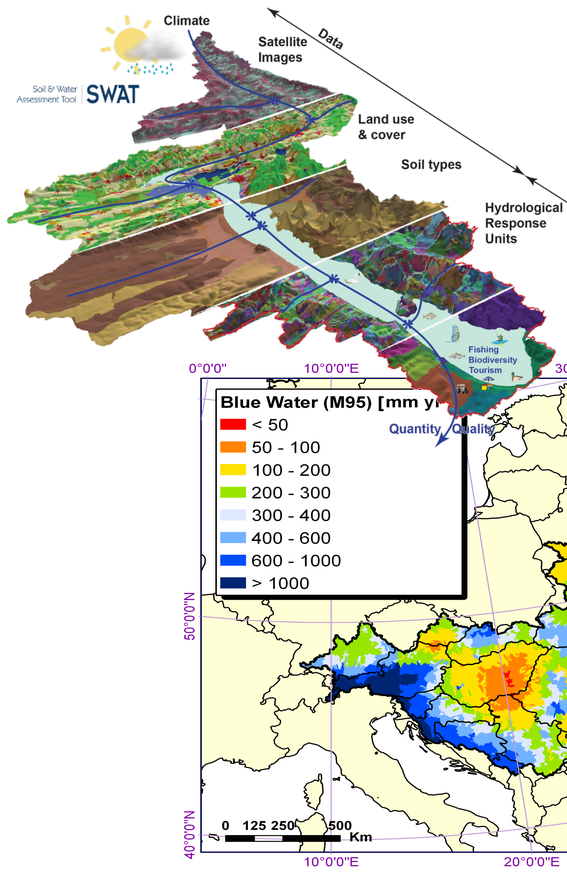
enviroSPACE: **S**patial **P**redictions and **A**nalyses in **C**omplex **E**nvironments

www.unige.ch/envirospace

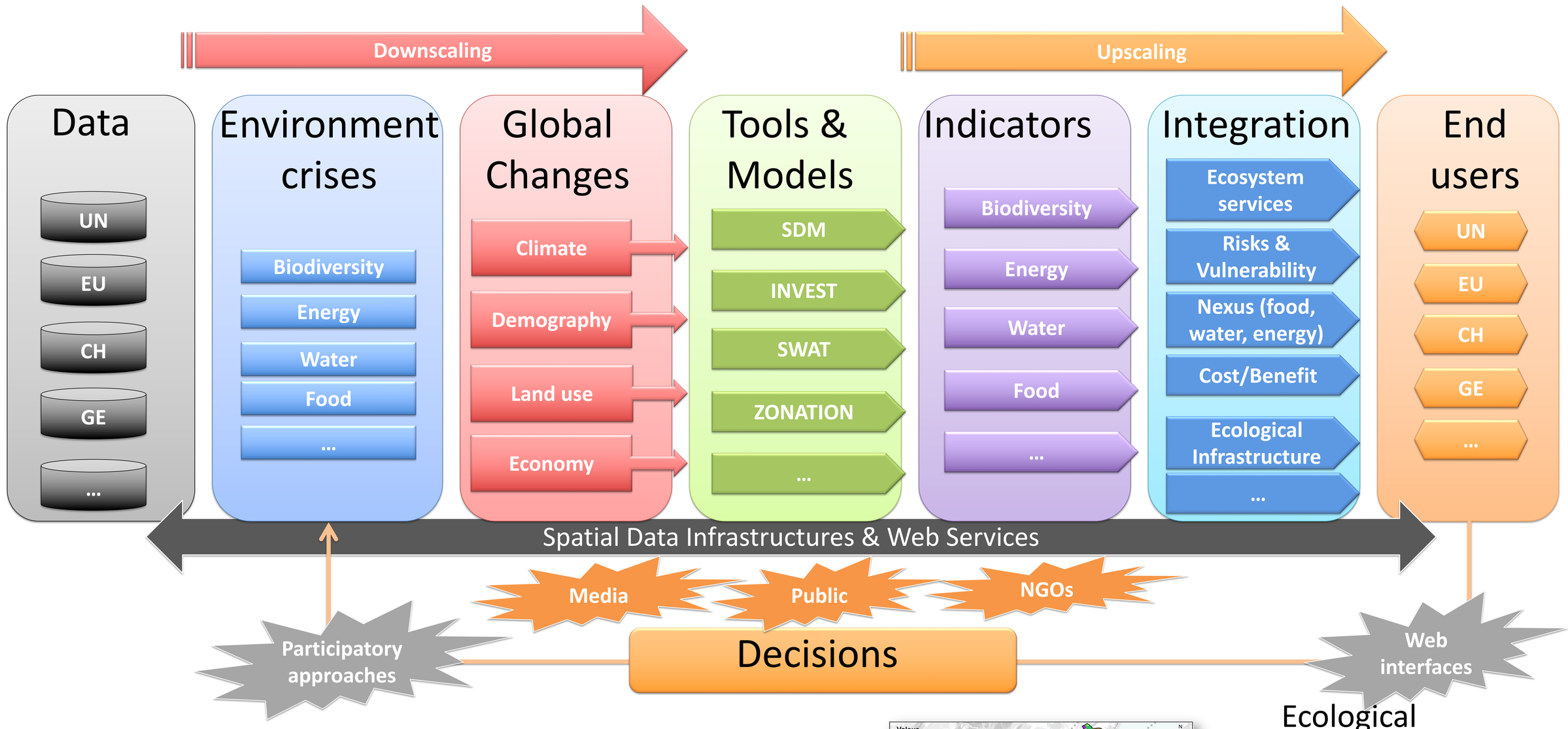
UNIVERSITÉ DE GENÈVE
FACULTÉ DES SCIENCES
Section des sciences de la Terre et de l'environnement

