

# Summary of entries in the Soil Incubation Database

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## Database summary and statistics

This file contains a summary of the data currently available in the soil incubation database **siddb**. Currently, the number of entries in the database is 36. Most entries have multiple time-series of CO<sub>2</sub> flux release from incubation experiments. The current total number of time-series is 588, and the total number of datapoints is 10543. The last entry was added on 2017-02-07.

| citationKey       | doi                              | entryAuthor      | entryCreationDate |
|-------------------|----------------------------------|------------------|-------------------|
| Andrews2000SBB    | 10.1016/S0038-0717(99)00206-0    | Heidi Voelkel    | 2016-04-27        |
| Arevalo2012       | 10.2136/sssaj2011.0126           | Heidi Voelkel    | 2016-04-27        |
| Barrett2006       | 10.1016/j.soilbio.2006.03.025    | Heidi Voelkel    | 2016-05-09        |
| Bradford2010      | 10.1111/j.1365-2486.2009.02040.x | Heidi Voelkel    | 2016-07-11        |
| Chen2010          | 10.1016/j.soilbio.2010.08.030    | Heidi Voelkel    | 2016-07-25        |
| Conant2008a       | 10.1111/j.1365-2486.2008.01541.x | Heidi Voelkel    | 2016-07-26        |
| Conant2008b       | 10.1890/08-0137.1                | Heidi Voelkel    | 2016-07-26        |
| Craine2010NatGeo  | 10.1038/NGEO1009                 | Maddie Tilyou    | 2016-07-25        |
| CurielYuste2007   | 10.1111/j.1365-2486.2007.01415.x | Heidi Voelkel    | 2016-08-02        |
| Cusack2010GCB     | 10.1111/j.1365-2486.2009.02131.x | Maddie Tilyou    | 2016-06-21        |
| Dalias2001b       | 10.1046/j.1365-2486.2001.00386.x | Heidi Voelkel    | 2016-08-10        |
| Fang2005          | 10.1038/nature03138              | Heidi Voelkel    | 2016-08-19        |
| Fissore2009       | 10.1111/j.1365-2486.2009.01903.x | Heidi Voelkel    | 2016-08-19        |
| Gillabel2010      | 10.1111/j.1365-2486.2009.02132.x | Heidi Voelkel    | 2016-08-23        |
| Grisi1998         | 10.1016/S0038-0717(98)00016-9    | Heidi Voelkel    | 2016-08-23        |
| Haddix2011        | 10.2136/sssaj2010.0118           | Heidi Voelkel    | 2016-08-24        |
| Hartley2008       | 10.1111/j.1461-0248.2008.01223.x | Heidi Voelkel    | 2016-08-30        |
| HartleyIneson2008 | 10.1016/j.soilbio.2008.01.007    | Heidi Voelkel    | 2016-08-30        |
| Hopkins2006       | 10.1016/j.soilbio.2006.01.012    | Heidi Voelkel    | 2016-09-20        |
| JenkinsAdams2011  | 10.1016/j.soilbio.2011.02.017    | Heidi Voelkel    | 2016-09-22        |
| Lavoie2011JGR     | 10.1029/2010JG001629             | Maddie Tilyou    | 2016-10-13        |
| LeifeldFuhrer2005 | 10.1007/s10533-005-2237-4        | Heidi Voelkel    | 2016-09-30        |
| NeffHooper2002    | 10.1046/j.1365-2486.2002.00517.x | Heidi Voelkel    | 2016-10-07        |
| Niklinska1999     | 10.1023/A:1006049204600          | Heidi Voelkel    | 2016-10-17        |
| Reichstein2000    | 10.1016/S0038-0717(00)00002-X    | Heidi Voelkel    | 2016-10-27        |
| Rey2008           | 10.1111/j.1365-2389.2008.01065.x | Heidi Voelkel    | 2016-11-29        |
| ReyJarvis2006     | 10.1111/j.1365-2486.2006.01230.x | Heidi Voelkel    | 2016-10-27        |
| Sierra2017BG      | 10.5194/bg-2016-474              | Carlos A. Sierra | 2017-01-24        |
| Song2010          | 10.1016/j.ejsobi.2010.09.003     | Heidi Voelkel    | 2017-01-06        |
| Stewart2008SBB    | 10.1016/j.soilbio.2008.02.014    | Maddie Tilyou    | 2016-10-4         |
| Townsend1997      | 10.1023/A:1017942918708          | Heidi Voelkel    | 2017-01-06        |
| Wang2010          | 10.1016/S1001-0742(09)60217-5    | Heidi Voelkel    | 2017-01-10        |
| WicklandNeff2008  | 10.1007/s10533-007-9166-3        | Heidi Voelkel    | 2017-01-26        |
| Winkler1996       | 10.1016/0038-0717(96)00076-4     | Heidi Voelkel    | 2017-01-30        |
| Zhang2007         | 10.1016/S1001-0742(07)60052-7    | Heidi Voelkel    | 2017-01-31        |
| ZhuCheng2011      | 10.1016/j.soilbio.2010.12.021    | Heidi Voelkel    | 2017-02-07        |

