



## Hydrological Monitoring System on French Guyana Rivers

**A Space for Climate project**

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42 SIGNATORIES INCLUDING 22 MEMBER STATES, 12 EU ENTITIES AND 3 UN ORGANIZATIONS



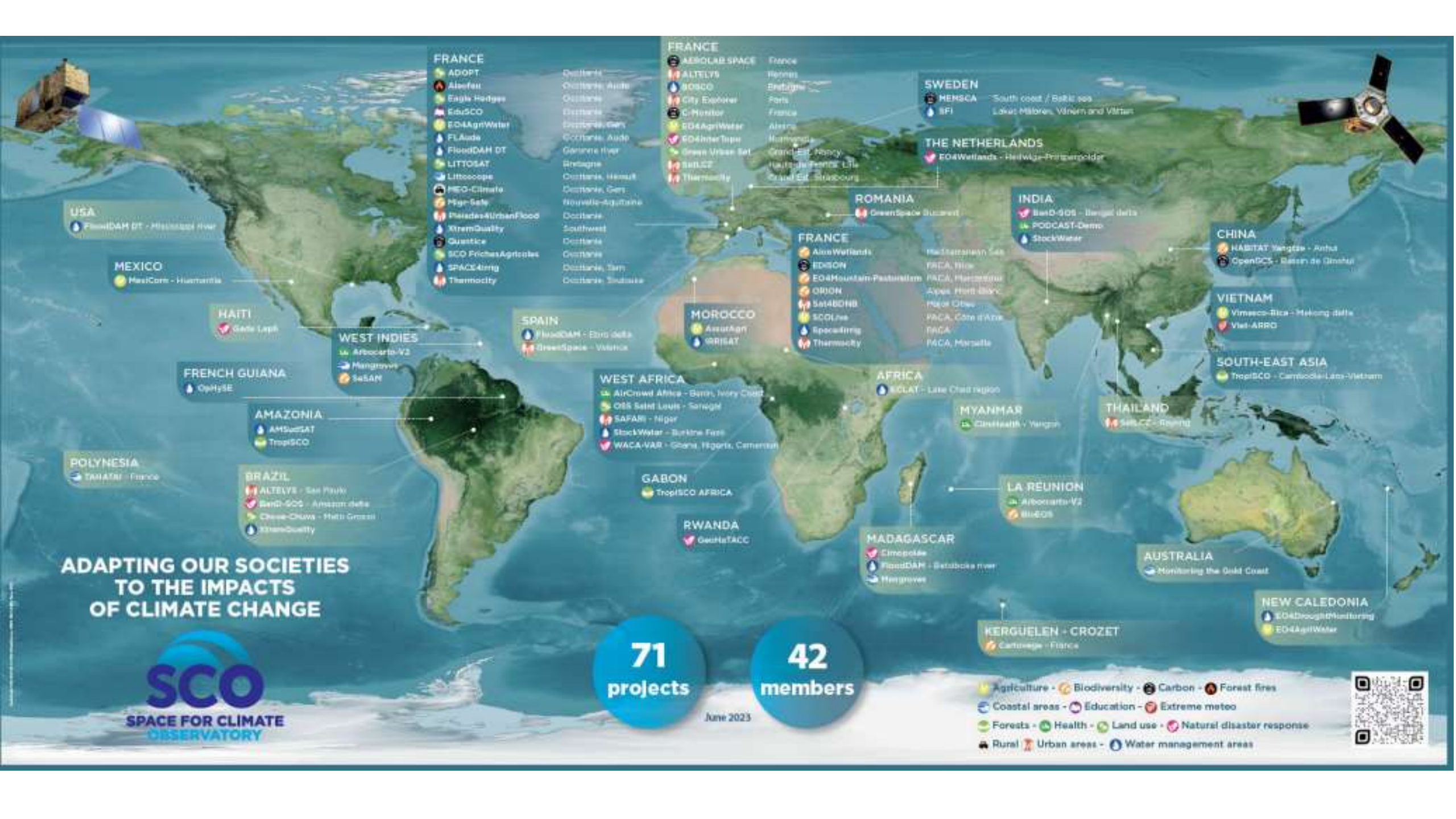
### SCO INTERNATIONAL OBJECTIVES

- **Provide operational tools** (SCO projects) and **studies** to **help decision-makers to adapt** to climate change.
- **Foster cooperation** around these applications to favour their reuse and communicate on them
- **Build a network** for space agencies and public and private entities involved in the use of EO data for operational climate action



### SCO LOCAL IMPLEMENTATIONS





# ADAPTING OUR SOCIETIES TO THE IMPACTS OF CLIMATE CHANGE



**71** projects  
**42** members  
 June 2023

- 🌾 Agriculture
- 🌿 Biodiversity
- 🌳 Carbon
- 🔥 Forest fires
- 🌊 Coastal areas
- 🎓 Education
- 🌪️ Extreme meteo
- 🌲 Forests
- 🏥 Healths
- 🌍 Land use
- 🚨 Natural disaster response
- 🏡 Rural
- 🏙️ Urban areas
- 💧 Water management areas



- FRANCE**
- ADOPT
  - Alcefar
  - Eagle Hedges
  - EduSCO
  - EO4AgriWater
  - FLAide
  - FloodDAH DT
  - LITIOSAT
  - Liticoop
  - MEO-Climate
  - Mig-Safe
  - Phaedra4UrbanFlood
  - XtremQuality
  - Quantice
  - SCO PrichesAgriScop
  - SPACE4rrig
  - Thermocly

- Occitania
- Occitania, Auvergne
- Occitania
- Occitania
- Occitania, Gers
- Occitania, Auvergne
