

Contact:
Laurie Canavan
lcavanan@clarku.edu

Clark Labs of Clark University Releases TerrSet

Clark Labs is pleased to announce the release of TerrSet – an integrated constellation of software applications for monitoring and modeling the Earth system. Developed in close cooperation with leading institutions focused on sustainable development and environmental conservation, TerrSet provides groundbreaking tools for addressing major challenges to smart growth – climate change: trends, projections and adaptation; land cover conversion: trajectories and impacts; ecosystem services: present and future value.

TerrSet = Space + Time

Built upon three decades of leadership in the development of GIS and image processing tools (IDRISI), Clark Labs has added the critical element of time to create what can now be called a GeoTemporal System (GTS). TerrSet components include:

The **Land Change Modeler** (LCM) for analyzing past land cover change, empirically modeling its relationship to explanatory variables and projecting future changes. LCM is based on the power of neural networks and provides a well-established procedure for land change prediction. LCM also includes tools for the assessment planning interventions and especially of REDD (Reducing Emissions from Deforestation and forest Degradation) climate change mitigation projects.

New: **GeOSIRIS** – a unique tool for national level REDD (Reducing Emissions from Deforestation and forest Degradation) policy planning, developed in close cooperation with Conservation International. With GeOSIRIS one can project the future impact of various REDD policies on deforestation and carbon emissions.

The **Earth Trends Modeler** (ETM) – a tool for the analysis of time series of earth observation imagery. With ETM one can analyze trends and discover recurrent patterns (over space, time or space-time) in fundamental earth system variables such as sea surface temperature, atmospheric temperature, precipitation and vegetation productivity. ETM is an exceptional tool for the assessment of climate change in the recent past (e.g., the past 30 years).

New: the **Climate Change Adaptation Modeler** (CCAM, pronounced “see cam”) – a tool for modeling future climate and assessing its impacts on sea level rise, crop suitability and species distributions. CCAM provides a special interface to the MAGICC/SCENGEN models of the National Center for Atmospheric Research (NCAR).

Reconfigured and Enhanced: The **Habitat and Biodiversity Modeler** (HBM) for habitat assessment, landscape pattern analysis and biodiversity modeling. HBM also contains special tools for species distribution modeling (including Mahalanobis Typicalities and MaxEnt) and includes a new tool for extracting species data from the IUCN Red List species range databases. Combined with LCM and CCAM, HBM provides a powerful tool for the assessment of future changes on the natural world.

New: the **Ecosystem Services Modeler** (ESM) for assessing the value of ecosystem services such as water purification, crop pollination, wind and wave energy. ESM is based closely on the InVEST toolset developed by the Natural Capital Project and provides 15 models at this time. As with HBM, the combination of ESM with LCM and CCAM provides an unprecedented ability to gauge the effects of future changes on the services that ecosystems provide.

Enhanced: the **IDRISI GIS Analysis** tools – a broad spectrum of fundamental tools for GIS analysis, primarily oriented to raster data. Special features of the IDRISI tool set include a suite of multi-criteria and multi-objective decision procedures including a new graphical modeling environment that includes the ability to control contiguity and compactness – the most advanced spatial allocation toolset ever created. A wide range of tools for statistical, change and surface analysis is also provided. IDRISI is a COM-server and thus can be controlled by clients written in languages such as Python and C++.

*Enhanced: the **IDRISI Image Processing System*** – an extensive set of procedures for the restoration, enhancement, transformation and classification of remotely sensed images. IDRISI has the broadest set of classification procedures in the industry including both hard and soft classification procedures based on machine learning (such as neural networks) and statistical characterization.

TerrSet = One System

TerrSet is one system – whole, complete and affordable. Attractive pricing options are available for academics, students and institutions.

TerrSet = Non-Profit

Clark Labs is a non-profit research center associated with the Graduate School of Geography and the Department of International Development, Community and Environment at Clark University in the heart of Massachusetts. For further information on TerrSet and Clark Labs, find us at:

www.terrset.org

www.clarklabs.org