



GOBIERNO
DE ESPAÑA

VICEPRESIDENCIA
CUARTA DEL GOBIERNO
MINISTERIO
PARA LA TRANSICIÓN ECOLÓGICA
Y EL RETO DEMOGRÁFICO



Eubrewnet

Sharing data with other databases (WOUDC, NDACC, EVDC)

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Izaña Atmospheric Research Center, AEMET

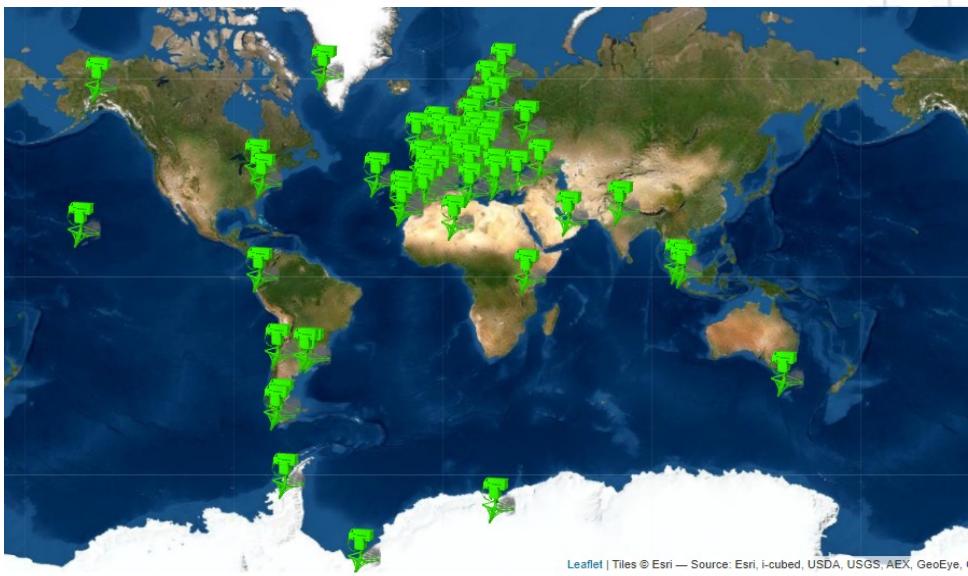
TRAGSATEC

Department of Earth and Environmental Sciences, University of Manchester

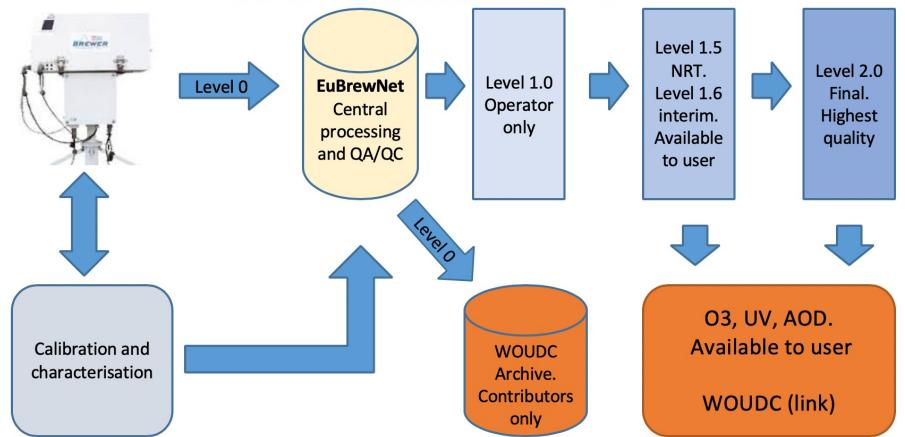
<https://eubrewnet.aemet.es>



- A spatially consistent network of Brewer Ozone Spectrophotometers providing O₃, SO₂, UV and AOD.
- European network developed on the COST action (2013-2017) with now with 60 spectrometers and 50 stations around the world and growing. ([recently Chajnatur \(Chile\)](#)).
- Since 2019 supported by AEMET international Services (the unit also include RBCC-E and CIMO- TestBed).
- QA/QC observations are central processed and distributed in AEMET
- Fiducial Reference Network for satellite validation (ESA), Air Quality Copernicus CAMS and Copernicus Climate Studies



