Urban Growth Mapping of South-East Asia cities

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Urban growth and land use development has been mapped for 13 Asian cities by Gisat in frame of projects supporting development activities of international financial institutions (IFI). Mapping services have been delivered in frame of various projects in the last 4 years: EOWORLD and follow-up EOWORLD2, joint initiatives of European Space Agency (ESA) and World Bank, PUMA funded directly by World Bank, and EOTAP, joint initiative of ESA and Asian Development Bank. Services aimed to contribute to understanding the extensive urban growth in various metropolitan and city areas in South and South-East Asian region through assessment of urban land use and its spatio-temporal patterns in the last decade by means of analysis of high and very-high resolution optical satellite data. The assessment follows the concept of land use change accounting. Assessment of retrospective and up-to-date information, indicator, inter- and intra- city comparison and linking to the standard statistical information is facilitated by analytical platform for land use data exploration developed by Gisat.

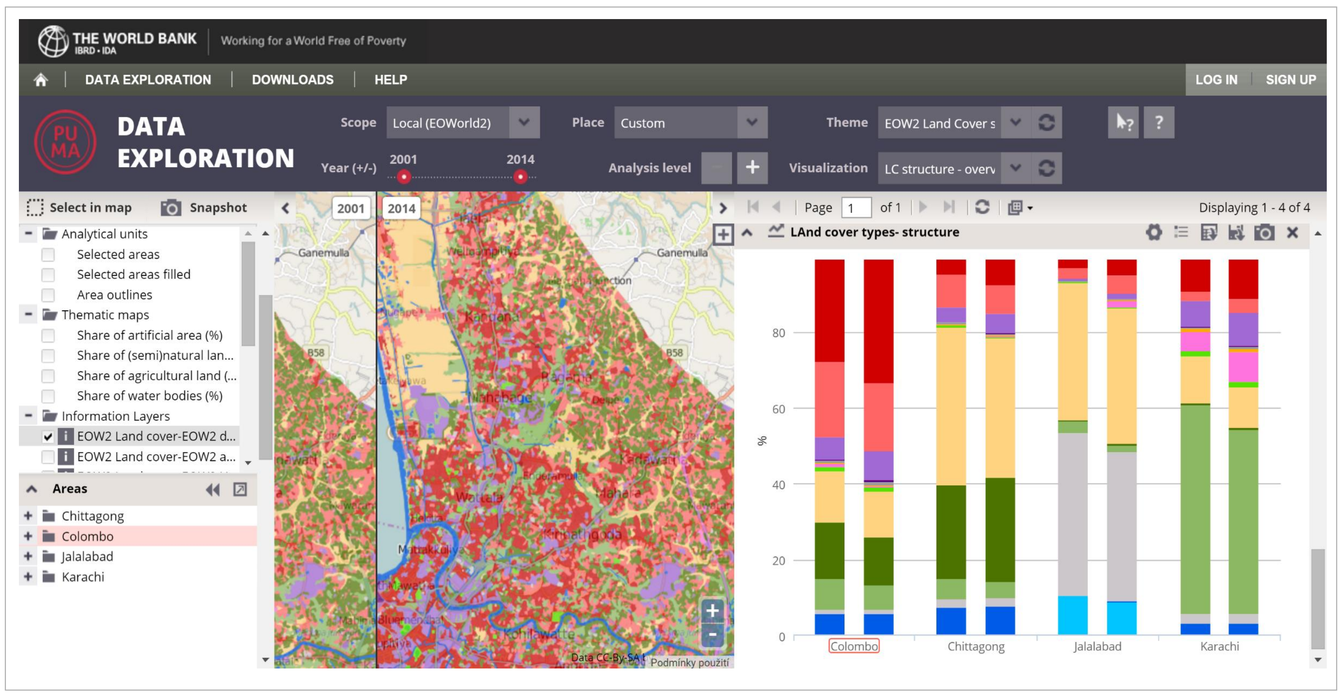
Standard service products

Land use map shows distribution of land use classes at detailed level or aggregated at various physical or administrative level.

Land use change map evaluating specific changes or combinations of similar changes aggregated into land use flows.

