

# JOIN Documentation



## Frequently asked questions

### How do I access JOIN?

If you visit the JOIN homepage at <https://join.fz-juelich.de> (or any URL within this domain), you will see a very plain homepage and a login box on the top right of the page:

A screenshot of the JOIN login interface. It features a white background with a light blue border. At the top left, the text "Login:" is followed by a text input field containing the placeholder "Username or e-mail". Below this, the text "Password:" is followed by a text input field containing the placeholder "Password". Underneath the password field is a "Remember Me:" label with a small square checkbox. A blue "Login" button is positioned below the checkbox. At the bottom of the form, there are two blue links: "Forgot password" and "Create account".

If you do already have a JOIN account, use your login name and password to access the system. Otherwise, click on the "Create account" link on the lower right of this box and you will see the user registration form:

A screenshot of the "Create your account" registration form. The form has a light blue background and a white border. At the top left, the text "Create your account" is displayed in a bold, dark blue font. Below this, there are several input fields: "First Name:" with a placeholder "first name", "Last Name:" with a placeholder "last name", "Institute:" with a placeholder "institute name", "Country:" with a dropdown menu showing "Afghanistan", "Username:" with a placeholder "Username", "E-mail:" with a placeholder "E-mail address", "Password:" with a placeholder "Password", and "Repeat Password:" with a placeholder "Password". A blue "Sign Up" button is located at the bottom right of the form.

Please fill in at least your first name, last name, user name, email address and password, then click on the Sign up button. JOIN will send you an email with a verification link. You need to verify your registration before you can use the system. Once you have verified your email address, you can log in to JOIN and start visualizing your data.

## Why do I have to register in order to use JOIN?

Honestly, we would have loved to grant also anonymous access to JOIN, but we didn't find a suitable technical solution for this. A JOIN user automatically accesses some hardware resources on our server for temporary files etc., and we need to be able to relate such data to individual users (otherwise person A's click would influence person B's display). Another issue here is internet security as we need to get past certain security tests before we are allowed to open the web interface to the public. We will further investigate technical options to allow anonymous access, but we ask you to please accept that you need to register in order to use JOIN. By offering JOIN as https service, we protect your personal data from misuse.

Another reason why we ask you to register is to allow us to build a use statistics. This kind of information (how many users do we have? How often is JOIN being used?) is very relevant for funding agencies and might help to secure the future development of the system.

## How do I change my user profile data?

Once you are logged in, you will see a menu bar appear which contains your user name at the right end:



If you click on the small arrow to the right of your name, a menu will fall down which allows you to change the settings of "My account", modify "User settings" (to be implemented), or log out. Click on "My account" to access and modify your account information, including your password [password change to be added soon].

## How do I access data from the TOAR database of surface ozone observations?

From your user homepage you can access all data resources by clicking on the "Data access" menu item (in fact, at present the user home page is re-directed to the data access page). On the data access page you will find a section for "Direct data access" on the top, and another section to find and retrieve data through other portal pages on the bottom. The "Direct data access" section provides a dropdown box with pre-installed data files (rudimentary feature - this shall allow the upload of user data files soon), and a button to "Select surface stations data from Jülich database".

**Access Data:**

Direct data access:

Enter the URL / file path..

Search data from catalogue service or data portal:

Click on the "Select surface stations from Juelich database" button, and a map will appear which contains one marker for each surface site we have in our database. This is a normal google map, so you can zoom in or out and change to satellite view if you want.

On top of the map are a couple of filters which you can use to limit the selection of stations offered on the screen. These filters are configurable: you can add or remove filters by clicking on the "Change filters" button.