EUBREWNET, Central processing



- Level 0
 - Raw data from the Brewer. Operator only.
- Level 1.0
 - Basic values from calibration data. Operator only.
- Level 1.5
 - NRT data changeable over first week. Calibration and characteristic corrections applied. Available to user
- Level 1.6
 - Interim data. Calibration and characteristic corrections applied. Available to user
- Level 2.0
 - Final for archiving. Interpolated over calibrations



SEMIW COPERNICUS REPORT

Copernicus Climate Change Service

Product User Guide and Specification for Total Column Ozone data from the European Brewer Network (EUBREWNET)

C3S_311a_Lot3_CNR – SC1
Access to observations from baseline and reference networks

Issued by: CNR-IMAA / Fabio Madonna
Date: 29/06/2021

CECMWF

EUBREWNET Maturity index matrix

H2020 GAIA-CLIM (www.gaia-clim.eu)

Metadata	Documentation	Uncertainty characterization	Public access, feedback and update	Usage	Sustainability	Software (optional)
Standards	Formal Description of Measurement Methodology	Traceability	Access	Research	Siting environment	Coding standards
Collection level	Formal Validation Report	Comparability	User feedback mechanism	Public and commercial exploitation	Scientific and expert support	Software documentation
File level	Formal Measurement Series User Guidance	Uncertainty Quantification	Updates to record		Programmatic support	Portability and numerical reproducibility
		Routine Quality Management	Version control			Security
			Long term data preservation			
Legend						
1	2	3	4	5	6	Not applicable

Documentation: <http://rbcce.aemet.es/dokuwiki/doku.php?id=start>

Open Project: Source code on free access :
https://bitbucket.org/rbcc_e/iberonesia3-git/src/master/

Eubrewnet manuals

System Description <http://rbcce.aemet.es/dokuwiki/doku.php>

User Manual :<http://rbcce.aemet.es/dokuwiki/doku.php?id=code>

Administrador Manual <http://rbcce.aemet.es/dokuwiki/doku>

Developer Manual : <http://rbcce.aemet.es/dokuwiki/doku.php>

by Ilias Fountoulakis, Bentorey Hernández

Logged in as: Alberto Redondas (aredondas) [Update Profile](#) [Logout](#)

Recent changes Media Manager Sitemap

start

Eubrewnet Wiki

Trace: • [administratormanual](#) • [eubrewnet_report](#) • [usermanual](#) • [developer_manual](#) • start

Eubrewnet Wiki

Eubrewnet Documentation

Interest links

- 1. [Eubrewnet](#)
- 2. [Eubrewnet Community](#)
- 3. [Configuration Upload Instructions](#)

Content

- 1. Access Functions
- 2. Python examples
- 3. Brewer Python Library
- 4. Eubrewnet Configuration
- 5. Ozone Product Process
- 6. Products Description
- 7. Brewer diagnostic tool
- 8. Eubrewnet Report
- 9. User Manual