- Garonne river
- Occitania, Hauts
- Occitania, Gers
- Nouvelle-Aquitaine
- Occitania
- Occitania, Southwest
- Occitania
- Occitania
- Occitania, Tarn
- Occitania, Toulouse

- FRANCE**
- AEROCAR SPACE
  - ALTELYS
  - BOSCO
  - City Explorer
  - C-Monitor
  - EO4AgriWater
  - EO4InerTrop
  - Green Urban Set
  - SatICE
  - Thermocly

- France
- Reims
- Bretagne
- Paris
- France
- Alsace
- Hauts-de-France
- Grand Est, Nancy
- Hauts-de-France, Lille
- Grand Est, Strasbourg

- SWEDEN**
- HERSCA
  - SFI

South coast / Baltic sea  
 Lake Mälaren, Vinneryn and Vittan

**THE NETHERLANDS**

- EO4Wetlands - Heilweg-Prinzengravel

**ROMANIA**

- GreenSpace Bucarest

**FRANCE**

- AlceWetlands
- EDISON
- EO4Mountain-Pastoralism
- ORION
- Sat4BDNB
- SCOLive
- Specialrrig
- Thermocly

**INDIA**

- GeoD-SOS - Bengal delta
- PODCAST-Demo
- StockWater

**CHINA**

- HABITAT Yangtze - Anhui
- OpenDCS - Basin de Gaohe

**VIETNAM**

- Vimaco-Rica - Mekong delta
- Viet-ARRO

**SOUTH-EAST ASIA**

- TropiSCO - Cambodia-Laos-Vietnam

**USA**

- FloodDAH DT - Mississippi River

**MEXICO**

- MexiCore - Huamantla

**HAITI**

- Gede Lapa

**WEST INDIES**

- Arbocarto-V2
- Mangroves
- SaSAM

**FRENCH GUIANA**

- OphiSE

**AMAZONIA**

- AMSudSAT
- TropiSCO

**POLYNESIA**

- TAMATU - France

**BRAZIL**

- ALTELYS - Sao Paulo
- GeoD-SOS - Amazon delta
- Chave-Chuva - Mato Grosso
- XtremQuality

