

Climate data processing for climate resilience

Tajikistan and Kyrgyzstan

Data access, processing and methodological concepts

Webinar
17. - 27. 11.2020

DAY 07
Disaster Risk Reduction



Objectives of Day 06

Date: 23.11

Presentation: EO_SDG

<https://github.com/nilshempelmann/climdatatutorial>

Objectives:

- Wrap up of yesterday
 - - Climate Services Information System – GeoSpatialData Infrastructure
- Database for Disaster Risk Reduction
- Disaster Risk Reduction response system



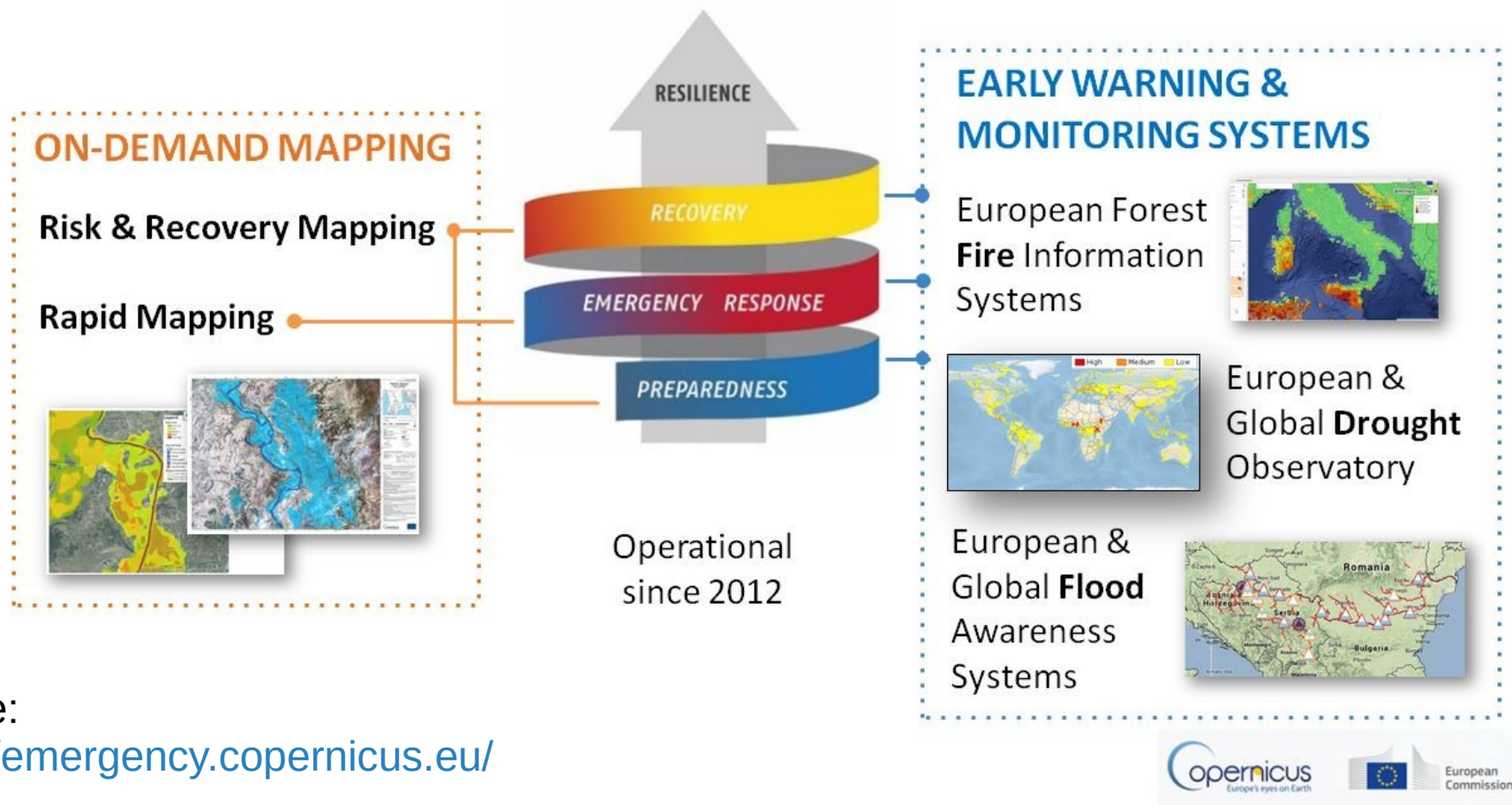
- Pics ...



