Concept Note and Detailed Agenda

Landsat Data Handling and Land Cover Classification Training Workshop

Organized and supported by:

U.S. Department of the Interior - International Technical Assistance Program's Land Cover for Climate (LC4C) Program, the USAID & NASA supported SERVIR-Mekong Program, and the U.S. Government's SilvaCarbon Program

14-18 September 2015 ● Swissotel Nai Lert Park, Bangkok, Thailand

Background

Rapid economic and population growth in the Lower Mekong Region (composed of Cambodia, Lao PDR, Myanmar, Thailand, and Vietnam) continue to drive changes in the region's water regimes and the loss and degradation of natural vegetation and soils. These changes, in turn, are impacting, often negatively, ecosystem services, food and water security, and biodiversity. All of these impacts are exacerbated by climate change, further highlighting the need for improved governance and decision making in virtually all sectors.

Geospatial data and technology can contribute significantly to more timely and informed decision making. For example, satellite imagery can be used to understand the patterns and drivers of land cover change and to predict future change patterns. Data from the Landsat satellite missions, going back to 1972, form one of the most important continuous records of the earth's changing surface patterns and effective use of this valuable database continues to be a foundation of land cover and land use mapping and monitoring efforts all over the world.

Purpose:

The main purpose of this training workshop is to empower participants with detailed knowledge of the various techniques and tools that are used for accessing, pre-processing, and analyzing data from the Landsat satellites--particularly for use in mapping and monitoring land cover-related products. The workshop will also cover general land cover classification concepts and tools.

Presentations, hands-on exercises, and group discussion will ensure that participants have a working knowledge of these techniques and tools. The workshop will also involve participants reflecting on the objectives and procedures used for classification and image interpretation in their own agencies or institutions. After the workshop, participants will be able to confidently use these techniques as well as advise others on best practices for applying Landsat information products and derived products to a range of decision and planning contexts.

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The Department of the Interior's International Technical Assistance Program 's (DOI ITAP) **Land Cover for Climate (LC4Climate)** project, funded by USAID's Global Climate Change program, works to enhance the capacity of developing country partners to generate and/or update existing land cover information using satellite imagery.

The SERVIR-Global network of regional geospatial support hubs is an initiative of the U.S. National Aeronautics and Space Administration (NASA) and the United States Agency for International Development (USAID). **SERVIR-Mekong**, the newest hub in the network is a geospatial data for development program designed to respond to the needs of the Lower Mekong countries. It builds the capacity of governments and other key stakeholders in the Lower Mekong countries to employ publicly available satellite imagery and geospatial technologies, such as mapping and analysis software, for decision making in themes such as environmental management, disaster risk management, and climate change resilience. SERVIR-Mekong is implemented by the Asian Disaster Preparedness Center (ADPC) and its technical partners Spatial Informatics Group (SIG), Stockholm Environment Institute (SEI), and Deltares.

SilvaCarbon, is a US technical cooperation program to enhance the capacity of partner governments to measure, monitor, and manage forest and terrestrial carbon. Drawing on the expertise of eight US government (USG) agencies, academia, industry, and non-governmental organizations (NGOs), SilvaCarbon assists countries to develop and implement national forest monitoring systems that are robust, transparent, sustainable, and tailored to their particular needs and circumstances.

Training Objectives:

By the end of this training course, participants will:

- understand the continuous Landsat satellite series of missions and the extensive and growing catalog of data produced by these missions;
- be confident in applying best practices for processing Landsat satellite imagery to classify and monitor changes in forest cover, crops, various wetland types, and the overall landscape;
- exchange knowledge and experience on the applications of satellite imagery in Lower Mekong countries;
- be aware of the key value and applications of Google Earth Engine and the FAO Collect Earth software for spatial sampling of land use change

Prerequisites

This training is for ***experienced GIS and/or remote sensing image analysis software users.*** All attendees are therefore ****required**** to**:**

- have hands-on experience with either Geographic Information Systems (GIS) and/or remote sensing / image classification computer software;
- be actively participating in land use or land cover mapping projects in their home country; and
- be proficient in English language

Additionally, participants will be ***expected to prepare*** (either as a powerpoint or brief document) the following for sharing with other participants at the workshop***:***

- a description of a project involving classification or image interpretation that you have been involved with;
- The specific technical methods and software used in that project;
- the main challenges you and your colleagues faced; and
- how you feel your team could improve on the data, process, or software used in that project.

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