

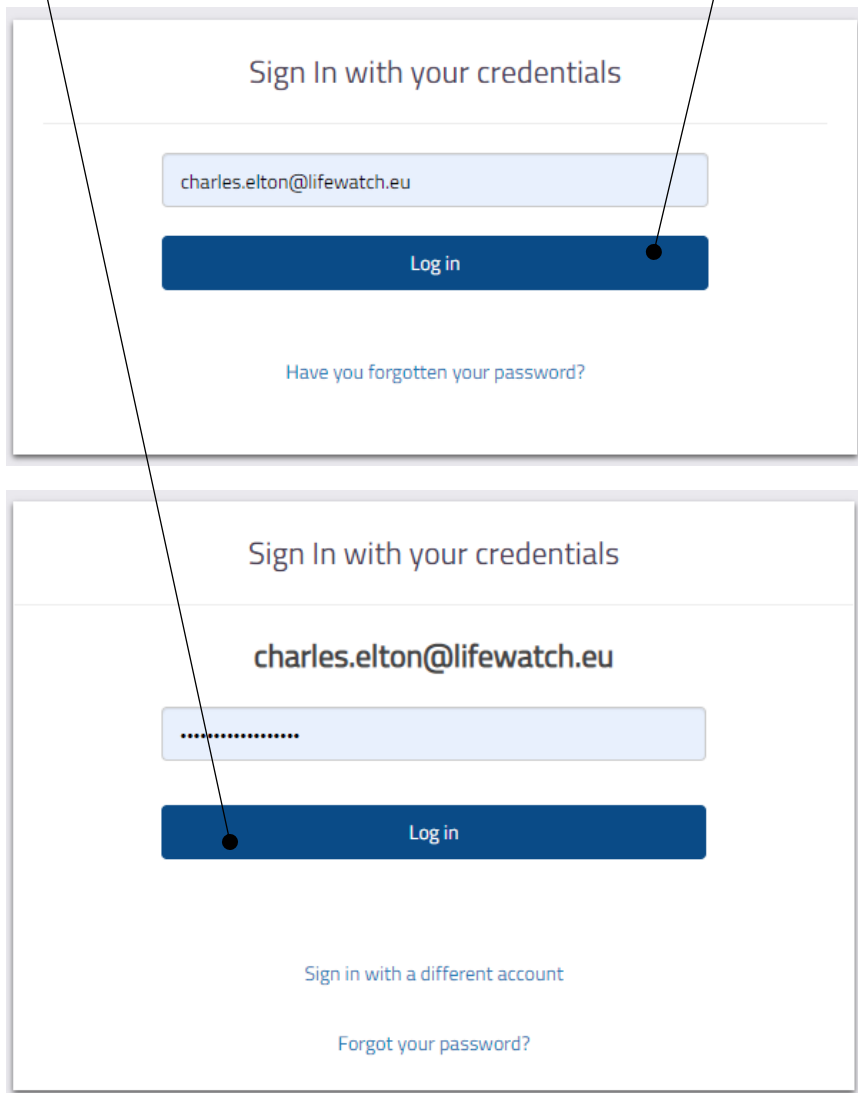
Welcome to Tesseract *(beta)* Documentation

In this document you will find a walkthrough on usage as well as general information for the Tesseract platform. You can navigate to each walkthrough section by clicking on items on the table of contents in the next page.

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1. Sign in

Before you begin with creating a workflow, you must first login to Tesseract. To do so, navigate to [Single-Sign-On LifeWatch ERIC](#) using your web browser. For this walkthrough we are going to login to a test account (namely charles.elton@lifewatch.eu). You can use your email & password to login. Enter your email and **click Log in**, then enter your password and press the same button.



Sign In with your credentials

charles.elton@lifewatch.eu

Log in

[Have you forgotten your password?](#)

Sign In with your credentials

charles.elton@lifewatch.eu

.....