Phases of DRR management



Copernicus Emergency Management Service (CEMS)



Source:

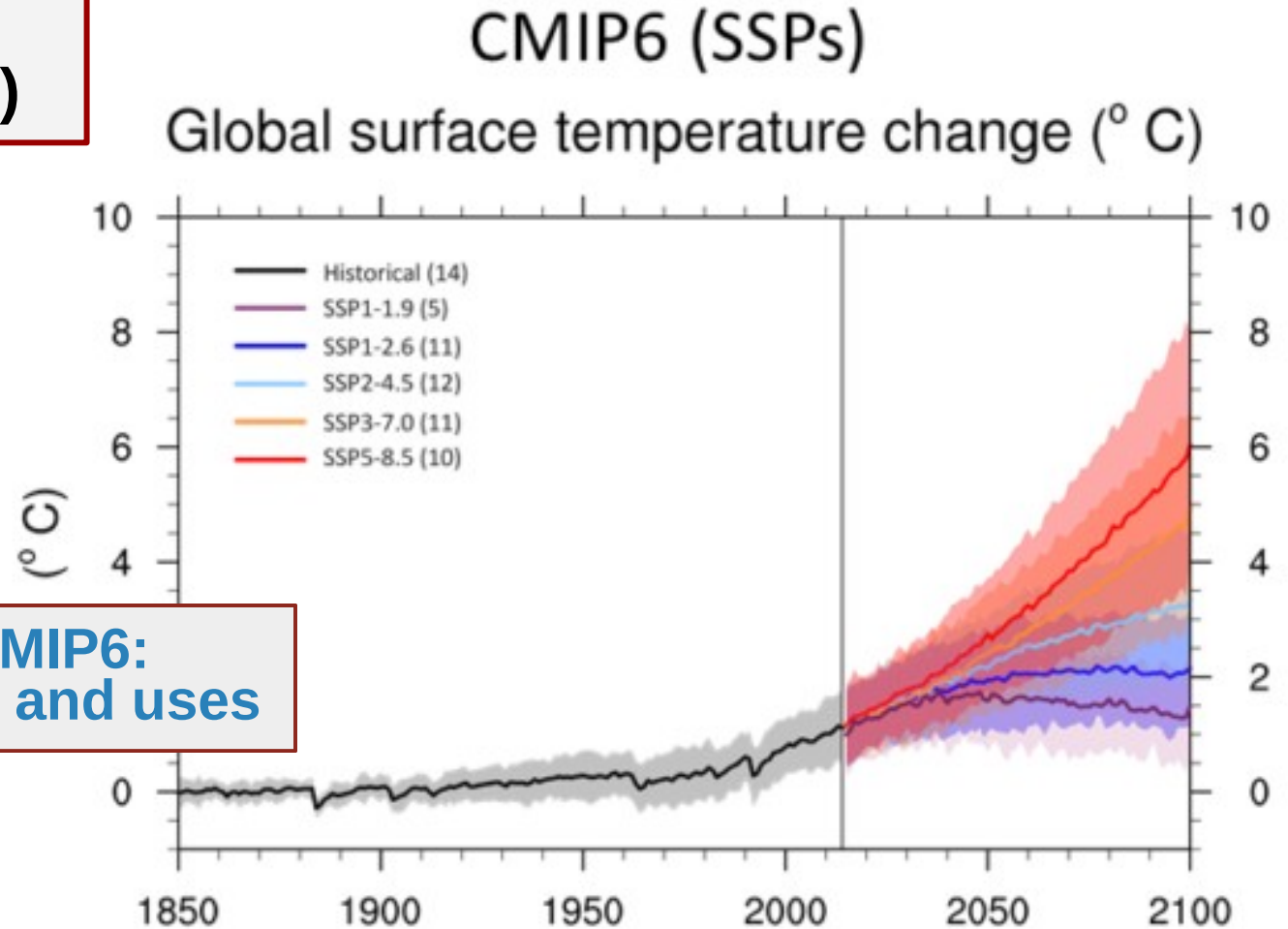
<https://emergency.copernicus.eu/>



Longterm prevention (= Adaptation Strategy)

