Atmospheric CO2 and CH4 Budgets to Support the Global Stocktake

May 11, 18, & 25

Session A: 10:00 am-12:00 pm EDT, Session B: 3:00-5:00 pm EDT

This three-part webinar series will introduce bottom-up and top-down methods for tracking emissions and removals of carbon dioxide (CO2) and methane (CH4) from the atmosphere. This training will explore how to combine this information to produce a more accurate and transparent global stocktake, and support efforts to reduce net emissions and mitigate their impact on the climate. Demonstrations will be provided on how top-down atmospheric budgets of CO2 and CH4 can be derived from atmospheric measurements and inverse models to produce a transparent description of their emissions and removals. Participants will also be introduced to pilot products and how information contained in these top-down atmospheric products can supplement bottom-up inventory products to assess the accuracy and completeness of emissions reports on regional, national, and local scales.

Part 1: Tracking Greenhouse Gases

- Paris Agreement and mitigation objectives
- Global Stocktake
- Bottom-up and top-down emissions inventories

Part 2: Creating Top-Down Atmospheric Budgets of CO2 and CH4 on Policy-Relevant Scales

- Emission and removal of CO2 and CH4
- Space-based, airborne, and ground-based measurements of CO2 and CH4
- Inverse modeling

Part 3: Top-Down and Bottom-Up Inventories to Support the Global Stocktake

- Best practices for use in assessing progress towards Paris Agreement goals
- Strengths, weaknesses, and future opportunities
- Case studies

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