



D4.2 User guide and training material

Wp4 Pilot deployment, monitoring and co-evaluation

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Executive summary

This document describes the first set of DIANA training material within the context of the Task 4.2 Deployment of the pilots. The current set of training material reflects the functionalities of the first (“alpha”) version of the DIANA platform viewer. It addresses users of the viewer and supports the execution of the pilot campaign, in particular the co-evaluation.

This deliverable consists of a set of User Guides (in the Annex) to support the users in using the DIANA platform viewer. The training material reflects the currently (M24) developed functionalities of the DIANA platform and will be updated in accordance with further improvements of the platform.



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1. Introduction and scope

DIANA is aimed at co-designing and openly demonstrating a commercial service platform that will empower water managers and authorities to optimize the identification and inspection of non-authorized water abstractions for irrigation as well as improve their water management policies and practices, especially in extreme conditions such as drought. DIANA will leverage EO data provided by Copernicus and other data sources as well as state-of-the-art models for the identification of (illegally) irrigated areas and the estimation of abstracted water volumes in order to offer a value-added suite of data products and services, that will be affordable and cost-effective.

This deliverable consists of a set of User Guides (in the Annex) to support the users in using the DIANA platform. The training material reflects the currently developed functionalities of DIANA platform and will be updated in accordance with the further improvements of the platform.

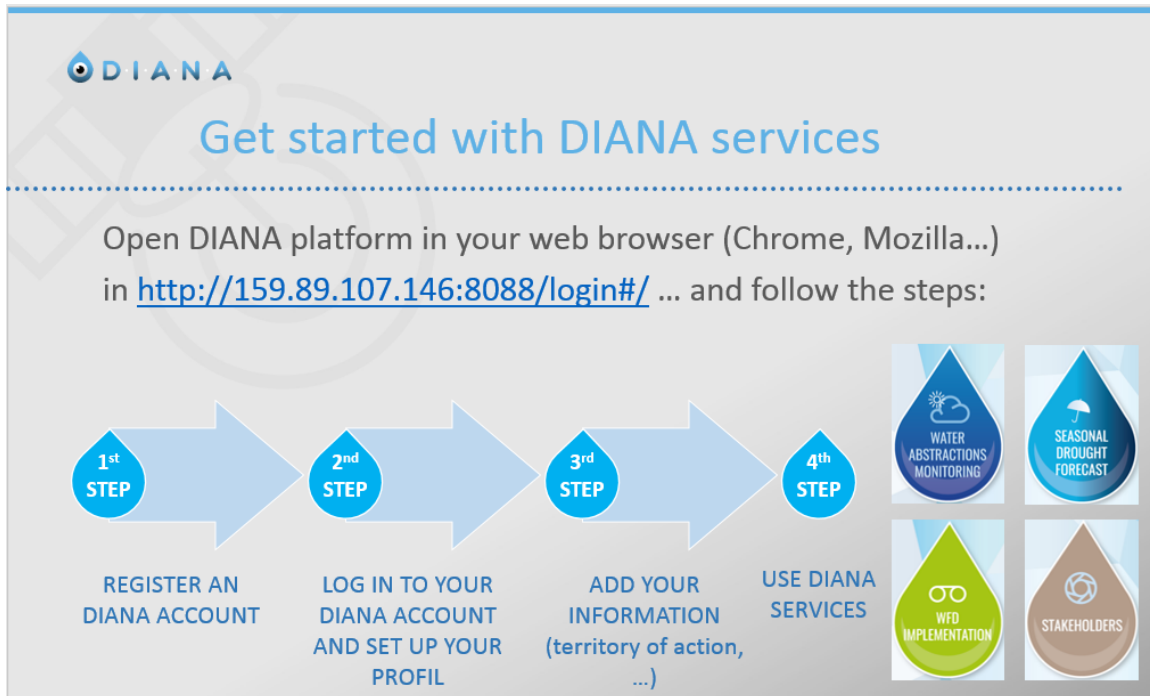
2. Content of training material

The current version of the DIANA Training Material consists of a User Guide v1.0 (Annex I-V):

- Getting started
- How to register
- How to log in
- How to edit profile settings
- How to use the services

Annexes

Annex I. Get started with DIANA

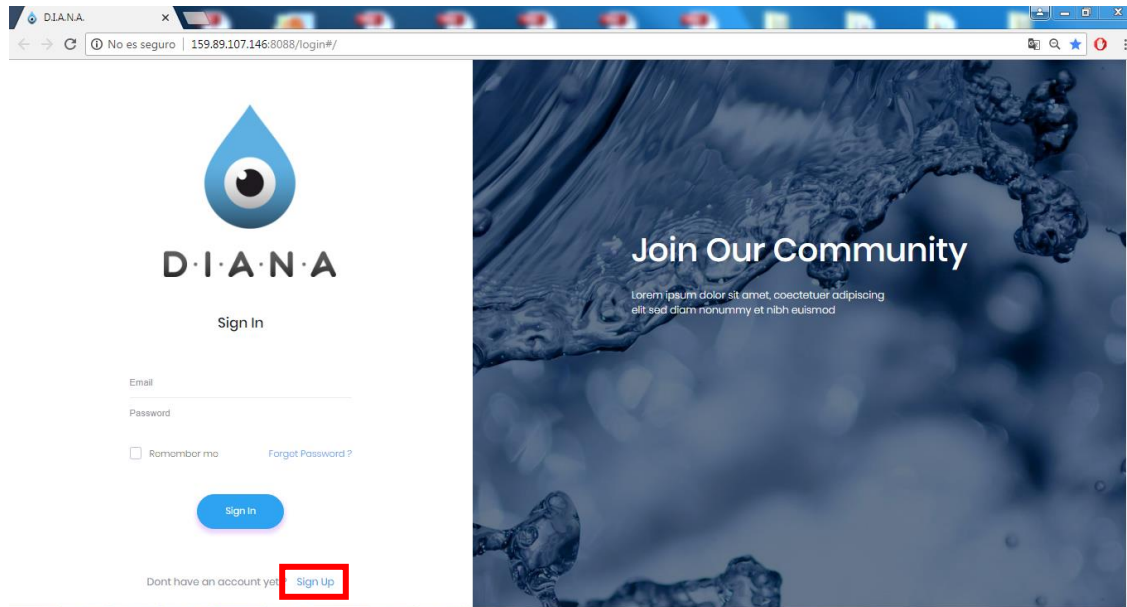


Annex II. User Guide “How to register a DIANA account”

