Open Climability Suite

CCIS User Guide

Version 1.1
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Table of Contents:

1. Basics

The basic page contains a header, an area for the main content and footer. The header contains the following elements:

- Logo
- Main menu
- Links (Icons) to social networks pages (Facebook, Twitter, Google +)
- Language switcher
- Search
- Register / Login section

Figure 1: Page header

The following subpages in the main menu can be selected:

- Home
- Climate Change
- Map
- Dashboard
- News
- Events
- Blog
- About

The footer contains the following elements:

- Logo(s)
- Contact information
- Address information
- Feedback
- Legal information
- Help
- Subscription to the newsletter

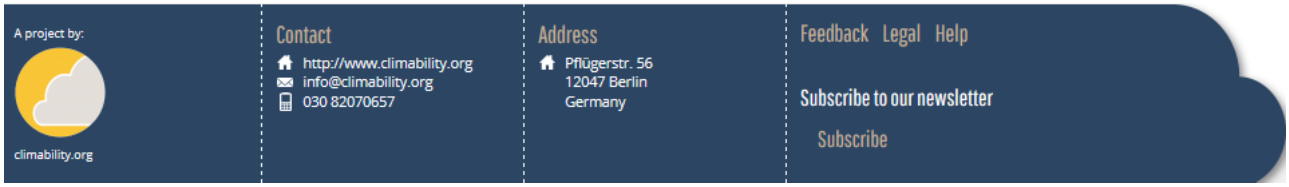

Figure 2: Page footer

2. Landing page / Start page

The starting page shows the following content:

- Slideshow
- Image teaser
- Blocks for Events, News, Blog, System Status

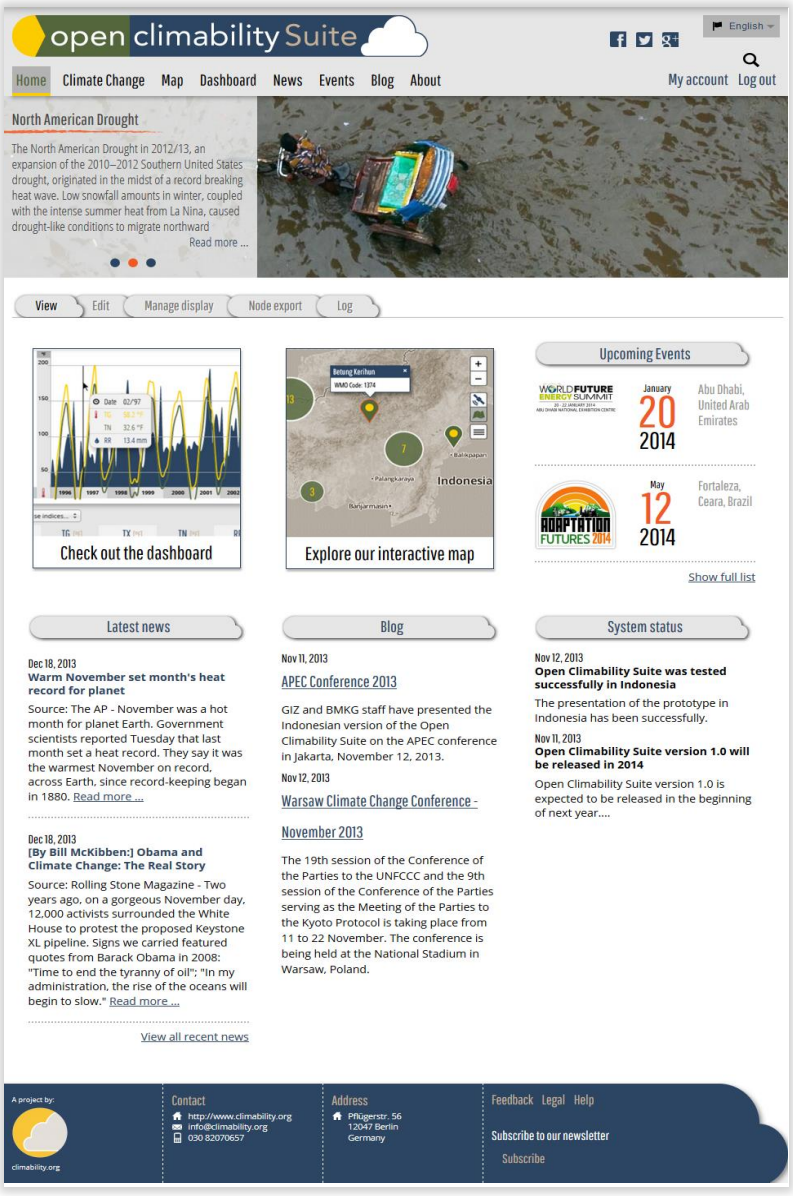

Figure 3: Page contents

The slideshow shows images and textual information dealing with stories about the climate change. If you click on the “Read more” link, you will be forwarded automatically to the associated article on the *Climate Change* subpage.

The two teaser images below are links to the subpages *Dashboard* and *Map*. For clarification, the messages “Check out the dashboard” and “Explore our interactive map” are listed below the images.

The blocks *Events, Latest news* and *Blog* show the two most recent contents of the corresponding subpages. The block *System status* shows information about the product itself.

3. Climate Change

The Climate Change page provides general information about climate change.
Textual explanations, descriptive graphs and figures will explain the main factors and basics of climate processes and explanations of current scientific knowledge.

