

**Abstract:** To combine socio-economics and geosciences is being requested to explore desirable social systems for sustainable development. Analysis-ready rich information for full spatial and temporal coverage of earth observation is rapidly being equipped in providers such as Open Data Cube (ODC) at NASA. Socio-economic data are also being prepared in the shape of grid-cells from well-known sources: Gridded Population of the World (GPW) at CIESIN, Columbia University and LandScan at oak Ridge National Laboratory as well as in the conventional shape of municipal bodies.

Socio-economic activities as a driver of land cover change, climate vulnerability and populations at risk of natural hazards or disease can be explored after taking linkage of the socio-economic and remote sensing data with cell-size resolution match. Otherwise a municipal body contains a large number of satellite pixels, the pixels of which can be gouged out by point[s]-in-polygon algorithm.

This seminar tries to venture into the analysis of the linkage between geoscience variables by satellites and human dimensions by socio-economic data. The geoscience variables include information such as vegetation indices, carbon dioxide concentrations, and night-time city lights. Basic satellite features such as the orbits and sensor types are briefly explained, followed by two main methods to combine remote sensing and socio-economic data: in the cell form such as ODC and GPW as well as in the form of traditional municipal bodies.