

Name of research institute or organization:

Max Planck Institut für Biogeochemie, Jena

Title of project:

Flask comparison on Jungfrauoch

Part of this programme:

ICOS

Project leader and team:

Willi Brand, project leader (retired), Armin Jordan and Michael Rothe (Jena)
Prof. M. Leuenberger, Michael Schibig, Tesfaye Berhanu, Peter Nyfeler (all UBern)
Martin and Joan Fischer, Urs and Maria Otz (all HFSJG)

Project description:

The flask sampling for the intercomparison between MPI Jena, CIO Groningen (RUG) and the University of Bern (UBern) was ongoing during the reporting period. For UBE flasks were taken every week, however, not all the flasks taken in 2015 have been analysed yet. For MPI Jena and RUG samples were taken on a biweekly basis, however due to a lack of flask supply the RUG samplings are very infrequent. In late summer of the years 2014 and 2015, we measured very anomalously high oxygen concentrations for the Bern samplings. This was much less seen in the MPI flasks which would point to a difficulty with the Bern-Groningen sampling system or the measurements at Bern. Since CO₂ values do not show significant deviations, we will search for inconsistencies in the oxygen measurements at the Bern laboratory. Indeed, flask measurements showed despite good reproducibility within a day large jumps between different day measurements.

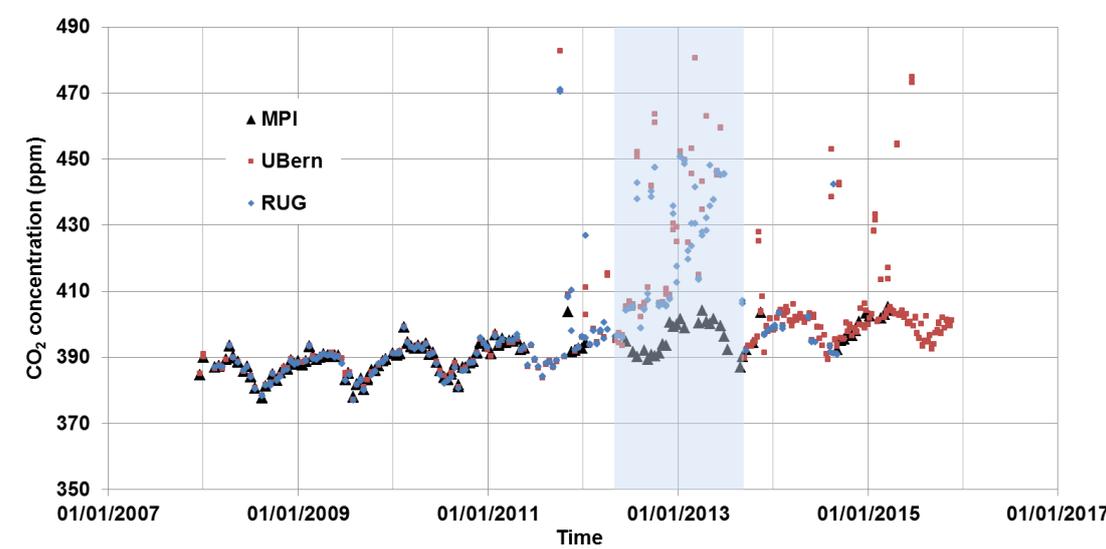


Figure 1. CO₂ concentration as measured by each laboratory. The period from June 12 to August 2013 shaded in light blue corresponds to continuously leaky conditions for the combined UBern and RUG sampling device that progressively increased.

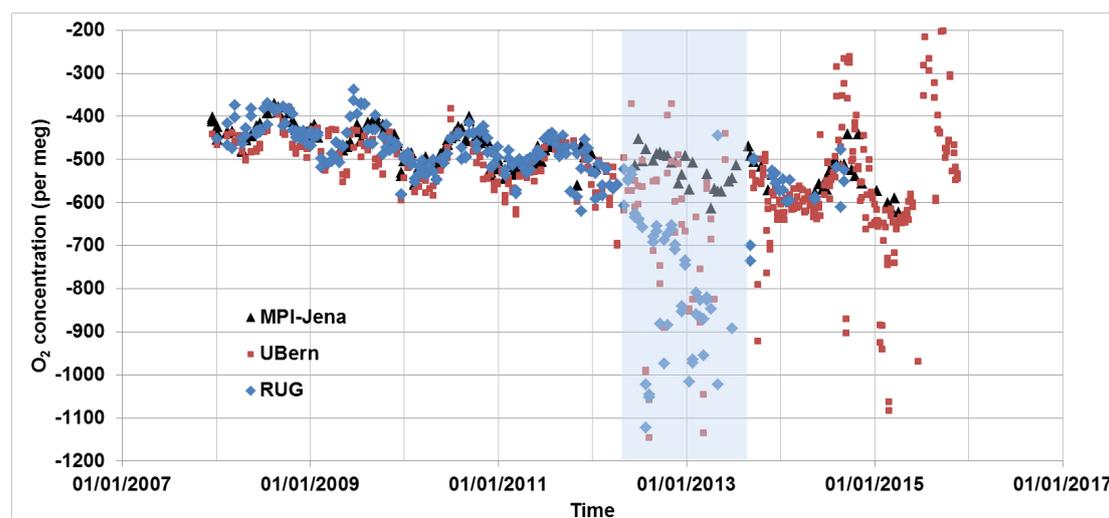


Figure 2. O₂ concentration as measured by each laboratory. The period from June 12 to August 2013 shaded in light blue corresponds to continuously leaky conditions for the combined UBE and RUG sampling device that progressively increased. UBern data unfiltered from 2012 onwards. The unexpectedly high oxygen values for the UBern flasks are not yet resolved but are most probably due to inconsistencies of the flask measurements at the Bern laboratory.

Key words:

Flask measurements, inter-comparison, oxygen and carbon dioxide measurements, greenhouse gas

Collaborating partners/networks:

University of Groningen, HFSJG, University of Bern, ICOS partners

Address:

Max Planck Institut für Biogeochemie
Hans Knöll Str. 10
D-07745 Jena
Germany

Contacts:

Willi A. Brand (retired)
Tel.: +49 3641 576400/ 6427 Lab
Fax: +49 3641 577400
e-mail: wbrand@bgc-jena.mpg.de
URL: <http://www.bgc-jena.mpg.d>