

Shibasaki & Sekimoto Lab.

Urban Spatial Information

Institute of Industrial Science (IIS), Center for Spatial Information Science (CSIS)

<http://shiba.iis.u-tokyo.ac.jp/>

Department of Civil Engineering,
Department of Socio-cultural
Environmental Studies

Spatial Information Science, Human Centered Urban Informatics

What is going on where? What is going to happen next?

Assembling spatial information related to people, objects, and events in urban and local area helps understand past/current/future situations through compilation, analysis, and share. We study on discovering and solving wide variety of social-issues with such spatial information.



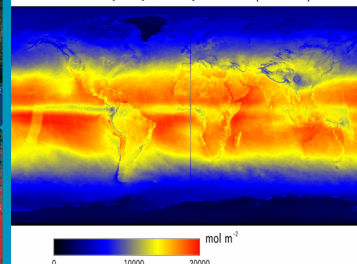
Global Mapping using Satellite Images

We develop methods for extracting and mapping man-made objects on the earth, such as roads and built-up area, from satellite images, and build system for applying the methods all over the cities of the world.

Know

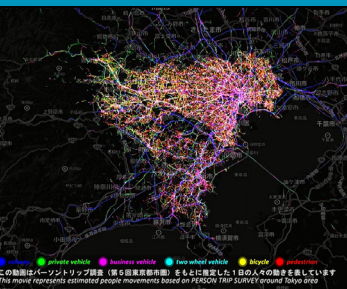


Global yearly PAR by satellite (mol m⁻²)



Digital Landscape Modeling

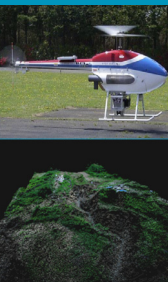
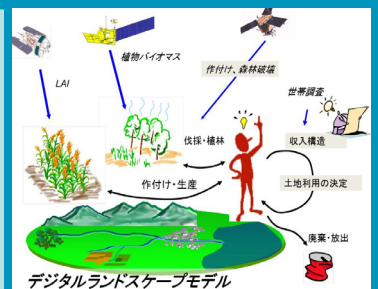
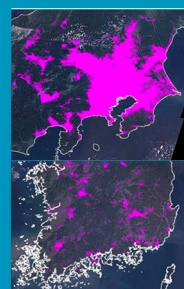
We develop Digital Landscape Model, which predicts land cover, land use, supply and demand of food on the earth, with considering changes of landscapes, such as economic change, urban expansion, change of cropping system, growth, harvest, and forest. We also complement and assimilate it with continuous earth observation data from satellite.



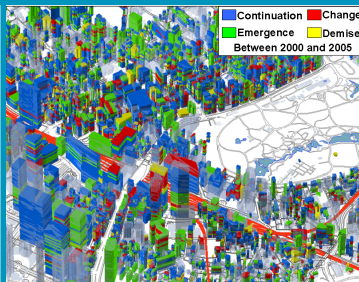
People Flow Project

People Flow Project(PFLOW) overviews data process technology, data quality and its common infrastructure for massive people flow. Our project provides spatiotemporal data processing service for all researchers through our platform.

Measure



Understand



Urban Analysis using Micro-geodata

We monitor time-series changes of shops, offices and restaurants all over Japan, and analyze the changing trends by integrating digital telephone directory, statistical data, web information etc. with digital maps.

Predict



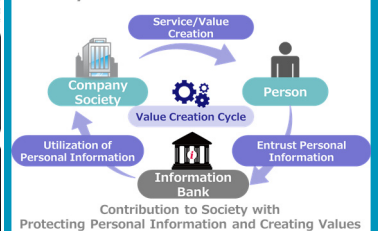
3D Mapping of People, Object, and Events

We conduct real-time mapping of urban space, people, objects, and events by using various sensors and information sources such as digital cameras, laser scanners, Xbox Kinect devices and cell phone records.

Provide



Ecosystem for Personal Information



Support



Data Assimilation of Movement Objects

We develop systems that reconstructs and estimates distribution of people, objects, their activities and changes by collecting various traces of their movement, and assimilates them into simulation models.



Information Bank: Ecosystem of Personal Information

Novel social infrastructure for circulation of personal information. Information bank aggregates personal information into bank account securely, and offers in order to enhance QOL of individual and society with protecting privacy under self-management.