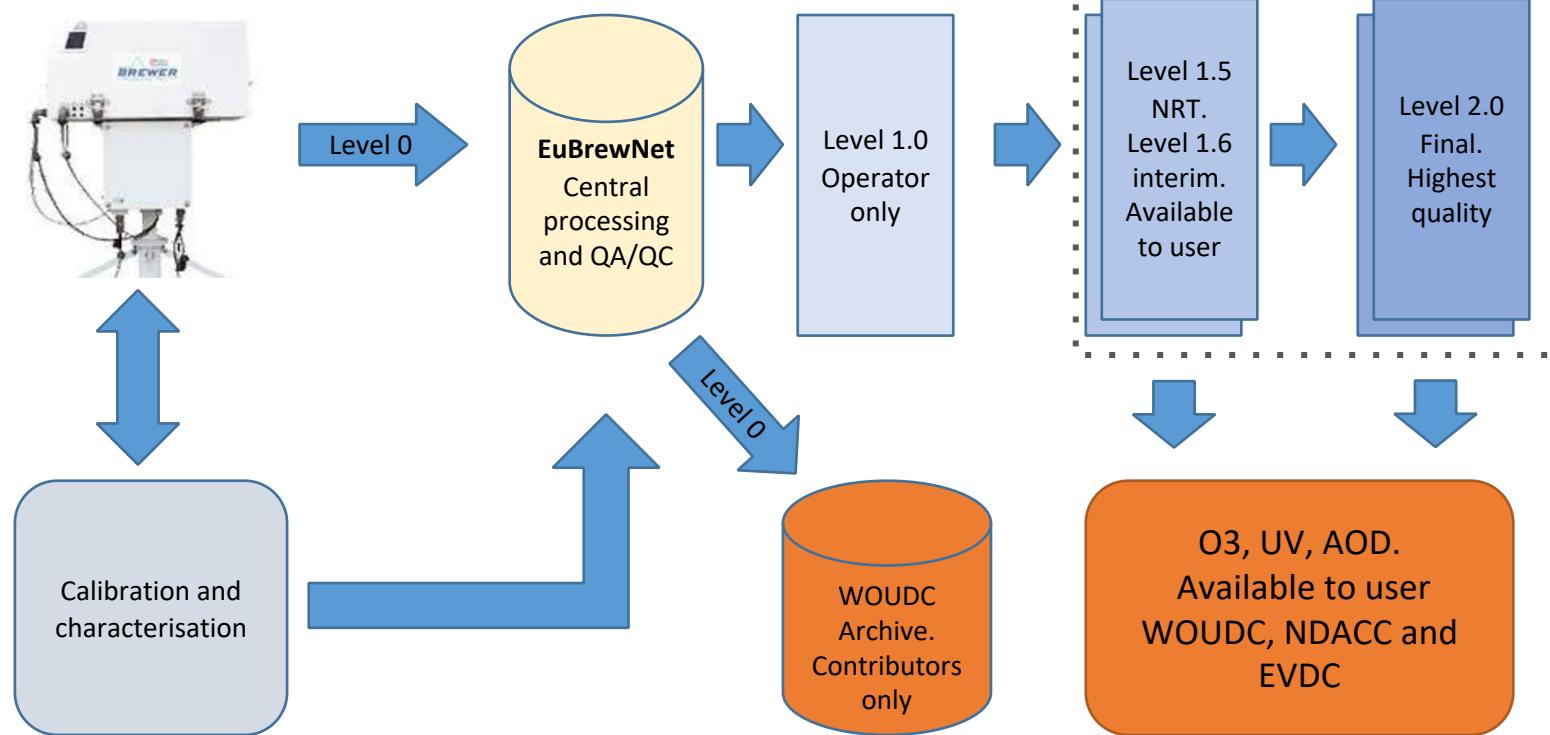
Developers

- 1. Wiki content
- 2. Eubrewnet Products
- 3. Generation of Products
- 4. Subversion synchronization (campaigns)
- 5. Automatic generation reports
- 6. Eubrewnet Manager
- 7. Eubrewnet and Iberonesia Backup System
- 8. DenyHosts at rhoes
- 9. Administrator Manual
- 10. Developer Manual

Commits

Author	Commit	Message	Date	Builds
Alberto Redondas	3f8ee	figures for documentation added	4 days ago	
rbcc_e-admin	7ae72b8	Add README.md	4 days ago	
eubrewnet	3edae98	adding error files to get	4 days ago	
eubrewnet	85e6d5	adding sync tables	4 days ago	
eubrewnet	3ba4227	changing migrate option in database module	4 days ago	
eubrewnet	682e712	removing unique constraint brewer_info	4 days ago	
eubrewnet	55ee1c4	adding woudc_id	4 days ago	
Iberonesia	cff9d66	fixing mail (not finished)	4 days ago	
eubrewnet	17ef0ef	adding Allfiles	4 days ago	
eubrewnet	dc5f4fb	testing mail	4 days ago	
Iberonesia	ef9fa29	add brewerlist to getdata	4 days ago	
Iberonesia	3376e71	network status with b files	4 days ago	
Jose Rodriguez	2ff14ec	initial commit History cleanup.	4 days ago	

Link to Eubrewnet ozone product from WOUDC



<https://woudc.org/data/explore.php>

Select Dataset, Station, Instrument, Time Period

Dataset

EUBREWNET

Country | Optional



Station | Optional

Izaña (Tenerife) (300)