4. Map

The map provides different tools for navigating and selecting climate stations. The first view shows an area in middle Europe, because German sample data is used in the demo version. For this purpose, the boundaries of the German states are shown as a red overlay. The climate stations are visualized through green yellow markers and a cluster strategy. If two or more stations can't be separately displayed through a marker, a green circle appears showing the number of stations in the area with a yellow number.

Figure 4: Map

Different map tools are located in the upper right corner of the map. The plus and minus buttons can be used for zooming in and out, but you can also use the left mouse key or the mouse wheel to achieve that. For panning in the map, you can use the arrow keys of the keyboard as well as your left mouse key to drag & drop. The two buttons below the minus button can be used for switching the base layer, satellite and map are the options.

The last button below that provides the option for turning overlays on and off. If you click on the button, called layerswitcher, a box will be opened, showing the overlays that can be switched on and off.
Two grid layers and an overlay of the German boundaries can be toggled in the demo version. By default, only the boundary layer is visible. The graphic to the right shows the opened layerswitcher. By clicking a name the visibility is switched on or off. The names of visible layers are highlighted in dark grey.

Figure 5: Layer switcher

A legend is placed in the lower left corner of the map. It explains the visualization of all visible layer.

To interact with the overlay of the climate stations, you can run over the marker and cluster with the mouse. On a mouse over on a marker for just one station, a popup appears showing the name and the WMO code or national code of the station. On a mouse out, the popup disappears automatically. If you click on the marker, you will be forwarded to the dashboard and the climate data and metadata for the selected station will be visualized. In order to clarify this, the cursor of the mouse switches to the typical hint for a link.

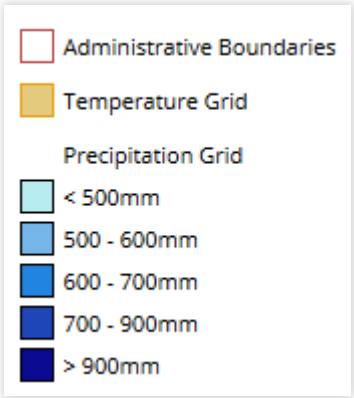

Figure 6: Legend

When you run the mouse over a cluster of two or three stations, you will see another kind of popup. It shows the message “Select a station:” and the names of the stations among each other. When you click on a station name, you will – as already described – be forwarded to the dashboard. If a cluster contains more than three stations, you will see a popup on a mouse over, that shows the number of stations in the cluster and the additional hint, that you can zoom in, if you click on the cluster marker. All kinds of popup for the overlay of climate stations are visualized in the graphic below.

Each grid cell of the temperature grid can be clicked. To interact with the overlay of the temperature grid, you can click on a grid cell. Then you can see the monthly mean temperatures of the relating area for the year 2000.

