Tables for SAPFLUXNET data paper

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## Supplementary

Figure X. Overview of the data QC process

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Table X. QC1 data checks

| **Check** | **Description** |
| --- | --- |
| Metadata variables | All metadata variables are checked for presence and expected class (numeric, character, logical…). |
| Character variables values | All metadata character variables are checked against the possible values (factor levels) for that variable, raising a warning if some value is out of the expected. |
| E-mail check | E-mail provided by contributors is checked for validity |
| Coordinates and biome | Site coordinates are checked for correctness (are they inside the specified country?) and fixed if needed and possible. MAT and MAP values are obtained for that coordinates and the biome is calculated from that values. |
| Soil texture | Percentages of soil textures are used to calculate the USDA classification category if possible. |
| Species names | Species names in plant and species metadata are checked for spelling errors and the concordance between both metadata is also checked |
| Plant treatments | Check for uniformity in the treatment declared by plant. |
| Environmental variables presence | Check for concordance between the declared variables in the environmental metadata and the environmental data. |
| Timestamp | Format, NA presence (there is data, but there is no timestamp), concordance and continuity are checked. |
| Gap presence: | Data gaps (There is TIMESTAMP but there is no data) are summarised and visualized. |
| Soil water content | Check for percentage swc values and transform them to cm3/cm3 |

Figure X. Overview of the data QC process

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Table X. Metadata variables list