Instrument | Optional



Start

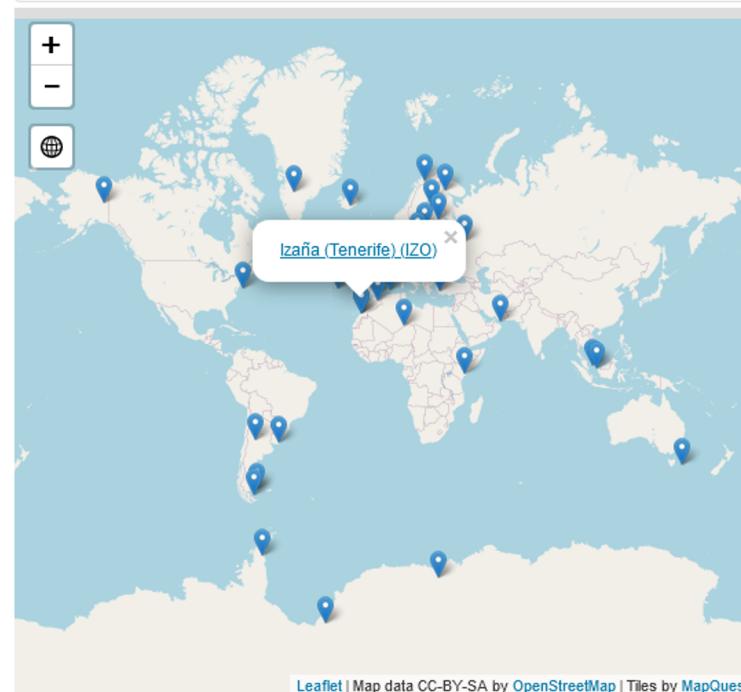
1924

End

2022

Set Your Map Extent

[▶ How to Use: Interactive Map](#)



Leaflet | Map data CC-BY-SA by OpenStreetMap | Tiles by MapQuest

Search Results

Show Entries: 100 ▾

Observation Date (UTC) ↓	Agency	Platform ID	GAW ID	Dataset Name	Instrument Name	UTC Time of First Observation	UTC Time of Last Observation	Actions
2022-03-01	 AEMET	 300	IZO	TotalOzoneObs	brewer	2022/03/01 00:00:00+00	2022/03/31 23:59:59+00	
2022-02-01	 AEMET	 300	IZO	TotalOzoneObs	brewer	2022/02/01 00:00:00+00	2022/02/28 23:59:59+00	
2022-01-01	 AEMET	 300	IZO	TotalOzoneObs	brewer	2022/01/01 00:00:00+00	2022/01/31 23:59:59+00	
2021-12-01	 AEMET	 300	IZO	TotalOzoneObs	brewer	2021/12/01 00:00:00+00	2021/12/31 23:59:59+00	
2021-11-01	 AEMET	 300	IZO	TotalOzoneObs	brewer	2021/11/01 00:00:00+00	2021/11/30 23:59:59+00	
2021-10-01	 AEMET	 300	IZO	TotalOzoneObs	brewer	2021/10/01 00:00:00+00	2021/10/31 23:59:59+00	
2021-09-01	 AEMET	 300	IZO	TotalOzoneObs	brewer	2021/09/01 00:00:00+00	2021/09/30 23:59:59+00	

HOME ▶ LANDING

Notice to users

EUBREWNET observations are free but you need to be registered and logged in to access and download data. Proceed to log in below or [click here to register](#).

Login

Username

Password

Remember me for 30 days

Log In

IZO_2022-03_ozone_product_1_5.txt

```
1 #####  
2 # Product: ozone_product_1_5  
3 # Level: level1.5  
4 # Date: March, 2022  
5 # Process Date: 2022-03-14  
6 #####  
7 # DATA - Usage and Guidelines  
8 # Notice to users:  
9 # The data that you have downloaded, are provided by the stations of the EUBREWNET network. Each station has a Principal Investigator(s) (PI), responsible for deployment, maintenance and data collection. This PI has priority use of the data collected at the site and is entitled to be informed of any other use of that site data. Please find the PI contact information under the section 'Brewer info' of each instruments main page.  
10 # Recommended guidelines for data use and publication:  
11 # Although there is no universal policy concerning journal paper authorship and acknowledgement, the EUBREWNET contributors ask you to make every practical attempt to honour the following general guidelines.  
12 # Using EUBREWNET data: Please consult with the PI(s) of the data to be used.  
13 # Referencing: Always reference the website (http://rbcce.aemet.es/eubrewnet/) for any publications.  
14 # Publishing EUBREWNET data from a 'few' sites: Please consider authorship for the PI(s) and/or the following acknowledgement:  
15 # We thank the European Brewer Network (http://rbcce.aemet.es/eubrewnet/) for providing access to the data and "Project(s)/PI(s)" for "its/his/her/their" effort in establishing and maintaining the "site name(s)" site(s).  
16 # Publishing data from 'many' sites: A general acknowledgement is typically sufficient and may read:  
17 # We thank the European Brewer Network (http://rbcce.aemet.es/eubrewnet/) for providing access to the data and the PI investigators and their staff for establishing and maintaining the "#" sites used in this investigation.  
18 # However if the EUBREWNET data are a principal component of the paper then co-authorship to PI's should be offered.  
19 #####  
20 # Config: http://rbcce.aemet.es/eubrewnet/data/get/ConfigbyId?id=xxx  
21 # Date:2021-02-10, id = 2249;  
22 #####  
23 # Column 01: brewerid; Brewer identification number (Brewerid)  
24 # Column 02: gmt; UT time of the measure in ISO 8601 format (GMT)  
25 # Column 03: configid; Configuration identification number (Configid)  
26 # Column 04: n_sum; Index of daily summary (Index)  
27 # Column 05: date_index; Continuous date index (0.0 = 0000-00-00T00:00:00Z) based in Matlab datenum (Days)  
28 # Column 06: sza; Solar zenith angle using time function (Degrees)  
29 # Column 07: airmass; Calculated airmass using time function (Airmass)  
30 # Column 08: temperature; Instrument temperature (C Degrees)  
31 # Column 09: filt; Applied neutral density filter (Filt)  
32 # Column 10: o3; Calculated Ozone value with algorithm version 2 + SL correction (DU) (DU)
```

