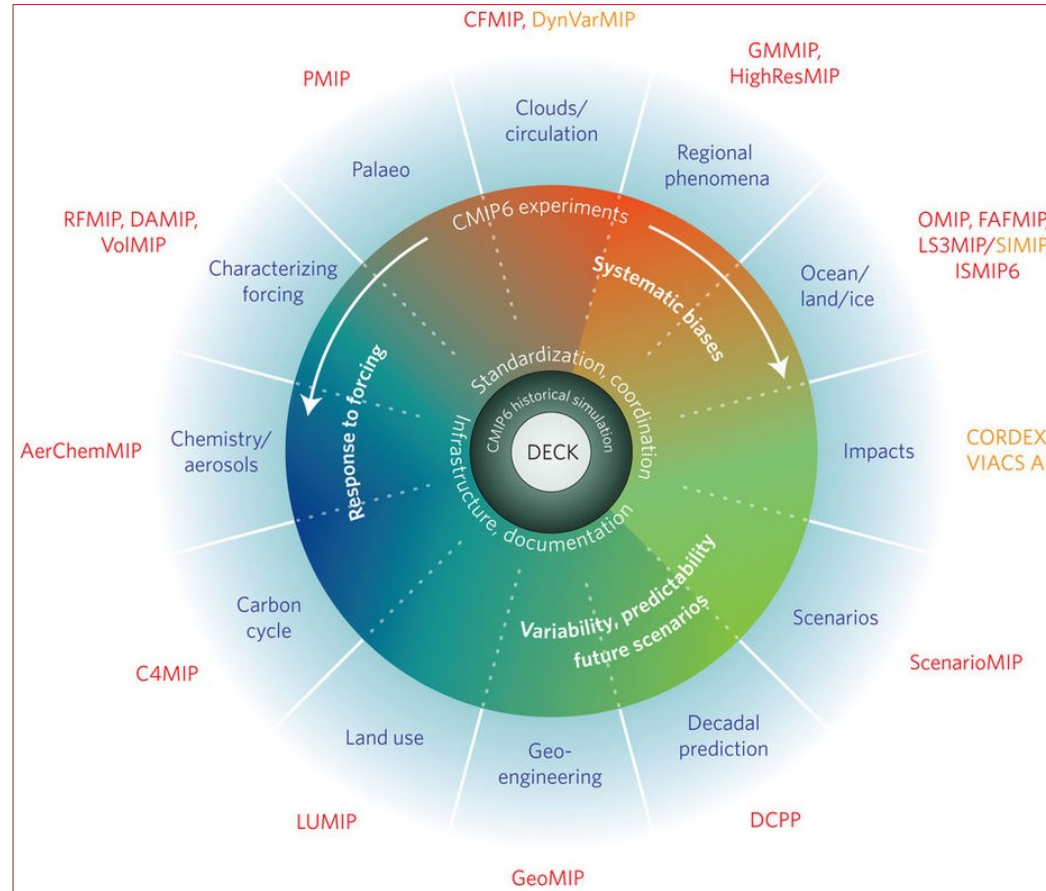


Origin source:

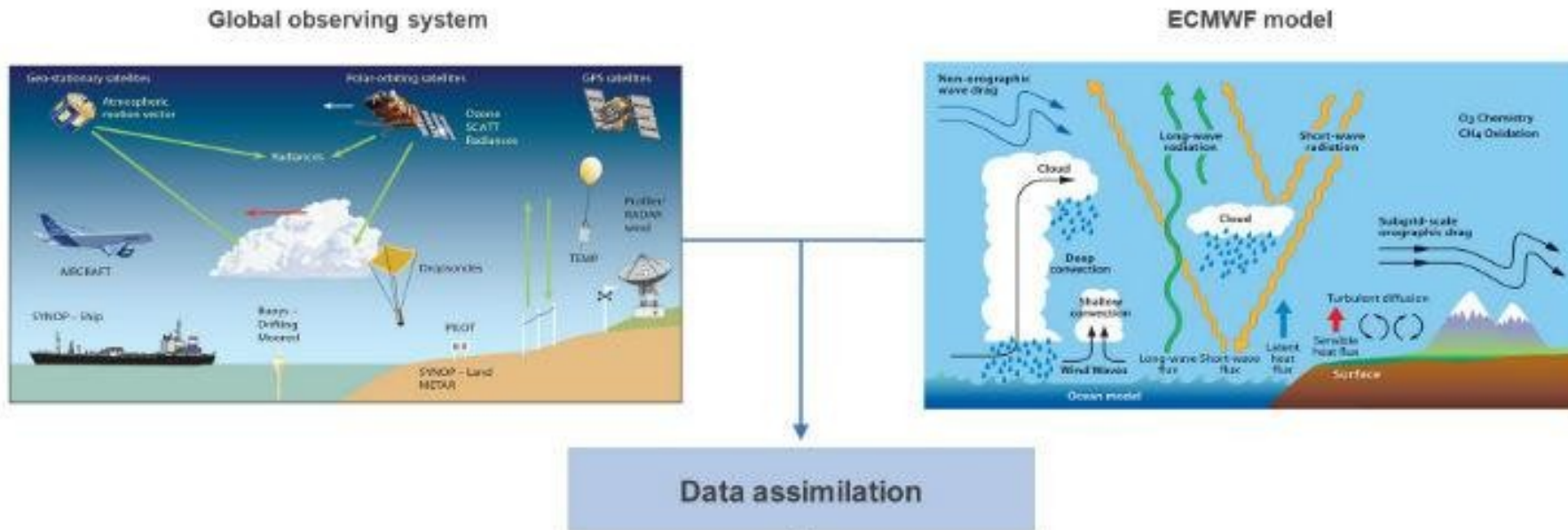
<https://www.nature.com/articles/sdata201618>



# Climate Model Data



# Reanalyses



Data sources:

<https://www.ecmwf.int/en/forecasts/datasets/browse-reanalysis-datasets>



# Example of GCM-RCM combination

Reanalysis/ GCMs	RCA4.V3	REgCM4	REMO 2009	WRF3.4	PRECIS	ETA	HadRM3P.V1	RegCM4	RCP
ERA-Int	0.44°	0.44°	0.44°	0.44°	0.22°		0.44°	0.44°	
ICHEC-EC- Earth	0.44°							0.44°	2.6/4.5/8.5
MPI-ESM-LR	0.44°	0.44°	0.44°					0.44°	2.6/4.5/ 8.5
HadGEM-ES	0.44°	0.44°			0.22°	20 km			2.6/4.5/ 8.5
CanESM2	0.44°			0.44°					4.5/ 8.5
GFDL- ESM2M	0.44°	0.44°							4.5/ 8.5
IPSL-CM5A- MR	0.44°								4.5/ 8.5
MIROC5	0.44°								2.6/4.5/ 8.5
CSIRO Mk3 6.0	0.44°								4.5/8.5
NorESM1-M	0.44°								2.6/4.5/ 8.5
Access	ESGF nodes		ESGF nodes	<a href="http://meteo.unican.es/work/3bff54a2">http://meteo. unican.es/ work/3bff54a2</a>		<a href="https://projeta.cptec.inpe.br/#/dashboard">https:// projeta.cptec. inpe.br/#/ dashboard</a>	ESGF nodes		
Institution	SMHI/ Sweden	ICT-/USP/ Italy-Brazil	GERICS/ Germany	Universidad de Cantabria / Spain	CR2/ DGF Chile	CPTEC / Brazil	Hadley Centre / UK	CR2/ DGF Chile	