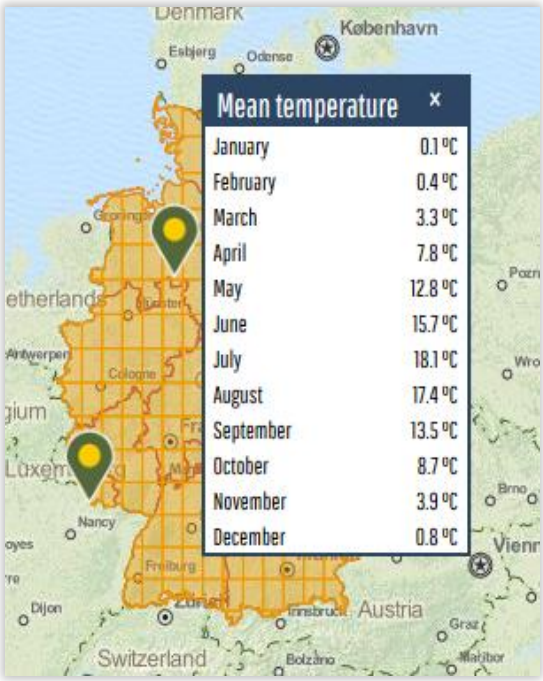

Figure 7: Grid and attribute view

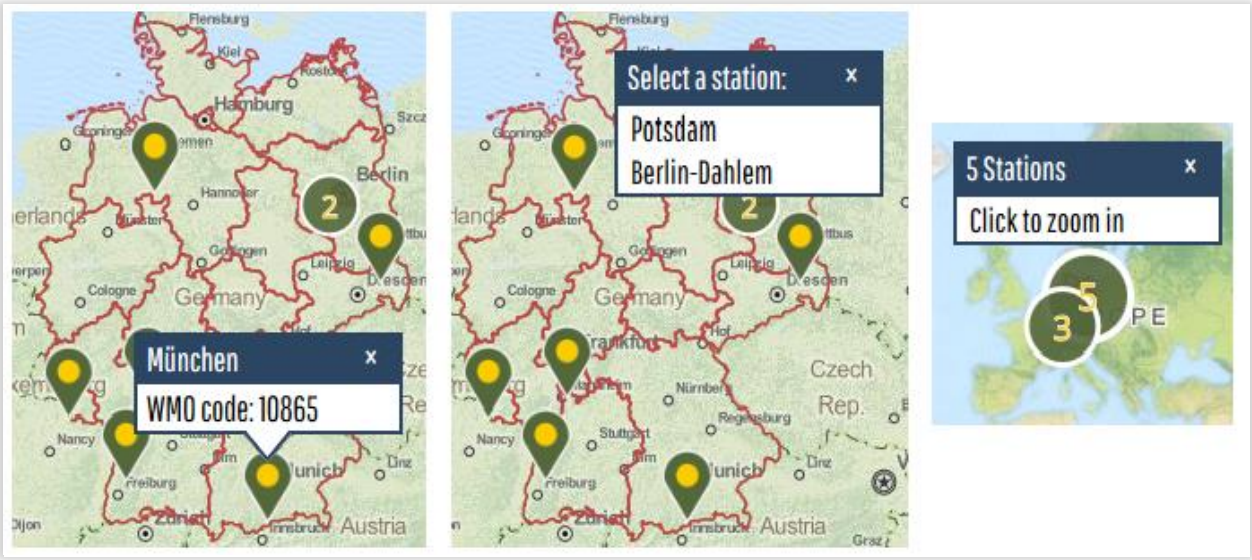

Figure 8: Map views of 1 station, 2-3 stations and more than 3 stations

5. Dashboard

The dashboard contains different components to search and select climate stations, to visualize climate data or metadata of the stations and to compare the data of two stations. The first view of the dashboard shows the *Stations* and the *Filter* blocks on the left side. On the right side, there is a map that provides the same possibilities of selecting a station as mentioned in the foregoing chapter.

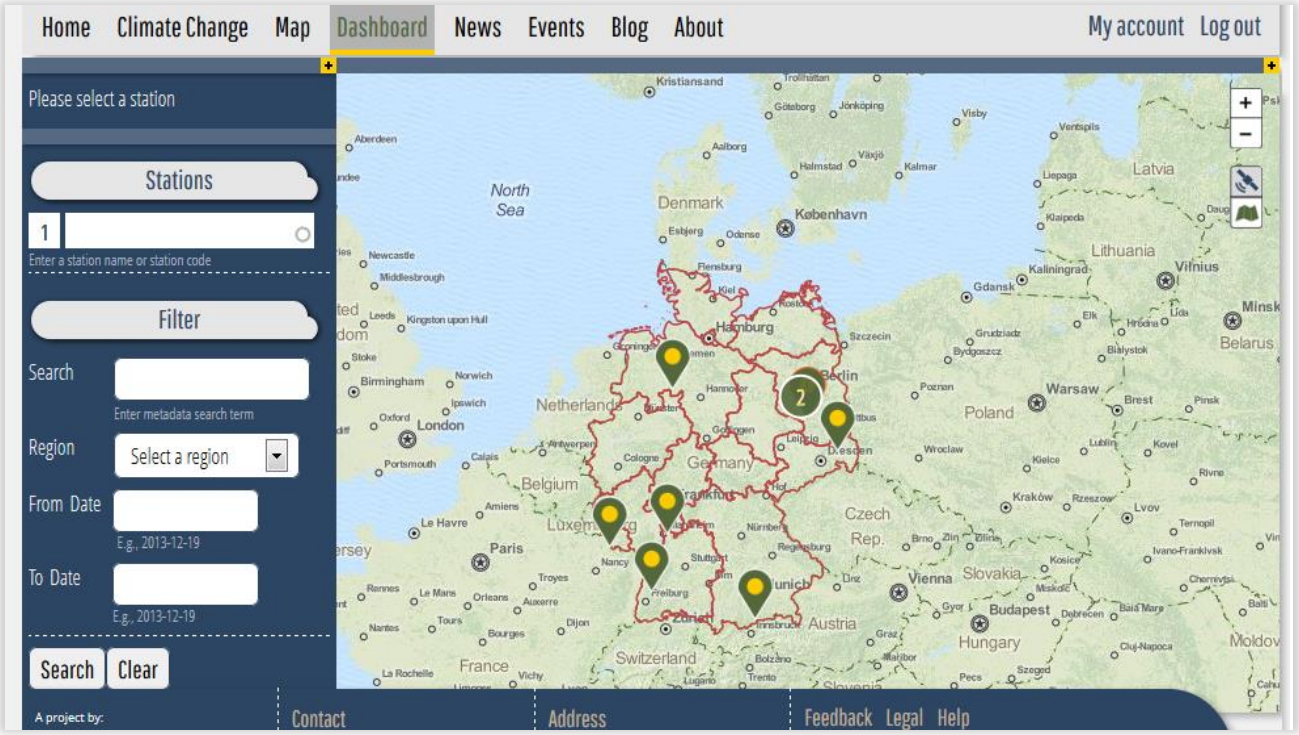

Figure 9: Dashboard

There are several possibilities to select a climate station, using the *Stations* and the *Filter* blocks or selecting a station with the help of the map. In the *Stations* block you can use the text box labelled with the 1, to enter a station by its name or by the WMO or national code identifier. This assumes that you know an explicit station to search for. If you don't know a specific station, better use the *Filter* block, which is explained later.
When you enter characters in the *Stations* text box, an auto-complete list shows all stations, that matches your search. If you click on an entry in that list, the metadata and climate data of that station will be loaded in the associated components of the dashboard. Furthermore, a second text box labelled with a “2” appears where a second station can be selected for direct comparing afterwards.
The graphics below shows examples of the auto-complete lists for the first text box. On the left side, the result for the search term “3” is displayed. The stations “Potsdam” and “München” are listed, because their national station codes contain a “3”. On the right side the result of the search term “106” shows the stations “Frankfurt” and “Trier-Petrisberg”, because their WMO codes (10637 and 10609) matches the search.

