

Climate data processing for climate resilience

Tajikistan and Kyrgyzstan

Data access, processing and methodological concepts

Webinar
17. - 27. 11.2020

DAY 08
Climate Change Indices



Week 1 :

DAY	Topic	Objectives	Data & Software	Hands On
Tu. 17.11	Getting Started	Introduction, Expectations	Virtual Machine Unix Useful Utilities	Getting started with Linux exploring the VM
We. 18.11	Policy Frames	SDG Concepts, Climate Action Frames, Ministeries and Institutions	usage of online documents	Country strategies Which data are needed? Which climate infos are needed
Th. 19.11	Scenarios of Change	Shared socioeconomic Pathways (SSP) Future projections of Climate Change Data for Sustainable Development	CMIP6 CORDEX Python notebook	netCDF handling Plotting in Python
Fr. 20.11	Data Families	Which data for which application FAIR Guidance Principles netCDF data format Access to Data Archives	ESGF Python client	Access to ESGF

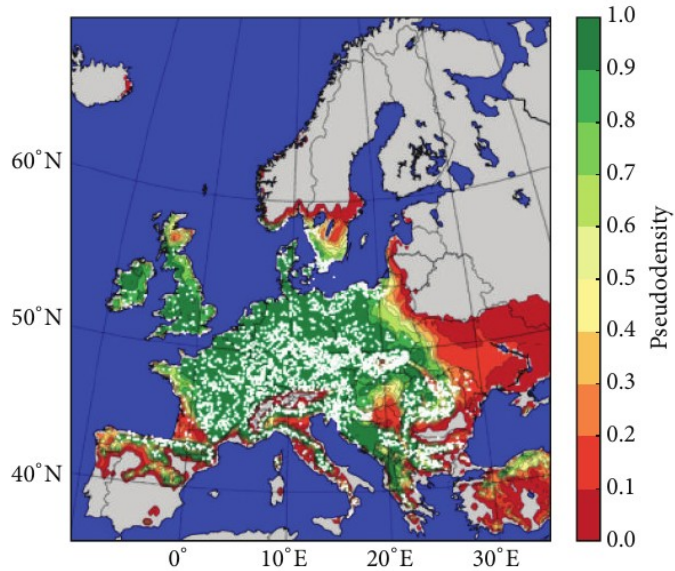


Week 2 :

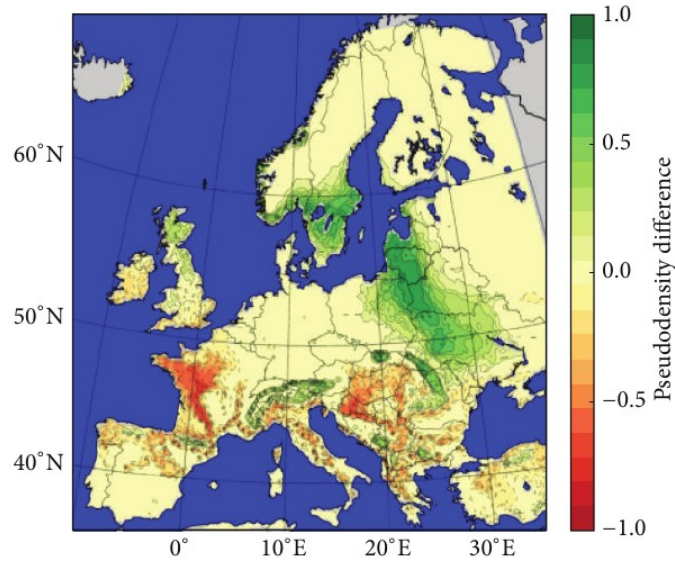
DAY	Topic	Objectives	Data & Software	Hands On
Mo. 23.11	The Big Data Problem	Importance of Interoperability How to design a Data-center	OGC-Standards birdy-client	Design a Data Center for Central Asia Big Data Run a WPS Finch
Tu 24.11	Satellite Images	EO and Climate Actions	Sat-Data in QGIS	NDVI
We. 25.11	Disaster Risk Reduction	DRR Management DRR Database design	Sat-Data in SNAP	True and false Color NDVI
Th 26.11	Climate Signals	Concept of climate indices Multi-model and Uncertainties	Python with esgf-pyclint xclim	Calculation of future CC Signals
Fr. 27.11	FAIR Climate Service	Climate Services Information Systems	Brainstroming about the Design of a Climate Service Center(s)	Optional presentation of participants course projects



