**Table 1.** Variable information of soil respiration dataset in China’s forest ecosystems. N/A refers to values that are not applicable.

|  |  |  |
| --- | --- | --- |
| Column | Description | Unit |
| ID | Unique identification number of each record | N/A |
| Province | Province location of study site | N/A |
| Study site | Name of study site | N/A |
| Latitude | Latitude (N) of study site | ° |
| Longitude | Longitude (E) of study site | ° |
| Elevation | Altitude of study site | m |
| MAT | Mean annual temperature | °C |
| MAP | Mean annual precipitation | mm |
| Forest type | Forest community characterized by the dominant tree species, or the ecological similarities (e.g., life form and biotope) | N/A |
| Origin | Stand origin was classified into planted and natural (i.e. secondary, primary) forests | N/A |
| Age | Stand age, estimated from historical records or dominant tree rings in natural forest, defined since planting in planted forest | years |
| DBH | Mean diameter at breast height | cm |
| Htree | Mean tree height | m |
| Density | Stem density and/or canopy coverage | trees ha-1 |
| Instrument | Measurement instrument of *Rs*, i.e. gas chromatography, infrared gas analyzers (Li-6400, Li-8100, Li-8150) | N/A |
| Time | Observation time of *Rs* per day (Beijing time) | Hour: Minute |
| Frequency | Observation frequency of *Rs*, i.e. days per month | days |
| Area | Observation area of *Rs*, i.e. area of soil collar or base | cm2 |
| Height | Height of soil collar or chamber | cm |
| Replication | Numbers of soil collar or chamber | N/A |
| Date | Observation month of *Rs* per year | Month-Year |
| *Rs* | Soil respiration rate, monthly means or a few values per month | µmol m–2 s–1 |
| *T5* | Soil temperature at 5 cm depth concurrently measured with *RS* | °C |
| *T10* | Soil temperature at 10 cm depth concurrently measured with *RS* | °C |
| Mode | The ways to obtain *Rs* data, 1. extracted with the digitized software of WEBPLOTDIGITIZER, 2. directly given in the original study | N/A |
| Period | Period of annual soil carbon efflux | Month-Year |
| Annual *Rs* | Annual soil carbon efflux | g C m-2 year-1 |
| Method | Method to calculate annual soil carbon efflux, i.e. integration method and/or interpolation method | N/A |
| Reference | Data sources | N/A |