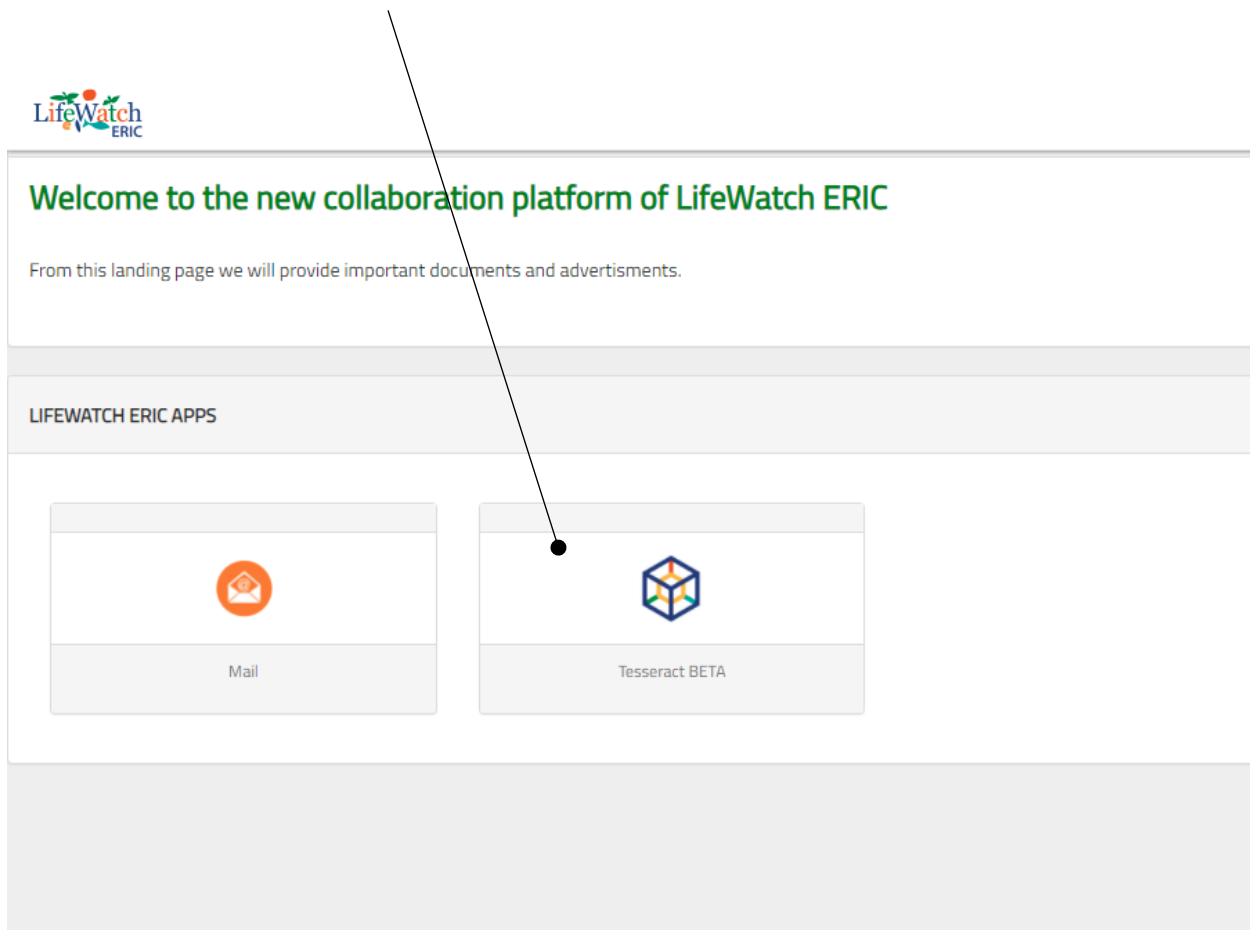
Log in

[Sign in with a different account](#)

[Forgot your password?](#)