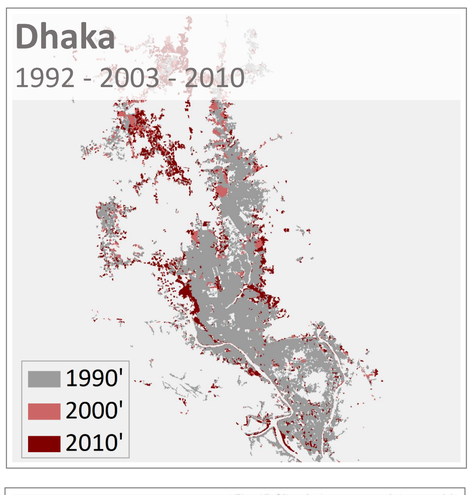
Land use status and change indicators provide insight into land use development related to urban growth: absolute and relative comparison of land use status structure, structure of urban changes (classes being consumed and formed), gross and net changes.

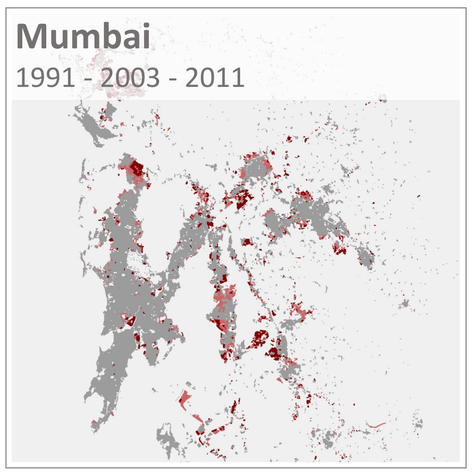
Data exploration platform is web-based geospatial tool for exploring and analysing integrated spatial data. It adopts open-source software and allows interactively access, explore, visualize, analyse and share local, regional and global urban spatial data from a variety of sources.

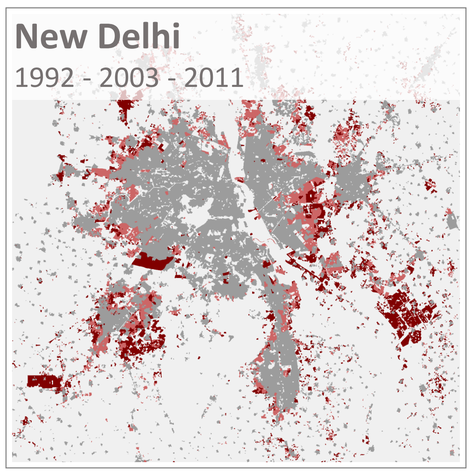


eoworld
Earth Observation for Development

High resolution land cover / land use mapping from Spot satellites supported historical assessment of spatial growth in metropolitan areas of Dhaka, Delhi and Mumbai. The service case L was delivered in frame of EOWORLD project.
User: World Bank