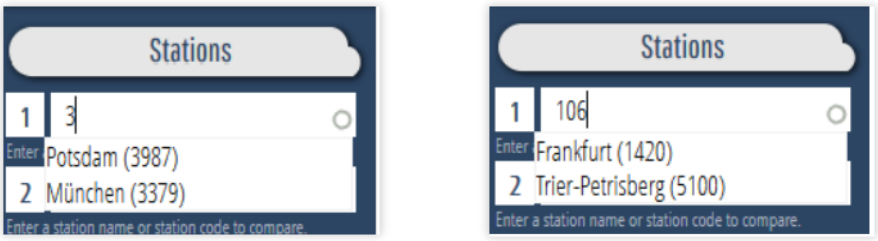

Figure 10: Station search options

The *Filter* block provides different kinds of search and filter methods to select a station. The first is a text box, where you can enter a search term. Here you can search for the following metadata of climate stations:

- Address
- City
- Country
- National station code
- Postcode
- Region
- Type (synoptical, aeronautical etc.)
- WMO Code

When you have entered a search term, you have to click on the “Search” button. After that, a result list appears below, showing the station name, the WMO code and two radio buttons for each result. If no metadata of a station matched the term, the message “Did not found a station” will be displayed. When one or more stations are listed, the radio buttons can be used to select one or two stations for a comparison.
If you check a station as station one, you have to click “Search” to submit your choice and visualize the data of this station. When you check two stations as station one and station two, the dashboard will load the data for a comparison automatically.

The graphic below shows three sample search results with different result lists. In these examples search terms for a WMO code, a region and a city were entered.

Figure 11: Search and filter function

Underneath the search text box a drop-down menu for the *Region* search is placed. Here you can select a region, in case of the demo version meaning the German states. After selecting a region, click on the "Search" button and a result list will be displayed like mentioned before.
Below the region drop-down menu, the temporal filter is located. The functionality of this element will be explained later. The last button in the *Filter* block is the "Clear" button, which can be used to clear the search form and the *Stations* block.

When the user selected a station using one of the described methods, three new elements appear in the dashboard. A metadata info area for the station in the upper left, a graph in the upper right and a table below the graph. The map will placed underneath at the bottom of the page automatically. The following graphic shows the new elements for the selected station "Trier-Petrisberg".

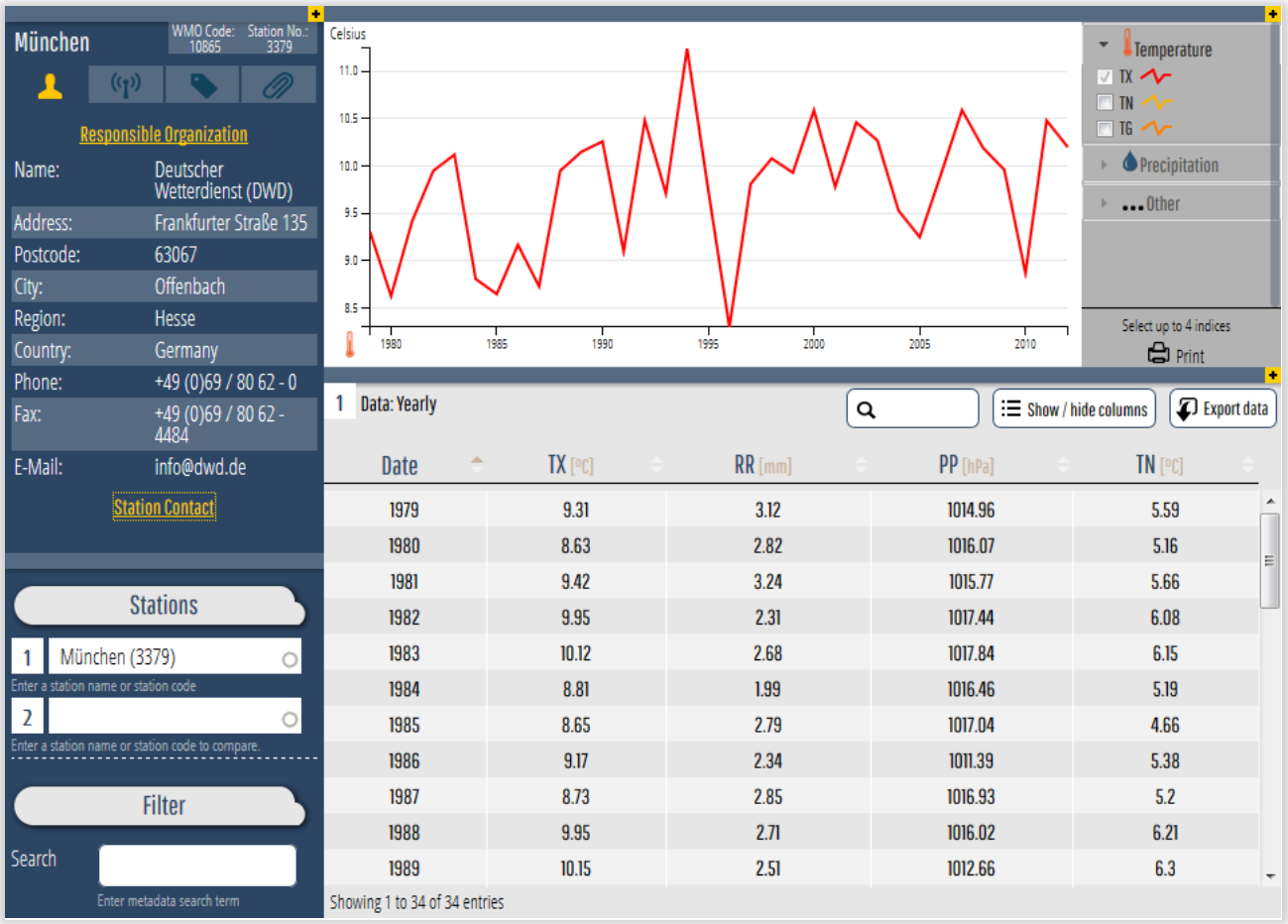

Figure 12: Dashboard elements

The metadata info block shows different kind of information in several categories. The name of the station and the WMO and national station codes are listed at the top of the element. Underneath of that, four symbols are displayed as a tab list. When you run the mouse over the symbols, a tooltip appears, that describes the associated category of metadata information.