Source:
crescendoproject.eu

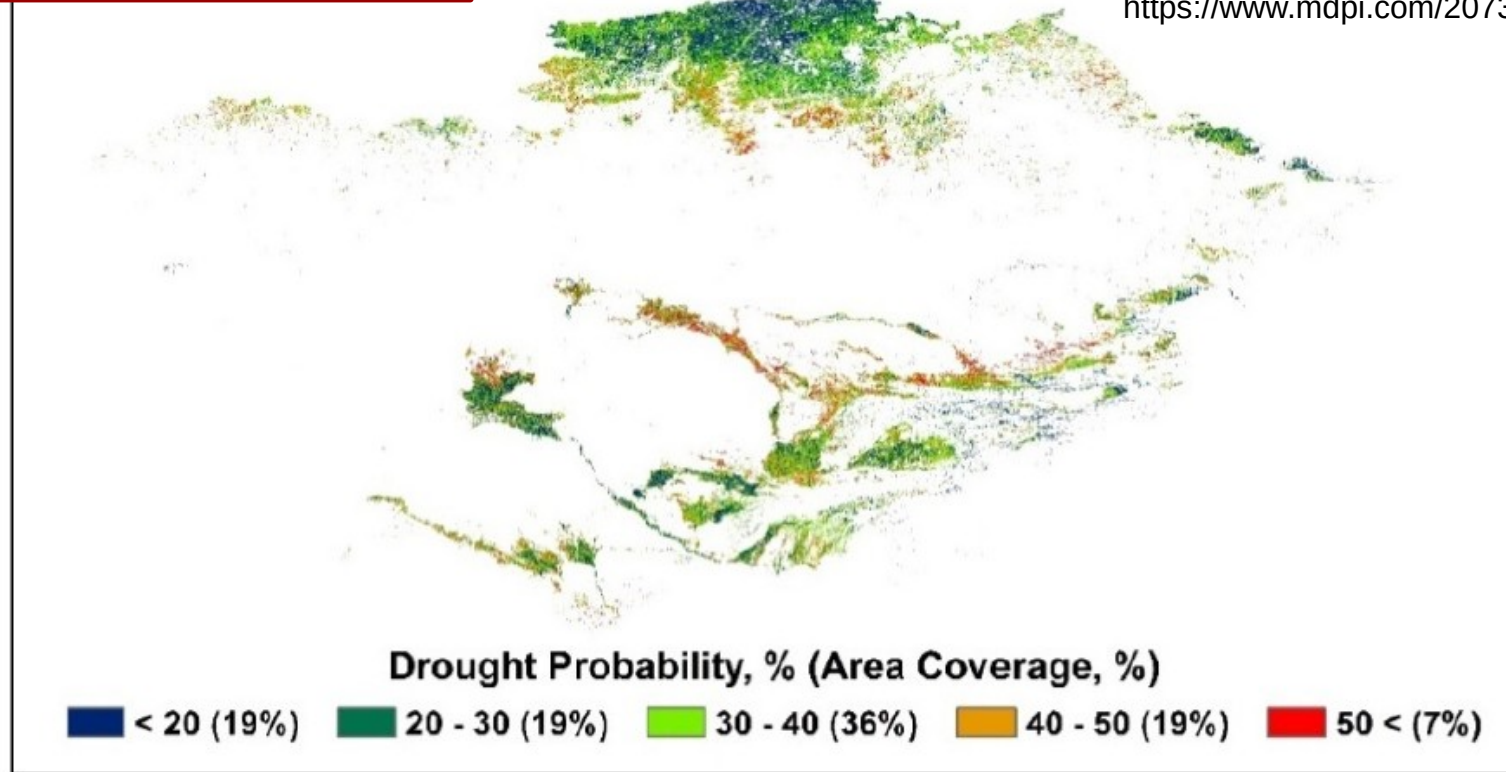
Climate Sensitivity in CMIP6:
Causes, consequences and uses



midterm prevention

Source: Nurgul Aitekeyeva et al. 2020:

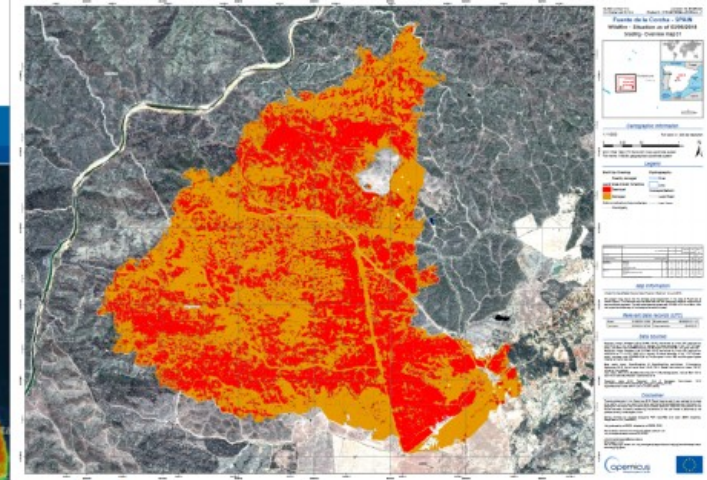
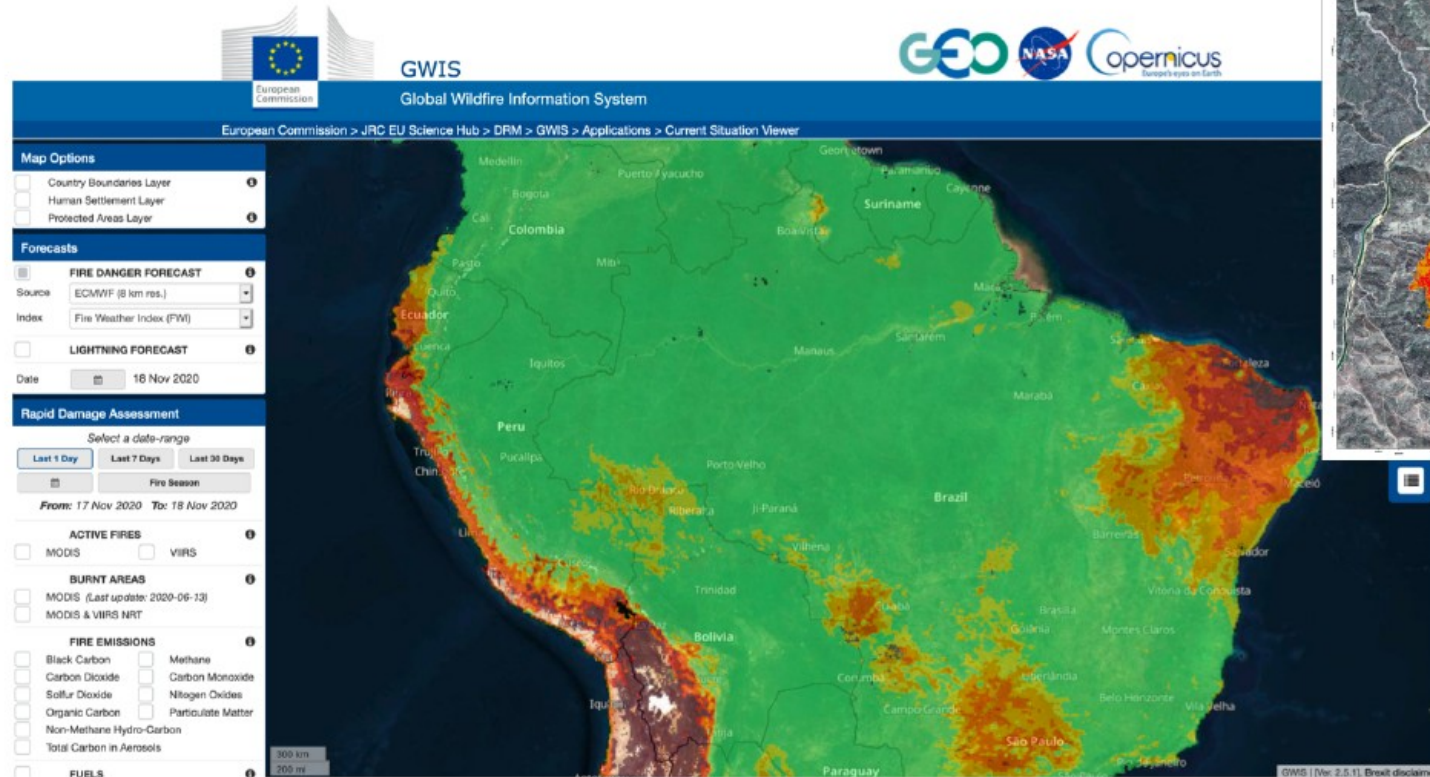
<https://www.mdpi.com/2073-4441/12/6/1738/htm>



