

**TASTE - TECHNICAL ASSISTANCE TO ENVISAT VALIDATION
BY SOUNDINGS, SPECTROMETERS AND RADIOMETERS**

**CORRELATIVE DATABASE STATUS AND
VALIDATION HIGHLIGHTS – MARCH 2005**

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TASTE UPDATE REPORT – MARCH 2005

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A. SCOPE OF THIS DOCUMENT

The TASTE project provides ESA with Technical ASsistance To Envisat atmospheric chemistry validation throughout the satellite lifetime. The project involves an international consortium gathering complementary expertise in remote sensing and satellite validation, namely, BIRA-IASB (Belgium), CNRS/SA (France), FMI-ARC (Finland), IFE/Bremen (Germany), IMK/FZK (Germany), INTA (Spain), KMI-IRM (Belgium), KNMI (Netherlands), NIWA (New Zealand), and SPbSU (Russia), and their collaborators. Main tasks relate to the collection and delivery of correlative data to the Envisat Cal/Val database operated at NILU on behalf of ESA; the monitoring of those data sets; geophysical validation studies based on comparisons between Envisat (GOMOS, MIPAS and SCIAMACHY) and ground-based data sets; and the valorisation of the validation results.

This document reports on the monthly progress of correlative data uploads and related ground-based validation activities performed in the framework of TASTE. Section B monitors the time coverage of the correlative measurements uploaded to the Envisat Cal/Val database, year after year. Section C proposes a few highlights for the reporting period.

B. UPLOADED CORRELATIVE MEASUREMENTS

B.1. *Description of the correlative database*

The following correlative measurements have been collected for Envisat validation purposes:

- O₃ column amount from Dobson and Brewer ultraviolet spectrophotometer and from M-124 ultraviolet filter radiometer;
- O₃ vertical distribution from balloon-borne electrochemical ozonesonde and from millimetre wave radiometer;
- O₃, NO₂, BrO and OCIO column amount from UV-visible Differential Optical Absorption spectrometer (UVVIS);
- O₃, NO₂, CO, CH₄, HNO₃, and N₂O data from (Fourier Transform) infrared (FT)IR spectrometer.

Correlative measurements have been collected at the geographical locations identified in Figure 1. They cover a variety of major geophysical features in the polar and middle latitudes of both hemispheres and in the tropics. In general, there is at least one representative of every instrument technique by latitude region. The list includes the five primary stations of WMO/GAW Network for the Detection of Stratospheric Change NDSC (Arctic, Alpine, Hawaii, New Zealand and Antarctic) plus a list of complementary NDSC stations. The Russian/NIS ozone-monitoring network enhances considerably the sampling over Eurasia.

Collected data sets have been converted into the agreed HDF 4.1.3 format and uploaded to the Envisat Cal/Val database established at NILU. Upload Status Tables presented in Subsections B.2 to B.5 display, month by month, the number of measurement days uploaded to Cal/Val. An exception relates to the UVVIS columns of BrO and OCIO, for which SCIAMACHY validation procedures are still a matter of research due to issues like the strong diurnal variation of the species or uncertainties on the air mass factor (see dedicated papers (co-) authored by members of the consortium). For this reason, common UVVIS BrO and OCIO parameters for SCIAMACHY validation purposes cannot be determined yet, and the upload to Cal/Val varies from one group to another according to his validation method. Special requests can be addressed to the individual UVVIS teams.