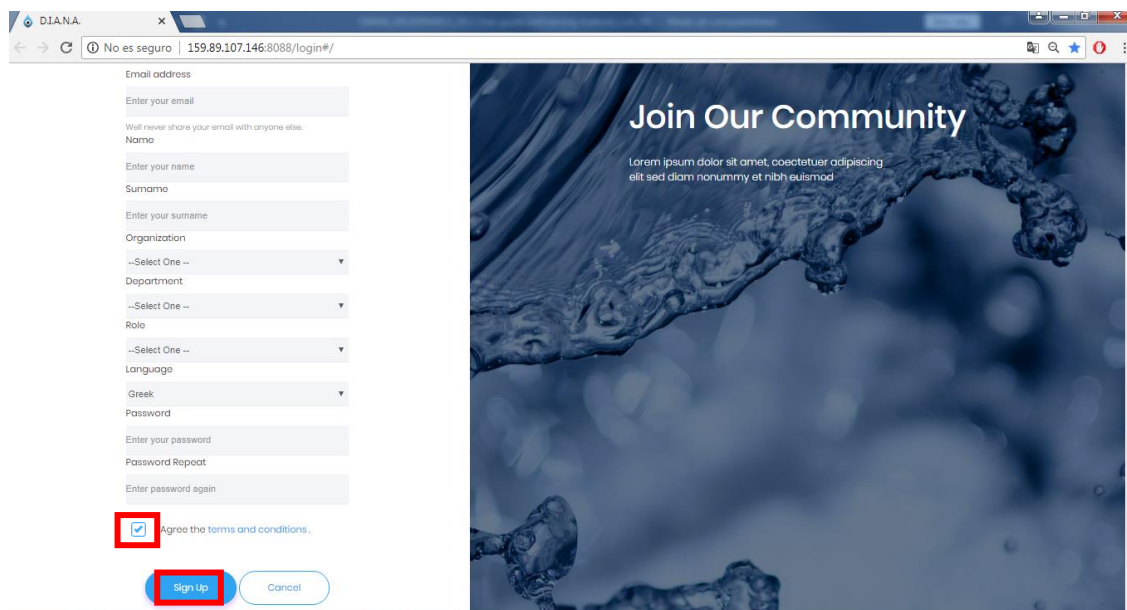
Open DIANA platform in your browser (Chrome, Mozilla....). The address is:

<http://159.89.107.146:8088/login#/>

Click on SIGN UP panel.

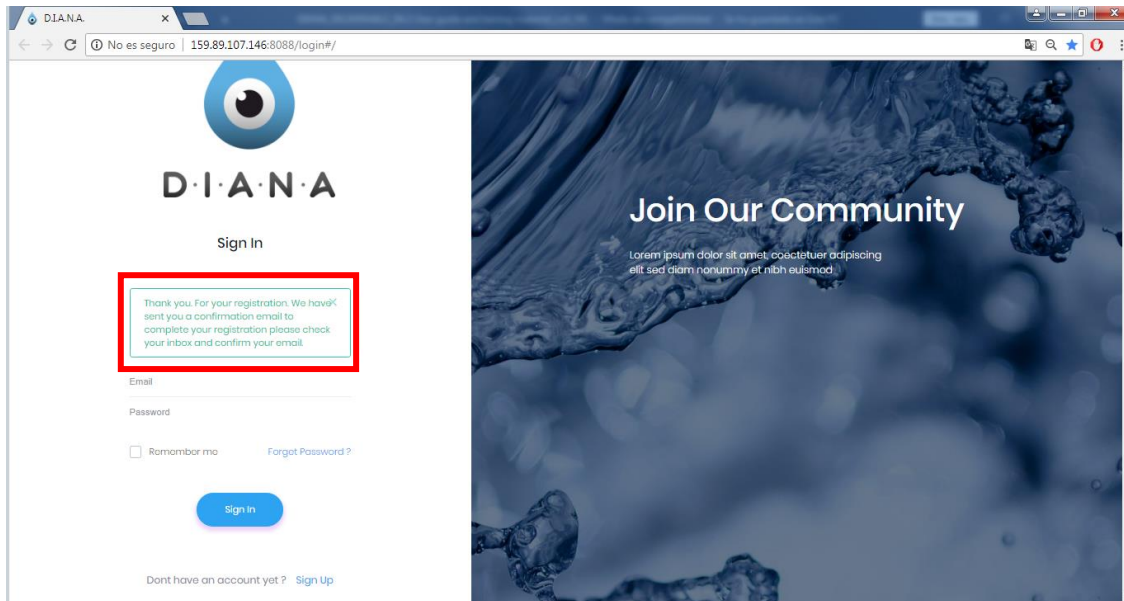


Fill in the requested information (e-mail, Name, Last name, password), accept the terms and conditions and then click on SIGN UP.

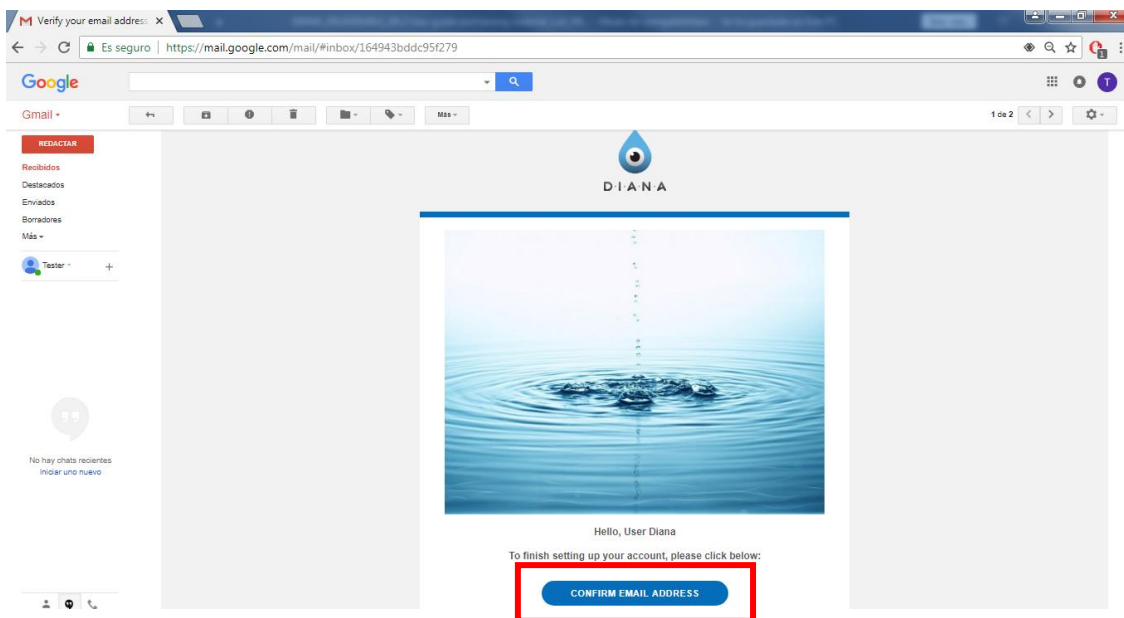


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An Activation e-mail will be sent at your e-mail address.