**SPAIN**

- FloodDAH - Ebro delta
- GreenSpace - Valencia

**MOROCCO**

- AssatAgri
- IRRISAT

**WEST AFRICA**

- AirCrowd Africa - Benin, Ivory Coast
- OBS Saïed Leuis - Senegal
- SAPARI - Niger
- StockWater - Burkina Faso
- WACA-VAR - Ghana, Nigeria, Cameroon

**AFRICA**

- ECLAT - Lake Chad region

**GABON**

- TropiSCO AFRICA

**RWANDA**

- GeoHeTACC

**MYANMAR**

- ClimateHealth - Yangon

**THAILAND**

- SatICE - Chiang

**LA REUNION**

- Arbocarto-V2
- BIMBOB

**MADAGASCAR**

- Cimopolis
- FloodDAH - Betanoka river
- Mangroves

**AUSTRALIA**

- Monitoring the Gold Coast

**KERGUELEN - CROZET**

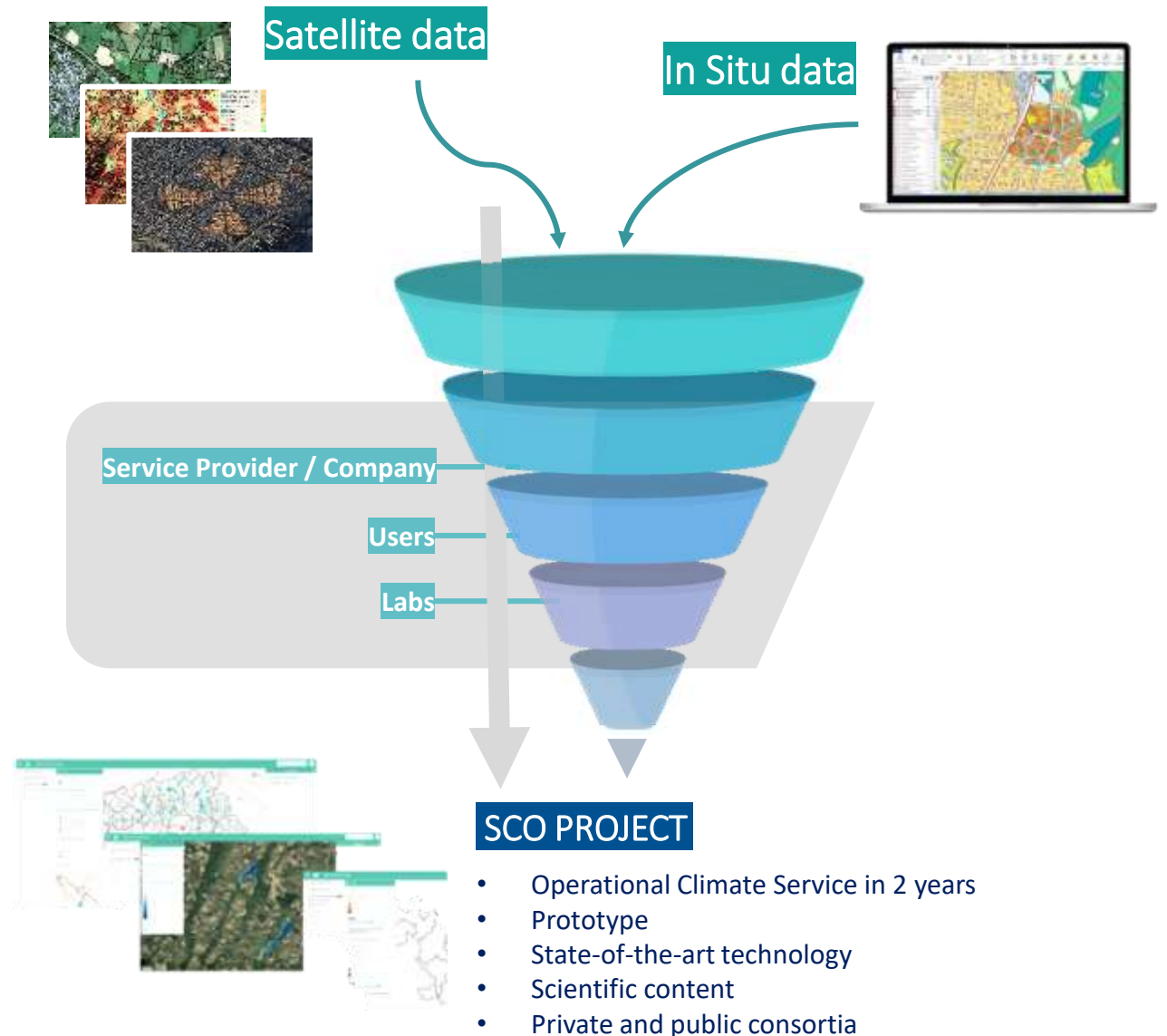
- Cartoage - France

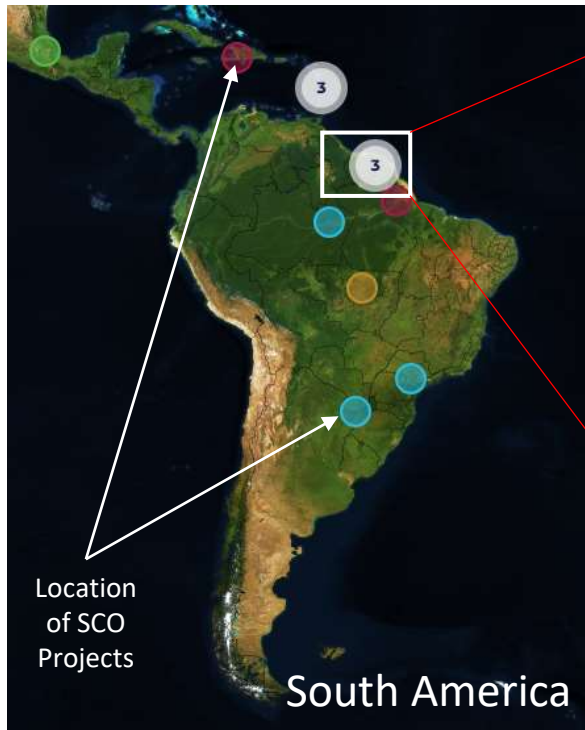
**NEW CALEDONIA**

- EO4DroughtMonitoring
- EO4AgriWater

## SCO PROJECTS CRITERIA

- Addressing the needs of end users within a specific geographic area;
- Proposing operational and practical software(s);
- Making the best use of available satellite, environmental, climate, in situ and socio-economic data, at a resolution adapted to the problem;
- Building on (pre-)operational and research infrastructures, services and local data provision;
- Having a built-in potential for extending to several geographic areas.





## Monitoring the Hydrological system is challenging:

- Overed with **90% of Amazonian forest** + Equatorial rainfall regime
- **Difficulties** to maintain **in situ measurements**
- **Water flow rate is changing quickly** with consequences on populations and transportation
- Longer term evolution of the water flow rate under **climate change**

Satellite data (Sentinel 3 & 6)