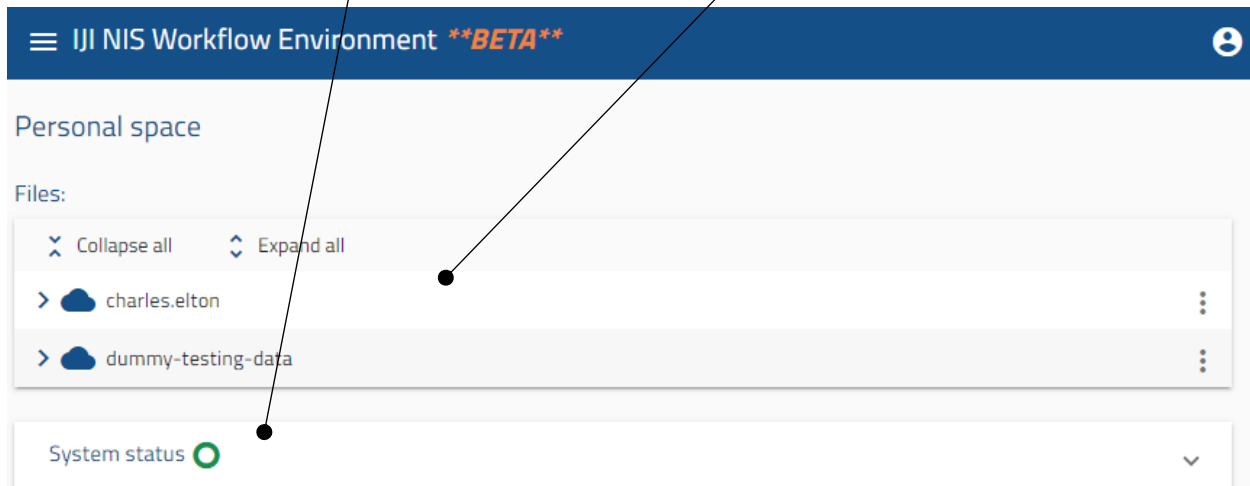
After you are logged in you will see the welcome screen. On that screen there are two options, Mail & Tesseract BETA.

Click on the **Tesseract BETA button** to navigate to the platform.



2. Importing files

The first page you will see after you have successfully navigated to the platform, is the Personal space screen. Here you can manage your personal storage, including folders & files as well as System status.



The first step for a new workflow is to import necessary files. This can be easily done in the Personal space page. For this workflow, we are going to create a folder called “Crustacean experiment” and upload two files in that folder. The files used in this workflow can be download using this link: <https://tdrv.eu/ojIwSc>

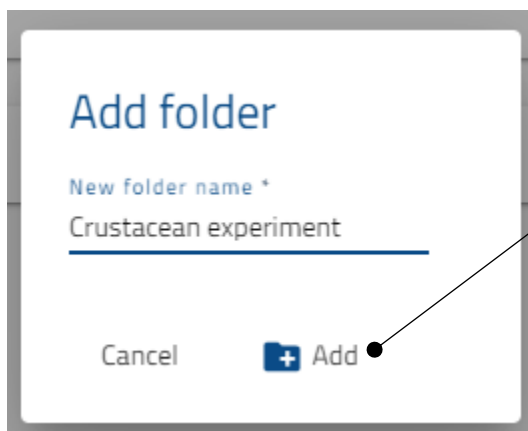
Two files are present, namely:

- sia_validated_biological_data.csv
- potam_for_gumm_modeler_input.csv

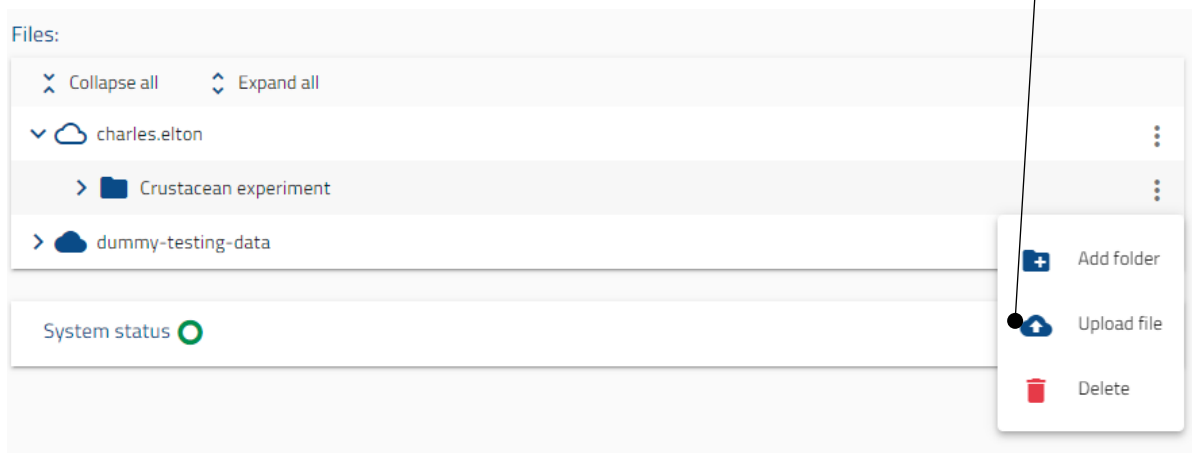
To add a folder, **click on the three dots** next to your username under files. Two options will appear. Select the **Add folder option**.



