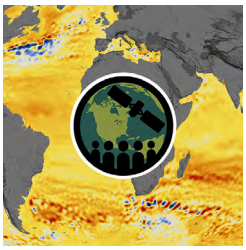
Climate Resilience

Sea Level Change Tools for Planning and Decision Support

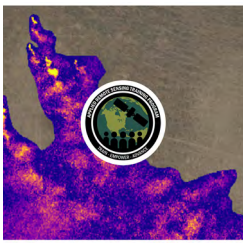


This training series focuses on NASA products and tools available to assess historical sea-level rise, access and understand projections of sea level, and investigate impacts. Participants are exposed to the causes behind regional and global sea-level changes and explore climate and analysis tools to access, visualize, and perform statistical analysis using NASA data.

Introductory

2025

Methane Observations for Large Emission Event Detection and Monitoring



This introductory two-part training begins with an introduction to the U.S. Greenhouse Gas Center and provides participants with an overview of how methane observations from the Earth surface Mineral dust Source Investigation (EMIT) mission can be used to identify and monitor areas of high methane enhancement. This course also demonstrates how to navigate the U.S. Greenhouse Gas center portal to access data products and highlights tools for visualizing methane observations.

Introductory

Bilingual (Spanish)

2024

Building Climate Risk Assessments from Local Vulnerability and Exposure

This training describes climate risk assessment approaches that originate with stakeholder expertise in the fundamental climate vulnerability and exposure of their system. The training provides an assessment and engagement framework and utilizes examples from the NASA Climate Adaptation Science Investigators (CASI) Program that is preparing NASA facilities for future climate resilience.

Introductory

2023

Selecting Climate Change Projection Sets for Mitigation, Adaptation, and Risk Management Applications

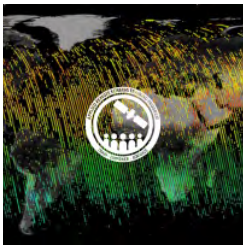
This two-part training provides an overview of resources for choosing climate projection sets for mitigation, adaptation, and risk management applications. The training gives an overview of application areas, defines a list of distinguishing characteristics of climate projection sets, and then highlights the main benefits and drawbacks of different types of projection sets.

Introductory

2022

Climate Resilience

Measuring Atmospheric Carbon Dioxide from Space in Support of Climate Related Studies



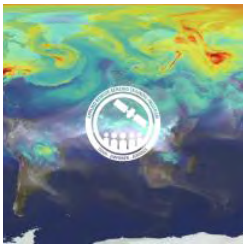
This introductory, four-part webinar series provides an overview of atmospheric carbon dioxide measurements from space with the OCO-2 and OCO-3 satellite missions. It includes a theoretical portion that describes the instrument, how the measurement is made, and the characteristics, limitations, and validation of the measurement.

Introductory

Bilingual (Spanish)

2022

Atmospheric CO2 and CH4 Budgets to Support the Global Stocktake



This three-part webinar series introduces bottom-up and top-down methods for tracking emissions and removals of carbon dioxide (CO2) and methane (CH4) from the atmosphere. This training explores how to combine this information to produce a more complete and transparent global stocktake, and supports efforts to reduce net emissions and mitigate their impact on the climate.

Introductory

2022

Earth Observations Toolkit for Sustainable Cities and Human Settlements

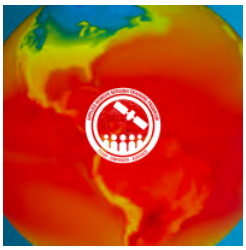
This three-part, introductory webinar series provides an overview of the Earth Observations Toolkit for Sustainable Cities and Human Settlements, an online knowledge resource that shares ready-to-use Earth observation data sets and tools. These resources can be applied in policy areas that are important to resilient and sustainable cities. Such areas include sustainable urban planning, adequate housing, access to public transport, and access to public spaces.

Introductory

Bilingual (Spanish)

2022

NASA Earth Observations for Energy Management



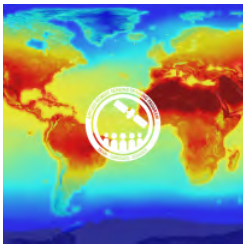
This training offers participants an introduction to how NASA EOs can contribute to a greater understanding of energy management applications. The course summarizes priorities and challenges for energy management and how various NASA EOs can support decision-making. Attendees will gain familiarity with a broad set of relevant NASA datasets, tools, platforms, and resources, as well as hear about case studies and real-world applications related to climate resilience, energy efficiency, and renewable energy.

Introductory

2021

Climate Resilience

Introduction to NASA Resources for Climate Change Applications



This two-part, introductory webinar series, co-produced by ARSET and the NASA Goddard Institute for Space Studies (GISS), provides an overview of NASA resources for monitoring climate change and its impacts. This training defines the terminology and the role of Earth observations in climate change assessment, and then provides an overview of NASA climate models suitable for emissions policy, impacts, risk, and resilience applications.

Introductory

2021

Earth Observations of Blue Carbon Ecosystems

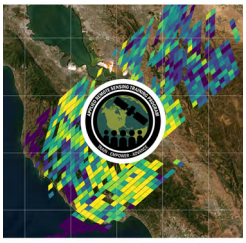
This training builds from a series of previous trainings on Remote Sensing of Coastal Ecosystems, Remote Sensing of Mangroves, Remote Sensing of Greenhouse Gases, and Remote Sensing of Carbon Monitoring for Terrestrial Ecosystems to provide a comprehensive overview of blue carbon ecosystem remote sensing. The training guides participants through mapping extent and quantifying the carbon stocks of blue carbon ecosystems using Earth observations to support assessment, monitoring, and restoration goals of these ecosystems.

Intermediate

Bilingual (French)

2024

Applications of Carbon Dioxide Measurements for Climate-Related Studies



This intermediate, three-part webinar series builds on the previous CO2 training from 2022, providing a more in-depth review of OCO-2 and OCO-3 measurements along with demonstrations of case-studies. The latter focuses on how to read, visualize, and interpret the data, how to account for quality flags in an analysis, how to use the data from the OCO missions to analyze impacts of an El Niño event on atmospheric CO2 and carbon sources and sinks, and how to examine spatial variations of CO2 over a metropolitan area.

Intermediate

Bilingual (Spanish)

2024