At the end of the collection of network-level metadata and the subsequent mapping at the station level, the following statistics were performed to verify the global coverage.

Compared to 56 surveyed networks, we have received 48 metadata at the network level (85.71%) allowing metadatation of 24599 stations.

The station data were gathered on the web, mainly on the official websites of the networks; the data that has ever been more difficult to obtain was the start date (77.82% of the stations do not have this data available).

The maturity matrix collected has covered 82.62% of the surveyed stations, allowing the generation of the attached maps.

***General information***

|  |
| --- |
| total number of networks: 56 |
| Total number of networks filled with metadata: 48 (85.71% of total) |
| Number of stations: 24599 |
| number of stations which do not have the start date: 19143 (77.82%) |
| number of stations with the maturity matrix: 20325 (82.62%) |

**Table n.1**

Most stations make measurements in the lower troposphere (<= 8000m) (59.86%), and among these, approximately 64% has feature type surface.

This is detailed below:

***Vertical extent***

|  |
| --- |
| LT (<= 8000m): 14726 (59.86% of the surveyed stations) |
| LT (<= 8000m) Surface: 9447 |
| LT (<= 8000m) Profile: 4017 |
| LT (<= 8000m) Tower: 1262 |
|  |
| C (>= 30000m): 9838 (39.99% of the surveyed stations) |
| C (>= 30000m) Column: 5838 |
| C (>= 30000m) Profile: 4000 |

**Table n.2**

These below are the results obtained by grouping respectively disciplines, feature type, network, platform and ECV.

|  |  |
| --- | --- |
| **Discipline** | **count** |
| Atmospheric Science | 20681 |
| Oceans Climate Observation | 3918 |

**Table n.3**

|  |  |
| --- | --- |
| **Featuretype** | **count** |
| aircraft | 15 |
| column | 5838 |
| profile | 8027 |
| surface | 9457 |
| tower | 1262 |

**Table n.4**

|  |  |
| --- | --- |
| **Network** | **count** |
| ACTRIS | 108 |
| AD-Net | 20 |
| AERONET | 2568 |
| AGAGE | 24 |
| AMeDAS | 949 |
| ARGO | 3918 |
| ARM | 15 |
| BSRN | 128 |
| CAPMoN | 93 |
| CARSNET | 100 |
| CASTNET | 200 |
| CAWNET | 20 |
| EANET | 84 |
| Earlinet | 27 |
| EMEP | 247 |
| ESRL | 626 |
| EUREF | 280 |
| EuroSkyRad | 22 |
| Fluxnet | 1188 |
| GAWGALION | 74 |
| GAWPFR | 29 |
| GPS-Met | 622 |
| GRUAN | 34 |
| GSN | 1017 |
| GUAN | 342 |
| ICOS | 87 |
| IDAF | 30 |
| IGS | 497 |
| IMPROVE | 197 |
| LALINET-ALINE | 10 |
| MESONET | 276 |
| MPLNET | 15 |
| MWRnet | 185 |
| NDACC | 255 |
| RAOB | 2980 |
| RBSN | 5431 |
| ScrippsCO2 | 13 |
| SHADOZ | 19 |
| SKYNET | 69 |
| SMEAR | 10 |
| SUOMINET | 972 |
| SURFRAD | 8 |
| TCCON | 54 |
| TOLNET | 5 |
| USCRN | 278 |
| WOUDC | 473 |

**Table n.5**

|  |  |
| --- | --- |
| **Platform** | **count** |
| aircraft | 114 |
| balloon | 187 |
| fixed | 20347 |
| mobile | 3937 |
| profile | 14 |

**Table n.6**

|  |  |
| --- | --- |
| **ECV** | **count** |
| AEROSOL | 2369 |
| CARBONDIOXIDE | 849 |
| CARBONMONOXIDE | 252 |
| METHANE | 277 |
| NITROGENDIOXIDE | 137 |
| NOX | 31 |
| OZONE | 889 |
| TEMPERATURE | 9457 |
| temperature,salinity | 3918 |
| WATERVAPOR | 6420 |

**Table n.7**

It was made a further grouping, between ECV and feature type.

It emerges that had been highlighted in the respective statistics: most of the stations surveyed measure temperature surface.

|  |  |  |
| --- | --- | --- |
| **ECV** | **featuretype** | **count** |
| AEROSOL | column | 1485 |
| AEROSOL | profile | 179 |
| AEROSOL | surface | 685 |
| AEROSOL | tower | 20 |
| CARBONDIOXIDE | column | 27 |
| CARBONDIOXIDE | profile | 33 |
| CARBONDIOXIDE | surface | 176 |
| CARBONDIOXIDE | tower | 613 |
| CARBONMONOXIDE | column | 18 |
| CARBONMONOXIDE | profile | 51 |
| CARBONMONOXIDE | surface | 164 |
| CARBONMONOXIDE | tower | 19 |
| METHANE | column | 45 |
| METHANE | profile | 51 |
| METHANE | surface | 171 |
| METHANE | tower | 10 |
| NITROGENDIOXIDE | column | 38 |
| NITROGENDIOXIDE | profile | 38 |
| NITROGENDIOXIDE | surface | 61 |
| NOX | surface | 31 |
| OZONE | aircraft | 15 |
| OZONE | column | 435 |
| OZONE | profile | 262 |
| OZONE | surface | 177 |
| TEMPERATURE | profile | 1751 |
| TEMPERATURE | surface | 7703 |
| TEMPERATURE | tower | 3 |
| temperature,salinity | profile | 3918 |
| WATERVAPOR | column | 3790 |
| WATERVAPOR | profile | 1744 |
| WATERVAPOR | surface | 289 |
| WATERVAPOR | tower | 597 |

**Table n.8**