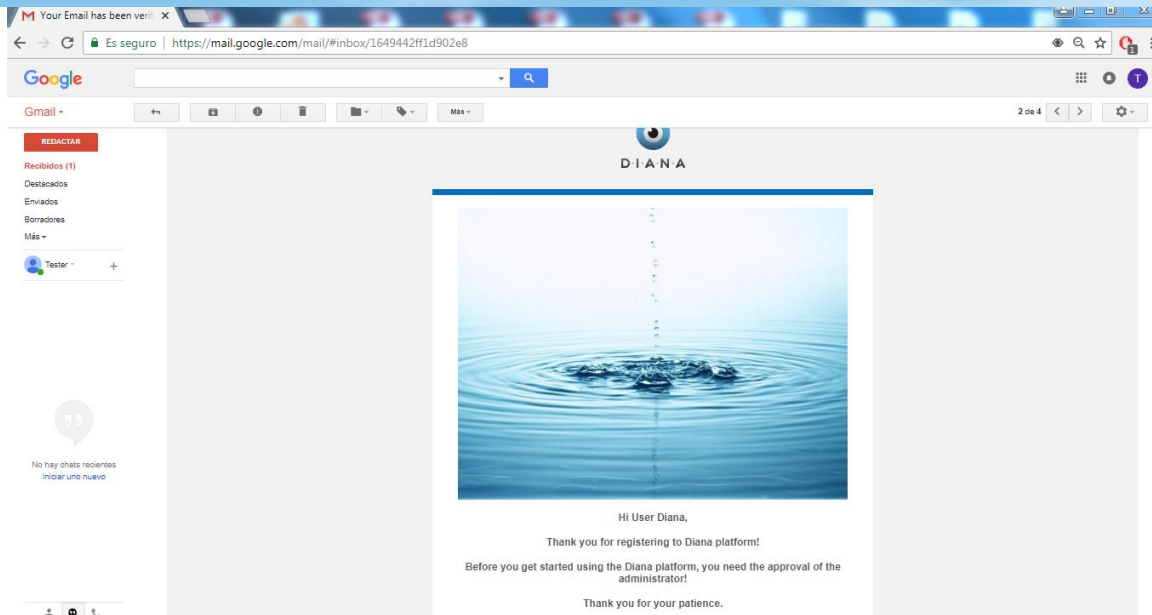
Go to your e-mail account and open the e-mail received from DIANA. Click on CONFIRM EMAIL ADDRESS.



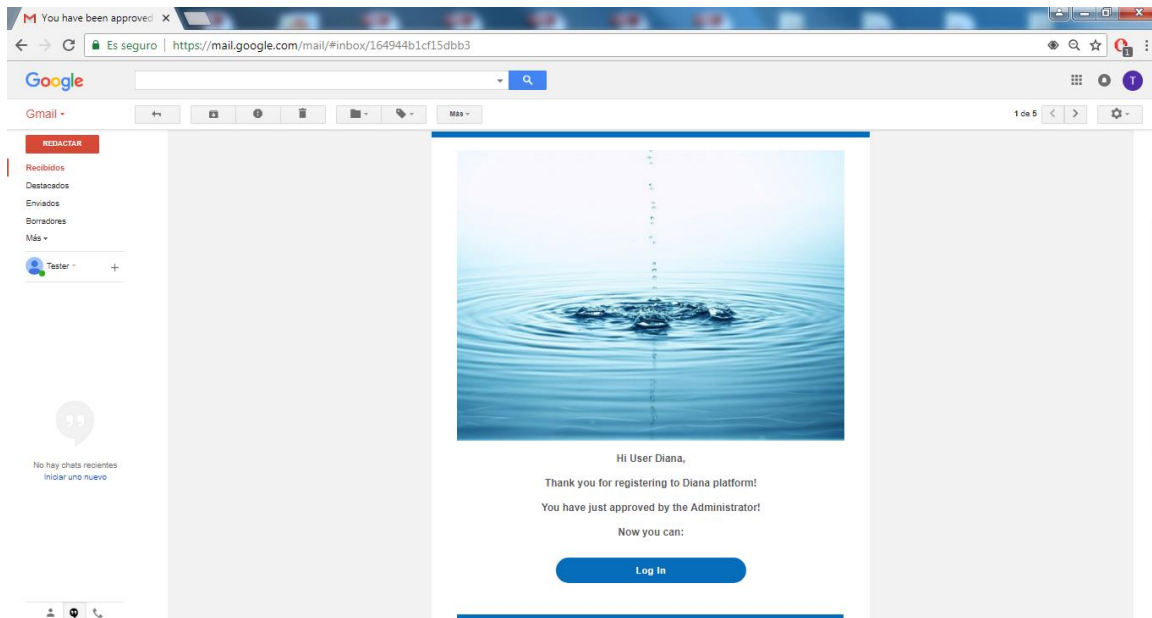
You received an e-mail in your account to inform you that the approval of the administrator is needed.



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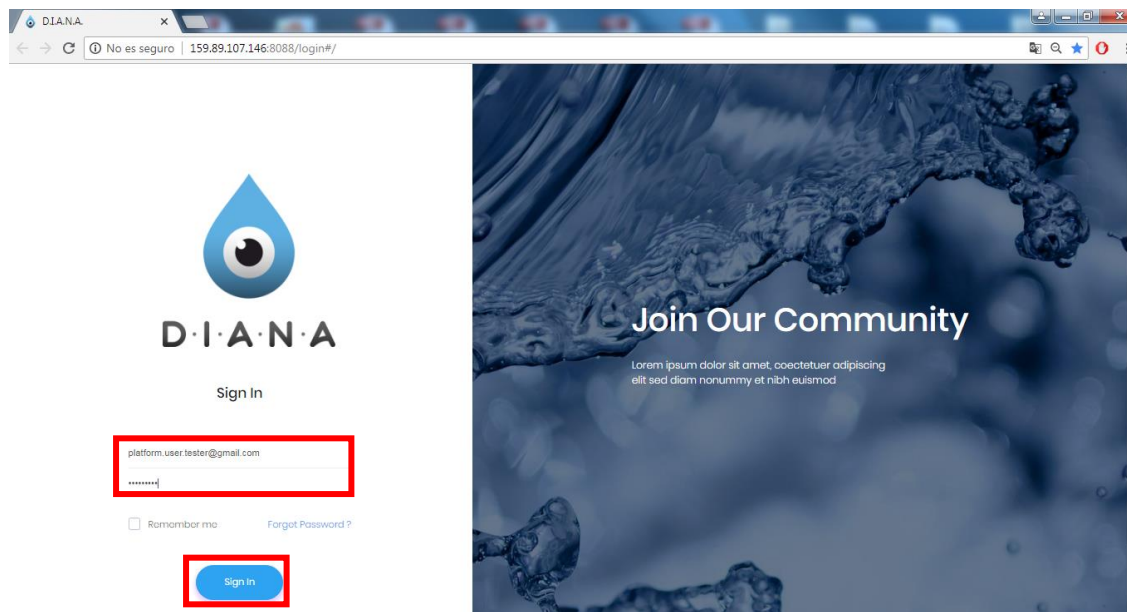


You receive an e-mail when you are approved by the Administrator.