| **variable** | **description** | **type** | **units** |
| --- | --- | --- | --- |
| si\_name | Site name given by contributors | Character | None |
| si\_country | Country code (ISO) | Character | Fixed values |
| si\_contact\_firstname | Contributor first name | Character | None |
| si\_contact\_lastname | Contributor last name | Character | None |
| si\_contact\_email | Contributor email | Character | None |
| si\_contact\_institution | Contributor affiliation | Character | None |
| si\_addcontr\_firstname | Additional contributor first name | Character | None |
| si\_addcontr\_lastname | Additional contributor last name | Character | None |
| si\_addcontr\_email | Additional contributor email | Character | None |
| si\_addcontr\_institution | Additional contributor affiliation | Character | None |
| si\_lat | Site latitude (i.e. 42.36) | Numeric | Latitude, decimal format (WGS84) |
| si\_long | Site longitude (i.e. -8.23) | Numeric | Longitude, decimal format (WGS84) |
| si\_elev | Elevation above sea level | Numeric | meters |
| si\_paper | Paper with relevant information to understand the site as DOI links or DOI codes | Character | DOI link |
| si\_dist\_mgmt | Recent and historic disturbance and management events that affected the measurement years | Character | Fixed values |
| si\_igbp | Vegetation type based on IGBP classification | Character | Fixed values |
| si\_flux\_network | Logical indicating if site is participating in the FLUXNET network | Logical | Fixed values |
| si\_dendro\_network | Logical indicating if site is participating in the DENDROGLOBAL network | Logical | Fixed values |
| si\_remarks | Remarks and commentaries useful to grasp some site-specific peculiarities | Character | None |
| si\_code | sapfluxnet site code, unique for each site | Character | Fixed value |
| si\_mat | Site annual mean temperature, as obtained from WorldClim | Numeric | Celsius degrees |
| si\_map | Site annual mean precipitation, as obtained from WorldClim | Numeric | mm |
| si\_biome | Biome classification as per Whittaker diagram, based on mat and map obtained from WorldClim | Character | sapfluxnet calculated |
| st\_name | Stand name given by contributors | Character | None |
| st\_growth\_condition | Growth condition with respect to stand origin and management | Character | Fixed values |
| st\_treatment | Treatment applied at stand level | Character | None |
| st\_age | Mean stand age at the moment of sap flow measurements | Numeric | years |
| st\_height | Canopy height | Numeric | meters |
| st\_density | Total stem density for stand | Numeric | stems/ha |
| st\_basal\_area | Total stand basal area | Numeric | m2/ha |
| st\_lai | Total maximum stand leaf area (one-sided, projected) | Numeric | m2/m2 |
| st\_aspect | Aspect the stand is facing (exposure) | Character | Fixed values |
| st\_terrain | Slope and/or relief of the stand | Character | Fixed values |
| st\_soil\_depth | Soil total depth | Numeric | cm |
| st\_soil\_texture | Soil texture class, based on simplified USDA classification | Character | Fixed values |
| st\_sand\_perc | Soil sand content, % mass | Numeric | % percentage |
| st\_silt\_perc | Soil silt content, % mass | Numeric | % percentage |
| st\_clay\_perc | Soil clay content, % mass | Numeric | % percentage |
| st\_remarks | Remarks and commentaries useful to grasp some stand-specific peculiarities | Character | None |
| st\_USDA\_soil\_texture | USDA soil classification based on the percentages provided by the contributor | Character | sapfluxnet calculated |
| sp\_name | Identity of each measured species | Character | Scientific name without author abbreviation, as accepted by The Plant List |
| sp\_ntrees | Number of trees measured of each species | Numeric | number of trees |