## Surface Stations

Map view List view Custom search

### Station and parameter filters:

Network:	Station ID:	Station Name:	Station country:	Altitude:	Parameter:
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	-10.0 - 9,000	<input type="text"/>
Measurement method:	Contributor:	Contributor country:	Status:	Data before:	Data after:
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	01-09-2015	01-01-1900

Apply Reset Change Filters



Once you found your station, you can click on the marker. This will display the station name as a link that points you to the station and timeseries metadata, the coordinates, and a list of parameters available from this site. Click on any parameter to get the data extraction dialog which allows you to display the hourly data of the chosen parameter at the selected site. In case of ozone (parameter "O3") you will find additional options, namely the so-called "QA plots" and a table from where you can select various daily, monthly, or annual metrics for download or visualisation [metrics are under development; the first metrics shall be provided soon]. Note that we do not make the hourly timeseries data available for download. Please consult the respective data providers (see timeseries metadata) if you are interested in the original data.

## I have clicked on the marker of a station and I see the wrong dataset. What shall I do?

We have organized the data in our database according to the network to which they contributed. In some cases, station PIs submit their data to various networks (and unfortunately, these data and metadata are not always identical). In our database we then have two or more station entries at the same location, and google maps will allow to click on only one of these. For example, station DEBW031 is registered in both the "UBA" and the "Airbase" networks. The marker on the map only shows this site as UBA station.

You can switch to the list view (second tab on the tab menu on top of the "Station and parameter filters", see image below) in order to see all stations. If you combine this with a station selection through filtering (here use the "station id" filter and enter "DEBW031", then click "Apply"), you will see only the stations you are interested in. We recommend to use this feature with the longitude and latitude filters (see example below), so that you don't miss stations which are listed under different station IDs or where the coordinate information is not precisely identical.

Network	Station ID	Station name	Latitude	Longitude	Altitude	Parameters
UBA	DEBW074	Schramberg	48.222864	8.386163	443	<a href="#">NO_NO2_O3</a>
UBA	DEBW143	Schramberg Oberndorfer Straße (S)	48.229182	8.390423	470	<a href="#">NO_NO2</a>
AIRBASE	DEBW074	Schramberg	48.222866	8.386164	443	<a href="#">O3</a>

Longitude:  -  Latitude:  -

Data before:  Data after:



## How can I plot an ozone timeseries?

From the map view, select your station and click on the marker. In the small popup you should see a link labeled "O3". Alternatively, you should see a similar link on the list view window next to your station of interest. Click on this link, and a dialog box (see picture below) will open, where you can fine tune the data extraction and select the type of plot you want. You can narrow the date range of the data you wish to show (note that shorter timeseries display faster; a 30 year ozone record comprises ~260,000 hourly data values which need to be processed in Javascript!). The default date range always covers the entire dataset range. You can choose if you wish the data to be shown as local time (default), UTC time, or solar time. Solar time is the "true" time at the station location, i.e. longitude/15. Local time in JOIN ignores daylight savings time and will in most cases be the same as solar time. You can also specify the data quality flag values you wish to include [to be done].

Data extraction options

**Variable: O3**

Date: 05-11-1992 to End Date

Time: Local time

Data quality flag: OK, not\_checked

Hourly values:

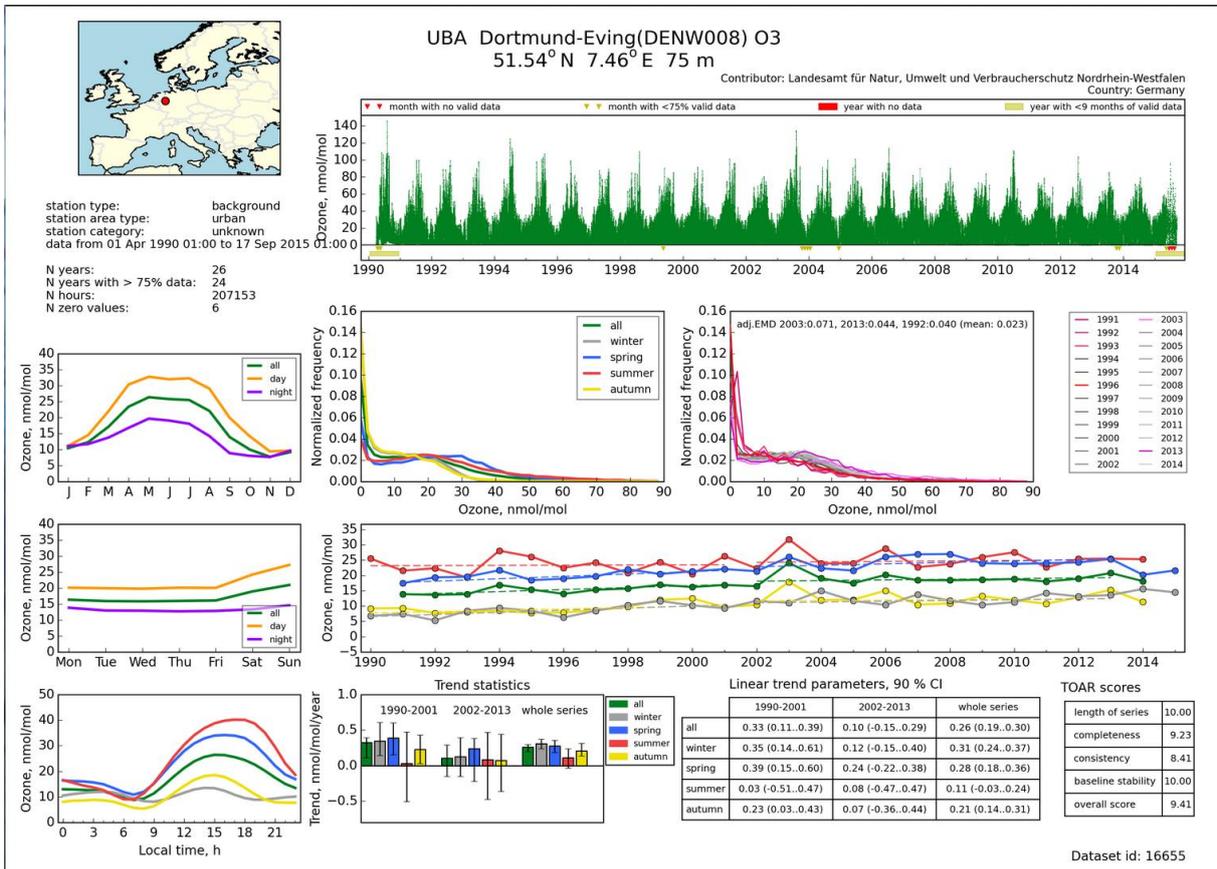
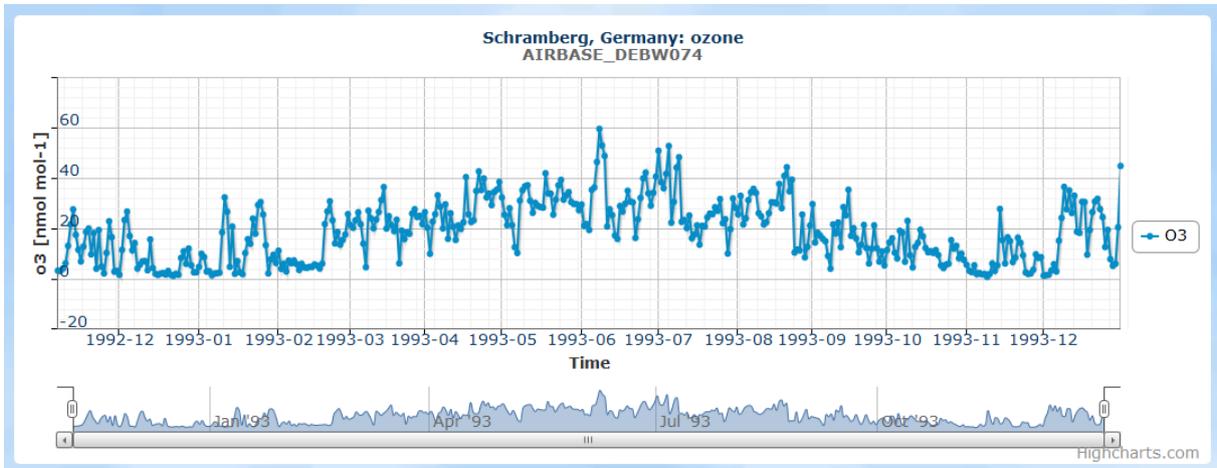
QA plot:

Metric	Daily	Monthly	Annual
Average values			
Max. 8-h average			
W126			

Below these "data extraction options" you will see a couple of buttons to either plot or download certain "views" of the data. Note that hourly data can only be plotted and not downloaded. The "QA plots" are standardized multi-panel plots, which show various statistics of a dataset, such as seasonal, weekly, and diurnal cycles, frequency distributions, and a preliminary trend analysis using Theil slopes (these trends are "preliminary", because TOAR might decide on some outlier filtering or other filtering options before the final trend analysis). The various ozone metrics which have been defined in TOAR are available as either daily, monthly, or annual products [under development]. Note that QA plots and metrics are calculated online if you access them through JOIN. This means that you may have to wait a little until you see results, but it offers you the chance to calculate metrics on subsets of data as you wish.

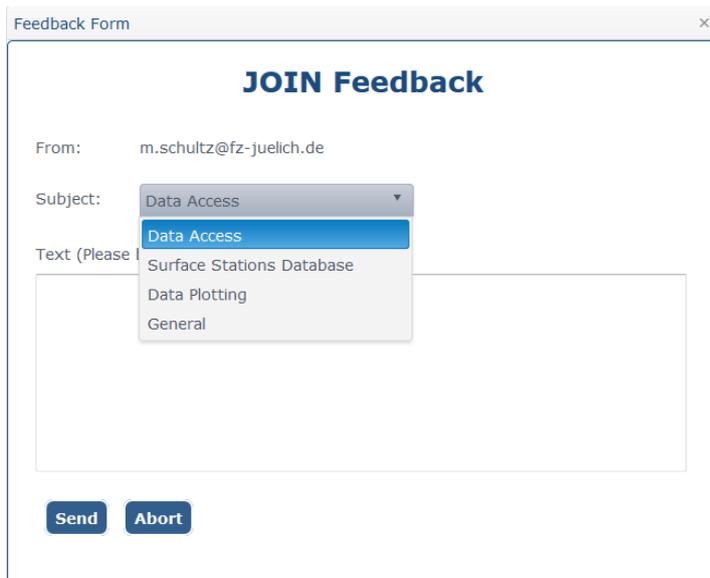
The full suite of display options (QA plots and metrics) is only available for surface ozone records. Other variables (from some networks we also store ozone precursors and meteorological variables in our database) will only allow you to display the timeseries as such.

An example timeseries plot and a QA plot are shown below.



## What do I do if something doesn't work or if I detect errors in the data of the TOAR database?

If you are logged into JOIN you will see a Feedback link on the bottom right of the page. Click there, and a dialog will open up which you can use to send us an email about your problem. Please use the selector to identify your issue as belonging to one of the categories "Data access", "Surface stations database", "Data plotting", or "General". In your message, please try to be specific and describe under which conditions the error showed up.



The image shows a screenshot of a web browser window titled "Feedback Form". Inside the window, the heading "JOIN Feedback" is centered at the top. Below the heading, the "From:" field is populated with the email address "m.schultz@fz-juelich.de". The "Subject:" field has a dropdown menu open, showing four options: "Data Access" (which is highlighted in blue), "Surface Stations Database", "Data Plotting", and "General". Below the subject dropdown is a large, empty text input area with the label "Text (Please)". At the bottom of the form, there are two buttons: "Send" and "Abort".

Of course you can also use the feedback form to request additional features or tell us if you like the web interface.