

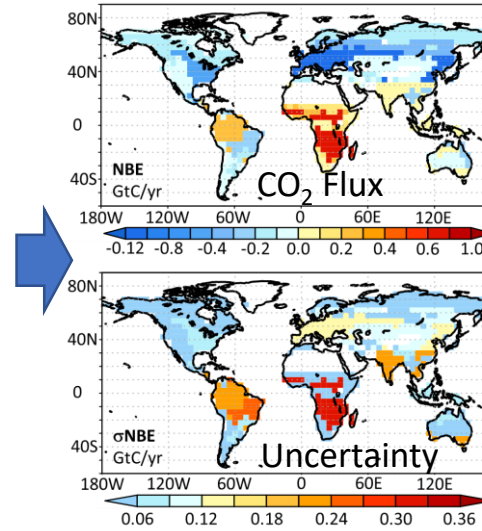
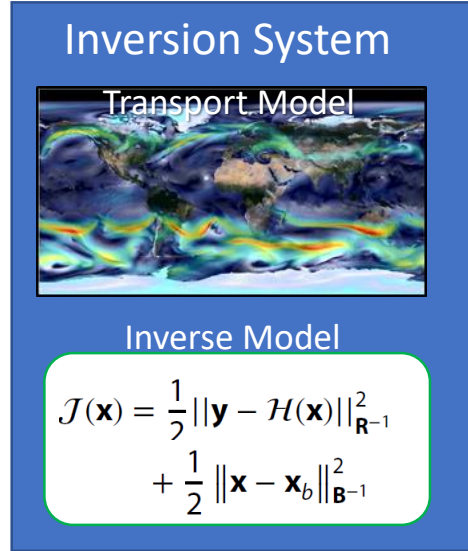
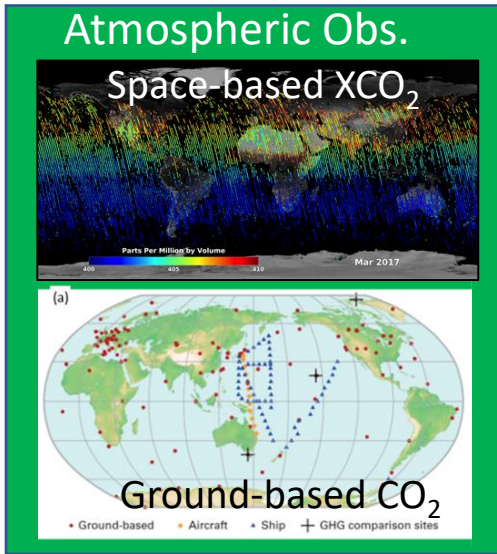
Recent Advances in Earth Observation Technology and data processing to support decision making

Recent Advances in Earth Observation Technology

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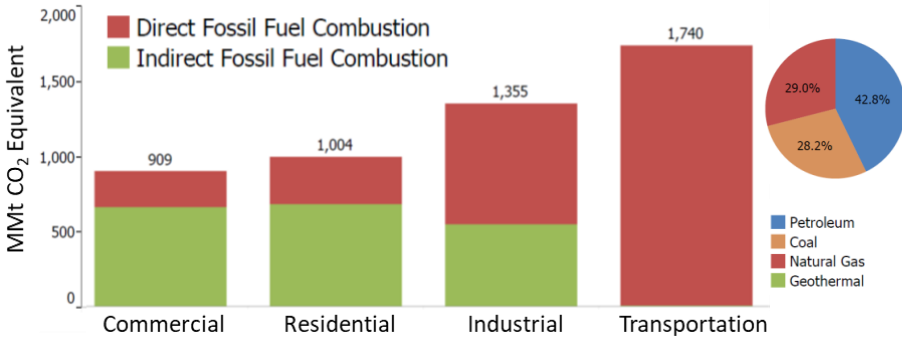
Joint CEOS/CGMS WGClimate GHG Task Team



Top-Down Inventories

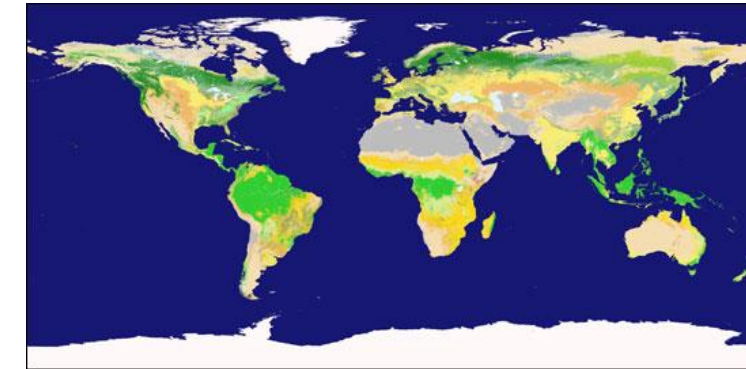
Observations of atmospheric CO₂ provide an integral constraint on emissions

- Can track hot spots and rapid changes
- Can detect emission changes from the natural carbon cycle caused by human activities and climate change



Bottom-Up Inventories

- Provide sector-specific estimates of emissions from known sources.
- Earth Observations play a critical role for tracking land use change.





Space-based measurements of CO₂ and CH₄ from a growing fleet of satellites are less precise and accurate but provide high spatial and temporal resolution and greater coverage of the globe.

Ground-based measurements of GHGs from the WMO Global Atmospheric Watch (GAW) Network and its partners provide accurate estimates of atmospheric CO₂ and CH₄ concentrations and their trends on global scales.



The CEOS/CGMS WGClimate Greenhouse Gas Task Team is coordinating efforts among member agencies to:

1. Work with the atmospheric CO₂ measurement and modeling communities, stakeholders and national inventory compilers to **define requirements** and plans for atmospheric flux inventories;
2. Produce **pilot atmospheric CO₂ and CH₄ flux inventories** that in time to inform the 2023 Global Stocktake (GST);
3. Use lessons learned from this prototype flux product to refine requirements needed to implement a **purpose-built, operational, atmospheric inventory system** for future Global Stocktakes.