Eubrewnet tool to generate WOUDC extCSV files from ozone product L1.5

WOUDC extCSV files

EUBREWNET can generate files with monthly data in the extCSV format requested by the WOUDC (see <https://guide.woudc.org/en/>)

For example, use

<http://eubrewnet.aemet.es/eubrewnet/woudc/csv?brewerid=157&date=2019-01>

to get Brewer #157's highest level data (1.5 near real time, 1.6 consolidated NRT, or 2.0 final) for January 2019.

Note that EUBREWNET's 1.5, 1.6, and 2.0 data levels correspond to WOUDC's level 2.0 (see <https://guide.woudc.org/en/#321-introduction>). Files generated by EUBREWNET and submitted to the WOUDC will hence be stored at https://woudc.org/archive/Archive-NewFormat/TotalOzone_2.0_1/

Eubrewnet wki

The following arguments are optional:

- Instead of brewerid, you can use one of gaw_id, woudc_id, or stationid to request the data for a station instead of a Brewer. stationid corresponds to the internal EUBREWNET ID of the station. Note that the Brewer and station products might be different if more than one Brewer operates at a station.
- version: this is EUBREWNET's processing algorithm version. If not specified, version 1.0 is used (note this is the only version available to the public as of April 2020)
- file_version: this is used in the Data Generation Version field of the extCSV file (see <https://guide.woudc.org/en/#32-the-woudc-extcsv-data-file-metadata>), and is written as major_version.minor_version. If not specified, the file version is automatically determined depending on whether a file for the same date is already available at the WOUDC:
 - if the file exists, the minor_version will be increased by 1 (e.g., if the existing file is version 3.2, the new file will be 3.3)
 - if no file exists, file_version defaults to EUBREWNET's processing algorithm version, which itself defaults to 1.0 (see above)

Eubrewnet tool to generate NDACC files

Network for the Detection of Atmospheric Composition Change

NDACC 

STATIONS

INSTRUMENTS

DATA

ABOUT NDACC

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About NDACC

- › [About NDACC](#)
- [NDACC Perspectives](#)
- [NDACC History](#)
- [News and Events](#)
- [Publications](#)
- [Contact Us](#)

European Brewer Network (EUBREWNET)

[EuBrewNet Website](#)



1349px

<http://www.ndaccdemo.org/about/cooperating-networks/european-brewer-network>

NDACC AMES files

EUBREWNET can also generate AMES files with monthly data in the format specified by NDACC (see <http://ndaccdemo.org/data/formats>)

To generate the AMES files, use the URL <http://eubrewnet.aemet.es/eubrewnet/ndacc/ames> with the following arguments:

- brewerid: Brewer serial number.
- date: month to process, in the format YYYY-MM
- level: EUBREWNET product level to be included in the file, either 1.5 or 2.0

For example, use

<http://eubrewnet.aemet.es/eubrewnet/ndacc/ames?brewerid=157&date=2019-02&level=1.5>

to get Brewer #157's L1.5 data for February 2019.