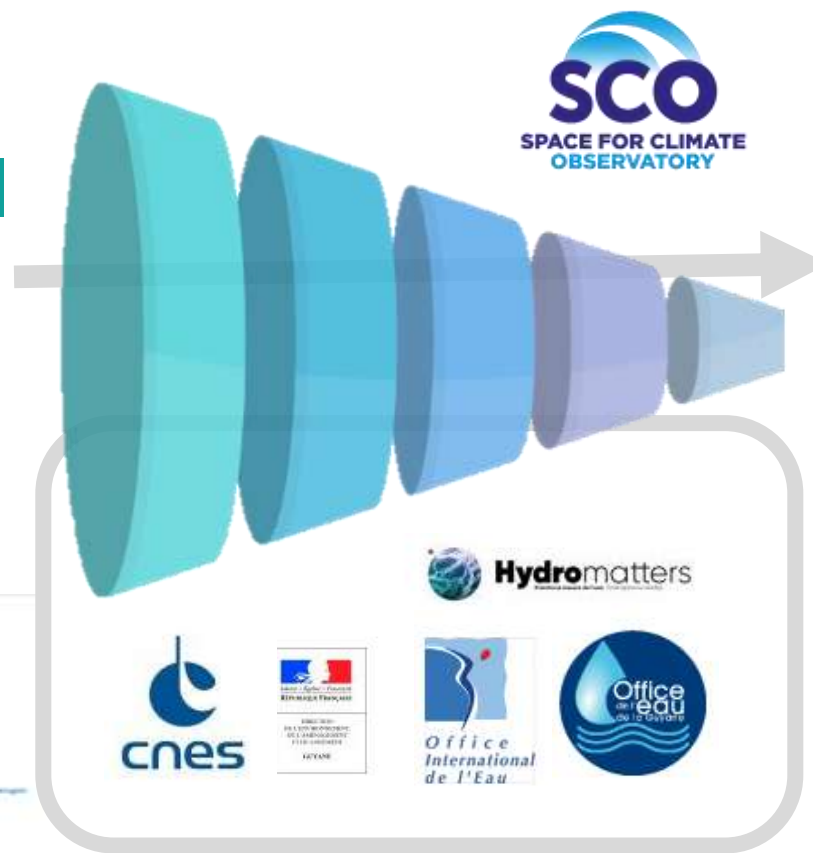
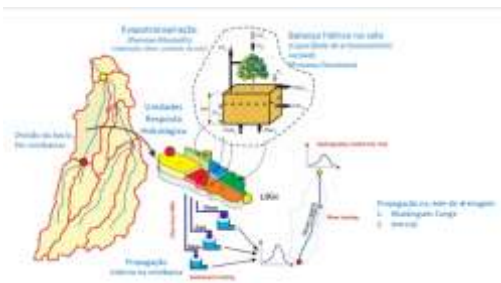
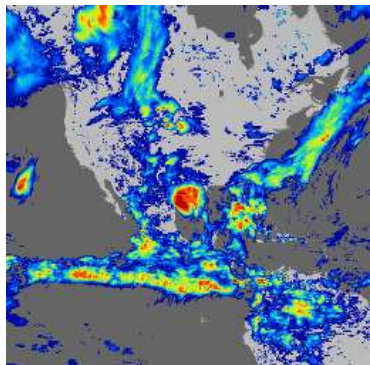


➤ Long term Virtual Monitoring Stations of river altimetry ([HydrowebNext](#))

➤ Water flow rate

Hydrological Model for Large Basins (MGB)

JAXA Global Rain Watch



- Real-time information on the hydrological status of French Guiana's catchment areas
- Long term evolution under climate change conditions