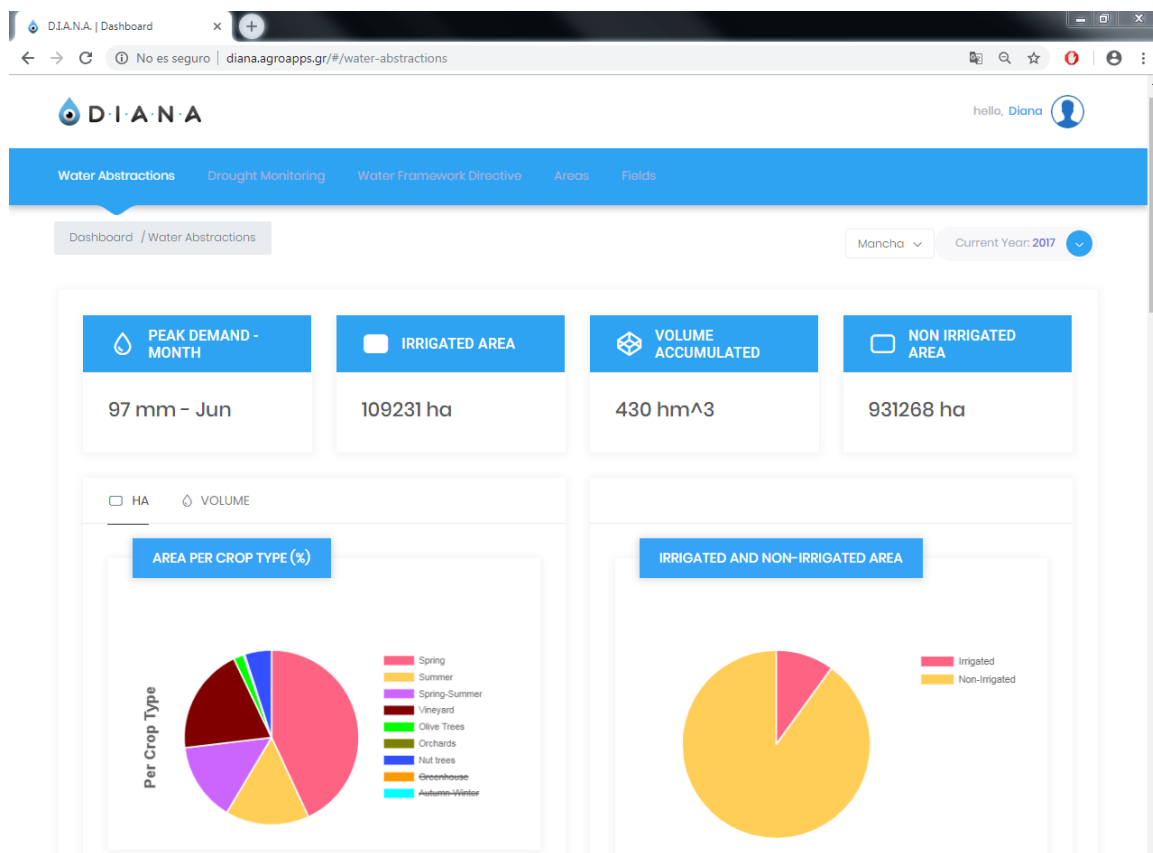


Annex III. User Guide “How to log in your DIANA account”

Insert the e-mail address and password set during registration and click on SIGN IN.

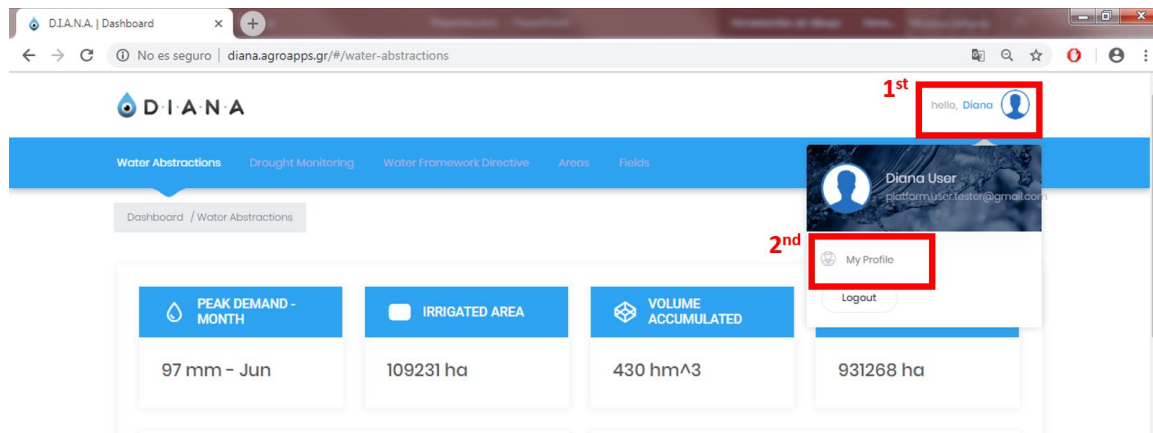


You are logged into your DIANA account. Your DIANA dashboard is now open.

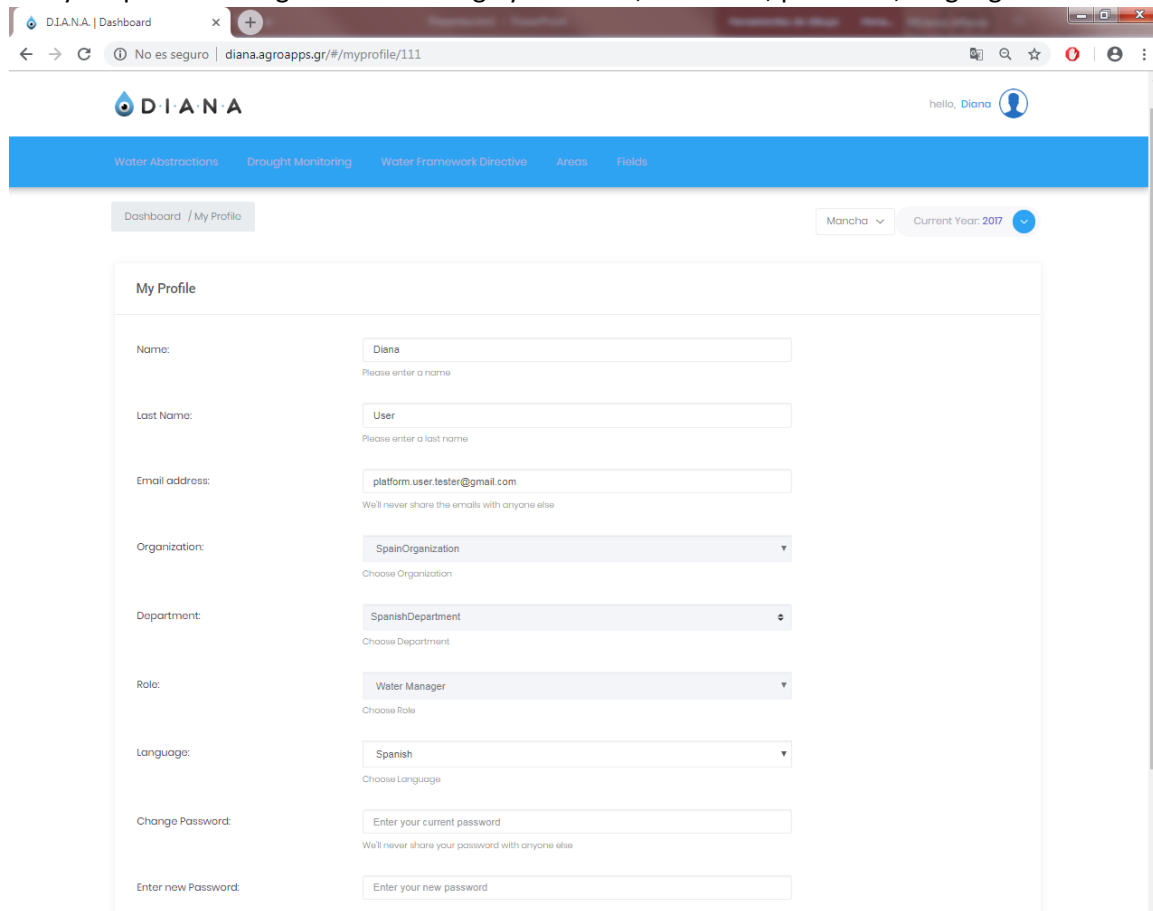


Annex IV: User Guide “How to edit profile settings”