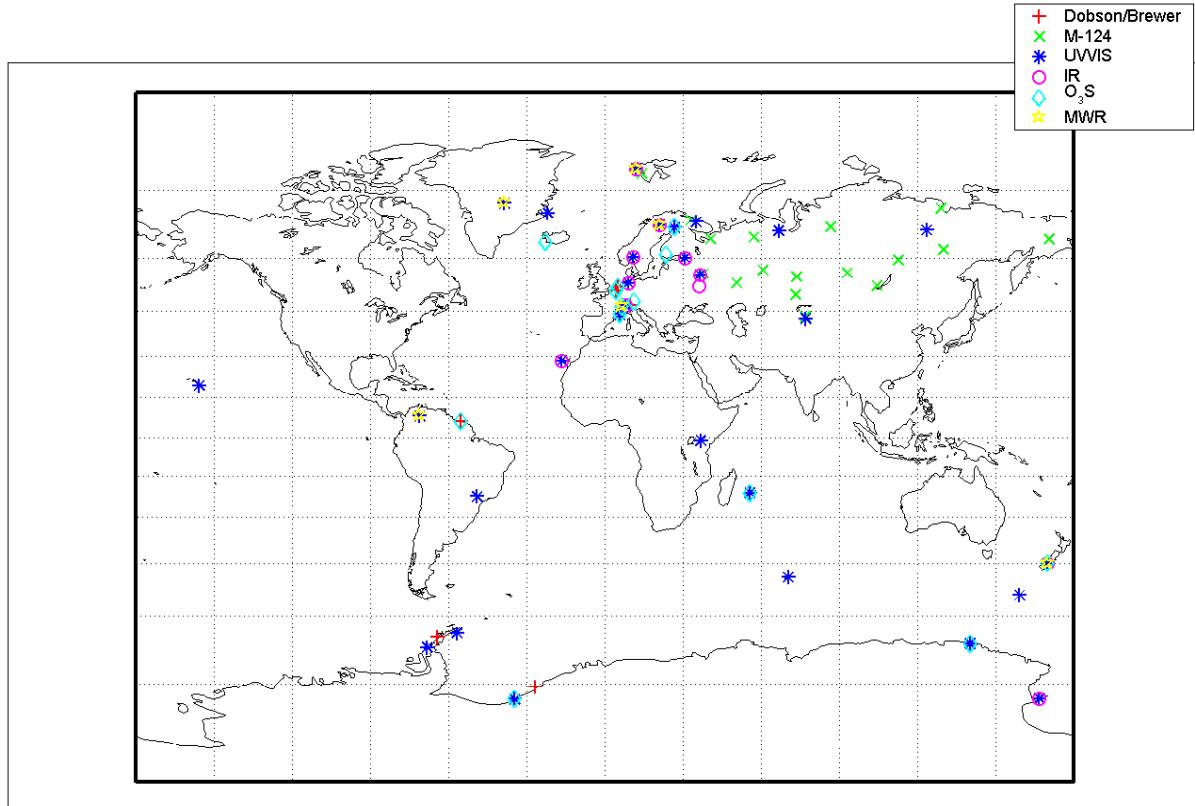


Figure 1. Ground-based instrumentation contributing to the TASTE project: Dobson and Brewer UV spectrophotometers, M-124 UV filter radiometers, UV-visible DOAS spectrometers (UVVIS), IR and FTIR spectrometers (IR), balloon-borne ozonesondes (O_3S), and millimetre wave radiometers (MWR).

To get a consistent overview despite the wide variety of ground-based techniques, numbers reported in the Upload Status Tables of Subsections B.2 to B.5 represent the amount of days for which there is at least one measurement suitable for Envisat validation. It should be noted that the actual amount of individual measurements acquired by an instrument and stored on Cal/Val data files may vary with:

- The type of ground-based instrument: e.g. direct sun observations (Brewer, Dobson, FTIR and M-124) depend on weather conditions while scattered-light UVVIS observations are feasible virtually in all weather;
- The latitude: e.g., most of standard techniques do not provide measurements during polar night;
- The data type and file format adopted by the Data Submitter: some stations store data in monthly files, others in daily files, and others by individual measurement; some Brewer or microwave data files report one measurement every 30 min (reaching sometimes several thousands a month) while others provide only daily averages (thus a maximum of 31 values a month);
- The type of data processing: SAOZ/UVVIS data at remote stations processed in real-time by the built-in software and transmitted to CNRS via the ARGOS satellite system, include only one average value for each twilight, while reprocessing at the central laboratory of all the recorded spectra yields one value for every individual measurement.



B.2. Monthly Data Distribution for 2002

| Brewer | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Sodankylä | 67°N | | 0 | 0 | 0 | 1 | 0 | 0 | 24 | 30 | 24 | 3 | | 82 |
| Jokioinen | 61°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 28 | 29 | 15 | 1 | 91 |
| De Bilt | 52°N | 0 | 0 | 0 | 0 | 1 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 215 |
| Uccle | 51°N | 0 | 0 | 0 | 0 | 0 | 1 | 29 | 31 | 27 | 31 | 28 | 31 | 178 |
| Arosa | 46°N | 27 | 24 | 24 | 26 | 25 | 27 | 24 | 25 | 22 | 25 | 18 | 20 | 287 |
| Paramaribo | 6°N | 2 | 2 | 0 | 0 | 0 | 28 | 31 | 31 | 30 | 22 | 25 | 31 | 202 |