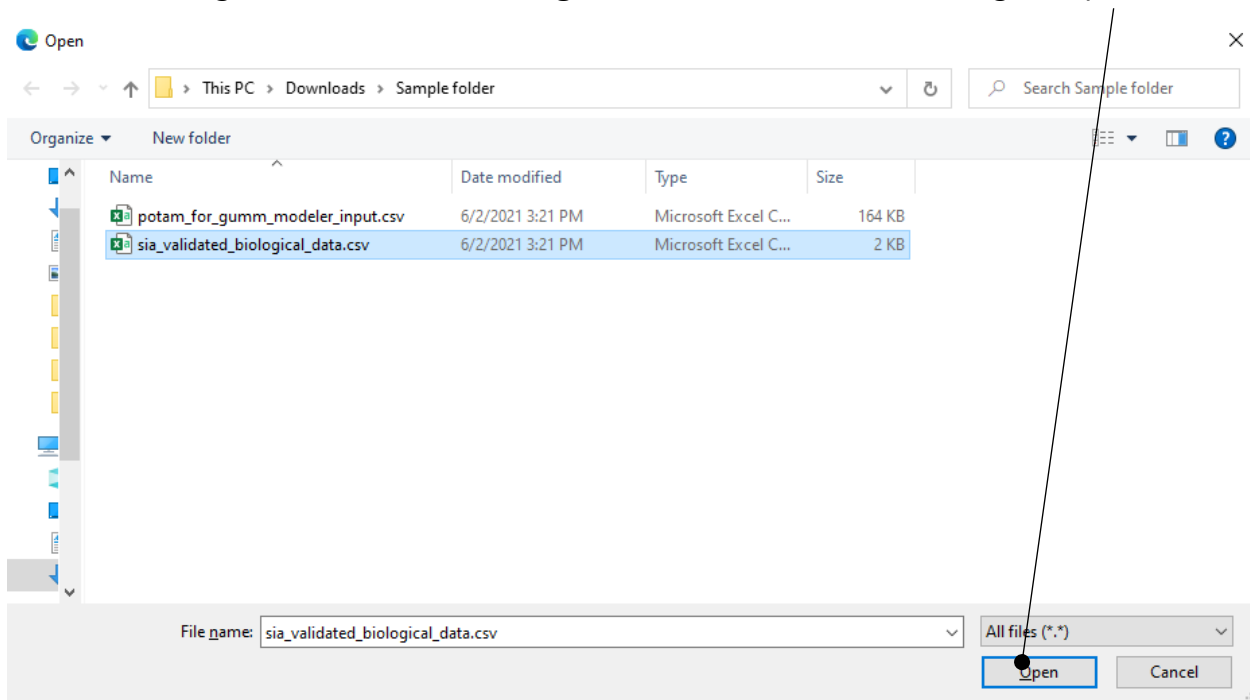
After selecting the option, the platform will prompt to enter a name for the new folder, we are naming it "Crustacean experiment". Click on the **Add button** to add the folder.



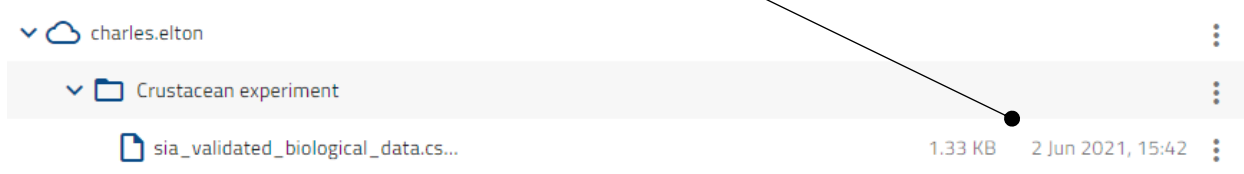
You will notice that a folder has appeared in your files. To upload the necessary files, click on the three dots next to you newly created folder and select **Upload file**.



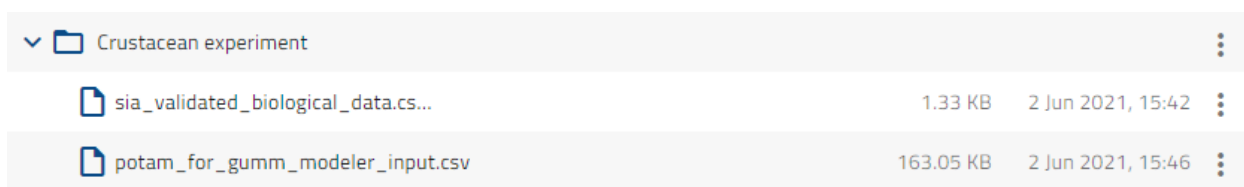
Your operating system's file selector will pop up, here we are using Windows. The first file we are selecting is **sia_validated_biological_data.csv** and then clicking on open.