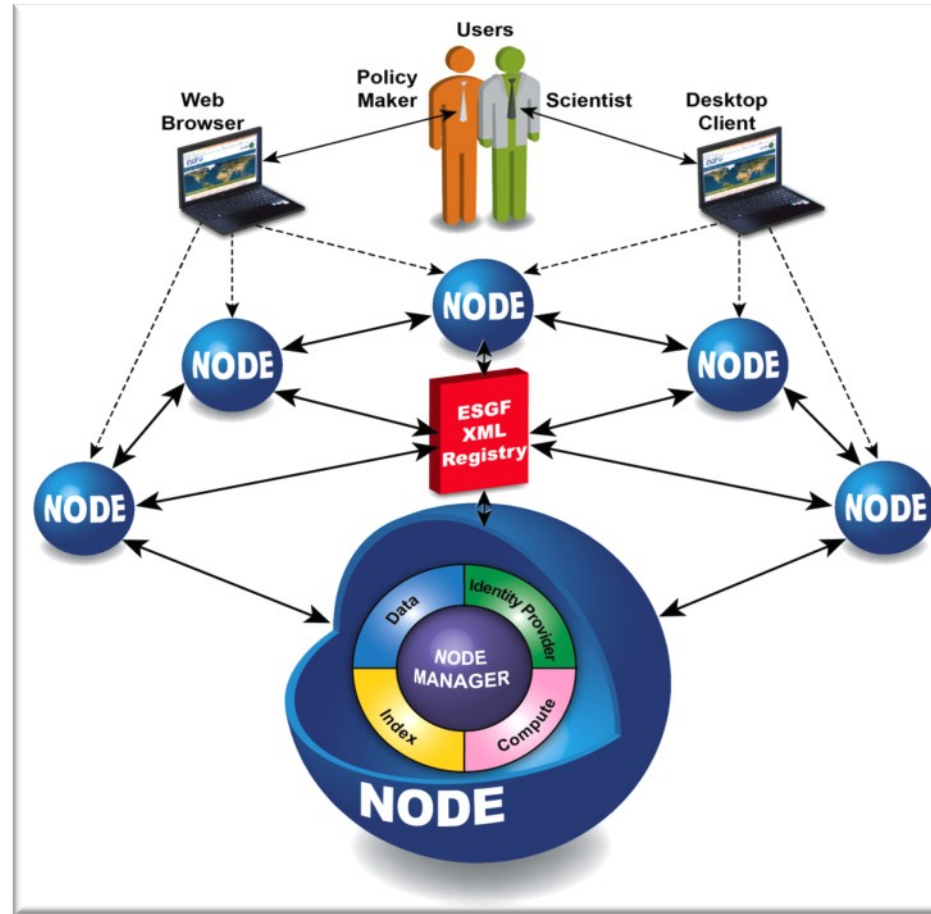
Tércio Ambrizzi 2018: The state of the art and fundamental aspects of regional climate modeling in South America: <https://doi.org/10.1111/nyas.13932>