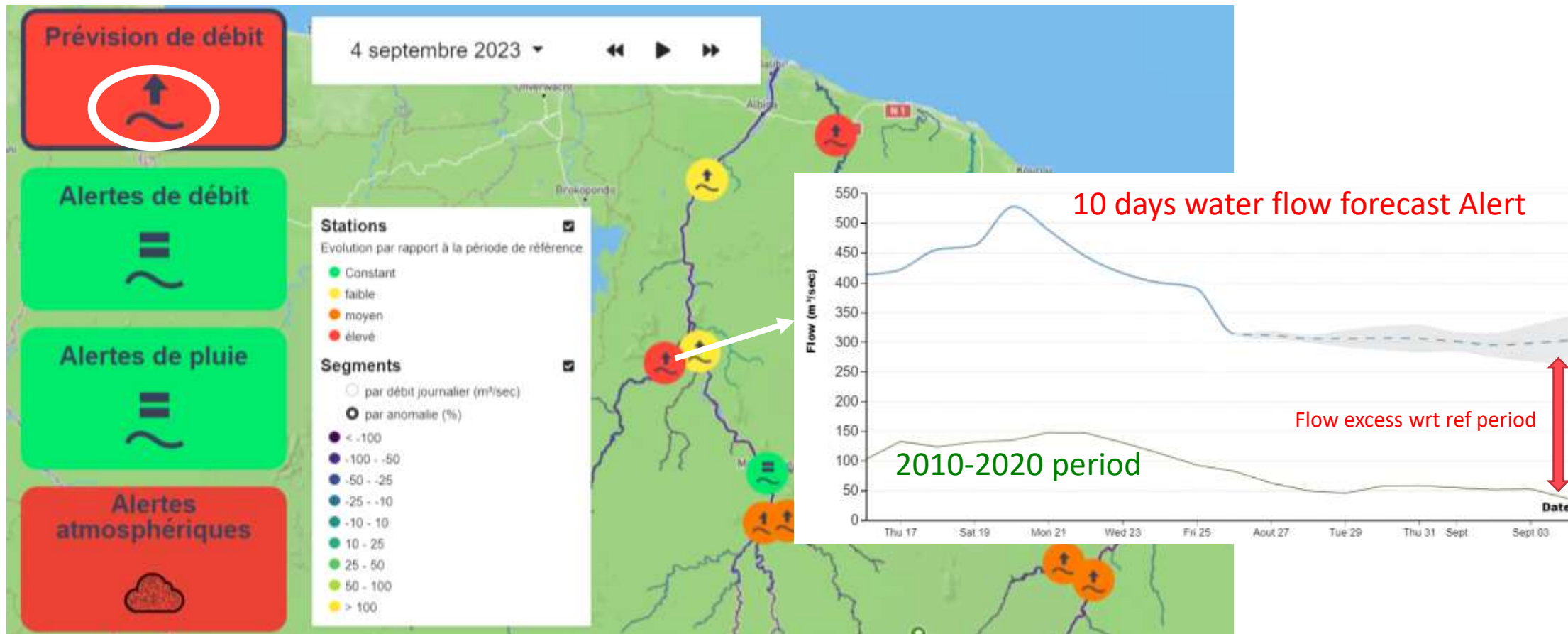
<https://sagui.hydro-matters.fr/>