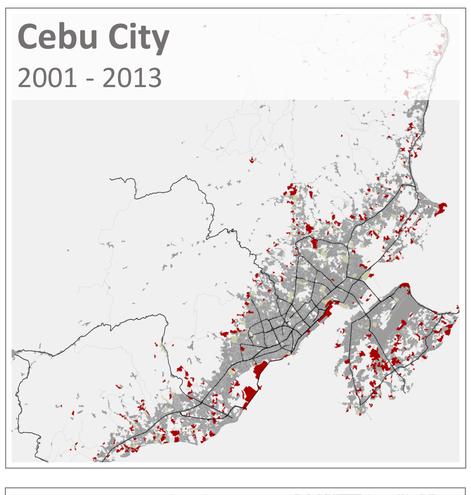


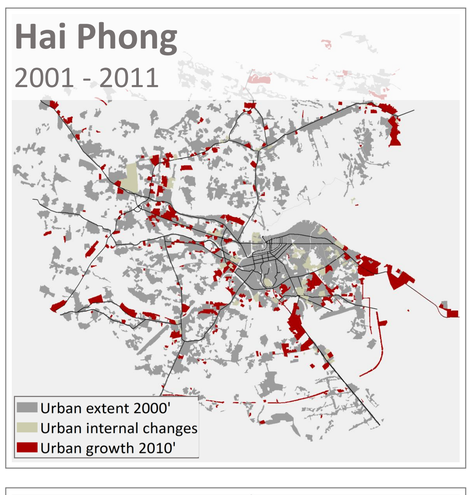


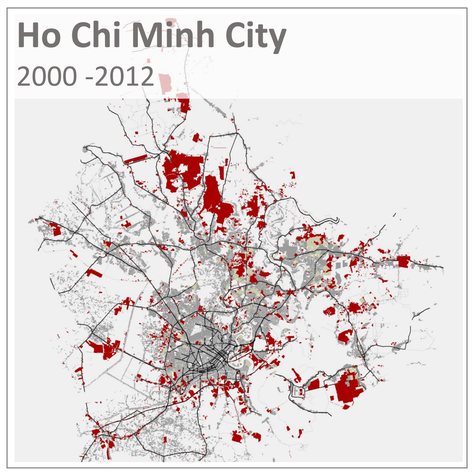


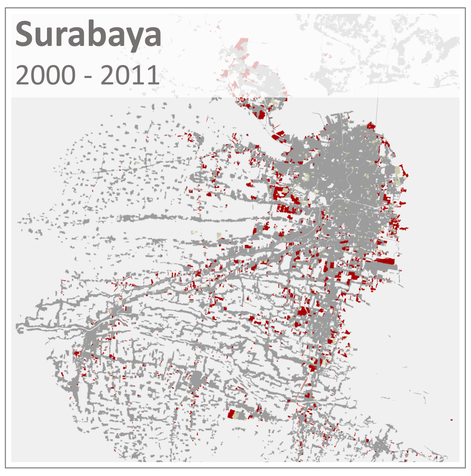
PUMA

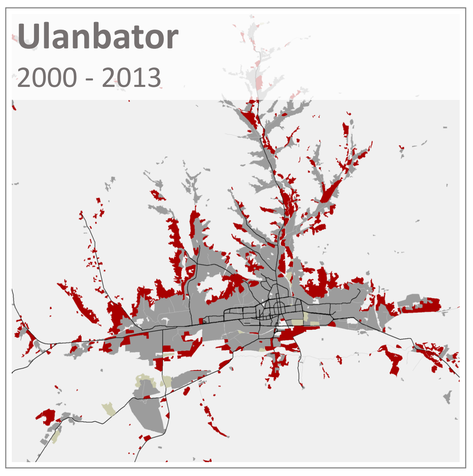
Data exploration platform has been developed within frame of PUMA (Platform for Urban Management and Analysis) project for World bank. Land use development within last decade was obtained by analysis of high resolution EO imagery (RapidEye, Spot and Landsat) for 5 cities.
Customer: World Bank