As of September 2020, the error fields have a fixed value corresponding to 1% of the observation

NDACC AMES files

The following arguments are optional:

- Instead of brewerid, you can use one of gaw_id, woudc_id, or stationid to request the data for a station instead of a Brewer. stationid corresponds to the internal EUBREWNET ID of the station. Note that the Brewer and station products might be different if more than one Brewer operates at a station.
- version: this is EUBREWNET's processing algorithm version. If not specified, version 1.0 is used (note this is the only version available to the public as of September 2020)
- qualityflag: this is the 4-bytes value to write at the end of the first line in the NDACC file (see <https://www.ndsc.ncep.noaa.gov/data/formats/header/#DFlag>). Defaults to 0001
- individual: write all individual measurements instead of daily means

GEOMS HDF files

It is also possible to generate HDF files with monthly data in the GEOMS format (see <https://evdc.esa.int/documents/1/geoms-1.0.pdf>) accepted by the NDACC, AVDC, and other data centers.

To generate the GEOMS files, use the URL <http://eubrewnet.aemet.es/eubrewnet/geoms/hdf> with the following arguments:

- brewerid: Brewer serial number.
- date: month to process, in the format YYYY-MM
- level: EUBREWNET product level to be included in the file, either 1.5 or 2.0

For example, use

<http://eubrewnet.aemet.es/eubrewnet/geoms/hdf?brewerid=157&date=2019-02&level=1.5>

to get Brewer #157's L1.5 data for February 2019.

You can check the GEOMS-HDF files using the AVDC GEOMS QA checker available at
<https://avdc.gsfc.nasa.gov/index.php?site=1473794367>

GEOMS HDF files

The following arguments are optional:

- Instead of brewerid, you can use one of gaw_id, woudc_id, or stationid to request the data for a station instead of a Brewer. stationid corresponds to the internal EUBREWNET ID of the station. Note that the Brewer and station products might be different if more than one Brewer operates at a station.
- version: this is EUBREWNET's processing algorithm version. If not specified, version 1.0 is used (note this is the only version available to the public as of April 2020)
- file_version: this is used to fill the DATA_FILE_VERSION global attribute of the HDF file (see <https://evdc.esa.int/documents/1/geoms-1.0.pdf>, page 17, section 4.2.9). If not specified, it defaults to 001
- file_access: this is used to fill the FILE_ACCESS global attribute (see <https://evdc.esa.int/documents/1/geoms-1.0.pdf>, page 20, section 4.3.3). If more than one data center is specified, please separate their acronyms using only commas, e.g. AVDC,NDACC (**do not** use semicolons! AVDC;NDACC will not be interpreted correctly by the server!). If not specified, it defaults to NDACC
- individual: write all individual measurements instead of daily means

Access to Eubrewnet ozone product from EVDC

GEOMS HDF files with uncertainty

In EuBrewNet is also possible to generate HDF files in GEOMS format accepted by the EVDC. We can generate the ozone uncertainty outputs in GEOMS format through the URL

https://rbcce-test.aemet.es/eubrewnet/geoms_ uncert/hdf?brewerid=037&date=2018-01-31&enddate=2018-12-31&level=1.5&version=2&individual

Search Cal/Val Data

Search our database of Cal/Val data. [Log in](#) to download the data products. Hover over the form fields to see more information about search criteria. Browse Documentation section of EVDC (see the menu above) to find out more about GEOMS standard and metadata.

Frameworks: EUBREWNET x Variable Name: O3.COLUMN x Location: IZANA x

Data

Location IZANA

Data Source Type -----

Data Discipline Field -----

Data Discipline -----

Other

Frameworks EUBREWNET

Principal Investigator -----

AO ID -----

<https://evdc.esa.int/search/>

Search Results (14)

14 Total

Select All On Page

Clear Selection

Download Selected Files

<input type="checkbox"/> File name link	File Size	Submission date	PI	Campaign
groundbased_uvvis.brewer_aemet157_daily.all.1.15_izana_20210901t072826z_20210930t180348z_001.hdf	111 kB	2022-03-16 07:48:35.000	Alberto Redondas	EUBREWNET, EVDC
groundbased_uvvis.brewer_aemet157_daily.all.1.15_izana_20210901t072826z_20210930t180348z_001.hdf	111 kB	2022-03-16 07:48:35.000	Alberto Redondas	EUBREWNET, EVDC
groundbased_uvvis.brewer_aemet157_daily.all.1.15_izana_20210901t072826z_20210930t180348z_001.hdf	111 kB	2022-03-16 07:48:35.000	Alberto Redondas	EUBREWNET, EVDC
groundbased_uvvis.brewer_aemet157_daily.all.1.15_izana_20210901t072826z_20210930t180348z_001.hdf	111 kB	2022-03-16	Alberto	EUBREWNET,

