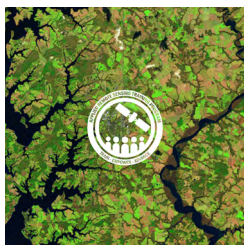


Agriculture

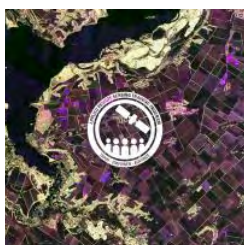
Satellite Remote Sensing for Agricultural Applications



This training addresses how to use remote sensing data for agriculture monitoring, specifically drought and crop monitoring. The training also provides end-users the ability to evaluate which regions of the world have agricultural productivity above or below long-term trends. This informs decisions pertaining to market stability and humanitarian relief.

Introductory
2020

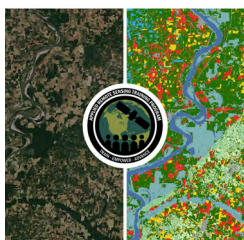
Agricultural Crop Classification with SAR and Optical Remote Sensing



This five-part, intermediate training series focuses on the use of synthetic aperture radar (SAR) from Sentinel-1 and/or optical imagery from Sentinel-2 to map crop types and assess their biophysical characteristics. The training includes a SAR and optical refresher along with pre-processing and analysis of Sentinel-1 and Sentinel-2 data using the Sentinel Application Platform (SNAP) and Python code written in JupyterLab, a web-based, interactive development environment for scientific computing and machine learning.

Intermediate
Bilingual (Spanish)
2021

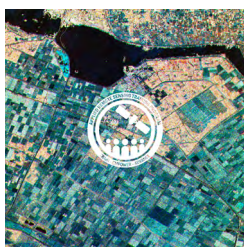
Large Scale Applications of Machine Learning using Remote Sensing for Building Agriculture Solutions



Participants become familiar with data format and quality considerations, tools, and techniques for processing remote sensing imagery on a large scale from publicly available satellite sources, using cloud tools such as AWS S3, Databricks, and Parquet. Additionally, participants learn how to analyze and train machine learning models for classification using this large source of data to solve environmental problems with a focus on agriculture. Participants gain a basic understanding of tools such as Pyspark and TensorFlow.

Advanced
2024

Crop Mapping using Synthetic Aperture Radar (SAR) and Optical Remote Sensing



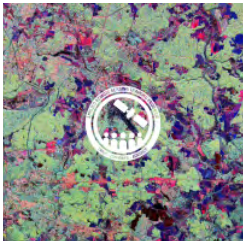
This three-part, advanced training builds on previous ARSET agriculture trainings. We present more advanced radar remote sensing techniques using polarimetry and a canopy structure dynamic model to monitor crop growth. The training covers how to apply machine learning methods to classify crop type using a time series of Sentinel-1 & Sentinel-2 imagery. This series includes practical exercises using the Sentinel Application Platform (SNAP) and Python code written in Python Jupyter Notebooks.

Advanced
Bilingual (Spanish)
2023



Agriculture

Mapping Crops and their Biophysical Characteristics with Polarimetric SAR and Optical Remote Sensing



This four-part, advanced training builds on the previous ARSET agricultural training. Here we present more advanced radar remote sensing techniques using polarimetry to extract crop structural information. We also present Sen4Stat – an open-source system demonstrating the potential of optical and SAR satellite Earth observations for monitoring and reporting of the SDG targets related to agriculture.

Advanced
Bilingual (Spanish)
2022