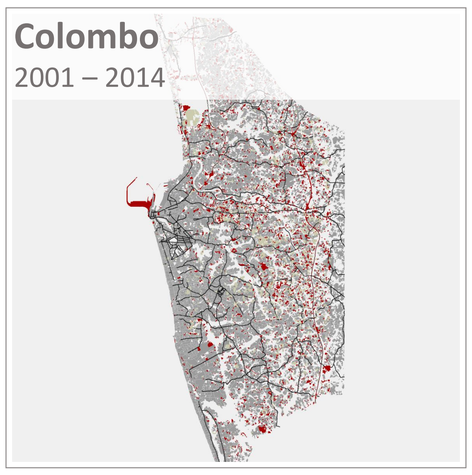


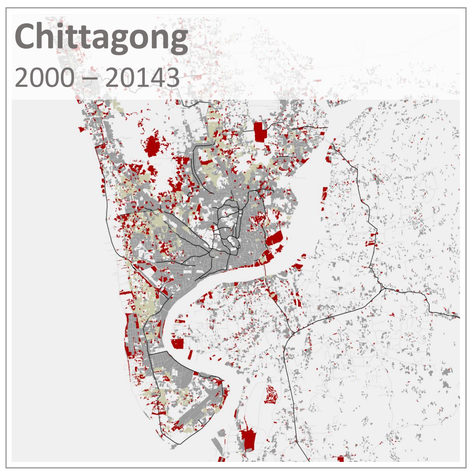


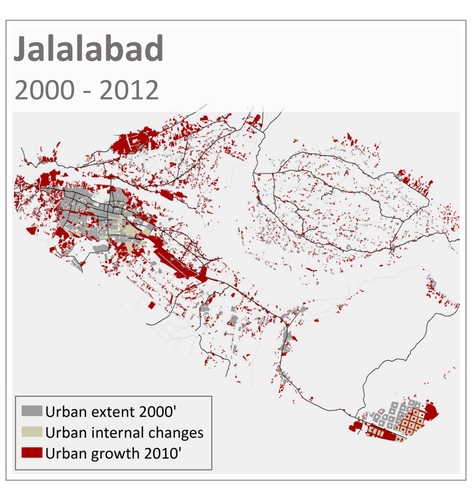


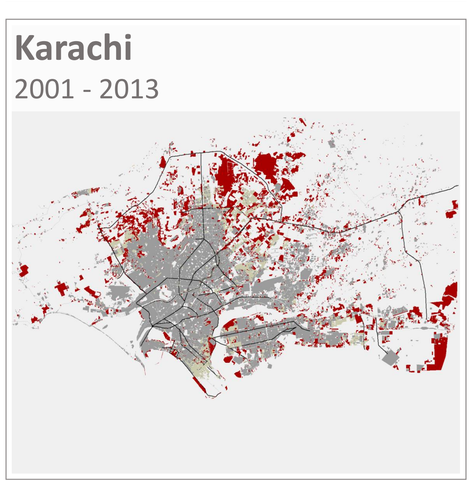
eoworld 2
Earth Observation for Development

The service case delivered in frame of EOWORLD2 project aimed at provision of land use mapping products with focus on urban expansion, its spatial and temporal patterns and land use change dynamics. As opposed to its precursor, EOWORLD service case L, full potential of optical VHR imagery was exploited. Improved granularity enabled to detect desirable land use classes at higher thematic and geometric level of detail and accuracy.
User: World Bank



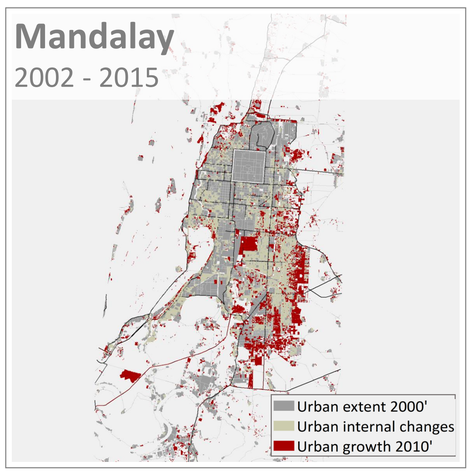


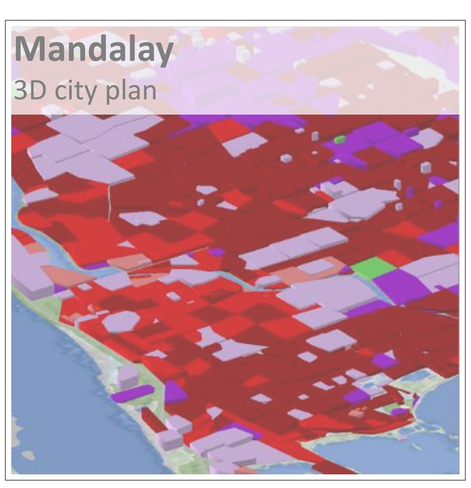


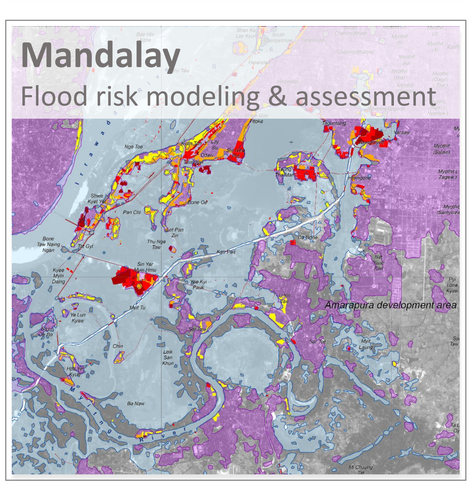


eotap
earth observation for a transforming asia pacific

The service case K delivered in framework of EOTAP (Earth Observation for Transforming Asia Pacific) project provides complex products supporting urban development activities and flood risk assessment in Mandalay city area. Urban growth patterns, its structure and trends were identified from VHR data.
User: Asian Development Bank







GISAT is SME company from Czech Republic with long-term experience in delivering Earth Observation and geoinformation services.
Analytical platform for exploration of urban land use could be accessed and tested on **http://puma.gisat.cz**
For more information about respective urban mapping projects conducted by Gisat please contact jan.kolomaznik@gisat.cz

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