<https://evdc.esa.int/search/>



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Deployments

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geoms > templates > Repository

master

templates / GEOMS-TE-UVVIS-BREWER-TOTALCOL-001.csv

Search GitLab



Sign in



Replace GEOMS-TE-UVVIS-BREWER-TOTALCOL-001.csv

Ian Boyd authored 1 month ago

Find file

Blame

History

Permalink

b5b25b44

[GEOMS-TE-UVVIS-BREWER-TOTALCOL-001.csv](#) 3.02 KB

2	DATETIME	DATETIME	MJD2K	DOUBLE	Mean time of the measurement; defined relative to 2000 at 0:00:00 UT which is
2	LATITUDE.INSTRUMENT	CONSTANT	deg	REAL	Inst. geolocation. Latitude in degrees of the location of the instrument (
2	LONGITUDE.INSTRUMENT	CONSTANT	deg	REAL	Inst. geolocation. Longitude in degrees of the location of the instrument (
2	ALTITUDE.INSTRUMENT	CONSTANT	m	REAL	Inst. geolocation. Altitude in meters of the location of the instrument (

<https://evdc.esa.int/tools/data-formatting-templates/><https://git.nilu.no/geoms/templates/blob/master/GEOMS-TE-UVVIS-BREWER-TOTALCOL-001.csv>

GEOMS TAV

If you want to participate in the GEOMS file validation, the institution responsible for the station (Affiliation) and Data Location must be included in the Table Attribute Value, maintained by NILU.

https://git.nilu.no/geoms/documentation/-/blob/master/tableattrvalue_04R067.dat

The screenshot shows a GitLab repository interface. The left sidebar has a 'Files' section selected, listing 'Commits', 'Branches', 'Tags', 'Contributors', 'Graph', 'Compare', 'Issues (0)', 'Merge requests (0)', 'CI/CD', 'Deployments', and a 'Collapse sidebar' option. The main area shows a file named 'tableattrvalue_04R067.dat' with a size of 85.8 KB. The file content is as follows:

```
1 ! tableattrvalue_04R067.dat
2 ! Based on AVDC database standards current as of 2022-03-23 02:00:00
3 !
4 ! Version 04R067
5 !
6 ! The following label/field combinations exist in this file:
7 !
8 AFFILIATION
9 =Addis Ababa University;AAU
10 =Agencia Estatal de Meteorología;AEMET
11 =Air Quality Research Division, Science and Technology Branch, Environment Canada;AQRD.STB.EC
12 =Alfred-Wegener-Institut fuer Polar und Meeresforschung;AWI
13 =Anhui Institute of Optics and Fine Mechanics;AIOFM
```

DOI to EUBREWNET datasets

DOI

- Permanent location and landing page will be provided by NILU, on behalf of EVDC, through the DataCite metadata service.
- EUBREWNET reports the metadata needed to generate the DOI and landing page:
https://rbcce-test.aemet.es/eubrewnet/metadata/active_dois.json
- Granularity: One DOI for **each product** (O3, UV, AOD) from **each station**.
- The DOI is assigned to a "collection" will not change when the data are processed and updated.
- The metadata will follow the ESA/AVDC guidelines (<http://evdc.esa.int/documentation/doi-docs/>), except the rights (copyright info) all the information is already on the database.

DOI, landing page (on develop)

<https://evdc.esa.int/publications/eubrewnet-ozone-products-for-the-izana-spain-station/>

The screenshot shows a landing page for EUBREWNET ozone products. At the top, there's a header with the evdc logo, the esa logo, and a navigation bar with links like Home, Search Cal/Val Data, Search Satellite Data, Upload Data, Documentation, Tools, Campaigns, Overpass Tool, Contact Us, and a Login button.