Drought Risk Assessment in Cultivated Areas of Central Asia Using MODIS Time-Series Data



Early warning and preparedness



Built Up Grading

- Possibly damaged

Land Use-Cover Grading

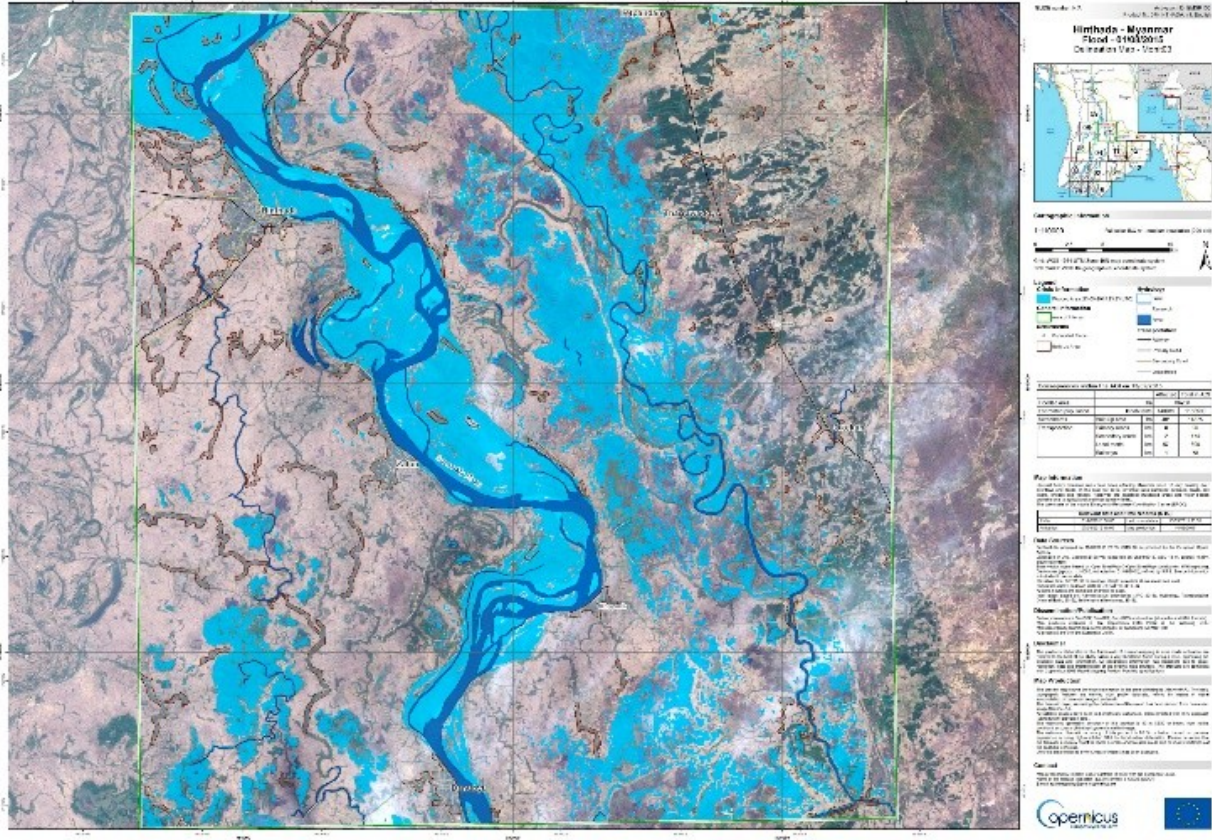
- Destroyed
- Damaged

Global Wildfire Information system:

https://gwis.jrc.ec.europa.eu/static/gwis_current_situation/public/index.html



Response Phase



Recovery



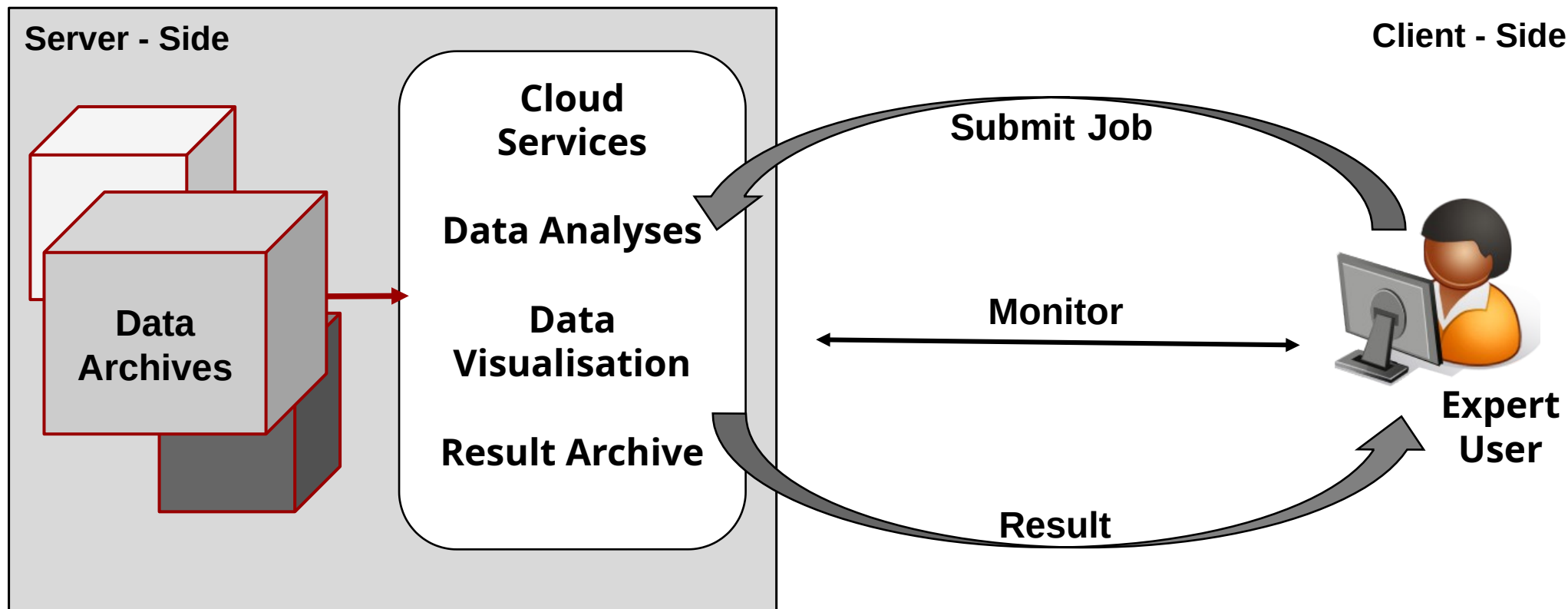
Consequences within the overview AOI on 23/08/2014			
		Affected	Total in AOI
Burnt/Flooded/Affected area	ha	68774	
Estimated population	Inhabitants	8710	1248301
Settlements	Residential	ha	431
	Primary roads	km	0
	Secondary	km	12,46
	Local roads	km	53,96
	Railways	km	0,17
	Stations	No.	0
Transportation	Bridges	No.	2
	Hellroad	No.	0
	Bare soil	ha	36867
	Cropland	ha	31538
Land use	Grassland	ha	14
			397

Assessment of crop damage

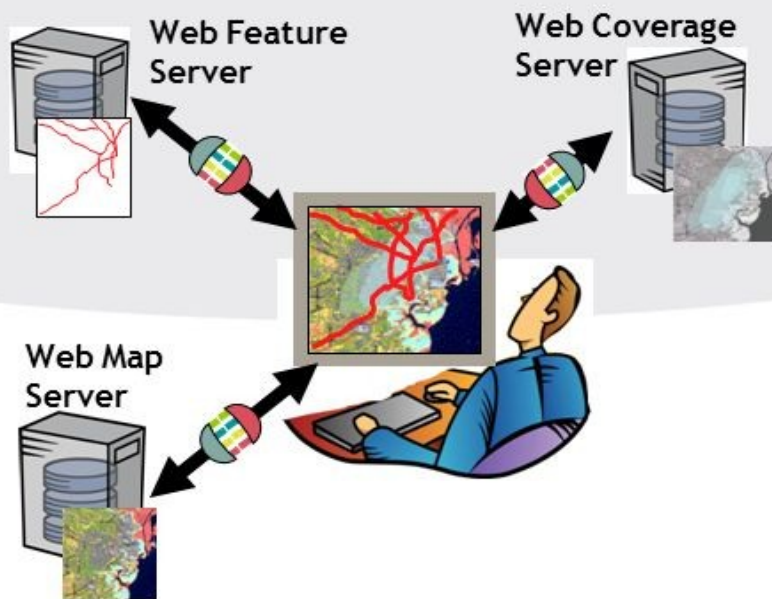


high performance environment

(low internet bandwidth)