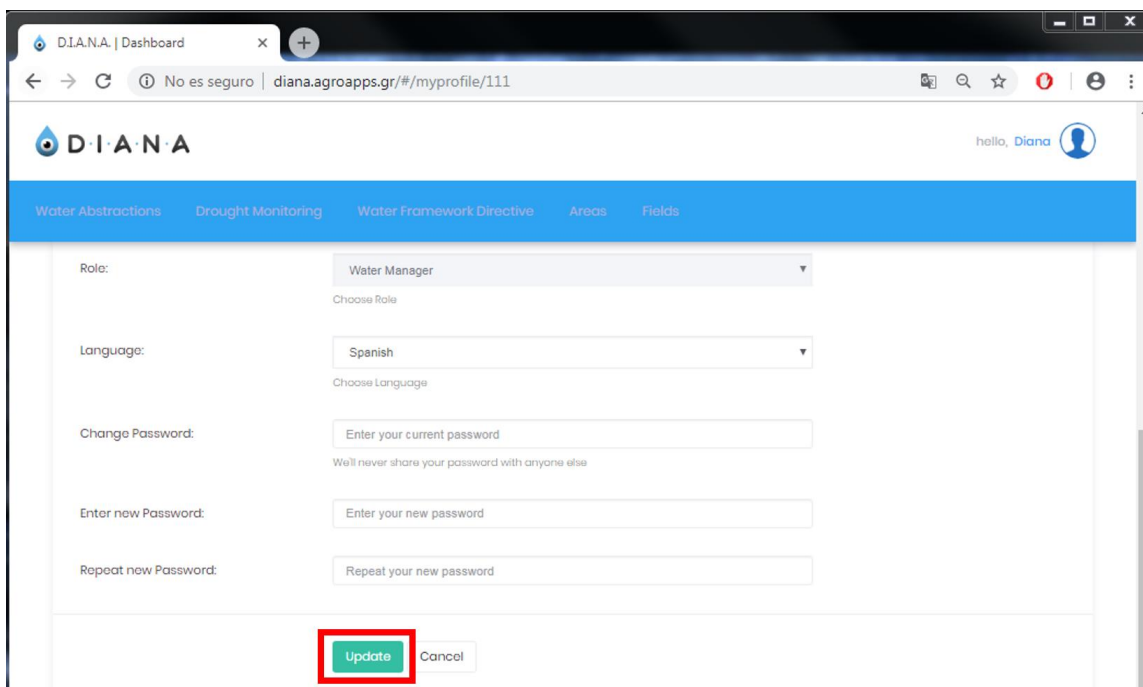
In the dashboard of your DIANA account, click on your name (1st). In the dropdown menu, click on *My Profile* (2nd).



Edit your profile settings. You can change your name, last name, password, language...



When you finish editing, click on UPDATE



The screenshot shows a web browser window with the address bar displaying "diana.agroapps.gr/#/myprofile/111". The page header includes the DIANA logo and a user greeting "hello, Diana". A blue navigation bar contains links for "Water Abstractions", "Drought Monitoring", "Water Framework Directive", "Areas", and "Fields". The main content area is a profile editing form with the following fields:

- Role:** A dropdown menu currently showing "Water Manager". Below it is the text "Choose Role".
- Languaje:** A dropdown menu currently showing "Spanish". Below it is the text "Choose Language".
- Change Password:** A section containing three input fields:
 - The first field is labeled "Enter your current password". Below it is the text "We'll never share your password with anyone else".
 - The second field is labeled "Enter your new password".
 - The third field is labeled "Repeat your new password".

At the bottom of the form, there are two buttons: a green "Update" button, which is highlighted with a red rectangle, and a grey "Cancel" button.

Annex V: User Guide “How to use DIANA services”

When you log in to your DIANA account, you can access the different services through your DASHBOARD: Water Abstractions, Drought Monitoring, Water Framework Directive, Areas.

Water Abstractions

Water Abstractions service provides information of the pilot area. The different areas and the year can be selected. The first information presents direct information: the month with the data of water peak demand, the irrigated area (hectares), the volume accumulated and the non-irrigated area. The data showed in this section related with water volumes is referred to the gross irrigation water requirements (GIWR), see definitions below.

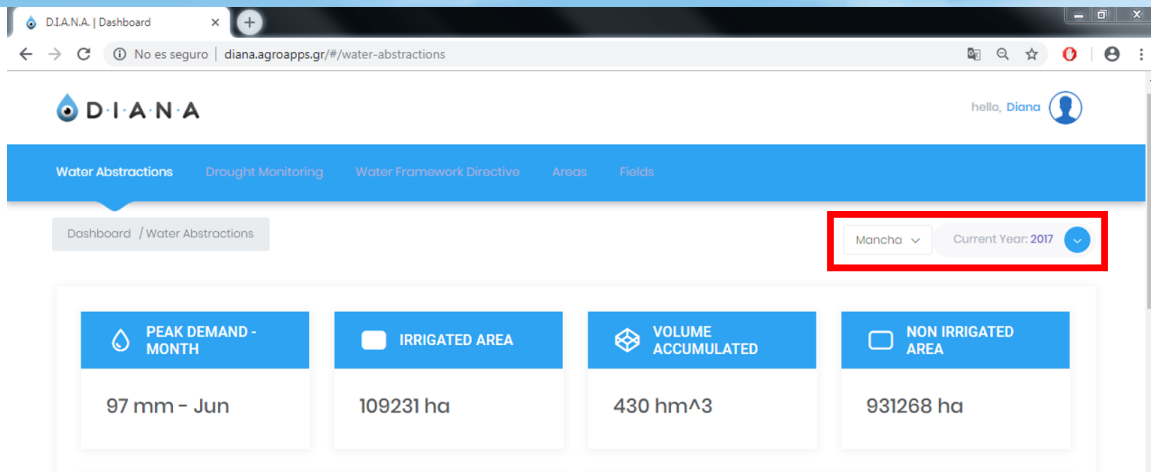
Box 1. Standardized definition of basic data products for upload and display in the DIANA Water Abstractions service.

Crop Evapotranspiration: $ET_c = K_c^* \times ET_0$, where K_c^* is the reflectance-based crop coefficient and ET_0 is the reference evapotranspiration. ET_c is the value of evapotranspiration under standard conditions, as defined by FAO56: disease-free, well-fertilized crops, under optimum soil water conditions.