Izana (Spain) Station

Updated: 25 Apr 2022

EUBREWNET

EUBREWNET ozone products for the Izana (Spain) station

DOI: 10.48801/eubrewnet.izana

Publisher: EUBREWNET

Creators: EUBREWNET

Publication Year: 2022

Resource Type: Dataset

Subject: Atmospheric Science

Contributors: Alberto Redondas (Researcher)

Dates:
Created: 2022-04-11
Issued: 2022

Data Format: GEOMS HDF

Data Policy:
Creative Commons Attribution-4.0 International (CC-BY 4.0)
In addition to the CC BY license, the EUBREWNET Data Use Agreement including pub http://eubrewnet.aemet.es/eubrewnet/default/data_acknowledgement

Related Identifiers: <http://eubrewnet.aemet.es/dokuwiki/doku.php?id=codes:ozoneproduct>

Locations:
Location: Izana
Latitude: 28.308
Longitude: -16.499

Funding:
EUBREWNET was European COST-action COST1207 and now is funded and supported by the Spanish Ministry of Science and Innovation (Project ECO2010-15229).

Download Data: <https://secondary-data-archive.nilu.no/evdc/>

Mexico City-Vallejo

Updated: 03 Apr 2022

PGN

Pandora 157s1 direct sun SO2 total vertical column analysis for Mexico City-Vallejo; Processing Code: sus1; Processor Version: 1-8

DOI: 10.48596/pgn.rsus1/p1-8.MexicoCity-Vallejo.P157s1

Publisher: LuftBlick

Creators: LuftBlick

Publication Year: 2022

Resource Type: Dataset

Subject: Atmospheric Science

Contributors: Michel Grutter de la Mora (Researcher)

Dates:
Created: 2022-03-09
Issued: 2022

Data Format: [GEOMS HDF, Pandora native textfiles]

Data Policy:
Creative Commons Attribution-4.0 International (CC-BY 4.0)
In addition to the CC BY license, the PGN Data Use Guidelines provided at <https://www.pandonia-global-network.org/> to be observed.

Descriptions:

Locations:
Location: MexicoCity-Vallejo

Acknowledgements



Universidad
de La Laguna



International
Ozone
Services



Department
for Environment
Food & Rural Affairs



COST is supported by the
EU Framework Programme Horizon 2020

The RBCC-E Team



Alberto Redondas (AEMET), Alberto Berjon (ULL, ATMOZ), Javier López Solano (ULL, IDEAS), Bentorey Hernandez (ULL, PANDONIA), Virgilio Carreño (AEMET), Manuel Rodriguez Valido (ULL), Daniel Santana (ULL, PANDONIA), Sergio Fabián León Luis (AEMET)

11/11/2015

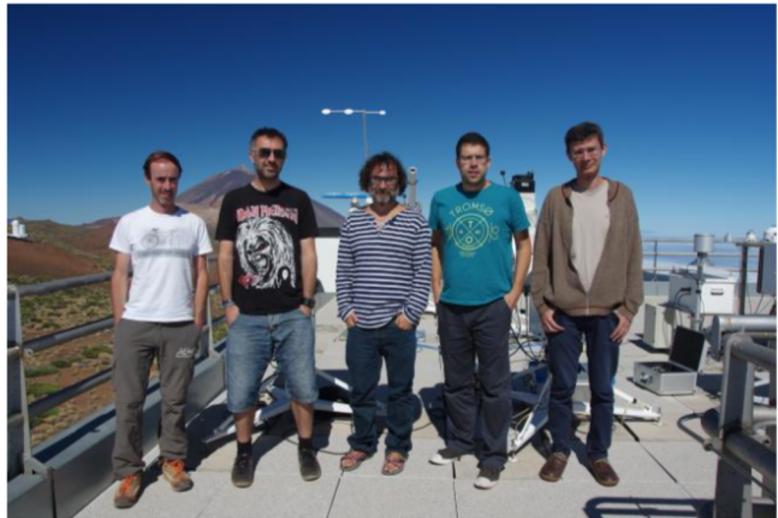


Figure 6.1. Members of the Total Ozone and UV radiation programme with the RBCC-E Brewer spectrophotometer triad located at IZO. Left to right: Virgilio Carreño, Francisco Parra Rojas, Alberto Redondas, Sergio León Luis, and Javier López Solano.



RBCC-E

Alberto Redondas Marrero, RBCC-E site manager Izaña Atmospheric Research Centre, State Meteorological Agency of Spain.

Virgilio Carreño Corbella , RBCC-E researcher, Izaña Atmospheric Research Centre, Izaña Atmospheric Research Centre

Francisco Parra Rojas, RBCC-E researcher, Izaña Atmospheric Research Centre,Izaña Atmospheric Research Centre.

Alberto Berjón Arroyo, RBCC-E researcher, TRAGSATEC, Madrid, Spain

Javier López Solano, RBCC-E researcher,TRAGSATEC, Madrid, Spain

Collaborators

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Thank you!