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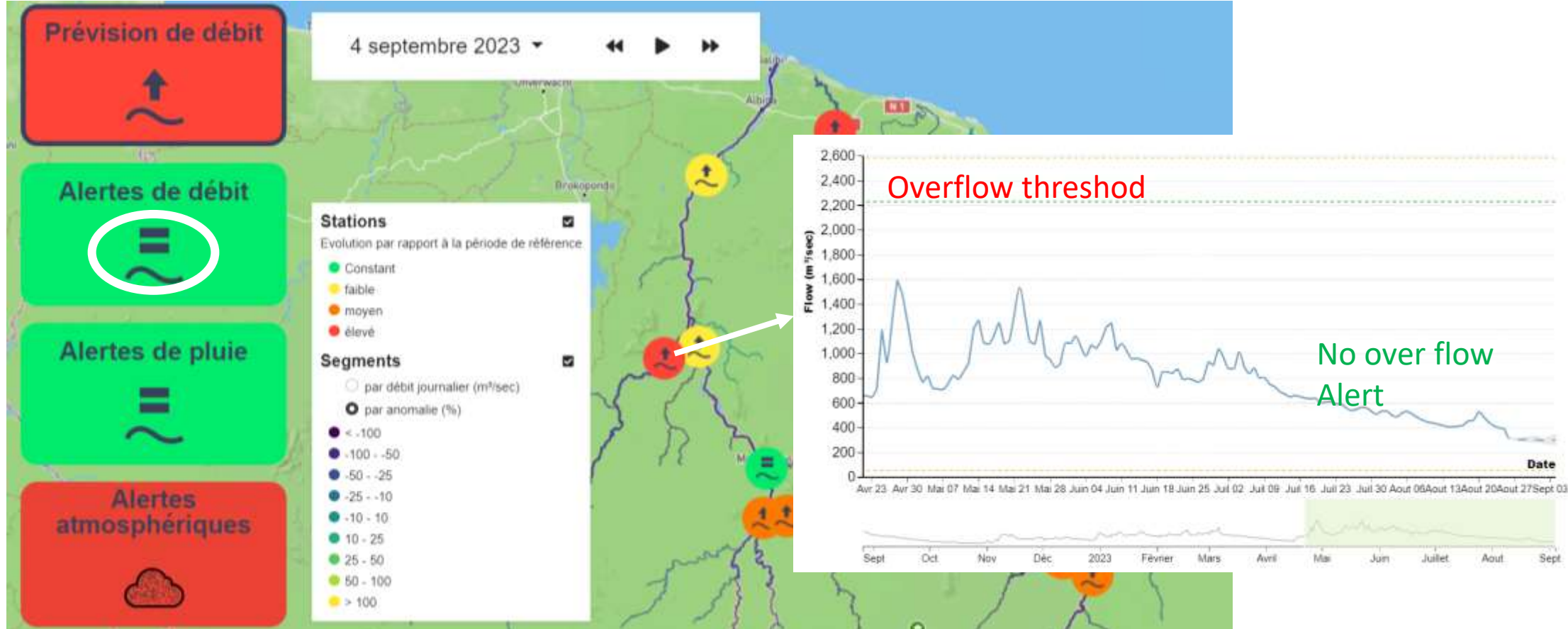


Today August, 25th.