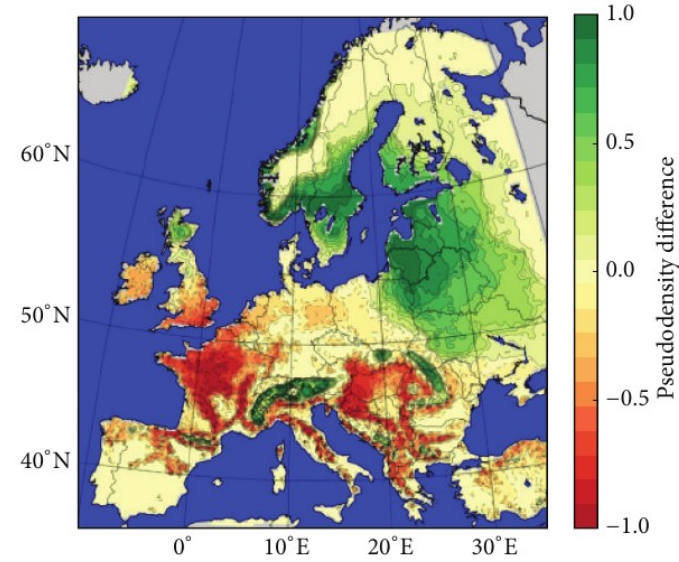
Climate Service application



(a) Density 1971–2000



(c) Density shift 2021–2050



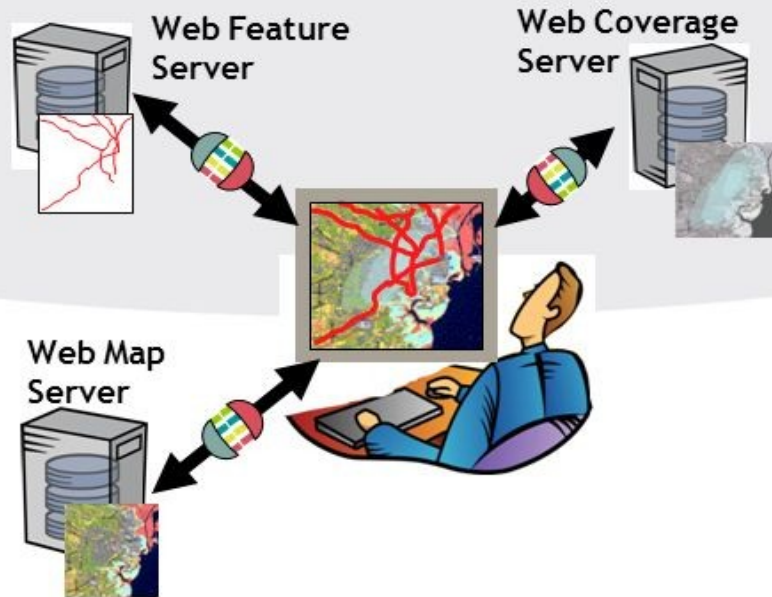
(e) Density shift 2071–2100

Species Favourability Shift in Europe due to Climate Change: A Case Study for *Fagus sylvatica* L. and *Picea abies* (L.) Karst. Based on an Ensemble of Climate Models

SOURCE: Falk and Hempelmann 2013: <http://dx.doi.org/10.1155/2013/787250>



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...

