



Greenhouse Gas Accounting: Almost all you need to know

Poulter, B (618), JG Canadell, DJ Hayes, RL Thompson. *Balancing Greenhouse Gas Budgets: Accounting for Natural and Anthropogenic Flows of CO₂ and Other Trace Gases*. 1st ed. Elsevier, 2022.



Science Question

What are the approaches used to account for greenhouse gas emissions and removals? How are these similar or different across sectors? What tools are emerging in the future to reduce uncertainties?

Analysis and Results

15 chapters covering methods and applications to terrestrial, coastal and ocean systems. Chapters: (1) GHG science and policy, (2) inventories, (3) bottom-up, (4) top-down, (5) arctic, (6) boreal, (7) temperate, (8) tropical, (9) semiarid, (10) urban, (11) agriculture, (12) coastal, (13) ocean, (14) inversions, and (15) Earth system.

Significance

Highlights contributions from the NASA TE community (Richard Birdsey, Kevin Bowman, Lori Bruhwiler, David Butman, Abhishek Chatterjee, Roisin Commene, Grant Domke, Eugenie Euskirchen, Josh Fisher, Dan Hayes, Richard Houghton, Debbie Huntzinger, Werner Kurz, Natasha MacBean, Greg Marland, Chris Neigh, Tom Oda, Stephen Ogle, Lesley Ott, Ben Poulter, Pete Raymond, Dutin Roten, Ted Schuur, Christin Schadel, Bill Smith, Tiffany Troxler, Alex Turner, Jenny Watts, Lisa Welp, Lisamarie Windham Myers)

Acknowledgements

This research was supported by the NASA Carbon Monitoring System (CMS 2018 and 2020) under NASA Award number (#NNH14AY67 and 80NSSC21K0966).