| Dobson | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|-----------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Uccle | 51°N | 19 | 18 | 17 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 63 |
| Arosa | 46°N | 29 | 21 | 26 | 23 | 22 | 26 | 27 | 26 | 19 | 28 | 14 | 21 | 282 |
| Lauder | 45°S | 21 | 18 | 19 | 15 | 20 | 15 | 18 | 19 | 19 | 27 | 20 | 15 | 226 |
| Vernadsky | 65°S | 31 | 28 | 31 | 30 | | | | 31 | 30 | 31 | 30 | 31 | 273 |
| Halley | 76°S | 31 | 28 | 31 | 15 | | | | 6 | 30 | 31 | 30 | 31 | 233 |
| Arrival Heights | 78°S | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |

| UV-Vis | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|-----------------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Ny-Ålesund | 79°N | | | 0 | 0 | 0 | 0 | 30 | 31 | 29 | 24 | | | 114 |
| Summit | 72°N | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |
| Scoresbysund | 70°N | 14 | 24 | 27 | 22 | 26 | 26 | 18 | 24 | 30 | 29 | 4 | | 244 |
| Lovozero (optional) | 69°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kiruna | 68°N | 23 | 28 | 31 | 30 | 31 | 1 | 21 | 31 | 24 | 21 | 28 | 2 | 271 |
| Sodankylä | 67°N | 30 | 28 | 30 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 363 |
| Zhilansk | 67°N | 30 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 29 | 26 | 358 |
| Harestua | 60°N | 0 | 0 | 0 | 0 | 0 | 26 | 22 | 23 | 30 | 25 | 29 | 29 | 184 |
| St Petersburg | 60°N | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 30 | 25 | 28 | 0 | 0 | 113 |
| Zvenigorod (optional) | 55°N | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 31 | 30 | 0 | 0 | 0 | 81 |
| Bremen | 53°N | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 31 | 30 | 31 | 30 | 0 | 150 |
| Jungfraujoch | 47°N | 0 | 0 | 0 | 0 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 245 |
| O.H.P. | 44°N | 31 | 24 | 29 | 30 | 31 | 30 | 31 | 31 | 21 | 23 | 28 | 31 | 340 |
| Issyk-Kul (optional) | 43°N | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 29 | 22 | 31 | 30 | 29 | 172 |
| Izaña | 28°N | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 28 | 28 | 31 | 20 | 12 | 150 |
| Mauna Loa | 19°N | 31 | 28 | 30 | 30 | 31 | 30 | 31 | 23 | 30 | 31 | 30 | 31 | 356 |
| Nairobi | 1°S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 31 | 30 | 31 | 122 |
| Saint Denis | 21°S | 25 | 21 | 28 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 31 | 138 |
| Bauru | 22°S | 29 | 21 | 27 | 27 | 31 | 30 | 22 | 26 | 27 | 31 | 24 | 31 | 326 |
| Lauder | 45°S | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 28 | 29 | 31 | 29 | 31 | 360 |
| Kerguelen | 49°S | 20 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 29 | 31 | 353 |
| Macquarie | 55°S | 31 | 28 | 31 | 30 | 1 | 30 | 31 | 31 | 29 | 31 | 30 | 31 | 334 |
| Marambio | 64°S | 29 | 28 | 31 | 28 | 18 | 0 | 8 | 30 | 30 | 28 | 27 | 31 | 288 |
| Dumont d'Urville | 67°S | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 365 |
| Rothera | 68°S | 29 | 26 | 29 | 27 | 27 | 20 | 29 | 28 | 29 | 28 | 29 | 29 | 330 |
| Belgrano | 78°S | 0 | 9 | 23 | 19 | | | | 11 | 28 | 29 | 0 | 0 | 119 |
| Arrival Heights | 78°S | 0 | 12 | 31 | 22 | | | | 11 | 30 | 25 | 0 | 0 | 131 |

