

Topics (T)  
Interactive Presentations (IP)

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## TOWARDS NEAR-REAL-TIME ESTIMATES OF GREENHOUSE GAS BUDGETS

### **Abstract**

We provide a roadmap to deliver frequently updated estimates of greenhouse gases emissions and removals for each country and key sectors, constrained by Earth Observations, including quantification of uncertainties related to each country's characteristics (e.g. forest cover, importance of land use change, role of methane emissions). By combining observable components of individual CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O fluxes, we show that it is possible to quantify the budget of these three greenhouse gases with a low latency at national and even sub-national scales and from the ocean, including differentiation of natural and anthropogenic fluxes. Developing such near real-time estimates would transform our ability to track changes of emissions separately over unmanaged and managed lands, to assess trends of deforestation emissions and carbon losses from ecosystem disturbances, and will make it possible to identify emissions hotspots for prioritising mitigation actions.