



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

May 24, 26, 31 & June 2, 2022

English Session: 12:00-14:00 EDT (UTC-4)

Spanish Session: 15:00-17:00 EDT (UTC-4)

CO₂ monitoring from space is becoming an increasingly important and relevant capability in support of climate studies and to inform policy decisions. This introductory four-part webinar series will provide an overview of atmospheric carbon dioxide measurements from space with the OCO-2 and OCO-3 satellite missions. It will include a theoretical portion that will describe the instrument, how the measurement is made, and the characteristics, limitations and validation of the measurement. There will be a discussion of the type of climate studies that such measurements can support. There will also be a practical session where participants will learn how to access, search, filter and display XCO₂ data using Jupyter Notebook.

Part 1: An Introduction to XCO₂ with OCO-2 and OCO-3

- Background of the XCO₂ measurement and how it is measured
- Description of the OCO-2/OCO-3 sensors
- Characteristics, limitations and validation of the measurement
- Q&A

Part 2: A Demonstration on how to Access & Visualize OCO-2/OCO-3 Data

- Use of Jupyter Notebook to access, search, filter and display XCO₂ data
- Q&A

Part 3: XCO₂ in Support of Global and Regional Climate Related Studies

- Global and regional carbon flux estimation, and carbon cycle response to climate variability and changes in anthropogenic emissions
- Q&A

Part 4: XCO₂ in Support of Local and Regional Climate Related Studies

- Climate impacts from localized emissions, air quality, and urban density
- Q&A



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