

デリー上空でのCONTRAIL観測から明らかになった冬期農作物によるCO₂吸収
Rabi-crop CO₂ uptake inferred from CONTRAIL measurements over Delhi, India

*梅澤 拓¹、丹羽 洋介²、澤 庸介²、町田 敏暢¹、松枝 秀和²

*Taku Umezawa¹, Yosuke Niwa², Yousuke Sawa², Toshinobu Machida¹, Hidekazu Matsueda²

1.独立行政法人国立環境研究所、2.気象庁気象研究所

1.National Institute for Environmental Studies, 2.Meteorological Research Institute

Recent studies propose that growing agriculture has altered atmospheric CO₂ variations and the global carbon cycle. In this study, we show a clear evidence of significant impact of Indian wintertime (*rabi*) agriculture (mainly wheat) on the regional carbon budget based on high-frequency atmospheric CO₂ measurements onboard commercial airliners over Delhi, India. While a general increasing gradient toward the ground was observed throughout December–April, we have frequently observed sharp decreases near the ground during January–March. In this period, CO₂ concentration at altitudes below 2 km was at seasonal stagnation. Meteorology in the season infers influence from neighboring croplands with patchy urban areas located upwind. We conclude that the observed CO₂ decrease is attributable to active uptake by *rabi*-crop growing in the season and that the uptake is comparable in magnitude to urban CO₂ emissions from the Delhi metropolitan area.

キーワード：CO₂、冬期農作、航空機観測

Keywords: CO₂, rabi crop, aircraft measurements