

Global Human Settlement Layer project of the EC JRC: basic concepts and results

Martino Pesaresi and Daniele Ehrlich¹

Institute for the Protection and Security of the Citizen
Joint Research Centre
21027 Ispra
Italy

The Global Human Settlement (GHS) project of the Joint Research Centre aims to measure the spatial extent of global human settlements, to monitor its changes over time and characterize the settlements based on the size and spatial arrangements of buildings and other man made structures. The information produced within the GHS are used in a number of application areas and will be used for monitoring the different international framework agreements including (1) the Sendai Framework for action, (2) the Sustainable Development Goals, and the (3) UN Habitat Urban agenda.

The presentation will provide an overview on the GHS project by illustrating the concept on which it is based and by summarize the methodology used to derive the information product. We will then present the first high resolution global settlement map derived from processing the entire global archive of Landsat imagery. The processing of Landsat also allowed to derive measure of changes in built up for the 1975, 1990, 2000 and 2014. The challenges met in the processing and the planned validation exercises will also be addressed. The presentation will also focus on the continental settlement map produced and specifically the European human settlement map with comparison with existing continental datasets. The continental and global settlement maps is used in a number of application areas including the quantification of the land area occupied by settlements for urbanization studies, the use of the settlement map as a proxy variable for use in disaster risk modelling, and as as proxy for the presence of population in global population density maps produced at the JRC. The work ahead and the need for collaboration will also be addressed.

¹ Presenter