# Earth System Grid Federation (ESGF)

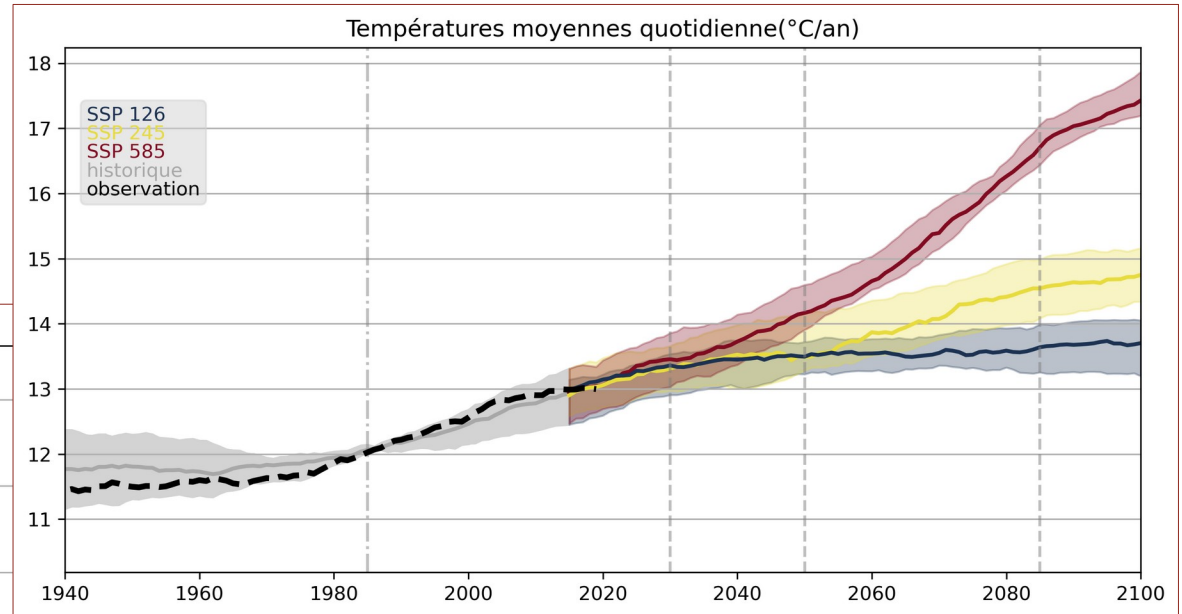
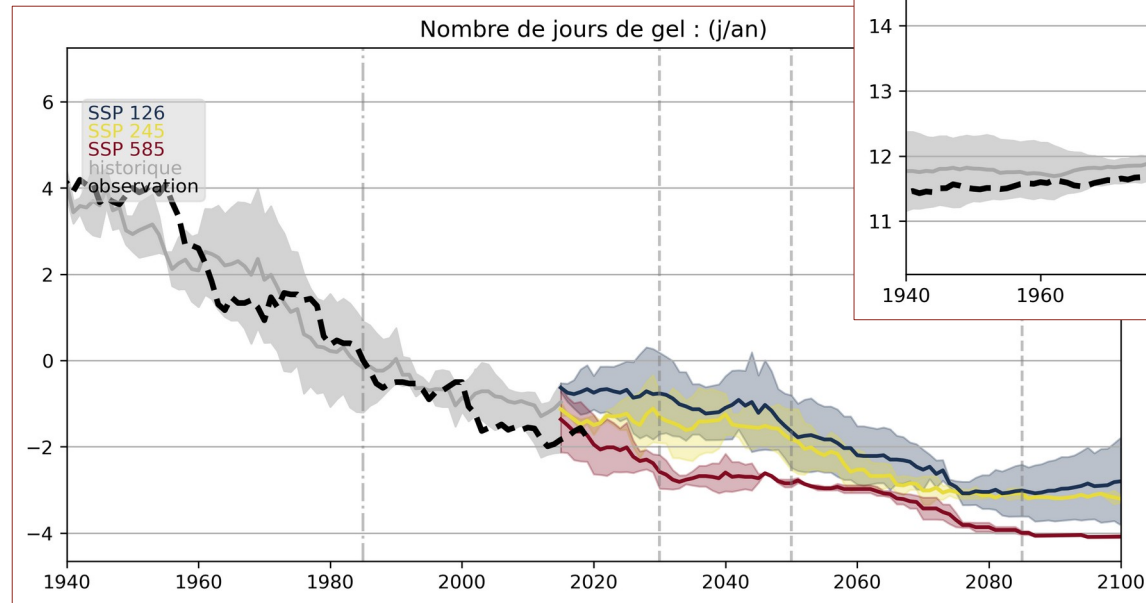