The file will be then uploaded to your storage folder. You can see the filename, date uploaded as well as the size of the uploaded file.



The second file we are uploading is **potam_for_gumm_modeler_input.csv**. Follow the same steps to upload the second file. Your folder should look like this.



3. Creating a workflow

For this walkthrough we are creating a Crustaceans functional biogeography workflow. Using the sidebar, click on the **Run new workflow** button under the Crustaceans functional biogeography section (you might need to scroll down).

The screenshot displays the Tesseract BETA web interface. On the left is a sidebar with a navigation menu. The main area on the right shows the 'Personal space' with a file explorer and system status.

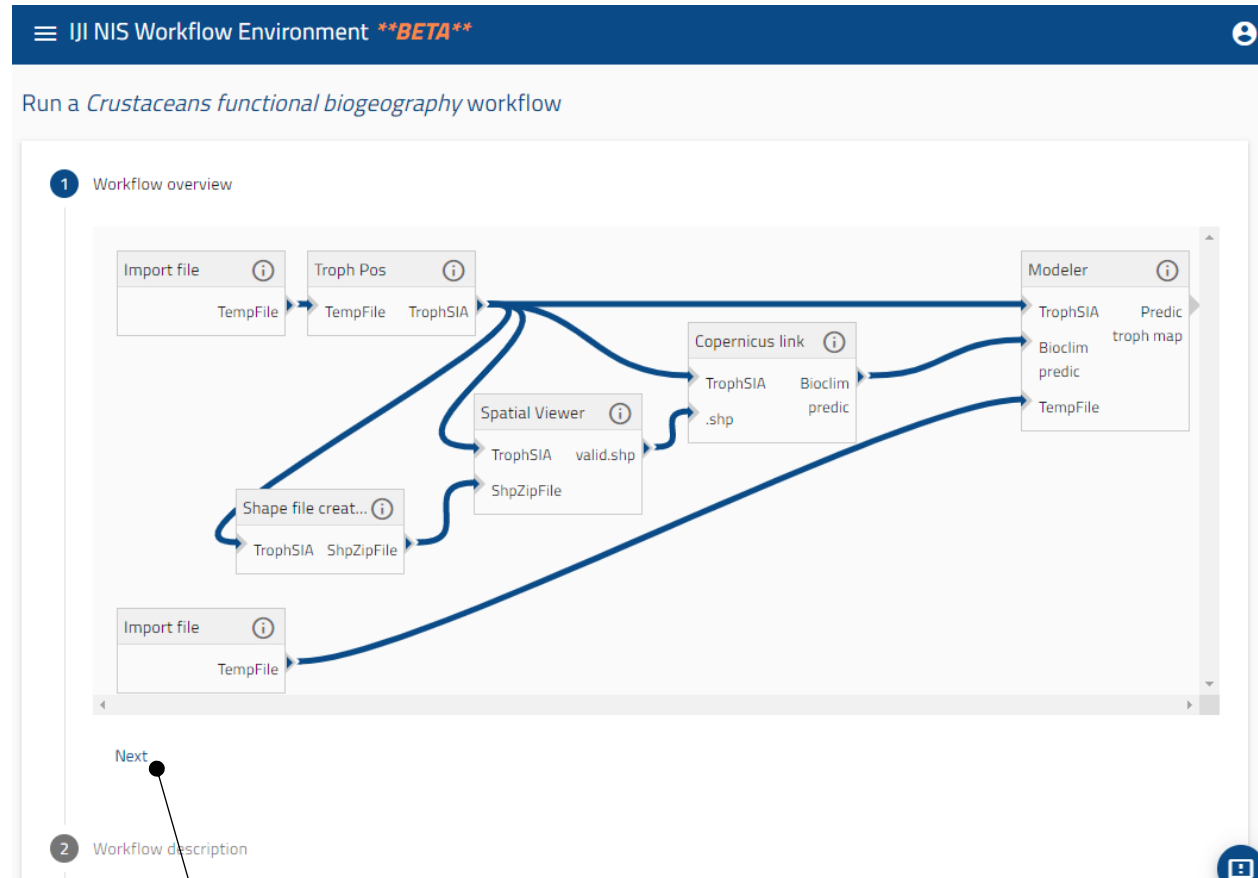
Sidebar Navigation:

- Ailanthus Altissima mapping**
 - Dashboard
 - + Run new workflow
 - Workflow information
- ARMS**
 - Dashboard
 - + Run new workflow
 - Workflow information
- Biotope**
 - Dashboard
 - + Run new workflow
 - Workflow information
- Crustaceans functional biogeography**
 - Dashboard
 - + Run new workflow
 - Workflow information
 - Geographical validation
- Metabarcoding**

Main Workspace (Personal space):

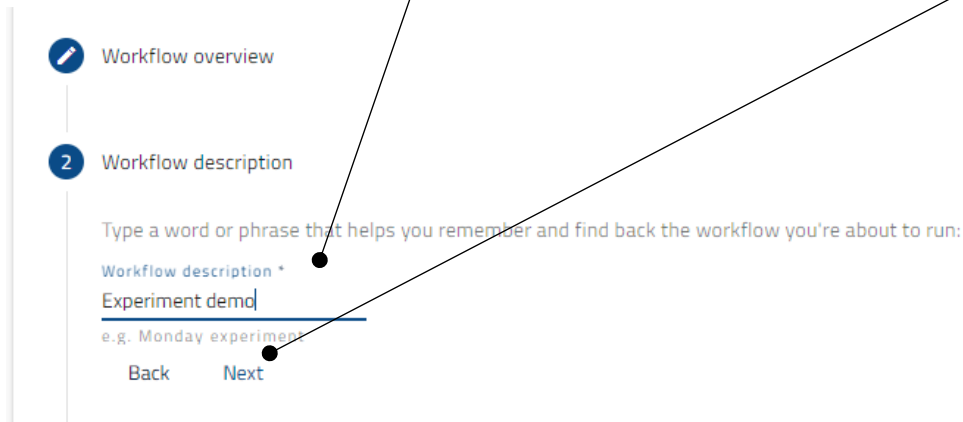
- Files:**
 - collapse all / expand all
 - charles.elton
 - Crustacean experiment
 - potam_for_gumm_modeler_input.csv (163.05 KB, 2 Jun 2021, 15:46)
 - sia_validated_biological_data.cs... (1.33 KB, 2 Jun 2021, 15:42)
 - dummy-testing-data
- System status:** (Green circle icon)

Clicking on the button will transfer you to the create-workflow page. Through this page you will create a new workflow following 6 steps.

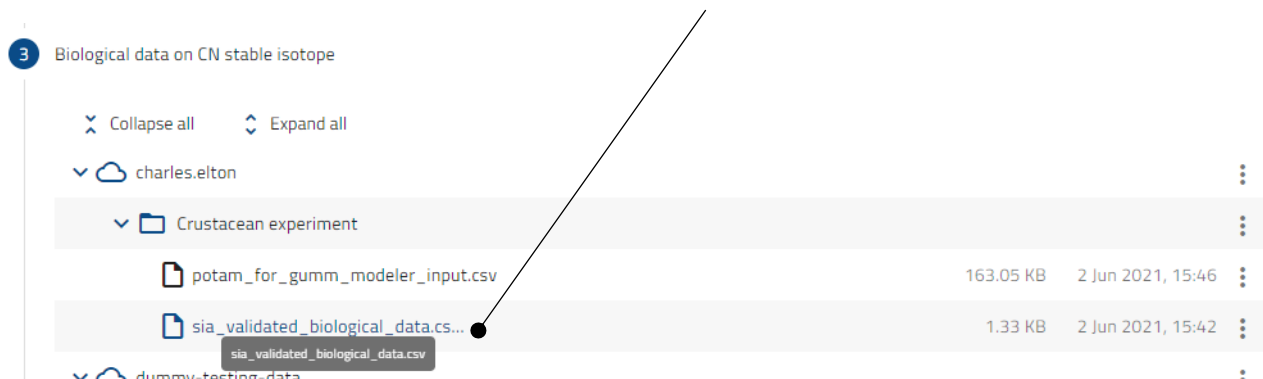


The first step gives you an overview of the workflow functions, inputs and outputs. Click on **the Next button** to navigate to the next step.

The second step allows to add a description to the workflow you are about to create. Selecting a memorable name can help you remember & find back your workflow in a later date. Here we are naming the workflow "Experiment demo". Then click on the **Next** button.



