

IIASA'S Terrestrial Full Carbon Account for Russia: Revised Uncertainty Estimates and its Role in a Bottom-up/Top-down Accounting Exercise

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Abstract

We revised uncertainties in estimates of CO₂ fluxes for 1988-1992 in full carbon account for Russia published in 2000, taking into account recent studies. Much attention is paid to NPP and HR as these two big fluxes determine the uncertainty of the atmospheric CO₂ budget. All fluxes are estimated by bioclimatic zones for comparison with results of atmospheric inverse modeling as well as usage of the fluxes as prior information for the inverse modeling. Found systematic errors were corrected while remainder uncertainties were estimated from conservative point of view. The revised Russia's net atmospheric balance embraces respective top-down estimate, its uncertainty is about 100% (90% C.I.), as a consequence of the increases in both the uncertainty underlying HR and the uncertainty underlying NPP.

Key words:

Russia, terrestrial carbon emissions, full carbon accounting, dual-constrained verification, bottom-up top-down, CO₂ accounting gap, uncertainties