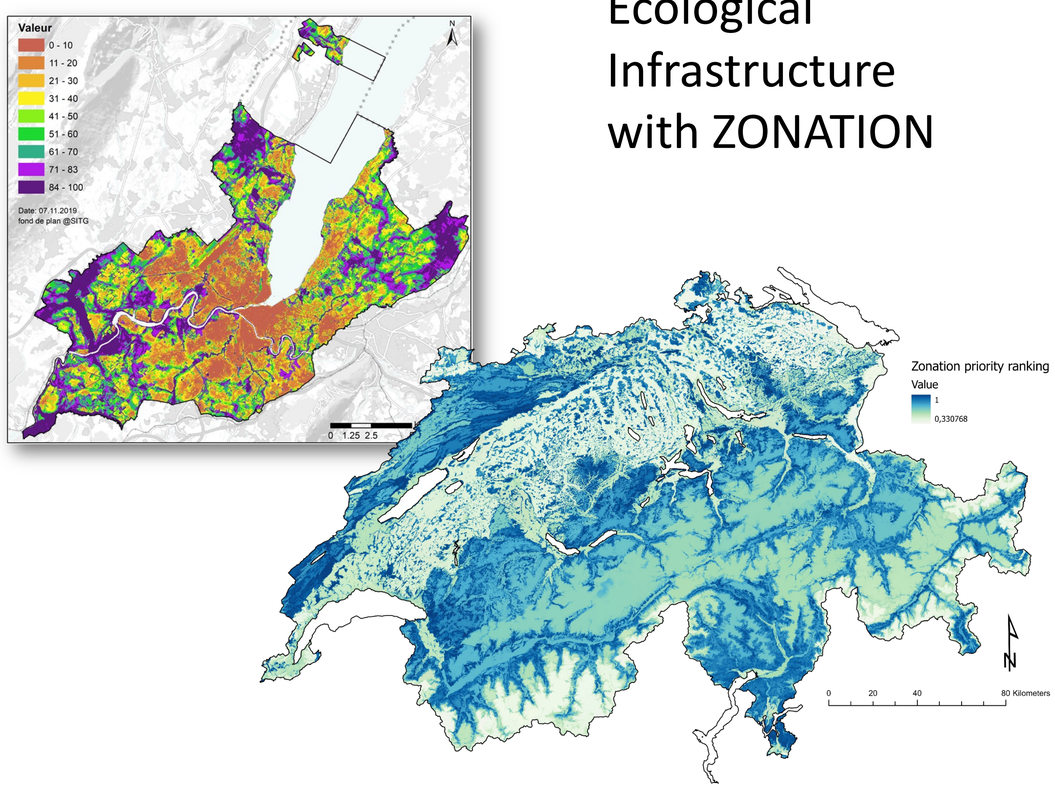
UNIVERSITÉ DE GENÈVE
INSTITUT DES SCIENCES DE L'ENVIRONNEMENT

The aim of enviroSPACE is to promote **interdisciplinary research based on spatially explicit models and indicators** on the past, present and future **state of changing and complex environment**. We are building **Spatial Data Infrastructure**s (SDI) and web services to improve data sharing and processing.



Hydrological modeling with SWAT





Ecological Infrastructure with ZONATION

Statistics, AI : Combination of GIS layers through a statistical model : e.g. regressions…

Geostatistics : Interpolation of point observations based on spatial autocorrelation: e.g. Kriging…

Dynamic models : Integration spatio-temporal dynamic in cell by cell models: e.g. cellular automates…

Expert models : Combination of GIS layers through coded expert knowledge

Processus : Combination of GIS layers through process-based models: e.g. Climate and hydrological models

Remote sensing : from satellites or airplanes: e.g. Landsat

Digitalization : Capture of existing paper maps.

Our toolbox is composed of traditional **GIS, remote sensing, geodatabases, statistical analyses and artificial intelligence**, as well as **dedicated modeling tools** in Ecology, Hydrology, Demography, Climate, Risks or Land Cover analyses.

Our challenge is clearly **to fill the gap between scientific information on one hand and decision making on the other hand**, in order to improve the sustainable management of our unique and fragile environment.

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