| (FT)IR | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|-----------------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Ny-Ålesund | 79°N | | | 0 | 0 | 0 | 10 | 5 | 6 | 8 | 0 | | | 29 |
| Kiruna | 68°N | | 0 | 0 | 0 | 0 | 0 | 15 | 13 | 4 | 9 | 5 | | 46 |
| St Petersburg | 60°N | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 13 | 11 | 0 | 0 | 0 | 31 |
| Obninsk (optional) | 55°N | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 14 | 6 | 2 | 3 | 3 | 34 |
| Zvenigorod (optional) | 55°N | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 6 | 9 | 2 | 0 | 6 | 31 |
| Bremen | 53°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 1 | 1 | 4 | 15 |
| Izaña | 28°N | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 15 | 13 | 9 | 8 | 4 | 57 |
| Lauder | 45°S | 13 | 17 | 21 | 12 | 13 | 11 | 16 | 10 | 15 | 12 | 13 | 11 | 164 |
| Arrival Heights | 78°S | 8 | 5 | 3 | 0 | | | | | 9 | 10 | 6 | 8 | 49 |

| M124 | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|---------------|------|---|---|---|---|---|---|----|----|----|----|---|---|-----|
| Barentsburg | 78°N | | | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | | | 30 |
| Tiksi | 72°N | | | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | | | 30 |
| Murmansk | 69°N | | 0 | 0 | 0 | 0 | 0 | 29 | 29 | 0 | 0 | 0 | | 58 |
| Igarka | 67°N | | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | | 21 |
| Markovo | 65°N | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 27 | 29 | 15 | 0 | 0 | 102 |
| Petchora | 65°N | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 30 | 30 | 25 | 0 | 0 | 116 |
| Arhangelsk | 65°N | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 25 | 23 | 21 | 0 | 0 | 98 |
| Yakutsk | 62°N | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 17 | 30 | 14 | 0 | 0 | 91 |
| St Petersburg | 60°N | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 30 | 25 | 28 | 0 | 0 | 113 |
| Vitim | 59°N | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 30 | 26 | 17 | 0 | 0 | 103 |
| Ekaterinburg | 57°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Krasnoyarsk | 56°N | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 29 | 28 | 23 | 0 | 0 | 109 |
| Moscow | 56°N | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 31 | 26 | 0 | 0 | 0 | 88 |
| Omsk | 55°N | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 31 | 29 | 29 | 0 | 0 | 120 |
| Samara | 53°N | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 30 | 29 | 26 | 0 | 0 | 116 |
| Irkutsk | 52°N | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 31 | 28 | 26 | 0 | 0 | 115 |
| Karaganda | 50°N | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 31 | 30 | 21 | 0 | 0 | 112 |
| Alma-Ata | 43°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Ozonesonde | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|------------------|------|----|----|----|----|---|---|----|----|----|----|----|----|-----|
| Sodankylä | 67°N | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 6 | 5 | 5 | 10 | 13 | 42 |
| Keflavik | 64°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 |
| Jokioinen | 61°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 0 | 3 | 11 |
| De Bilt | 52°N | 0 | 0 | 0 | 0 | 3 | 4 | 4 | 6 | 7 | 6 | 4 | 3 | 37 |
| Uccle | 51°N | 0 | 1 | 0 | 0 | 0 | 0 | 9 | 9 | 13 | 15 | 11 | 11 | 69 |
| Hohenpeißenberg | 48°N | 13 | 11 | 13 | 11 | 9 | 8 | 10 | 8 | 8 | 8 | 12 | 11 | 122 |
| Payerne | 46°N | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 14 | 11 | 13 | 11 | 10 | 73 |
| Paramaribo | 6°N | 0 | 0 | 0 | 0 | 0 | 4 | 5 | 4 | 4 | 5 | 3 | 3 | 28 |
| Lauder | 45°S | 0 | 0 | 0 | 0 | 3 | 4 | 5 | 4 | 4 | 10 | 11 | 5 | 46 |
| Marambio | 64°S | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 6 | 8 | 8 | 7 | 36 |
| Dumont d'Urville | 67°S | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 6 | 6 | 3 | 2 | 25 |
| Belgrano | 78°S | 0 | 0 | 1 | 1 | 1 | 3 | 3 | 3 | 4 | 5 | 2 | 2 | 25 |

| MicroWave | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|------------|------|---|---|---|---|---|---|----|----|----|----|----|----|-----|
| Ny-Ålesund | 79°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Summit | 72°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kiruna | 68°N | - | - | - | - | - | - | - | - | - | - | 3 | 30 | 33 |
| Payerne | 46°N | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 27 | 29 | 30 | 23 | 30 | 165 |
| Lauder | 45°S | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 27 | 22 | 16 | 21 | 24 | 141 |