When you click on the symbols, the tab will be opened in the info block. The categories also contain different kinds of information, located in several accordions. When you click on the underlined yellow titles, the accordion menu will be opened and the additional information will be displayed. The graphic to the right shows the tooltip on a mouse over on a metadata symbol and some opened and closed accordions.

When you want to see all the metadata of all categories at once, you can maximize the metadata info block. Therefore, you have to click on the little plus button in the upper right corner. After that, the dashboard only contains this information. When you want to minimize the maximized metadata info block, click on the little minus button in the upper right corner.

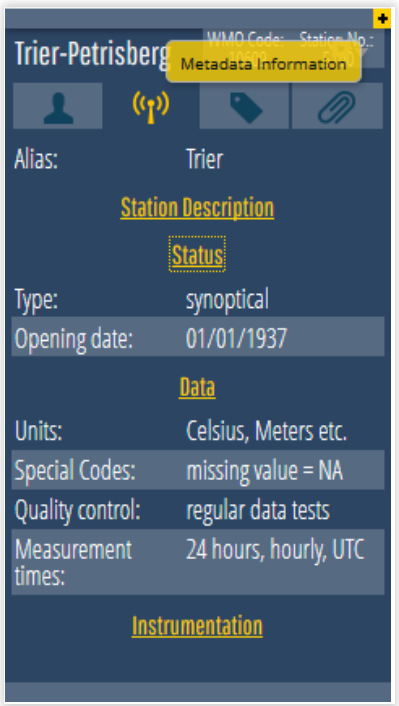

Figure 13: Metadata elements

Every element in the dashboard that provides plus buttons can be maximized and minimized in this manner. The following graphic shows the maximized metadata info block. The user can see all four categories; “Contact”, “Station”, “Metadata Information” and “Attachments” at once.

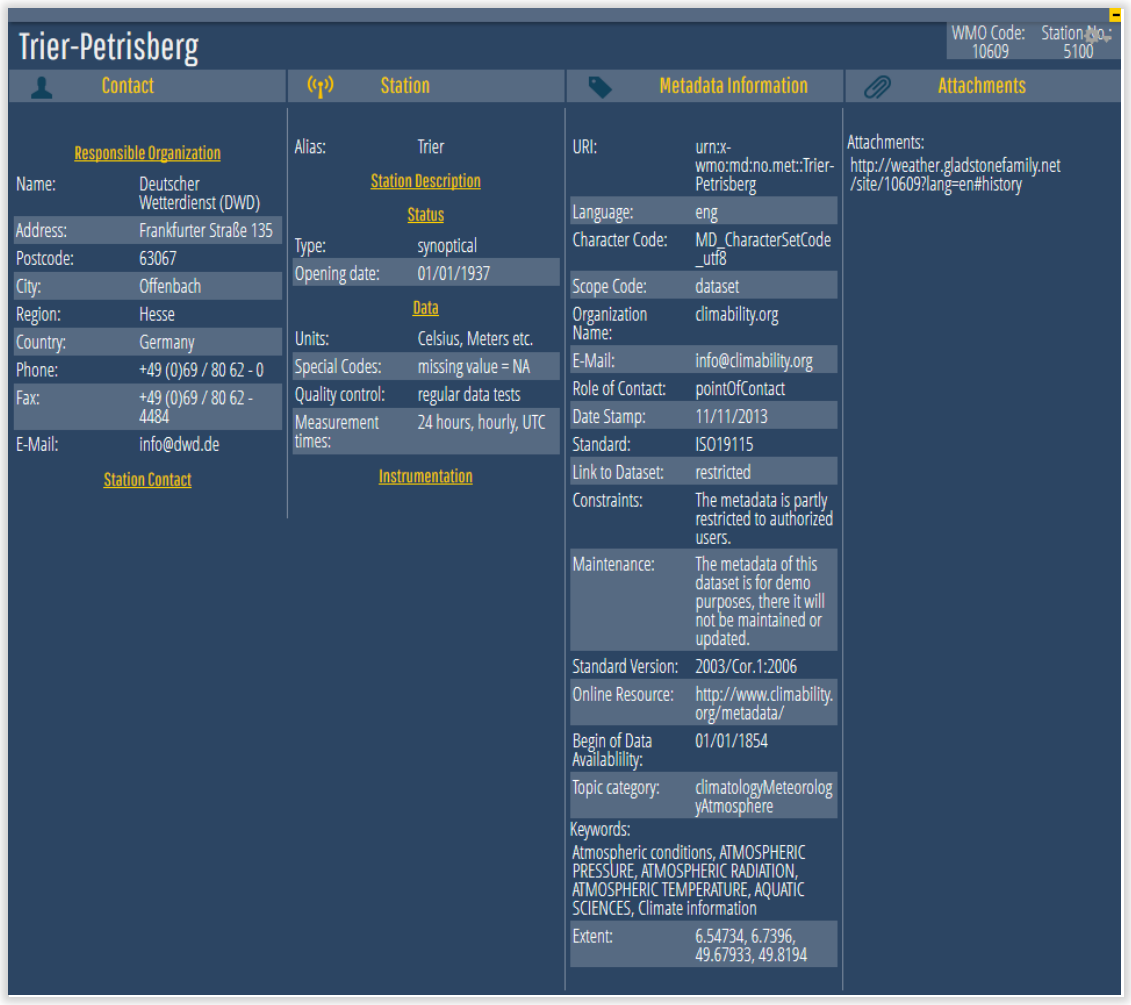

Figure 14: Opened metadata elements

The graph visualizes the climate data of the selected station. The X-axis shows the temporal resolution of the data. The Y-axis shows the value range in the unit of the selected parameter. The user can select up to 4 climate parameters. So if there are four parameters showing four different kinds of indices, four specific Y-axis will be displayed. Above the Y-axis, the associated unit is listed.