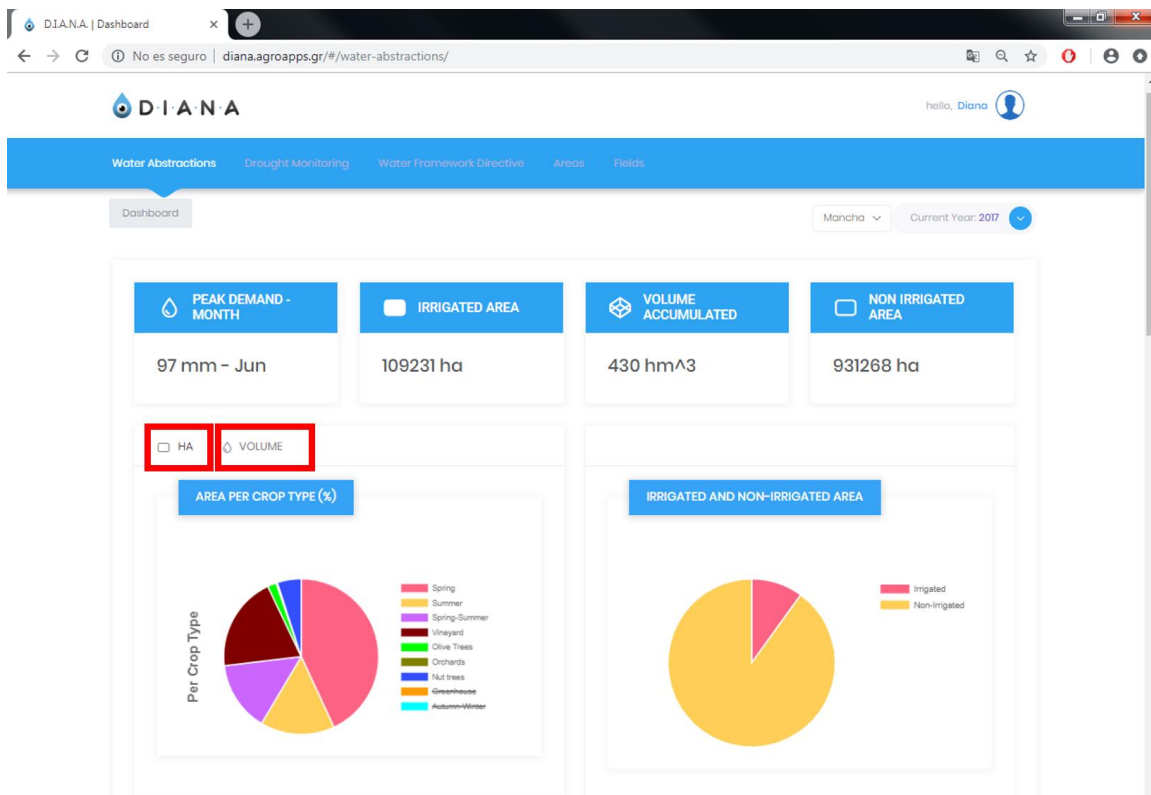
Net Irrigation Water Requirement: $NWIR = ET_c - PP$, where ET_c has been defined above and PP is the effective precipitation. This product is calculated through a Soil Water Balance assisted by satellite data.

Gross irrigation water requirements: $GIWR = NIWR/\epsilon$. This product is obtained by applying an irrigation efficiency coefficient (ϵ) to the net irrigation water requirements ($NIWR$). In the case of La Mancha Oriental this coefficient (0.85) has been estimated for the whole pilot area in order to have an estimation of the abstracted volumes for the total of the pilot. However, it is important to keep in mind that these coefficients are very specific parameters depending mainly on the type of irrigation system and on the efficiency of the application of the water (open channels, pumping, sprinkling, dripping, irrigating climate conditions, etc).

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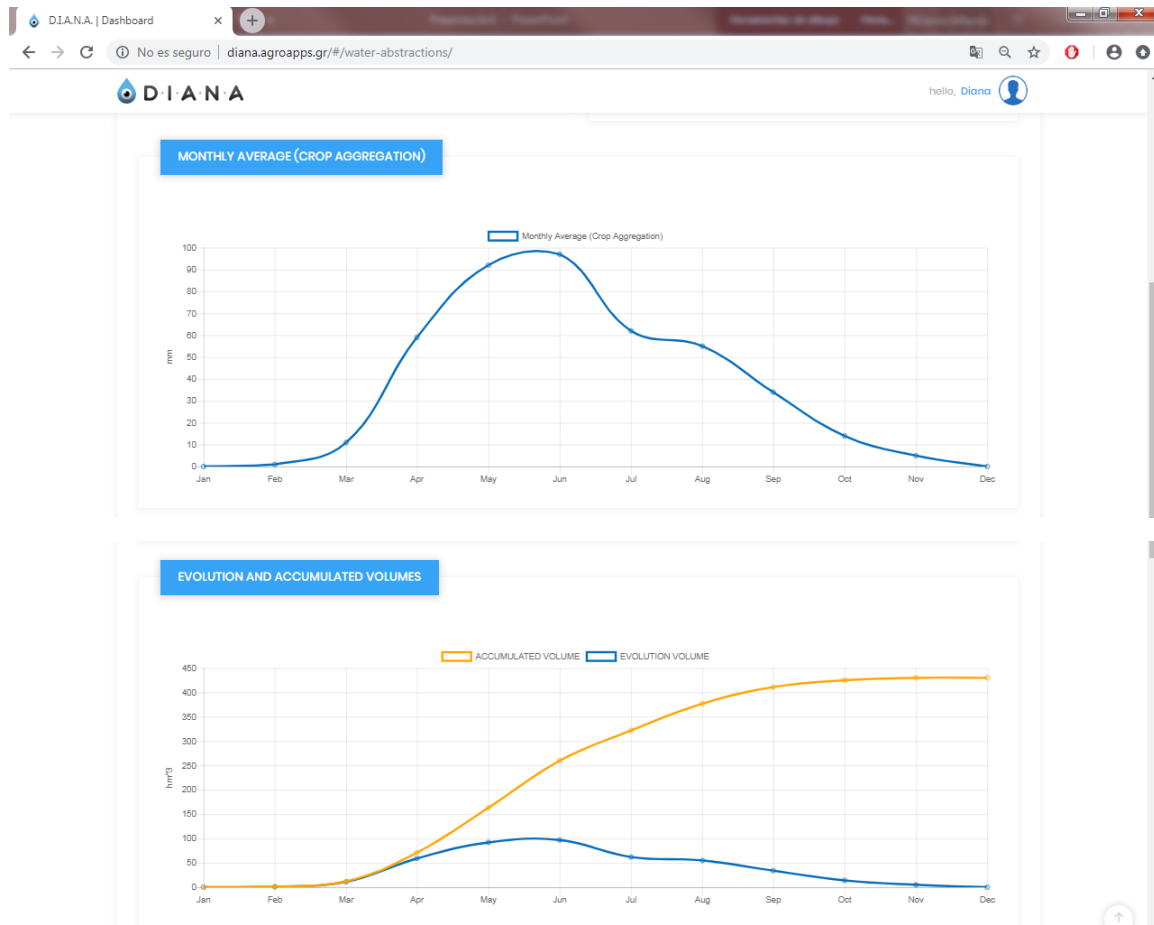


Below are two pie-charts, the one on the left shows the distribution of area per crop type (in %). Also, by selecting "VOLUME", it is possible to consult the water volume (in %) per crop type. The one on the right shows the distribution of irrigated and non-irrigated areas for the area consulted. Clicking on the names into the legend allow for removing it from the pie-chart.