B.3. Monthly Data Distribution for 2003

| Brewer | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Sodankylä | 67°N | | 17 | 31 | 30 | 31 | 30 | 28 | 31 | 29 | 25 | 5 | | 257 |
| Jokioinen | 61°N | 6 | 25 | 28 | 29 | 29 | 25 | 31 | 28 | 30 | 30 | 16 | 3 | 280 |
| De Bilt | 52°N | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 29 | 31 | 364 |
| Uccle | 51°N | 12 | 28 | 30 | 7 | 31 | 30 | 30 | 31 | 30 | 30 | 30 | 30 | 319 |
| Arosa | 46°N | 21 | 23 | 27 | 25 | 28 | 28 | 27 | 28 | 27 | 22 | 24 | 23 | 303 |
| Paramaribo | 6°N | 31 | 28 | 29 | 28 | 31 | 30 | 31 | 31 | 28 | 31 | 30 | 31 | 359 |

| Dobson | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|-----------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Uccle | 51°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Arosa | 46°N | 22 | 22 | 28 | 26 | 31 | 30 | 27 | 29 | 23 | 22 | 21 | 22 | 303 |
| Lauder | 45°S | 12 | 12 | 19 | 13 | 16 | 18 | 21 | 16 | 18 | 15 | 17 | 16 | 193 |
| Vernadsky | 65°S | 31 | 28 | 31 | 30 | | | | 31 | 30 | 31 | 30 | 31 | 273 |
| Halley | 76°S | 31 | 27 | 31 | 16 | | | | 7 | 30 | 31 | 30 | 31 | 234 |
| Arrival Heights | 78°S | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 | - | - | 0 |

| UV-Vis | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|-----------------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Ny-Ålesund | 79°N | | | 0 | 27 | 31 | 29 | 31 | 30 | 30 | 23 | | | 201 |
| Summit | 72°N | | | 0 | 0 | 0 | 0 | 0 | 31 | 22 | 31 | | | 84 |
| Scoresbysund | 70°N | 8 | 26 | 29 | 27 | 27 | 27 | 30 | 27 | 30 | 31 | 21 | | 283 |
| Lovozero (optional) | 69°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kiruna | 68°N | 23 | 28 | 31 | 30 | 31 | 1 | 21 | 31 | 30 | 31 | 30 | 3 | 290 |
| Sodankylä | 67°N | 31 | 21 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 358 |
| Zhilansk | 67°N | 11 | 25 | 30 | 30 | 31 | 30 | 29 | 30 | 30 | 7 | 26 | 0 | 279 |
| Salekhard | 67°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 30 | 31 | 92 |
| Harestua | 60°N | 31 | 28 | 27 | 27 | 31 | 26 | 31 | 31 | 30 | 31 | 30 | 30 | 353 |
| St Petersburg | 60°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Zvenigorod (optional) | 55°N | 0 | 0 | 0 | 19 | 23 | 21 | 27 | 30 | 29 | 30 | 20 | 15 | 214 |
| Bremen | 53°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jungfraujoch | 47°N | 18 | 24 | 31 | 30 | 31 | 28 | 30 | 31 | 30 | 31 | 30 | 31 | 345 |
| O.H.P. | 44°N | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 24 | 30 | 25 | 352 |
| Issyk-Kul (optional) | 43°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Izaña | 28°N | 28 | 24 | 7 | 24 | 25 | 14 | 31 | 30 | 21 | 17 | 28 | 17 | 266 |
| Mauna Loa | 19°N | 31 | 24 | 26 | 0 | 0 | 30 | 30 | 31 | 30 | 31 | 30 | 28 | 291 |
| Nairobi | 1°S | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 365 |
| Saint Denis | 21°S | 31 | 28 | 31 | 30 | 31 | 30 | 30 | 31 | 27 | 20 | 30 | 31 | 350 |
| Bauru | 22°S | 30 | 23 | 30 | 29 | 31 | 30 | 29 | 28 | 30 | 30 | 26 | 25 | 341 |
| Lauder | 45°S | 29 | 24 | 31 | 30 | 30 | 30 | 31 | 29 | 30 | 31 | 30 | 31 | 356 |
| Kerguelen | 49°S | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 365 |
| Macquarie | 55°S | 31 | 27 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 24 | 28 | 31 | 355 |
| Marambio | 64°S | 31 | 28 | 31 | 24 | 31 | 20 | 24 | 28 | 29 | 31 | 30 | 31 | 338 |
| Dumont d'Urville | 67°S | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 30 | 30 | 31 | 30 | 31 | 364 |
| Rothera | 68°S | 30 | 24 | 29 | 27 | 30 | 28 | 29 | 28 | 29 | 30 | 29 | 29 | 342 |
| Belgrano | 78°S | 0 | 16 | 29 | 10 | | | | 9 | 28 | 28 | 0 | 0 | 120 |
| Arrival Heights | 78°S | 0 | 12 | 31 | 22 | | | | 10 | 30 | 25 | 0 | 0 | 130 |