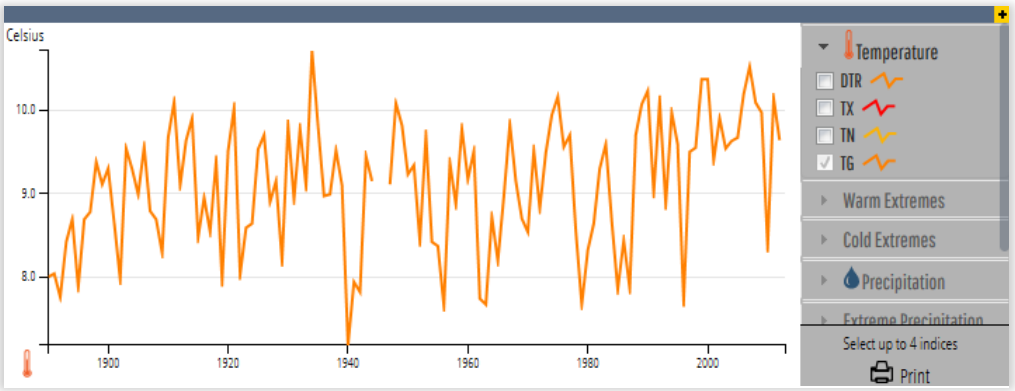

Figure 15: Graph visualization

Each climate parameter is represented by a chart. All the charts are displayed in different colours according to the group of parameters. In this demo version there are seven groups, “Temperature”, “Cold Extremes”, “Warm Extremes”, “Precipitation”, “Extreme precipitation”, “Wind” and “Other”. Although the group “Temperature” could also contain the elements of “Cold Extremes” and “Warm Extremes”, this groups were created for overview purposes. The relation of the groups “Precipitation” and “Extreme Precipitation” is similar. The groups and climate parameters are visualized in accordion menus on the right side of the graph. The parameters can be selected through checkboxes. The colour of the chart is visualized next to the parameter name. So the menu at the right of the graph can be used as a legend and a menu.
The graph can also be displayed maximized. This works in the similar manner as mentioned for the metadata info block. At the bottom of the graph menu, there is button for printing the chart. If you click on this button, a print preview will be opened in a new tab, which can be seen in the graphic below:

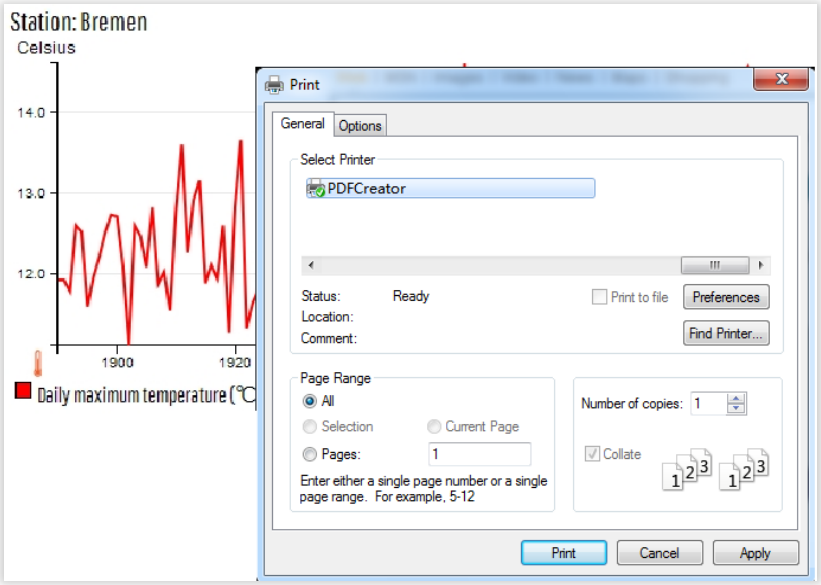

Figure 16: Graph PDF print

The table shows the climate data in tabular form, so the values of the raw data can be analysed. In the head line of the table, the abbreviations of the climate parameters and the according units are shown. When putting the mouse over a parameter name, a yellow tooltip with a description will be

displayed. The graphic below shows the table and a sample tooltip for the climate parameter CDD.