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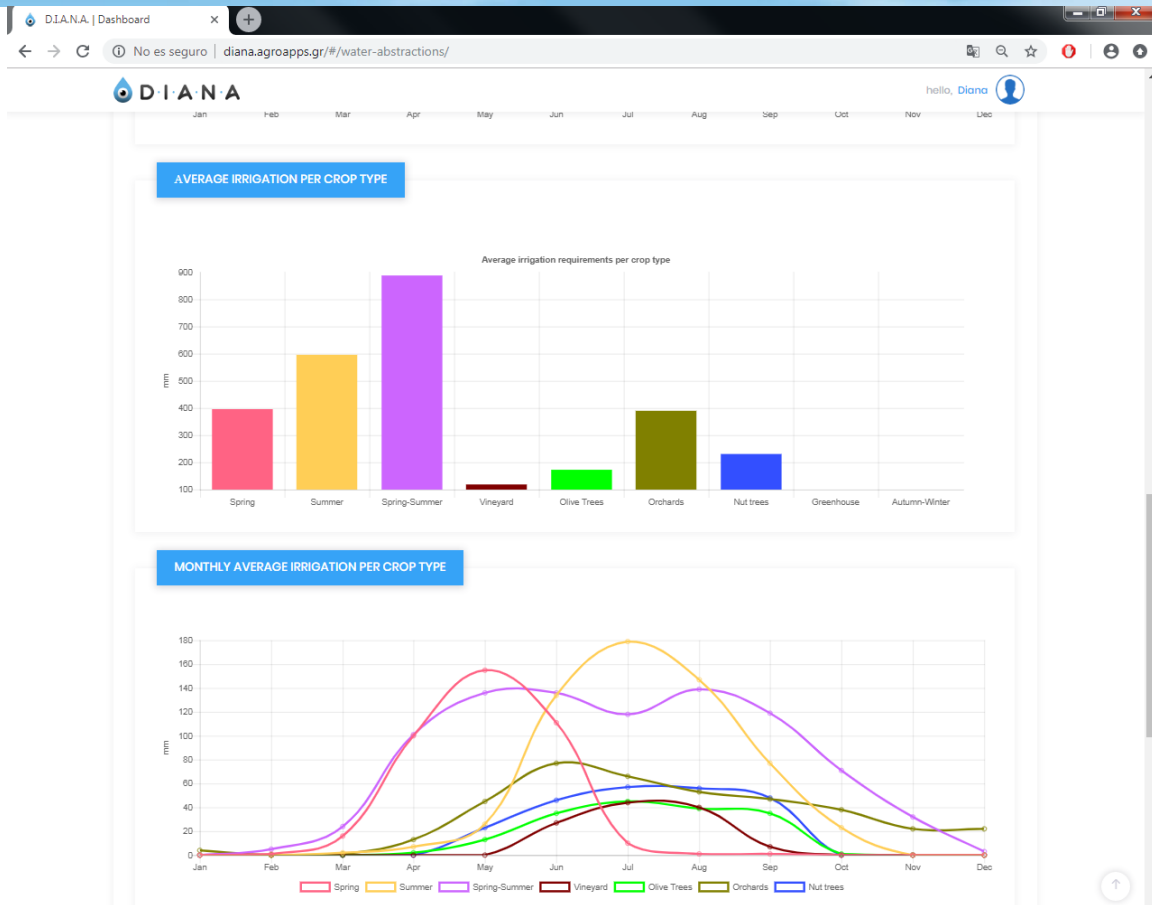
The following two graphs represent the average of the water volume per month in the total area and the accumulated volumes.



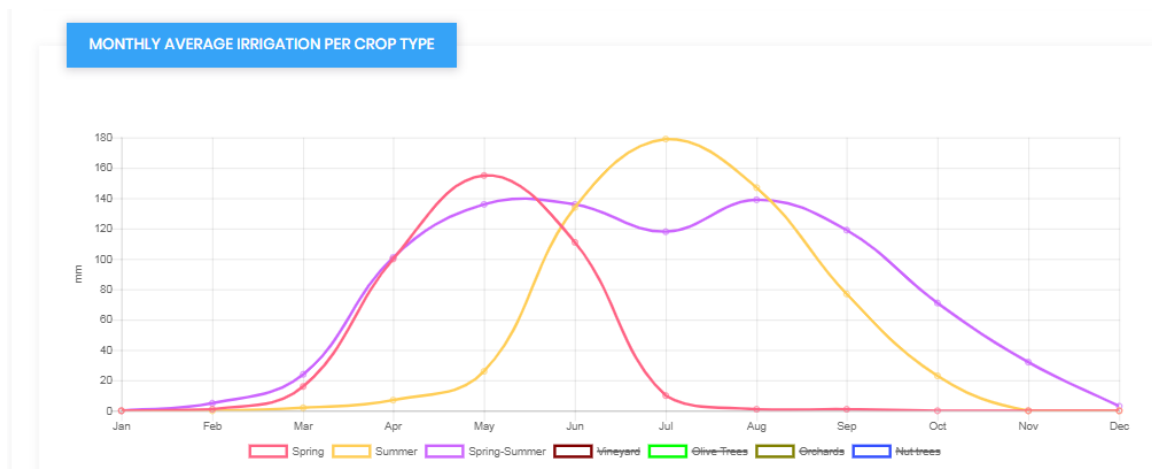
The graph below displays the water requirements per crop type, followed by the monthly average water requirements per crop type.



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Selecting the crop type allows to remove or include it from the graphic.

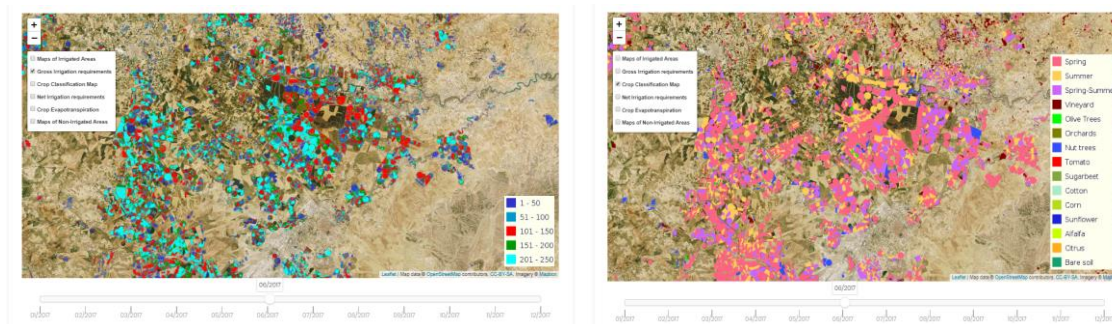


At the end of this section, the information shown previously in the graph is displayed in a map of the area of interest where different products or information can be selected to be shown in the map (see definitions in the box above):



- Maps of Irrigated Areas
- Gross Irrigation requirements
- Crop Classification Map
- Net Irrigation requirements
- Crop Evapotranspiration
- Maps of Non-Irrigated Areas

