Societal Challenge nr.5: *Climate*

Big Data Focus area: Enormous simulation time. Extremely complicated computing model.

BDE2020 domain partners:

ΚΑΠΕ CRES | CENTRE FOR RENEWABLE ENERGY SOURCES AND SAVING

ΔΗΜΟΚΡΙΤΟΣ NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS"

Selected Key Data assets: European Grid Infrastructure (EGI). Access to several data centres hosted at CNRS-Lyon, NCSR-D Athens, INFN-Milan, NIKhEF-Amsterdam.

Pilot 5:

Downscaling, and retrieval process on (raw) climate data via user-defined parameters (e.g. geographical areas, time period, physical variables, computational grids, time steps)

Reasons:

- The provision of Climate model data satisfies an important objective, that of assessing the potential impacts of climate change on well being for adaptation, prevention and mitigation measures and supporting other policy making decisions.
- The awareness led to the availability of huge datasets
- Downscaling is a computational intensive process

Data

- Earth System Grid Federation (ESGF) data:
  - CMIP5 data (global climate model simulations)
  - CORDEX data (regional climate model simulations)
  - NetCDF data
- European Centre for Medium range Weather Forecasting (ECMWF) data