| sp\_leaf\_habit | Leaf habit of the measured species | Character | Fixed values |
| sp\_basal\_area\_perc | Basal area occupied by each measured species, in percentage over total stand basal area | Numeric | % percentage |
| pl\_name | Plant code assigned by contributors | Character | None |
| pl\_species | Species identity of the measured plant | Character | Scientific name without author abbreviation, as accepted by The Plant List |
| pl\_treatment | Experimental treatment (if any) | Character | None |
| pl\_dbh | Diameter at breast height of measured plants | Numeric | cm |
| pl\_height | Height of measured plants | Numeric | m |
| pl\_age | Plant age at the moment of measure | Numeric | years |
| pl\_social | Plant social status | Character | Fixed values |
| pl\_sapw\_area | Cross-sectional sapwood area | Numeric | cm2 |
| pl\_sapw\_depth | Sapwood depth, measured at breast height | Numeric | cm |
| pl\_bark\_thick | Plant bark thickness | Numeric | mm |
| pl\_leaf\_area | Leaf area of eachvvmeasured plant | Numeric | m2 |
| pl\_sens\_meth | Sap flow measures method | Character | Fixed values |
| pl\_sens\_man | Sap flow measures sensor manufacturer | Character | Fixed values |
| pl\_sens\_cor\_grad | Correction for natural temperature gradients method | Character | Fixed values |
| pl\_sens\_cor\_zero | Zero flow determination method | Character | Fixed values |
| pl\_sens\_calib | Was species-specific calibration used? | Logical | Fixed values |
| pl\_sap\_units | Uniformized sapfluxnet units for sapwood, leaf and plant level | Character | Fixed values |
| pl\_sap\_units\_orig | Original contribution units (at sapwood or plant level) | Character | Fixed values |
| pl\_sens\_length | Length of the needles or electrodes forming the sensor | Numeric | mm |
| pl\_sens\_hgt | Sensor installation height, measured from the ground | Numeric | m |
| pl\_sens\_timestep | Subdaily time step of sensor measures | Numeric | minutes |
| pl\_radial\_int |  | Character | Fixed values |
| pl\_azimut\_int |  | Character | Fixed values |
| pl\_remarks | Remarks and commentaries useful to grasp some plant-specific peculiarities | Character | None |
| pl\_code | sapfluxnet plant code, unique for each plant | Character | Fixed value |
| env\_time\_zone | Time zone of site used in the TIMESTAMPS | Character | Fixed values |
| env\_time\_daylight | Is daylight saving time applied to the original timestamp? | Logical | Fixed values |
| env\_timestep | Subdaily timestep of environmental measures | Numeric | minutes |
| env\_ta | Location of air temperature sensor | Character | Fixed values |
| env\_rh | Location of relative humidity sensor | Character | Fixed values |
| env\_vpd | Location of relative vapour pressure decifit sensor | Character | Fixed values |
| env\_sw\_in | Location of shortwave incoming radiation sensor | Character | Fixed values |
| env\_ppfd\_in | Location of incoming photosynthetic photon flux density sensor | Character | Fixed values |
| env\_netrad | Location of net radiation sensor | Character | Fixed values |
| env\_ws | Location of wind speed sensor | Character | Fixed values |
| env\_precip | Location of precipitation sensor | Character | Fixed values |
| env\_swc\_shallow\_depth | Average depth for shallow soil water content measures | Numeric | cm |
| env\_swc\_deep\_depth | Average depth for deep soil water content measures | Numeric | cm |
| env\_plant\_watpot | Availability of water potential values for the same measured plants during the sap flow measurements period | Character | Fixed values |
| env\_leafarea\_seasonal | Availability of seasonal course leaf area data and level | Character | Fixed values |
| env\_remarks | Remarks and commentaries useful to grasp some environmental-specific peculiarities | Character | None |

