ConnectinGEO ENEON

Coordinating an Observation Network of Networks EnCompassing saTellite and IN-situ to fill the Gaps in European Observations (SC5-18a-2014-H2020 - 641538)

ConnectinGEO is a Coordinate and Support Action of the Horizon2020 program aiming to link existing **Earth Observation** networks with science, private sector and with GEOSS and Copernicus stakeholders. Main objectives are to enable ENEON and to provide the EC with a **gap analysis** among existing EO networks prioritizing the **Sustainable Development Goals** and the **Essential Variables**.

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Linking EO derived SDGs to EVs

	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING		6 CLEAN WATER AND SANITATION			7 AFFORDABLE AND CLEAN ENERGY	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE		11 SUSTAINABLE CITIES AND COMMUNITIES					12 RESPONSIBLE CONSUMPTION AND PRODUCTION		14 LIFE BELOW WATER			15 LIFE ON LAND							
	Indicator 2.3.1	Indicator 3.3.3	Indicator 3.9.1	Indicator 6.3.2	Indicator 6.4.1	Indicator 6.6.1	Indicator 7.2.1	Indicator 9.4.1	Indicator 9.c.1	Indicator 11.3.1	Indicator 11.3.2	Indicator 11.4.1	Indicator 11.5.1	Indicator 11.5.2	Indicator 11.6.2	Indicator 11.7.1	Indicator 12.2.1	Indicator 12.3.1	Indicator 14.1.1	Indicator 14.3.1	Indicator 14.4.1	Indicator 15.1.1	Indicator 15.1.2	Indicator 15.2.1	Indicator 15.3.1	Indicator 15.4.1	Indicator 15.4.2	Indicator 15.5.1	Indicator 15.9.1
Need for a new EV																													
Crop Area																													
Crop Type																													
Crop Yield (current and forecast)																													
Crop Management and agricultural practices																													
Famine early warning																													
Short term forecasting of communicable diseases																													
Precipitation																													
Temperature																													
Carbon dioxide																													
Methane, and other long-lived greenhouse gases																													
Ozone and Aerosol, supported by their precursors																													
Ocean colour																													
Ocean acidity																													
Ocean (fixed and floating offshore wind, wave, tidal, currents, OTEC)																													
Water quality																													
Water us/demand (agriculture, hydrology, energy, urbanization)																													
Soil moisture																													
Soil carbon																													
Nutrients																													
Groundwater																													
Runoff / streamflow / river discharge																													
Lakes / reservoir levels and aquifer volumetric change																													
Glaciers / ice sheets																													
Snow cover																													
Evaporation and evapotranspiration																													
Mangrove Area																													
Seagrass Area																													
Species populations (Species distribution, Population abundance, Population structure by age / size class)																													
Species traits (Phenology, Body mass, Natal dispersion distance, Migratory behavior, Demographic traits, Physiological traits)																													
Community composition (Taxonomic diversity, Species interactions)																													
Ecosystem structure (Habitat structure, cosys. extent and fragmentation, Ecosys. composition by functional type)																													
Ecosystem function (Net primary productivity, Secondary productivity, Nutrient retention, Disturbance regime)																													
Land use, Land cover (including urbanization, hydrology, grid description)																													
Land cover (including vegetation type)																													
FAPAR																													
LAI																													
Above-ground biomass																													

- 147 EVs reviewed coming from different SBAs
- Some of the EVs are not a single variable, but a cluster of several ones
- The community that has defined the highest number of EVs is Climate (GCOS)
  - Most of the ECVs are relevant to the other GEO SBAs or themes
- Other communities already working on a mature set of EVs: Weather (WMO/GAW), Ocean (GOOS) and Biodiversity (GEOBON)
- EV discussion and related work is growing fast in Water and Energy
- Agriculture, Disasters, Ecosystems, Health, and Urban Development, are still in the initial stage

- UN approved 17 SDGs articulated in 169 targets and 240 indicators
- How many indicators can be measured using Geospatial information or EO?
  - 231 can be calculated with socio-economic data
  - 30 can be extracted with combination of socio-economic and EO data
  - 9 indicators derived by EO alone

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