The next step requires that we select a file containing Biological data on CN stable isotope. The same folder structure will appear as the Personal space page. Navigate to the folder we created earlier & click on **sia_validated_biological_data.csv** to select the file.

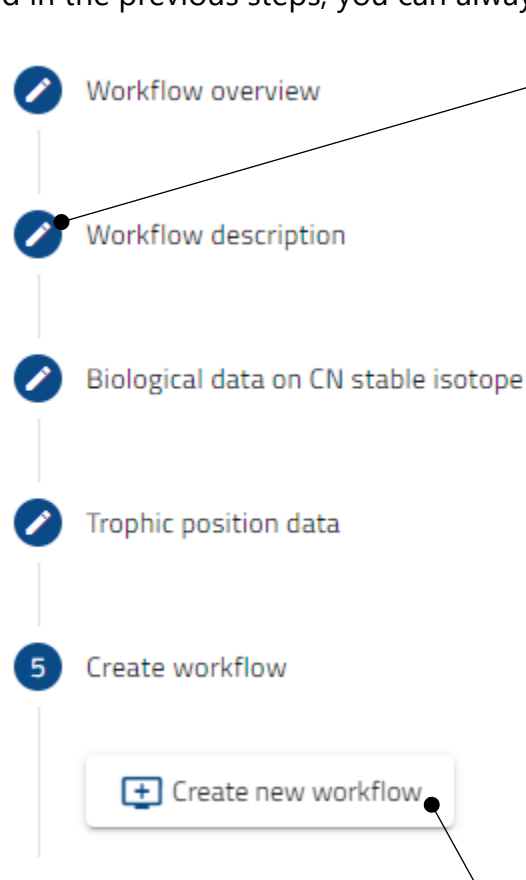


Clicking on the file will automatically transfer you to Step 4.

In this step the Trophic position data file needs to be selected. To do so click on the uploaded **potam_for_gumm_modeler_input.csv** file like you did before.



This will automatically transfer you to Step 5. In this step you have a single option, to create the new workflow. If you think you did something wrong or need to changes something selected in the previous steps, you can always click on the edit buttons.



To create your new workflow, click on the **Create new workflow button**.

Step 6 informs you that your new workflow has been created. To go the workflow's dashboard, **click on the Dashboard button.**

6

Workflow created

Workflow created successfully ✓



Run a new workflow



Dashboard

4. Checking workflow progress

The Dashboard page displays current and past projects. Our “Experiment demo” project is still running and is shown on the very top of the list. You can filter the displayed workflow list by clicking on the different options (“Pending”, “Running” etc.). You can also check for the latest status update by clicking on the **refresh button**.

Dashboard *Crustaceans functional biogeography*

Workflow description	Progress	Created at	Updated at	Actions
Experiment demo	5 / 7	2/Jun/21, 16:24	2/Jun/21, 16:24	
Fourth experiment	7 / 7	2/Jun/21, 12:44	2/Jun/21, 12:44	
Third test	7 / 7	2/Jun/21, 12:43	2/Jun/21, 12:43	
Second experiment Nikos	7 / 7	2/Jun/21, 12:42	2/Jun/21, 12:42	
Experiment demo sharing screen	7 / 7	2/Jun/21, 12:33	2/Jun/21, 12:33	
Test 23:00	0 / 0	1/Jun/21, 23:59	1/Jun/21, 23:59	
Test 22:59	0 / 0	1/Jun/21, 23:59	1/Jun/21, 23:59	
Experiment beta release	7 / 7	23/Apr/21, 12:53	23/Apr/21, 12:53	

Items per page: 8 1 - 8 of 8

To view more details about our “Experiment demo” project, we must **click on detailed information action**.

Clicking on the button we are transferred to the Workflow insight page. Here you can see general information about your workflow such current progress, type & dates.