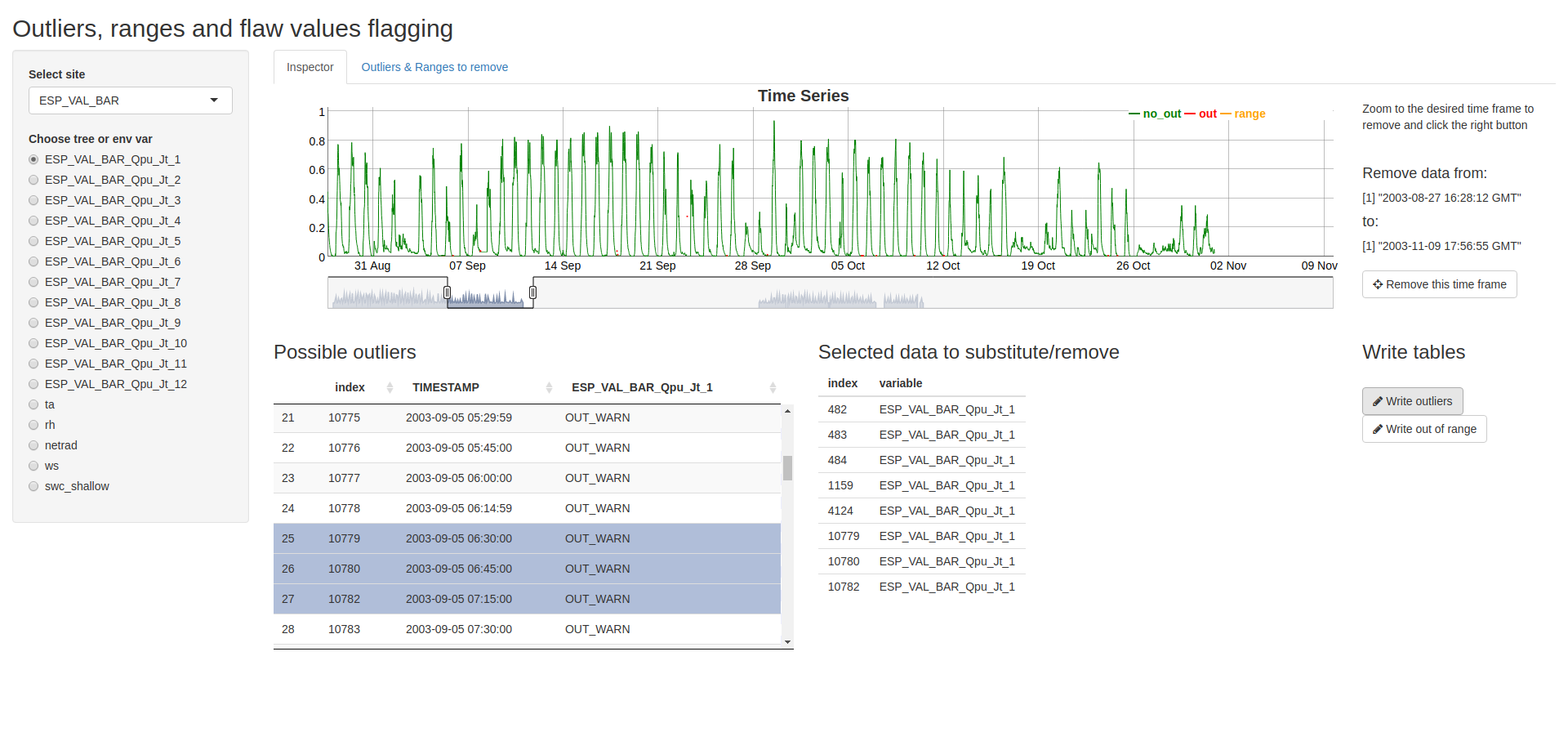


Figure SX. Outliers app

Table X. Number of trees per genus

| **Genus** | **N** | **Genus** | **N** | **Genus** | **N** |
| --- | --- | --- | --- | --- | --- |
| Abies | 53 | Fagus | 164 | Pinus | 740 |
| Abrahamia | 1 | Fraxinus | 12 | Platanus | 1 |
| Acacia | 51 | Genipa | 1 | Platea | 6 |
| Acer | 224 | Goupia | 3 | Pleuranthodendron | 1 |
| Agathis | 6 | Gymnanthes | 3 | Populus | 135 |
| Alchornea | 5 | Hevea | 16 | Pouteria | 12 |
| Ampelocera | 2 | Hieronyma | 3 | Protium | 3 |
| Arbutus | 4 | Ilex | 3 | Prunus | 3 |
| Aspidosperma | 1 | Inga | 1 | Pseudotsuga | 29 |
| Avicennia | 6 | Iryanthera | 1 | Psiadia | 4 |
| Betula | 52 | Juniperus | 15 | Qualea | 5 |
| Brachulaena | 1 | Kandelia | 8 | Quercus | 313 |
| Brosimum | 1 | Larix | 65 | Recordoxylon | 1 |
| Carapa | 3 | Lecythis | 2 | Rustia | 3 |
| Carpinus | 8 | Leptolaena | 1 | Santiria | 5 |
| Carya | 13 | Licania | 8 | Sassafras | 1 |
| Castanopsis | 8 | Liquidambar | 63 | Saurauia | 1 |
| Celtis | 13 | Liriodendron | 51 | Sextonia | 1 |
| Clethra | 2 | Macrolobium | 1 | Sloanea | 2 |
| Coprosma | 4 | Malus | 11 | Swartzia | 2 |
| Cornus | 1 | Manilkara | 2 | Taxus | 2 |
| Cryptocaria | 1 | Meliosma | 2 | Theobroma | 3 |
| Cryptocarya | 6 | Mollinedia | 3 | Thuja | 10 |
| Cryptomeria | 1 | Mortoniodendron | 2 | Tilia | 5 |
| Cupania | 1 | Myrtaceae | 6 | Trophis | 1 |
| Dicorynia | 9 | Nothofagus | 14 | Tsuga | 24 |
| Drimys | 5 | Ocotea | 1 | Turpinia | 1 |
| Elaeagnus | 2 | Olea | 16 | Ulmus | 1 |
| Elaeis | 10 | Ostrya | 6 | Vacapoua | 1 |
| Eschweilera | 6 | Otoba | 2 | Vantanea | 1 |
| Eschweillera | 1 | Oxandra | 3 | Vernonia | 3 |
| Eucalyptus | 189 | Palaquium | 6 | Vouacapoua | 2 |
| Eugenia | 1 | Picea | 207 |  |  |

## Table: number of trees per species