Remote Sensing of Land Indicators in Support of Sustainable Development Goal (SDG) 15
NASA ARSET Introductory Webinar

Date:
Three 1-hour sessions held on June 20, 2017, June 21, 2017, and June 22, 2017 at 1:00 – 2:00PM EDT and 10:00-11:00PM EDT (-04:00 UTC).

Each day there will be two sessions. Please only sign up for and attend one of the session times based on what is most appropriate for your location.

Course Description:
This webinar will focus on the use of NASA Earth Observations for the Sustainable Development Goal (SDG) 15, specifically the indicators for targets 15.1 and 15.3. This will include background information on the SDG framework, country requirements, and how remotely-sensed data can be used to monitor, tract and report on indicators. This course will review imagery and products from Landsat, MODIS, VIIRS, and Sentinel (from the ESA) commonly used for assessing Land-Cover and Land-Use Change (LCLUC). Additionally, a background on image classification and change detection will be provided. Online tools and data analysis will be featured, such as the Forest Land Use Data Explorer (FLUDE) and the Global Forest Watch (GFW).

Learning Objectives: Participants will learn how to acquire and use remotely-sensed imagery for estimating total forest area and forest change including:

- A basic understanding of the SDG Goal 15
- Acquiring remotely-sensed imagery and products for land cover, change, and productivity
- A basic understanding of image classification and change detection

Intended Audience: Regional, state, federal, and international organizations interested in addressing monitoring requirements for the SDGs through the use of remote sensing. Professional organizations in the public and private sectors engaged in environmental management and monitoring will be given preference over organizations focused primarily on research.

Prerequisites:

- Complete the on-demand "Fundamentals of Remote Sensing" webinars, Sessions 1 and 2 (http://arset.gsfc.nasa.gov/webinars/fundamentals-remote-sensing) or equivalent experience.

Certificate: A certificate will be provided to participants who attend all live sessions AND complete the homework assignment by the due date.

Background

Sustainable Development Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Target 15.1: By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

- Indicator: 15.1.1: Forest area as a proportion of total land area

Target 15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

- Indicator: 15.3.1: Proportion of land that is degraded over total land area
    - Sub-indicators: Land cover and land cover change, Land productivity, Carbon stocks

Session 1 (June 20): Overview of SDG Goal 15

- Introduction to the Sustainable Goals Framework
    - Overview of SDG 15
    - International Institute for Sustainable Development's (IISD's) SDG Knowledge Hub
    - Group on Earth Observations (GEO) and the SDGs
- State of the World's Forests
- Introduction to the role of land-based remote sensing for targets and indicators
- Remote sensing data sources for assessment of land cover
    - Landsat
    - MODIS
    - VIIRS
    - Sentinel

Session 2 (June 21): SDG Target 15.1

- Overview of Target 15.1 and Indicator 15.1.1
- Overview of data portals and web-based tools for visualizing and acquiring land data
    - Global Forest Watch (GFW)
    - The Forest Land Use Data Explorer (FLUDE)
    - European Space Agency Global Land Cover Map
    - MODIS Landcover
- Overview of image classification
- Demo: QGIS SCP plugin

Session 3 (June 22): SDG Target 15.3

- Overview of Target 15.3 and Indicator 15.3.1
- Introduction to United Nations Convention to Combat Desertification (UNCCD)
- Overview of change detection
    - Supervised land cover classification
- Demo: Global Forest Watch (GFW)