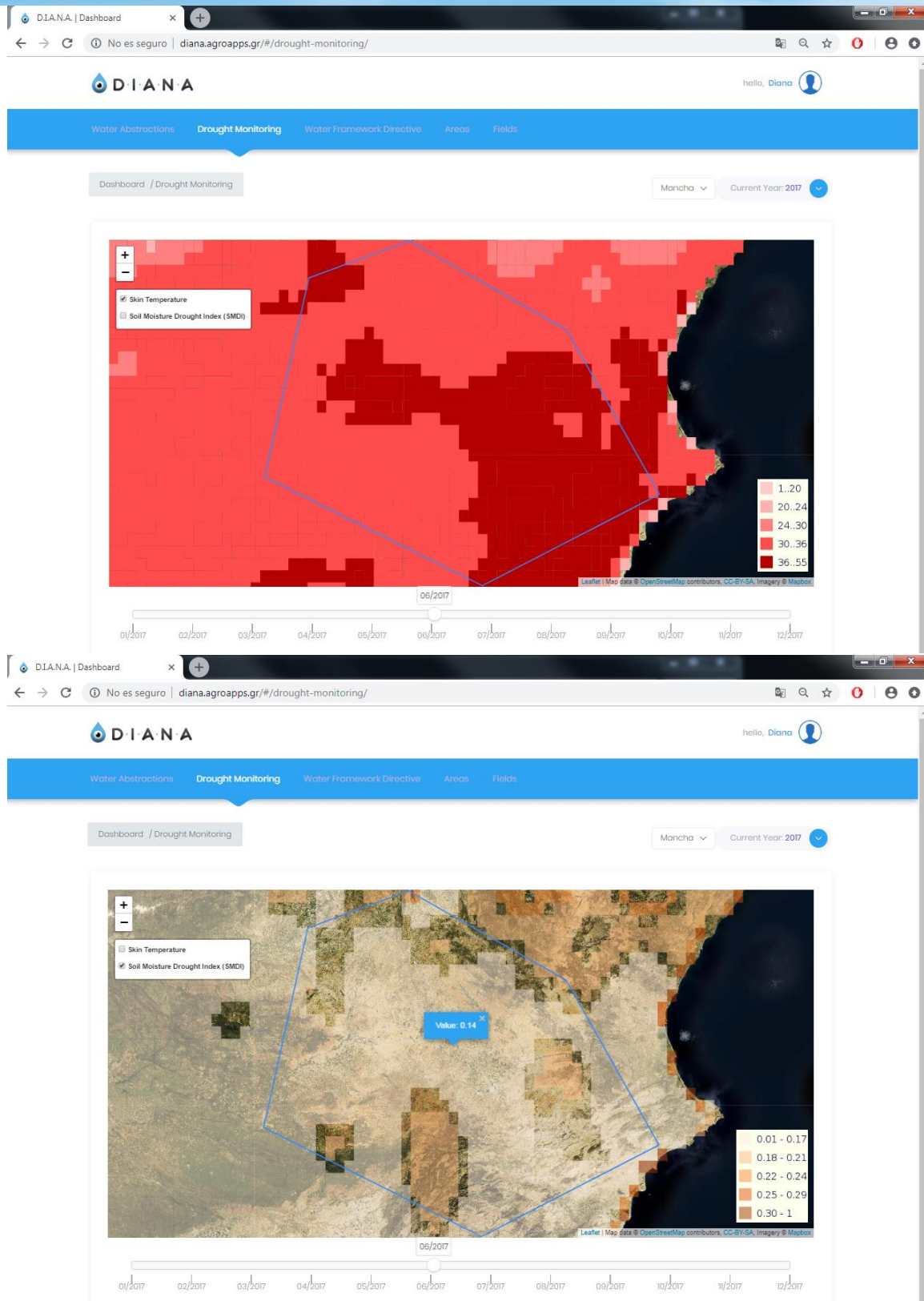
The time bar below the map allow to show the information of a specific month by selecting it. And by clicking on the map, a pixel value can be consulted.



• Drought Monitoring

In the Drought Monitoring service, two products can be consulted: skin temperature and the Soil Moisture Drought Index (SMDI). And clicking on the map a pixel value can be consulted.

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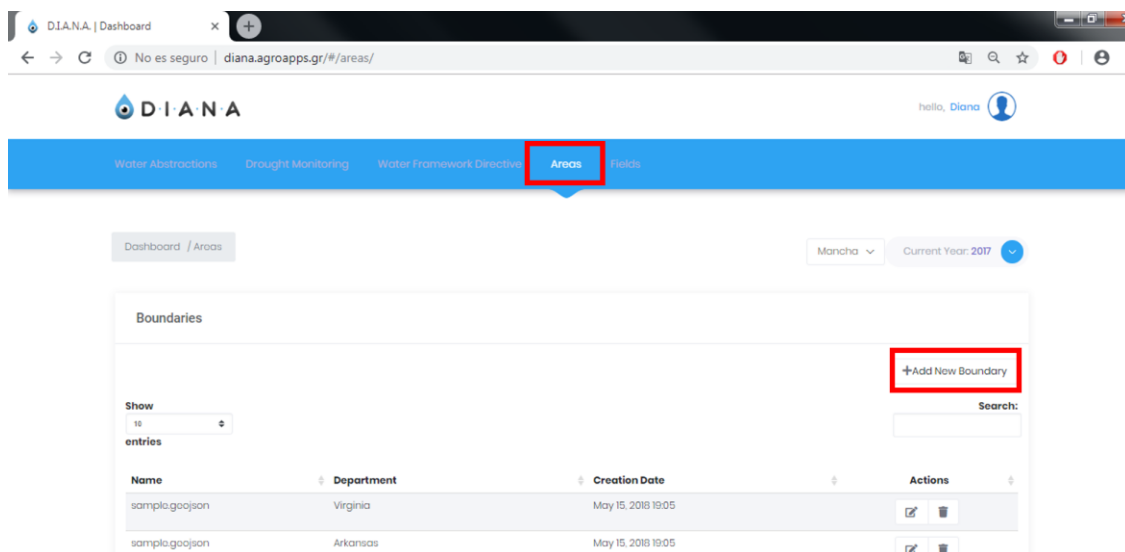
Water Framework Directive Support

The WFD Support service displays the same map as in the Water Abstractions service, see guidelines for use above.

Areas

This functionality allows for the users to upload an area of interest.

In the toolbar in the Dashboard, click on “Areas”. To upload the information files, click on “+Add_New_Boundary”.



To upload your boundary:

- (1st) insert the name of your area,
- (2nd) select the file on your computer (Browse) and finally,
- (3rd) click on “Submit”.

Users are requested to upload relevant information in specific formats to be able to see them in the platform. The technical team has agreed on those formats for the operational aspect of the platform as well. All the information are included in an internal document that was circulated amongst the partners and indicates the file formats for the respective products. Indicatively some of them are mentioned below:

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- ✓ Irrigated areas – Shape file
- ✓ Non irrigated areas – Shape file
- ✓ Crop classification – Geotiff
- ✓ Water rights – Shape file
- ✓ Etc – Geotiff
- ✓ NIWR – Geotiff
- ✓ GIWR – Geotiff

The screenshot shows the DIANA web application interface. The browser address bar displays 'diana.agroapps.gr/#/areas/boundaries'. The application header includes the DIANA logo and a user profile 'hello, Diana'. A blue navigation bar contains links for 'Water Abstractions', 'Drought Monitoring', 'Water Framework Directive', 'Areas', and 'Fields'. The main content area is titled 'Dashboard / Areas / Boundaries' and includes a dropdown for 'Mancha' and a 'Current Year: 2017' selector. The primary section is 'Upload area boundaries for your department'. It contains three numbered steps: 1st, 2nd, and 3rd. Step 1 is 'Insert Name of area' with a text input field labeled 'Enter name'. Step 2 is 'Your Department' with a dropdown menu showing 'SpanishDepartment'. Step 3 is 'File Browser (Spatial Reference EPSG:4326 supported)' with a 'Choose file' input and a 'Browse' button. A 'Submit' button is located at the bottom of the form, next to a 'Cancel' button.



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