The geospatial web is enabled by OGC standards:



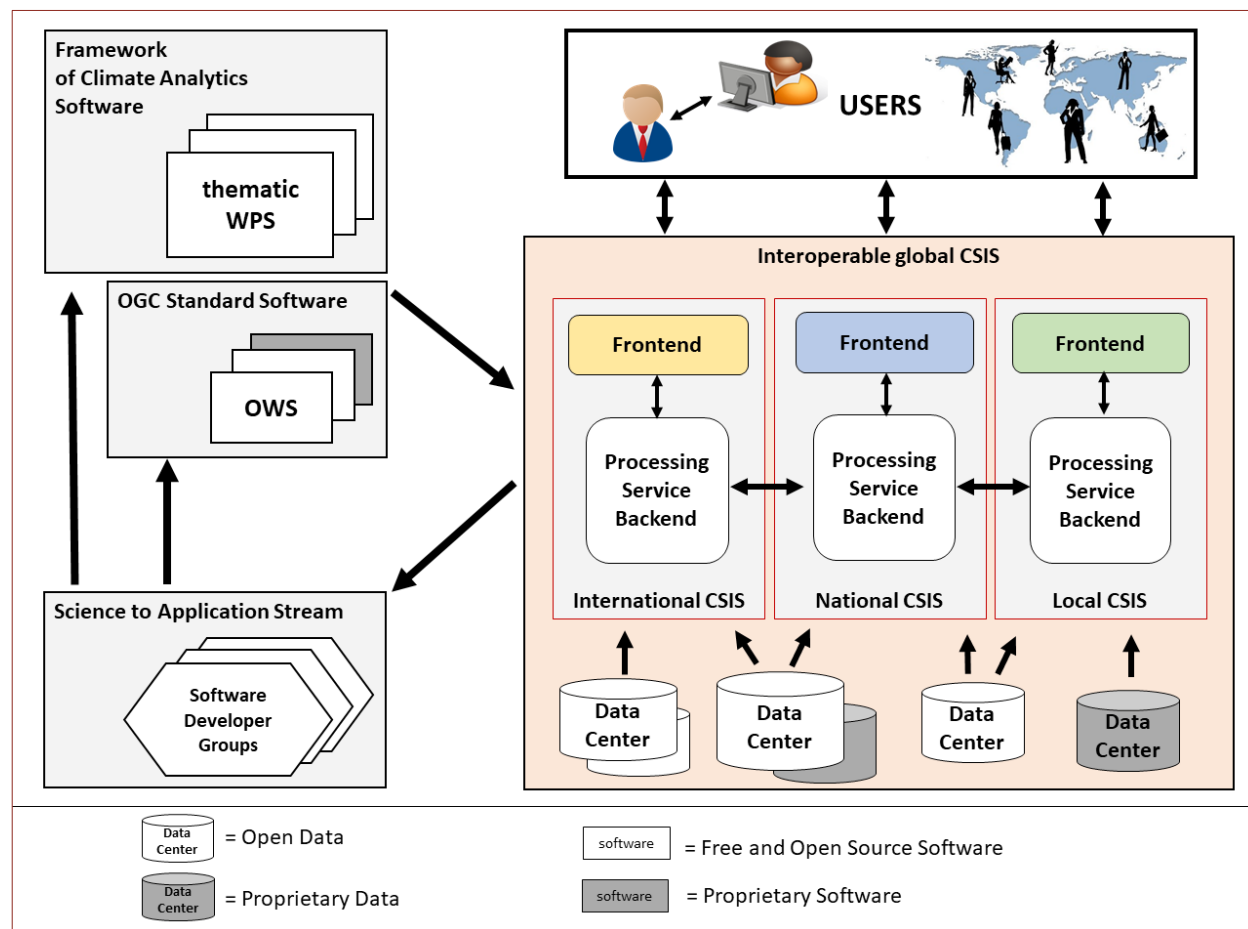
Web Map Service (WMS)
Web Map Tile Service (WMTS)
Web Feature Service (WFS)
Web Coverage Service (WCS)
Catalogue (CSW)
Geography Markup Language (GML)
KML
Others...