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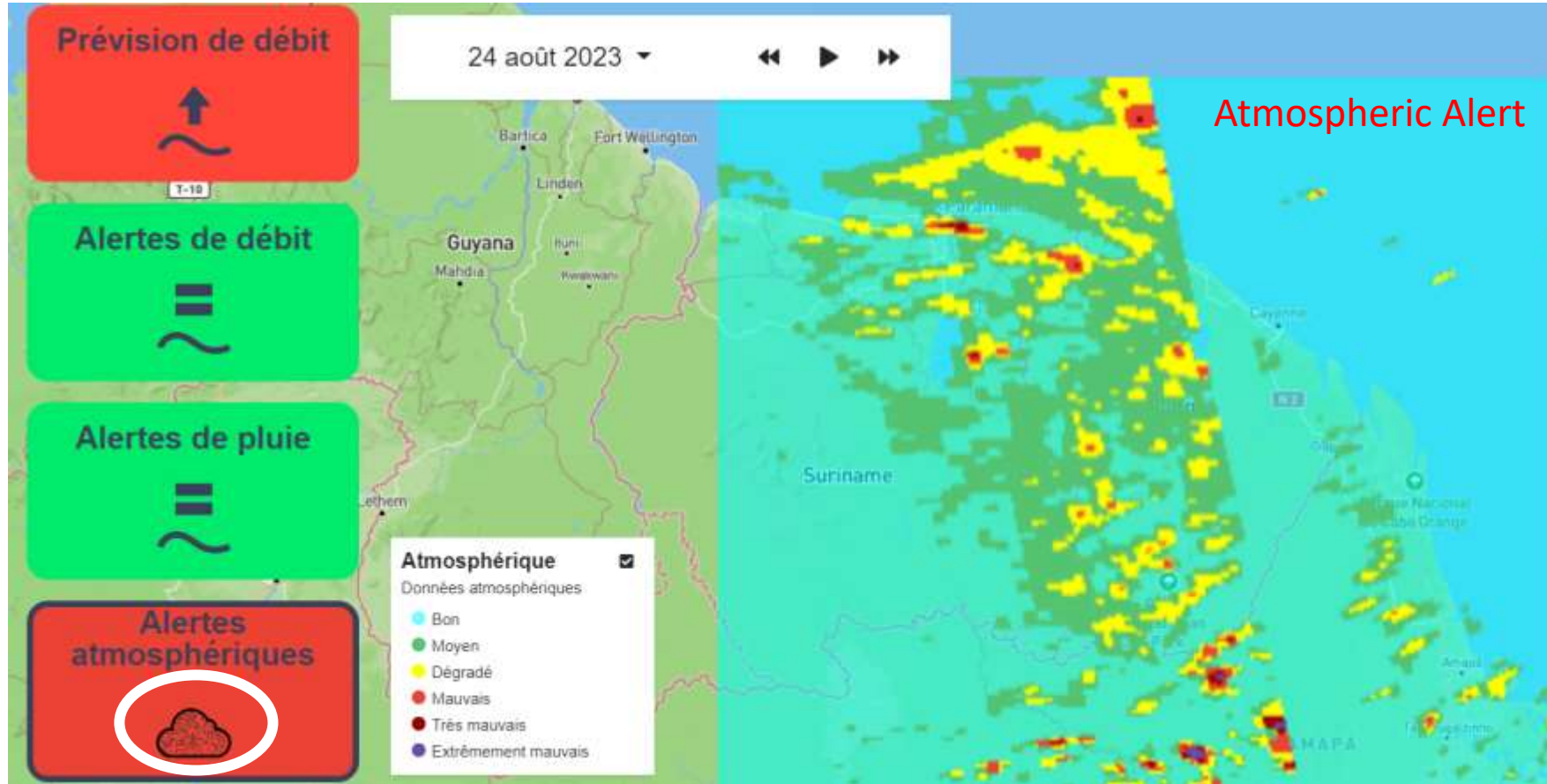
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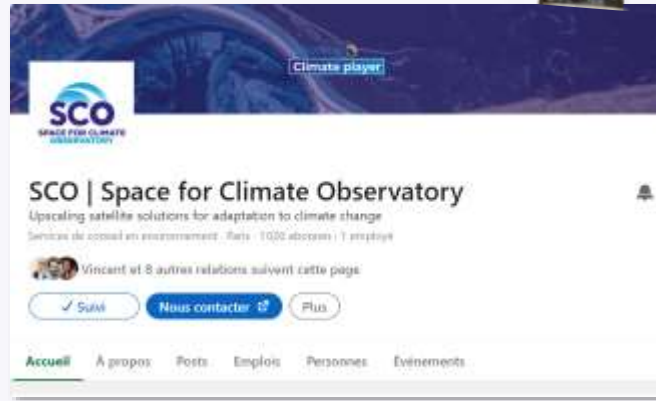


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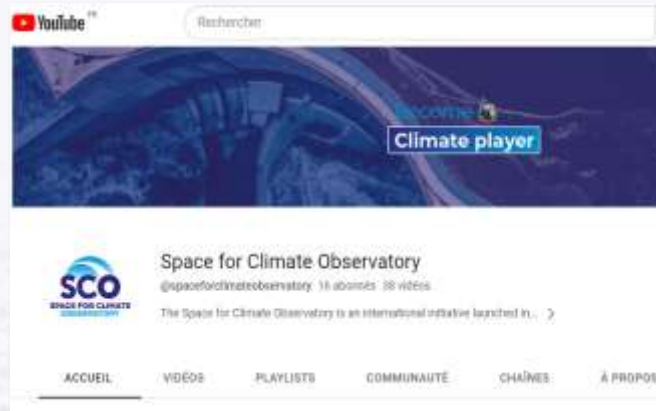
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