## Location and ecosystem types

Locations for which data are available are presented in the following map



A list of all ecosystem types in the database:

```
kable(summary(as.factor(ecosystemType)))
```

|                                 |   |
|---------------------------------|---|
| Arable rotation                 | 1 |
| Beans and Maize                 | 1 |
| Boreal forest                   | 1 |
| Cereals                         | 1 |
| Coniferous forest               | 1 |
| Cropland                        | 2 |
| Cultivated                      | 1 |
| Evergreen forest                | 1 |
| Farmland                        | 1 |
| Forest                          | 5 |
| Forest-Tundra                   | 2 |
| Glacial dry land                | 1 |
| Grassland                       | 4 |
| Grassland (G)                   | 1 |
| lower montane forest            | 1 |
| Maize                           | 1 |
| Native forest and pasture       | 2 |
| Native grassland and cultivated | 4 |
| Northern mixed-grass prairie    | 1 |
| Oak savanna                     | 1 |
| Pasture                         | 3 |
| Peatland                        | 1 |
| Permanent grassland             | 1 |
| Pine, Hardwood                  | 6 |
| Polar                           | 1 |
| Ponderosa pine plantation       | 1 |
| Scots pine monocultures         | 7 |
| Sitka spruce plantation         | 1 |
| Southern mixed-grass prairie    | 1 |
| Tundra                          | 2 |
| Tundra (Tussock, Shrub)         | 1 |

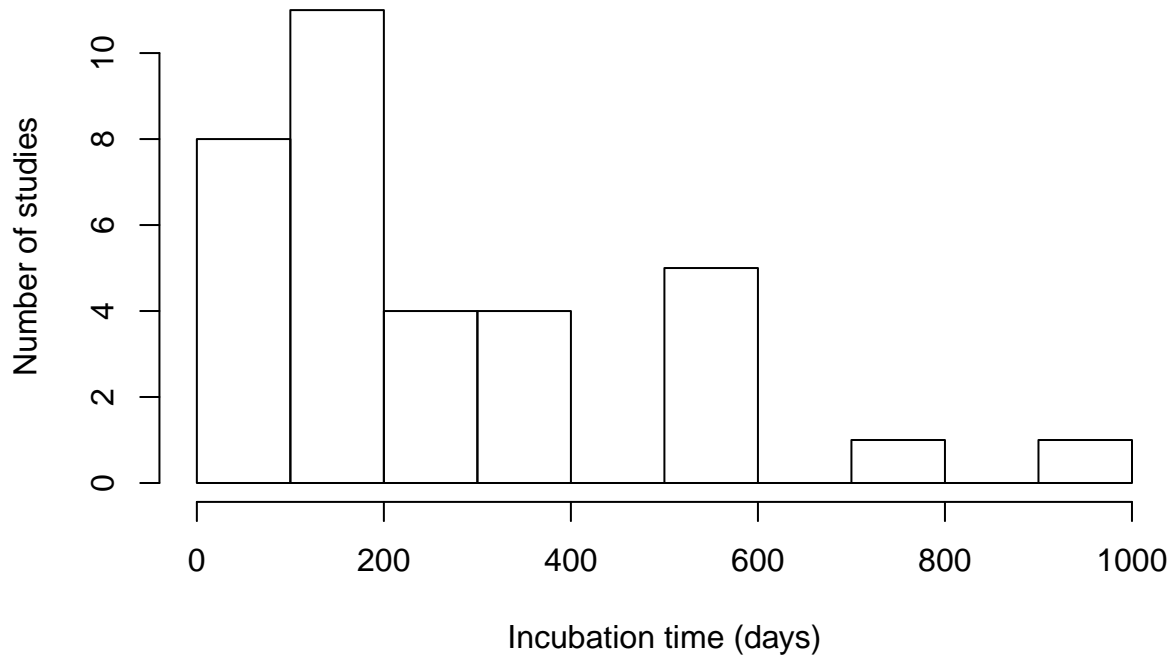
|                                      |   |
|--------------------------------------|---|
| Tundra (Tussock, Spruce)             | 1 |
| Tundra (Tussock, Wet sedge)          | 1 |
| Tundra (Tussock)                     | 1 |
| wet tropical rainforest              | 1 |
| Wheat cropland                       | 2 |
| Winter barley cropland               | 1 |
| Woodland with Grass understorey (WG) | 1 |
| Woodland with Shrub understorey (WS) | 1 |

```
#kable(unique(studySite))
kable(summary(as.factor(climate)))
```

|                       |    |
|-----------------------|----|
| Boreal                | 2  |
| Cold                  | 3  |
| Cool temperate        | 1  |
| Cool-temperate        | 1  |
| Mediterranean         | 1  |
| Semi-arid             | 1  |
| Sub-tropical          | 1  |
| Temperate             | 17 |
| Temperate Atlantic    | 1  |
| Temperate continental | 1  |
| Tropical              | 4  |
| Wet Mediterranean     | 2  |

A histogram of the incubation time for all entries can be obtained as

```
hist(incubationTime, xlab="Incubation time (days)", main="", ylab="Number of studies")
```



## Datasets

The file `~/scripts/plotEntry.R` can be used to plot individual entries from the database. For example

```
source("~/sidb/scripts/plotEntry.R")  
plotEntry(entry=Andrews2000SBB)
```