Relevant to geospatial applications: Critical Infrastructure, Emergency Management, Weather, Climate, Homeland Security, Defense & Intelligence, Oceans Science, etc

Osservare per prevedere, prevedere per prevenire



Climate Services Information System



Climate Services Information System

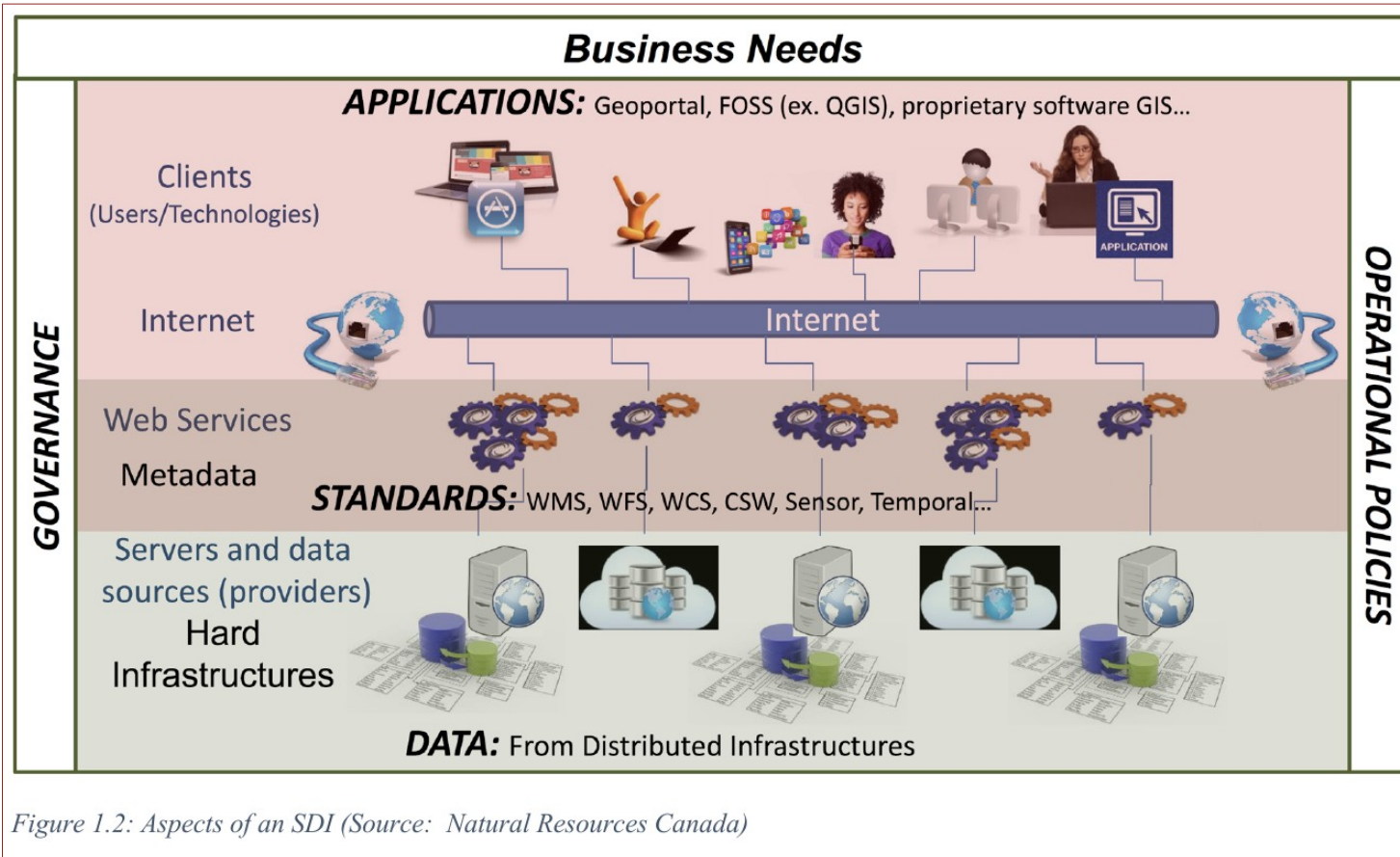


Figure 1.2: Aspects of an SDI (Source: Natural Resources Canada)

Source: OGC 2018:

OGC Development of Disaster Spatial Data Infrastructures for Disaster Resilience Engineering Report



**Hands ON:
SNAP Toolbox**

