

Data from study on autumn destabilization of deep porewater CO₂ store in a northern peatland driven by turbulent diffusion

SND-ID: 2021-278-1. **Version:** 1. **DOI:** <https://doi.org/10.5878/ggdt-ew12>

Download data

DailyCatotelmPorewaterCO₂Store.csv (64.39 KB)

DailyCVCO₂.csv (53.32 KB)

DailyKz.csv (122.03 KB)

DailyPorewaterCO₂.csv (85.88 KB)

DailyPorewaterTemperatureC.csv (119.78 KB)

HourlyPorewaterCO₂_Temp.csv (3.5 MB)

ICOSdata.csv (2.88 MB)

k600.csv (1.48 MB)

StreamData.csv (1.5 MB)

Associated documentation

readme.txt (5.35 KB)

Download all files

2021-278-1-1.zip (~9.8 MB)

Citation

Campeau, A. (2021) Data from study on autumn destabilization of deep porewater CO₂ store in a northern peatland driven by turbulent diffusion (Version 1) [Data set]. Swedish University of Agricultural Sciences. Available at: <https://doi.org/10.5878/ggdt-ew12>

Creator/Principal investigator(s)

[Audrey Campeau](#) - Swedish University of Agricultural Sciences, Department of Forest Ecology and Management

Research principal

[Swedish University of Agricultural Sciences](#) - Institutionen för skogens ekologi och skötsel

Principal's reference number

SLU.seksko.2019.4.1-90

Description

This dataset has been collected to investigate dynamics in peat porewater CO₂ concentration at Degerö Stormyr, Sweden. It contains hourly measurements of porewater CO₂ concentration, temperature at different depths along a vertical peat profile. Hourly measurements of groundwater table position, stream discharge and stream CO₂ concentration at the peatland outlet are also included along with meteorological and C exchange measurements collected via eddy-covariance at

the Degerö Stormyr ICOS station. The data is used in part to calculate apparent vertical diffusion coefficient in peat porewater and buoyancy frequency. All analysis were performed on R code. Scripts can be provided upon request to the corresponding author.

Data contains personal data

No

Language

[English](#)

Time period(s) investigated

2014-05-30 – 2018-01-01

Variables

44

Data format / data structure

[Numeric](#)

Data collection 1

- Description of the mode of collection: Hourly in-situ sensor measurements
- Time period(s) for data collection: 2014-05-30 – 2018-01-01

Geographic spread

Geographic location: [Västerbotten County](#)

Geographic description: Degerö Stormyr

Responsible department/unit

Institutionen för skogens ekologi och skötsel

Contributor(s)

Mats Nilsson - Swedish University of Agricultural Sciences, Department of Forest Ecology and Management

Marcus Wallin - Swedish University of Agricultural Sciences, Department of Aquatic Sciences and Assessment

Kevin Bishop - Swedish University of Agricultural Sciences, Department of Aquatic Sciences and Assessment

Dominic Vachon - Umeå University, Department of Ecology and Environmental Sciences

Funding 1

- Funding agency: Formas
- Funding agency's reference number: 2019-01529

Funding 2

- Funding agency: Swedish Research Council
- Funding agency's reference number: 2012-3919

Research area

[Earth and related environmental sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

[Environmental sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

[Climatology / meteorology / atmosphere](#) (INSPIRE topic categories)

[Environment](#) (INSPIRE topic categories)

[Inland waters](#) (INSPIRE topic categories)

Keywords

[Repeated measures](#), [Peat soil](#), [Carbon dioxide](#), [Peat swamp forest](#), [Water chemistry](#), [Peat bog](#), [Peatland](#), [Water temperature](#), [Climate](#), [Groundwater level](#), [Meteorology](#), [Environmental monitoring facilities](#), [Soil](#)

Publications

A. Campeau, D. Vachon, K. Bishop, M.B. Nilsson and M.B. Wallin (2021). Autumn destabilization of deep porewater CO₂ store in a northern peatland driven by turbulent diffusion. Nature Communications, 12, 6857

DOI: <https://doi.org/10.1038/s41467-021-27059-0>

Polygon (Lon/Lat)

19.528187062913, 64.191074822686

19.528187062913, 64.158531051941

19.615127222131, 64.158531051941

19.615127222131, 64.191074822686

19.528187062913, 64.191074822686

Accessibility level

Access to data through SND

Data are freely accessible

Use of data

[Things to consider when using data shared through SND](#)

Versions

Version 1. 2021-10-26

Download metadata

[DataCite](#)

[DDI 2.5](#)

[DDI 3.3](#)

[DCAT-AP-SE 2.0](#)

[JSON-LD](#)

[PDF](#)

[Citation \(CSL\)](#)

[File overview \(CSV\)](#)

Published: 2021-10-26

Last updated: 2021-11-29