

Name of research institute or organization:

Klima- und Umweltp Physik, Physikalisches Institut, Universität Bern

Title of project:

High precision carbon dioxide and oxygen measurements

Project leader and team:

PD Dr. Markus Leuenberger, project leader
Chiara Uglietti, Peter Nyfeler and Hanspeter Moret

Project description:

During 2007 we monitored the CO₂ and O₂ concentration at Jungfraujoch. Since four years we have observed an increasing trend for CO₂ and an expected decrease in O₂. However, the decrease in oxygen was stronger than expected between 2002 and 2006 pointing to an uptake by the ocean since it is not compatible either with the consumption by fossil fuel burning nor with terrestrial exchange. However, the decreasing trend has now significantly slowed down.

Key words:

Greenhouse gas, climate change, CO₂ emissions

Internet data bases:

http://www.lsce.cnrs-gif.fr/CE-atmosphere/database/index_database.html

Collaborating partners/networks:

CarbonEurope IP partners

Scientific publications and public outreach 2007:

Conference papers

Leuenberger, M., and E. Flückiger, Research at Jungfraujoch, Science of The Total Environment Research at Jungfraujoch - Contributions to the International conference in celebration of the 75th anniversary of the High Altitude Research Station Jungfraujoch at Interlaken, Switzerland (11-13 September, 2006), 391 (2-3), 169-176, 2008.

Uglietti, C., M. Leuenberger, and F.L. Valentino, Comparison between real time and flask measurements of atmospheric O₂ and CO₂ performed at the High Altitude Research Station Jungfraujoch, Switzerland, Science of The Total Environment, Research at Jungfraujoch - Contributions to the International conference in celebration of the 75th anniversary of the High Altitude Research Station Jungfraujoch at Interlaken, Switzerland (11-13 September, 2006), 391 (2-3), 196-202, 2008.

Valentino, F.L., M. Leuenberger, C. Uglietti, and P. Sturm, Measurements and trend analysis of O₂, CO₂ and δ¹³C of CO₂ from the high altitude research station Jungfraujoch, Switzerland -- A comparison with the observations from the remote site Puy de Dome, France, Science of The Total Environment, Research at Jungfraujoch - Contributions to the International conference in celebration of the 75th anniversary of the High Altitude Research Station Jungfraujoch at Interlaken, Switzerland (11-13 September, 2006), 391 (2-3), 203-210, 2008.

Seiz, G., and N. Foppa, Nationales Klima-Beobachtungssystem (GCOS Schweiz), pp. 92, Publikation von MeteoSchweiz und ProClim, Zürich, 2007.

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