# ESGF - Nodes





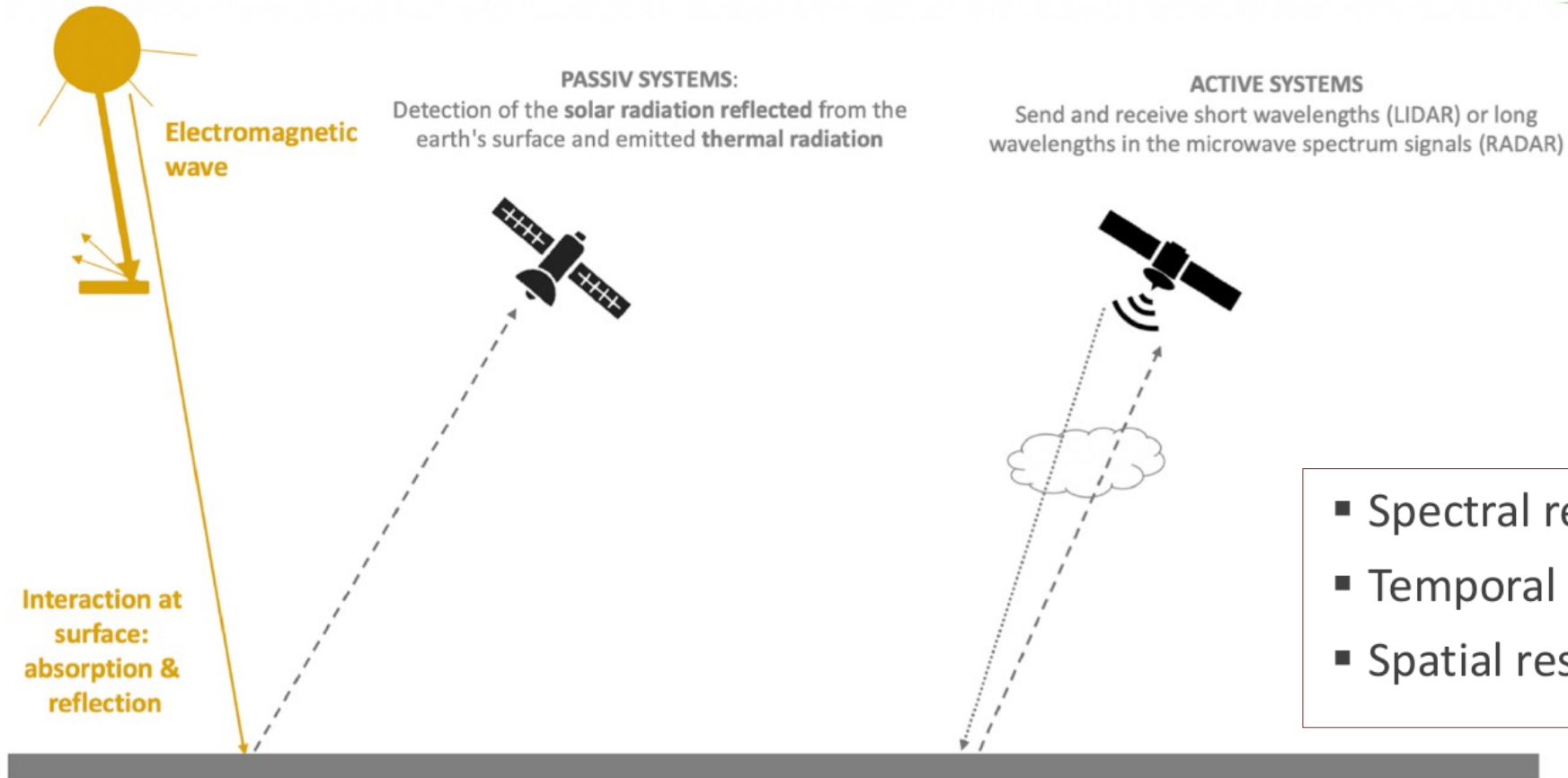
# Climate Model data application



Annual Temperature and  
Numbers of Ice Days/year  
for Paris



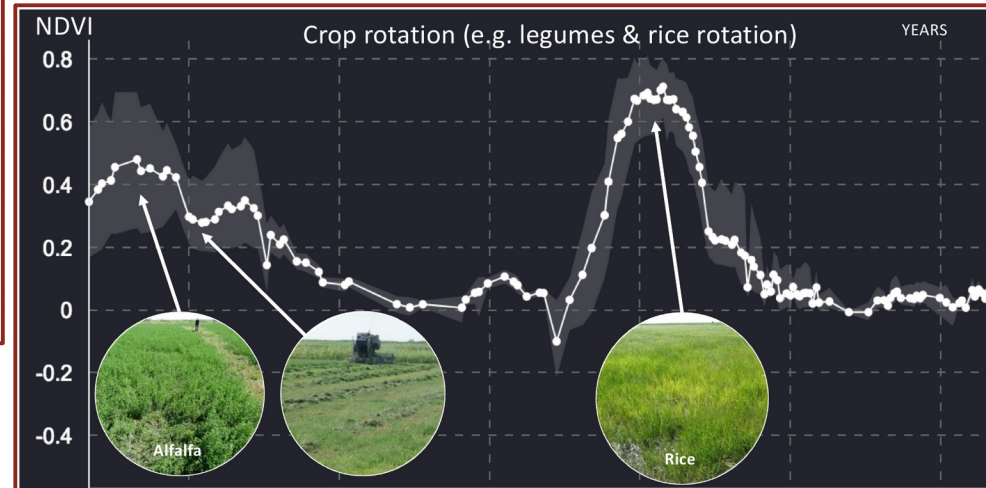
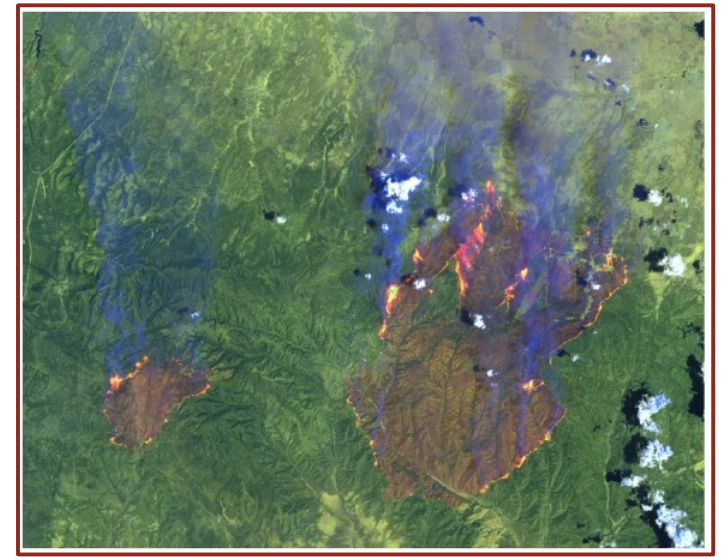
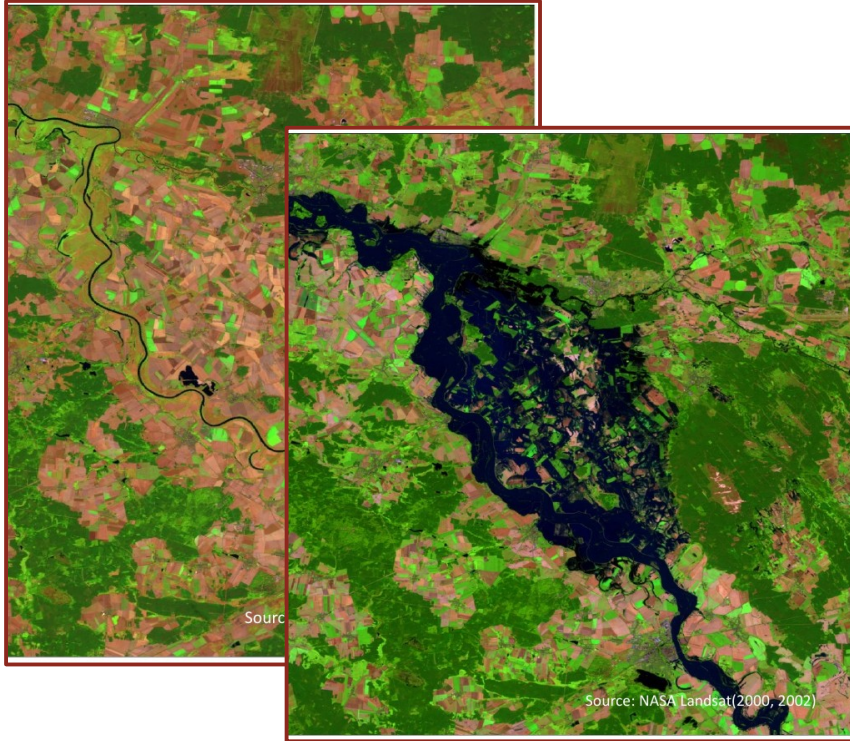




- Spectral resolution
- Temporal resolution
- Spatial resolution



# Satellite Data application examples



# Data access

<http://copernicus.eu/>

<https://services-portfolios.copernicus.eu/>

FULL, FREE AND OPEN  
ACCESS TO DATA



-  ATMOSPHERE MONITORING
-  MARINE ENVIRONMENT MONITORING
-  LAND MONITORING
-  CLIMATE CHANGE
-  EMERGENCY MANAGEMENT
-  SECURITY