| (FT)IR | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|------------------------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Ny-Ålesund | 79°N | | | 3 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | 10 |
| Kiruna | 68°N | 5 | 9 | 18 | 9 | 2 | 5 | 14 | 8 | 13 | 8 | 0 | | 91 |
| St Petersburg | 60°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Obninsk (optional)</i> | 55°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Zvenigorod (optional)</i> | 55°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bremen | 53°N | 1 | 5 | 3 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| Izaña | 28°N | 8 | 4 | 9 | 13 | 15 | 12 | 4 | 0 | 0 | 0 | 0 | 0 | 65 |
| Lauder | 45°S | 15 | 18 | 19 | 17 | 13 | 11 | 14 | 14 | 14 | 15 | 16 | 16 | 182 |
| Arrival Heights | 78°S | 10 | 6 | 8 | 2 | | | | | 6 | 10 | 14 | 10 | 66 |

| Ozonesonde | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|------------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Sodankylä | 67°N | 17 | 6 | 12 | 5 | 4 | 4 | 6 | 4 | 2 | 5 | 4 | 4 | 73 |
| Keflavík | 64°N | 6 | 6 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 18 |
| Jokioinen | 61°N | 6 | 3 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 |
| De Bilt | 52°N | 5 | 4 | 4 | 6 | 2 | 4 | 5 | 4 | 4 | 4 | 4 | 5 | 51 |
| Uccle | 51°N | 13 | 14 | 13 | 12 | 11 | 12 | 4 | 11 | 13 | 14 | 10 | 11 | 138 |
| Hohenpeißenberg | 48°N | 11 | 10 | 12 | 11 | 8 | 5 | 9 | 8 | 9 | 9 | 11 | 13 | 116 |
| Payerne | 46°N | 14 | 8 | 12 | 10 | 12 | 12 | 12 | 12 | 12 | 11 | 13 | 13 | 141 |
| Paramaribo | 6°N | 6 | 3 | 5 | 4 | 5 | 4 | 5 | 5 | 4 | 4 | 3 | 2 | 50 |
| Lauder | 45°S | 4 | 3 | 9 | 5 | 4 | 4 | 5 | 4 | 4 | 6 | 10 | 6 | 64 |
| Marambio | 64°S | 2 | 2 | 2 | 1 | 2 | 9 | 13 | 13 | 10 | 9 | 7 | 6 | 76 |
| Dumont d'Urville | 67°S | 2 | 1 | 1 | 2 | 4 | 8 | 8 | 5 | 0 | 0 | 0 | 0 | 31 |
| Belgrano | 78°S | 1 | 1 | 3 | 2 | 2 | 4 | 11 | 12 | 9 | 8 | 4 | 1 | 58 |



B.4. Monthly Data Distribution for 2004

| Brewer | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Sodankylä | 67°N | | 18 | 30 | 30 | 31 | 23 | 31 | 31 | 29 | 23 | 2 | | 248 |
| Jokioinen | 61°N | 3 | 26 | 30 | 30 | 30 | 27 | 30 | 29 | 29 | 31 | 16 | 0 | 281 |
| De Bilt | 52°N | 30 | 29 | 31 | 30 | 31 | 30 | 31 | 30 | 30 | 31 | 30 | 30 | 363 |
| Uccle | 51°N | 0 | 0 | 16 | 30 | 31 | 30 | 31 | 30 | 30 | 30 | 30 | 26 | 284 |
| Arosa | 46°N | 22 | 26 | 26 | 23 | 26 | 24 | 26 | 25 | 23 | 28 | 23 | 24 | 296 |
| Paramaribo | 6°N | 31 | 29 | 24 | 29 | 31 | 30 | 27 | 30 | 30 | 28 | 24 | 27 | 340 |