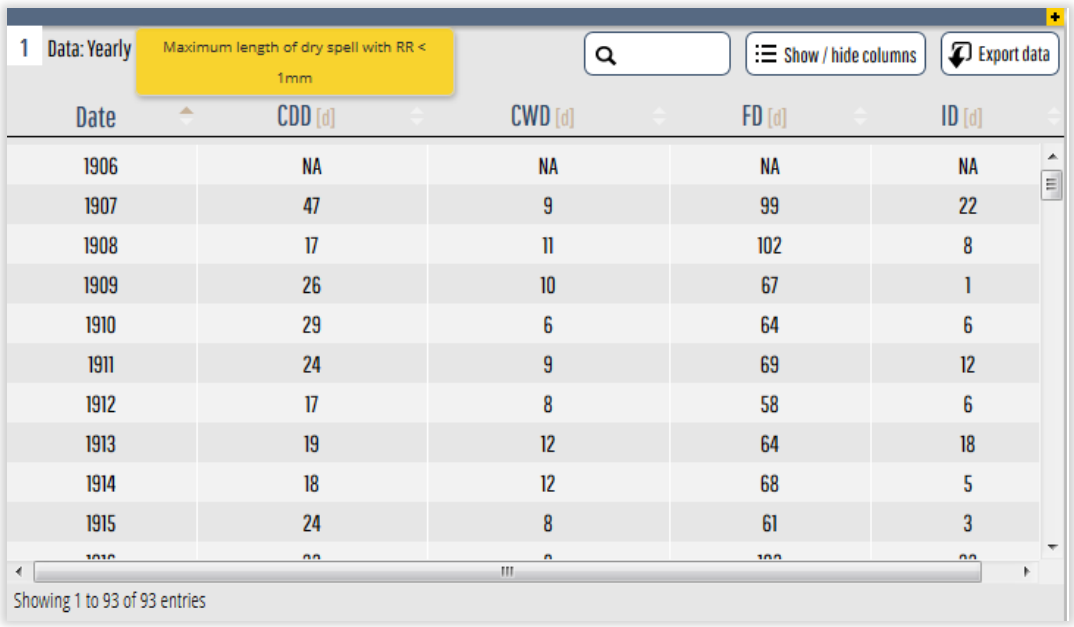

Figure 17: Table visualization

The table also provides several tools for filtering or processing the data. In the upper right area there are three tools located. The first is a search filter. When you enter a search term, e. g. “1990”, only the data of this year will be displayed. The button next to this field provides the possibility to show or hide columns. When you click on this button, a list of all available parameters appears where you can select or deselect them.
The last button is for data export. If you click on this button, the browsers provide a CSV file for download, which contains the tabular data of the selected station. You can also reorder the table by clicking on the name of the parameters.
In the upper left corner is an additional label located, which shows the current temporal resolution of the data. There are four temporal scales available, yearly, monthly, data for 10 days or daily data.

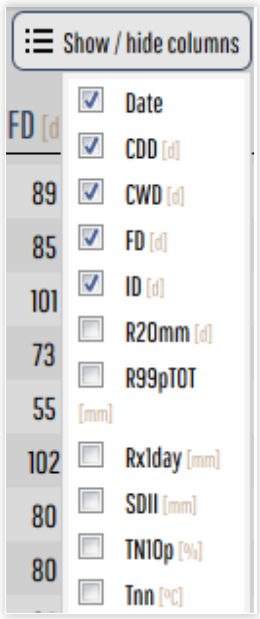

Figure 18: Column selection

To control the temporal resolution, you can use the temporal filter. To achieve this, you have to enter two dates as a lower and an upper limit. To enter a date, you have two possibilities. Either you enter a valid date per keyboard, e.g. “1999-12-01” or you click into the date fields and use the date picker input strategy. Here you can choose the year and the month in a drop-down menu and select a day by clicking in the table. The following graphic shows the temporal filter and an open date picker.

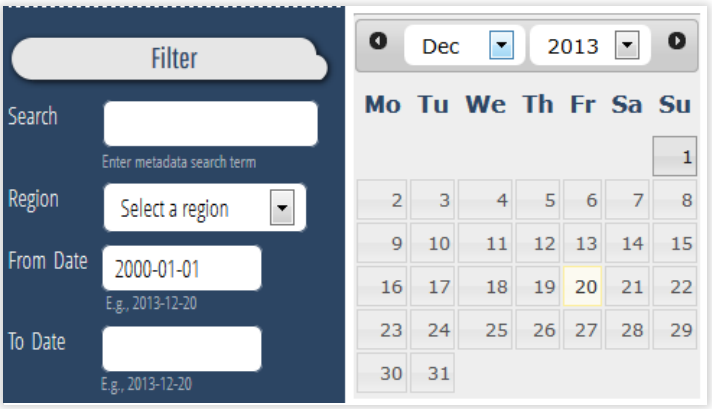

Figure 19: Date selection

If you enter a valid date range, the following rules will control the dashboard. Therefore, the table and the graph visualizations will be updated automatically and the temporal scale adapted:

Data range	Temporal resolution
> 15 years	Yearly data
<= 15 years and > 5 years	Monthly data
<= 5 years and > 1 year	10 days data
<= 1 year	Daily Data

Figure 20: Date range and corresponding temporal resolution

When two stations were selected, the comparison mode will be activated and the metadata and climate data for both stations will be presented. After that, a metadata info block, a graph and a table will be provided for both stations, every element category among each other. All components can be controlled as mentioned for one station. To support direct comparison of two stations, the temporal scales of the two graphs and tables will be adapted by default, so that the same temporal data range is shown in both elements. The graphic below shows the comparison of two stations:

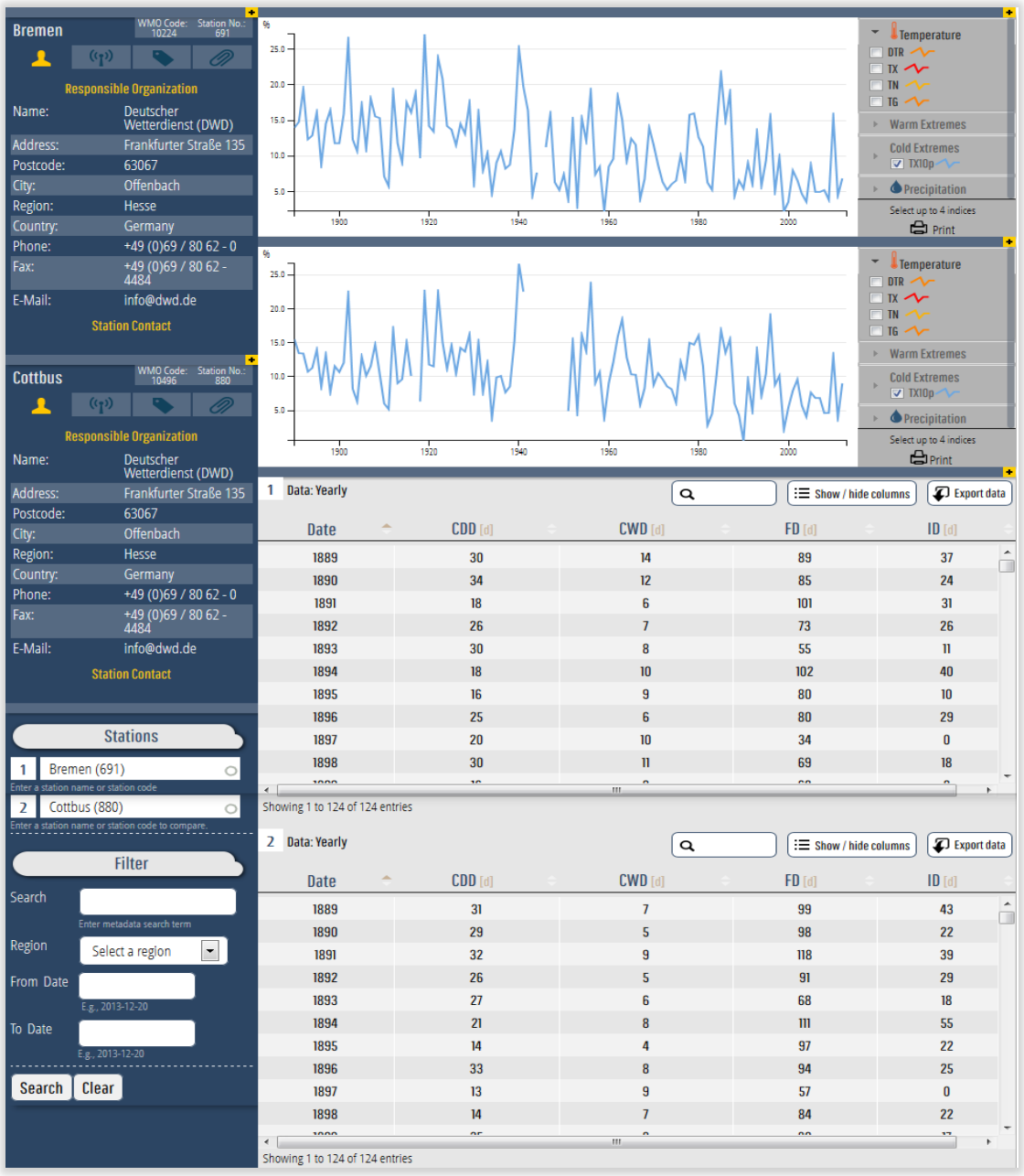

Figure 21: Station comparison

6. News

News are provided and loaded via RSS feeds.

7. Events

Events are also provided and loaded via RSS feeds.

8. Blog

Blog entries are provided via the climability main page and loaded into the suite as RSS feeds.

9. About

The About page contains all information regarding the data and software providers and contact information.

10. Register / Login

To create a user account at climability, click on the “Register” button on the right side of the header. In the appearing form, you have to fill in some personal information, some fields are required and marked with an asterisk (*). When you finished this, click on “Create new account”. After that, you will receive the following email at your declared email address:

> *User Name,*
>
> *Thank you for registering at Open Climability Suite. Your application for an account is currently pending approval. Once it has been approved, you will receive another e-mail containing information about how to log in, set your password, and other details.*
>
> *-- Open Climability Suite team*

After that, the climability admin have to activate your account and allocate a specific role, that defines your rights and permissions. Afterwards, you will receive a second email like this:

> *User Name,*
>
> *Your account at Open Climability Suite has been activated.*
> *You may now log in by clicking this link or copying and pasting it into your browser:*
>
> *http://xy/user/reset/21/1386771929/yZXwXPRGigUNl3-iRV5KmB7ySLOmwlk_mpbQr0IweT0*
>
> *This link can only be used once to log in and will lead you to a page where you can set your password.*
> *After setting your password, you will be able to log in at http://xy/user in the future using:*
>
> *username: User name*
> *password: Your password*
>
> *-- Open Climability Suite team*

When you activate the provided link, you can log in at climability and use the system. You can change your account details by clicking on “My account” on the right side of the header. To log out, use the “Log out” button next to that.

11. Language

The language switcher on the upper right allows the change of languages.
English, Spanish, French and German are activated by default. Other languages can be added via the Drupal localization.

12. Search

The search function on the upper right of the page browses through all page contents, but not to the climate data or station data. This can be searched in the dashboard.

13. Feedback

A feedback form is being to found in the footer panel. Different categories (comment, bug report, critics, other) can be used to send messages to the developer team.

14. Legal

The legal information is also placed in the footer panel. Legal also contains information about the data providers and all software and data specific license issues.

15. Help

The help page that is linked in the footer contains parts of this user guide and an introduction manual. They can be used for understanding the functionalities and processing tasks of the climability suite.

16. Newsletter

A link to the newsletter is given in the footer. The newsletter will be provided by email.