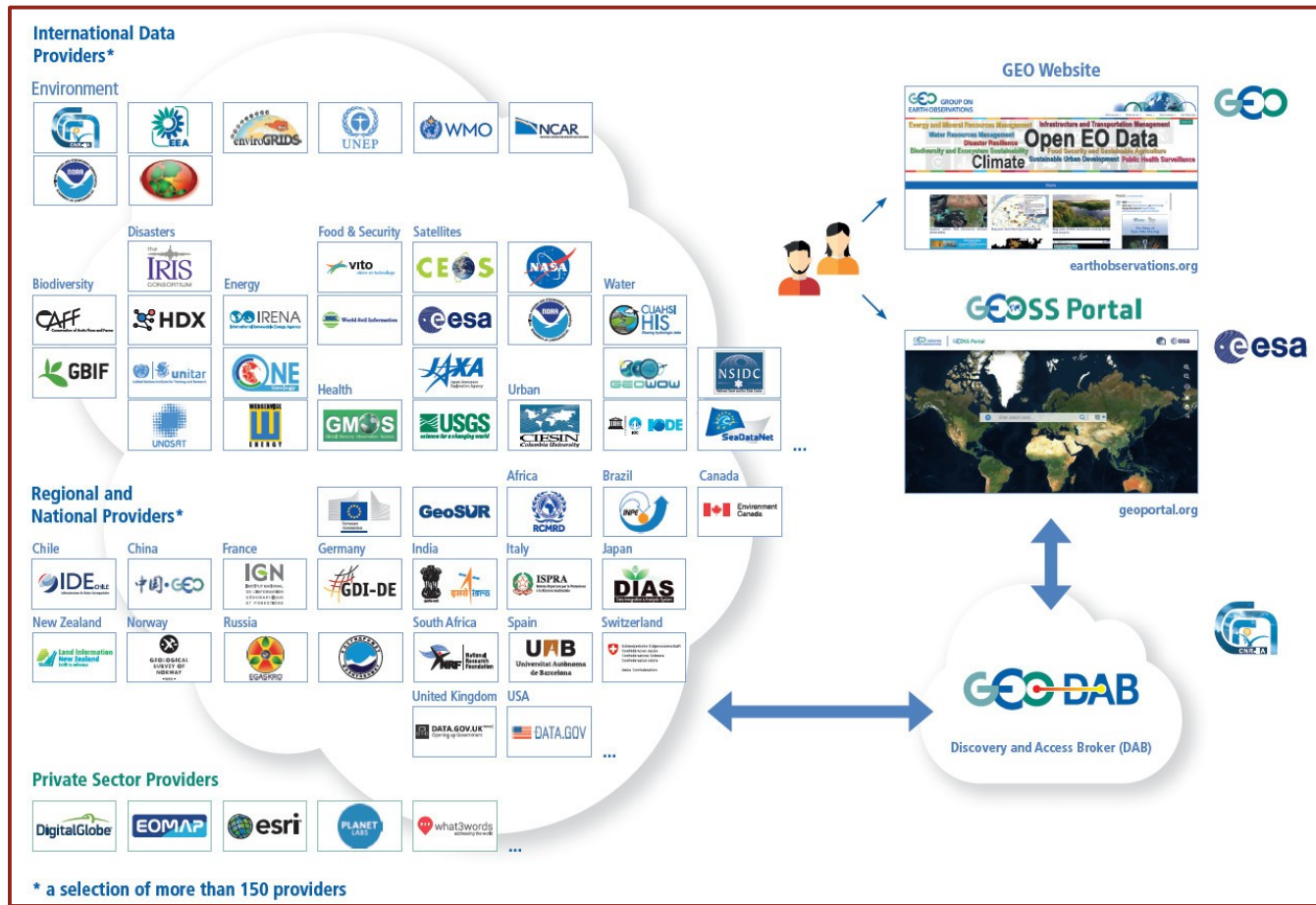
 **opernicus**  
Europe's eyes on Earth

Source: <https://www.youtube.com/channel/UCpuwnbuwGG20enAdE50g6TA>





# GEOSS Portal



# Climate model Data Access DEMO

<https://esgf-data.dkrz.de/projects/esgf-dkrz/>