| Dobson | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|-----------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Uccle | 51°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Arosa | 46°N | 21 | 24 | 20 | 25 | 24 | 22 | 28 | 25 | 24 | 29 | 22 | 23 | 287 |
| Lauder | 45°S | 17 | 17 | 17 | 18 | 16 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 102 |
| Vernadsky | 65°S | 31 | 29 | 31 | 30 | | | | 31 | 30 | 31 | 30 | 31 | 274 |
| Halley | 76°S | 31 | 26 | 29 | 15 | | | | 4 | 30 | 31 | 30 | 31 | 227 |
| Arrival Heights | 78°S | - | - | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |

| UV-Vis | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|-----------------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Ny-Ålesund | 79°N | | | 31 | 29 | 31 | 30 | 31 | 31 | 30 | 25 | | | 238 |
| Summit | 72°N | | | 27 | 29 | 15 | 0 | 0 | 8 | 30 | 31 | | | 140 |
| Scoresbysund | 70°N | | 0 | 16 | 30 | 31 | 30 | 25 | 28 | 30 | 27 | 18 | | 235 |
| Lovozero (optional) | 69°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kiruna | 68°N | 23 | 16 | 31 | 27 | 31 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 151 |
| Sodankylä | 67°N | 22 | 29 | 25 | 30 | 31 | 29 | 31 | 31 | 30 | 31 | 30 | 0 | 319 |
| Zhilansk | 67°N | 3 | 17 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 |
| Salekhard | 67°N | 29 | 27 | 29 | 30 | 31 | 30 | 30 | 31 | 28 | 30 | 30 | 0 | 325 |
| Harestua | 60°N | 29 | 29 | 31 | 28 | 31 | 30 | 27 | 28 | 30 | 29 | 29 | 29 | 350 |
| St Petersburg | 60°N | 27 | 23 | 29 | 29 | 31 | 30 | 29 | 28 | 29 | 30 | 0 | 0 | 285 |
| Zvenigorod (optional) | 55°N | 13 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 |
| Bremen | 53°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jungfraujoch | 47°N | 17 | 29 | 31 | 25 | 27 | 25 | 12 | 10 | 25 | 31 | 22 | 29 | 283 |
| O.H.P. | 44°N | 20 | 29 | 31 | 30 | 31 | 28 | 30 | 31 | 30 | 31 | 17 | 0 | 308 |
| Issyk-Kul (optional) | 43°N | 31 | 28 | 30 | 27 | 31 | 30 | 30 | 31 | 26 | 30 | 0 | 0 | 294 |
| Izaña | 28°N | 6 | 27 | 30 | 26 | 31 | 27 | 30 | 28 | 30 | 30 | 29 | 29 | 323 |
| Mauna Loa | 19°N | 30 | 27 | 31 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 118 |
| Mérida | 8°N | - | - | - | - | 15 | 28 | - | - | - | 6 | 24 | 4 | 77 |
| Nairobi | 1°S | 29 | 28 | 30 | 30 | 30 | 28 | 26 | 30 | 21 | 23 | 27 | 0 | 302 |
| Saint Denis | 21°S | 22 | 18 | 24 | 26 | 31 | 30 | 30 | 19 | 30 | 10 | 22 | 0 | 262 |
| Bauru | 22°S | 14 | 27 | 28 | 27 | 29 | 27 | 31 | 31 | 28 | 28 | 12 | 0 | 282 |
| Lauder | 45°S | 30 | 29 | 31 | 28 | 29 | 30 | 31 | 31 | 0 | 0 | 0 | 0 | 239 |
| Kerguelen | 49°S | 15 | 28 | 31 | 30 | 31 | 30 | 30 | 30 | 30 | 31 | 30 | 0 | 316 |
| Macquarie | 55°S | 24 | 29 | 30 | 30 | 31 | 30 | 31 | 0 | 0 | 0 | 0 | 0 | 205 |
| Marambio | 64°S | 25 | 28 | 27 | 29 | 29 | 26 | 31 | 30 | 29 | 30 | 29 | 30 | 343 |
| Dumont d'Urville | 67°S | 18 | 29 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 0 | 322 |
| Rothera | 68°S | 29 | 28 | 28 | 28 | 29 | 27 | 31 | 31 | 30 | 30 | 30 | 30 | 351 |
| Belgrano | 78°S | 0 | 15 | 30 | 23 | | | | 0 | 0 | 0 | 0 | 0 | 68 |
| Arrival Heights | 78°S | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |

| (FT)IR | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|------------------------------|------|----|----|----|----|----|----|---|----|---|----|----|----|-----|
| Ny-Ålesund | 79°N | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 |
| Kiruna | 68°N | 2 | 10 | 8 | 10 | 14 | 3 | 0 | 0 | 0 | 0 | 0 | | 47 |
| St Petersburg | 60°N | 2 | 2 | 10 | 24 | 9 | 12 | 5 | 11 | 4 | 6 | 0 | 0 | 85 |
| <i>Obninsk (optional)</i> | 55°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Zvenigorod (optional)</i> | 55°N | 1 | 6 | 11 | 12 | 10 | 8 | 4 | 15 | 4 | 4 | 0 | 0 | 75 |
| Bremen | 53°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Izaña | 28°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lauder | 45°S | 15 | 15 | 8 | 19 | 6 | 10 | 9 | 12 | 9 | 6 | 8 | 9 | 126 |
| Arrival Heights | 78°S | 5 | 3 | 8 | 1 | | | | | 7 | 14 | 12 | 10 | 60 |

| Ozonesonde | Lat. | J | F | M | A | M | J | J | A | S | O | N | D | # |
|------------------|------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Sodankylä | 67°N | 3 | 2 | 5 | 4 | 4 | 5 | 3 | 4 | 5 | 4 | 4 | 6 | 49 |
| Keflavik | 64°N | 1 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Jokioinen | 61°N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| De Bilt | 52°N | 4 | 4 | 2 | 4 | 4 | 4 | 5 | 5 | 4 | 4 | 4 | 5 | 49 |
| Uccle | 51°N | 11 | 12 | 14 | 12 | 11 | 12 | 11 | 10 | 13 | 12 | 10 | 11 | 139 |
| Hohenpeißenberg | 48°N | 10 | 12 | 13 | 10 | 8 | 7 | 7 | 9 | 11 | 9 | 11 | 12 | 119 |
| Payerne | 46°N | 13 | 9 | 13 | 13 | 13 | 13 | 12 | 13 | 13 | 11 | 13 | 11 | 147 |
| Paramaribo | 6°N | 4 | 4 | 3 | 4 | 4 | 3 | 5 | 3 | 5 | 5 | 4 | 4 | 48 |
| Lauder | 45°S | 4 | 5 | 5 | 4 | 4 | 5 | 3 | 3 | 4 | 3 | 1 | 2 | 43 |
| Marambio | 64°S | 2 | 2 | 2 | 2 | 1 | 2 | 6 | 4 | 4 | 6 | 8 | 6 | 45 |
| Dumont d'Urville | 67°S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Belgrano | 78°S | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 6 | 4 | 3 | 2 | 36 |

B.5. (Provisional) Monthly Data Distribution for 2005

C. HIGHLIGHTS AND PERSPECTIVES

C.1. Valorisation at meetings and symposia

Since the last report, results obtained by members of the consortium independently or in a concerted way were reported during the following meetings:

- 3rd UFTIR Progress Meeting, Brussels, Belgium (14 February 2005);
- SCIAMACHY Scientific Working Subgroup for Algorithm Development and Data Usage (SADDU), Oberpfaffenhofen, Germany (17 February 2005).

C.2. Publications and reports

Members of the TASTE consortium are completing several contributions to the SCIAMACHY Validation special issue of the Atmospheric Chemistry and Physics discussions (ACPD) and journal (ACP). The list of submitted contributions will be communicated in a future project report.

C.3. Perspectives

It is expected that activities related to the collection and submission of correlative data will continue on the same basis. Existing and new results will be reported to ESA and the relevant QWGs, and presented during upcoming scientific events. Among them, we may cite the EGU annual assembly in Vienna in late April 2005, ACVE-3 in late 2005, the next MIPAS IMK/IAA Data User Meeting in December 2005, and the next SCIAMACHY Validation Workshop (date and place to be determined).