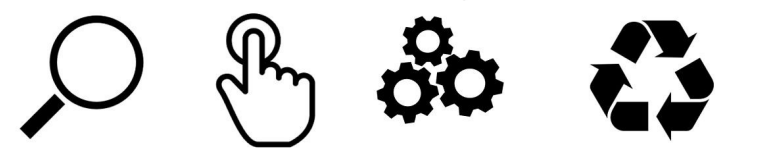
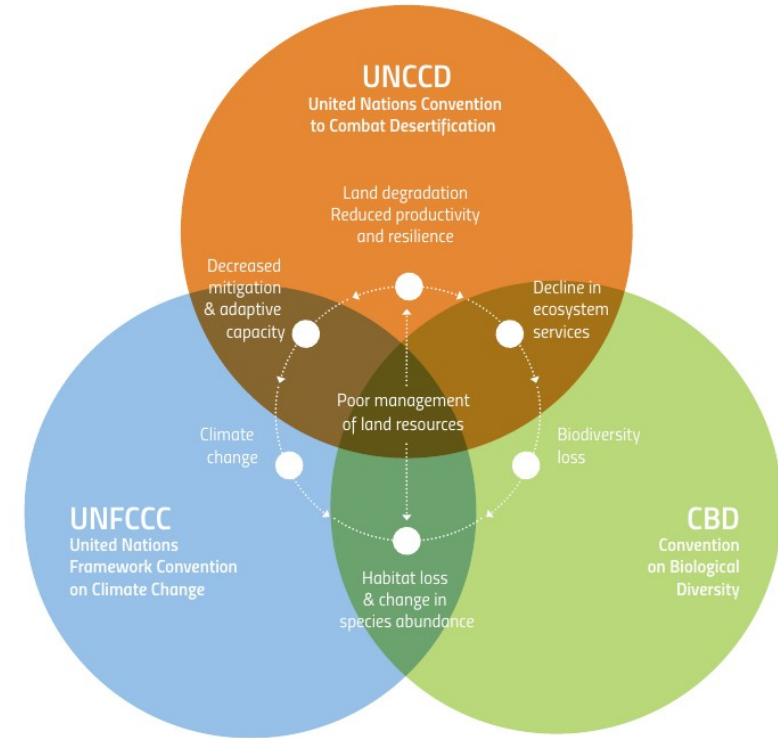
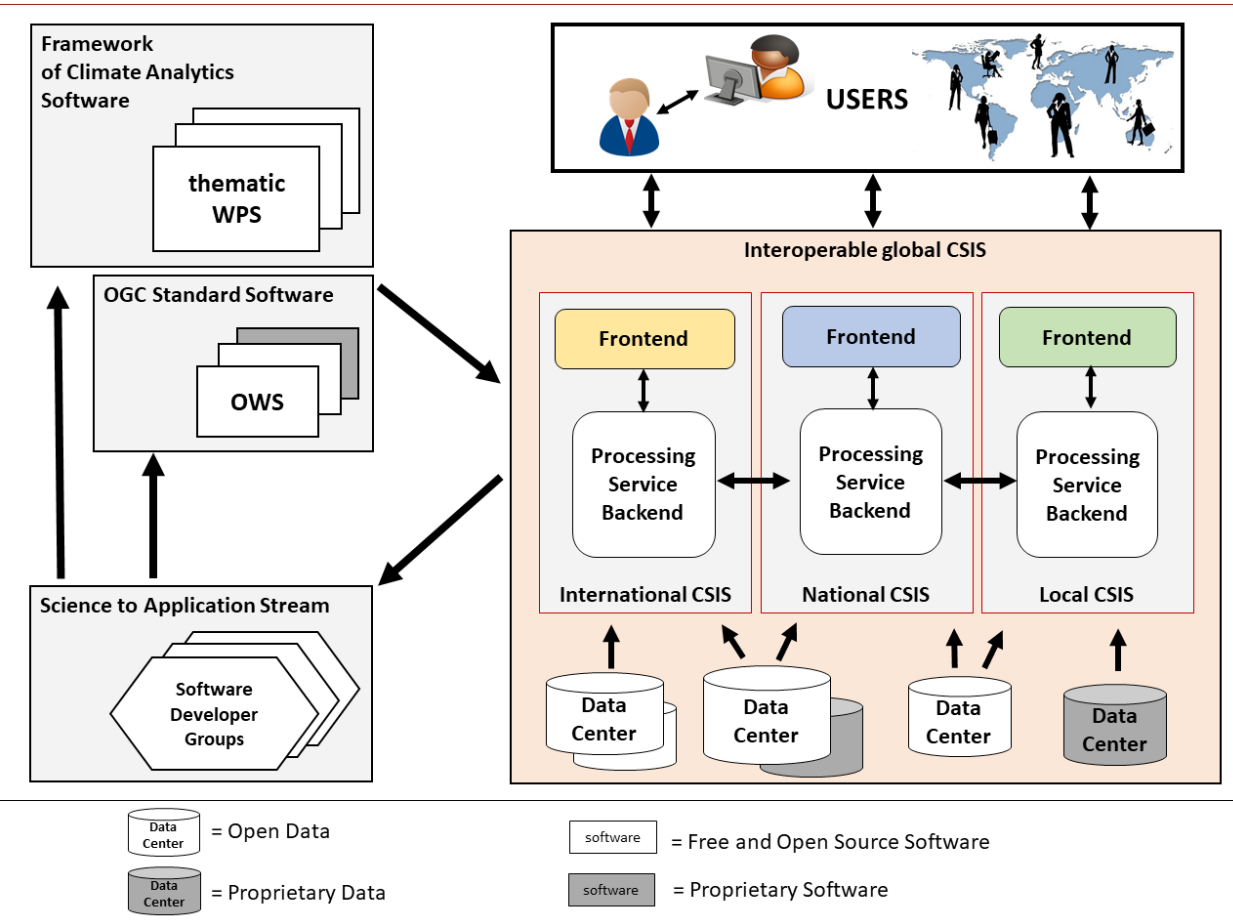
Relevant to geospatial applications: Critical Infrastructure, Emergency Management, Weather, Climate, Homeland Security, Defense & Intelligence, Oceans Science, etc

Osservare per prevedere, prevedere per prevenire



Climate Services Information System

F_{indable} A_{ccessible} I_{nteroperable} R_{eusable}



THANKS to
**Tajikistan and
Kyrgyzstan**

giz

**Special
thanks to:**



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