III NIS Workflow Environment ****BETA****

Workflow insight

  back to dashboard

General information

Workflow type: Crustaceans functional biogeography

Workflow description: Experiment demo

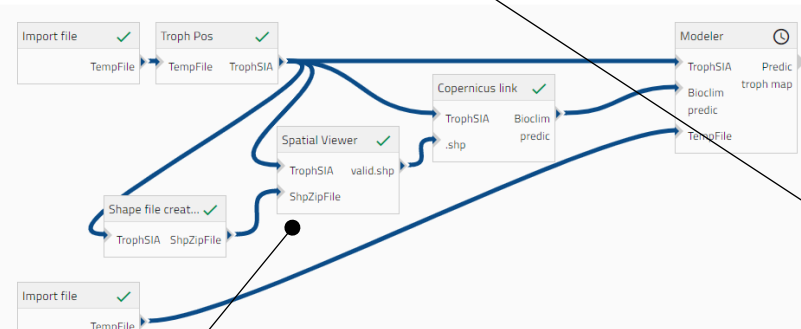
Workflow status: Started

Created at: 2 Jun 2021, 16:24

Updated at: 2 Jun 2021, 16:24

Progress: 6 of 7 completed

Workflow status diagram



If you want to view the latest status of your workflow, you can click on the **refresh button**. This will load the latest status and information regarding your workflow. We can see that our project is still running, having completed 6 out of 7 steps. The workflow diagram helps **visualize** those steps. The workflow of this walkthrough usually takes 5-20 minutes to run depending on server load.

Using the refresh button you, check if the workflow is finished. If it is, you should see "Finished Successfully" message under the general information section.

General information

Workflow type: Crustaceans functional biogeography

Workflow description: Experiment demo

Workflow status: **Finished successfully**

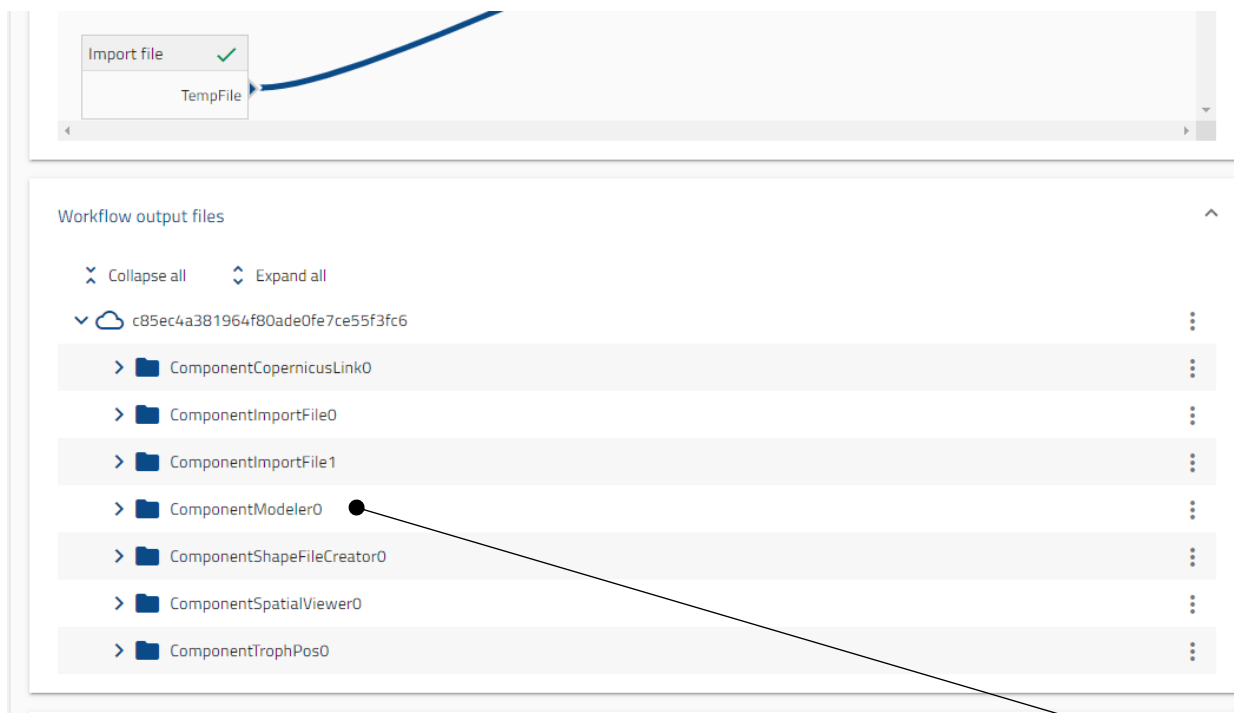
Created at: 2 Jun 2021, 16:24

Updated at: 2 Jun 2021, 16:24

Progress: **7 of 7 completed**

4. Workflow results

Once the workflow is finished, you can download & view workflow results. Results are generated by each workflow component. Results include log files as well as generated output. To view our results, scroll to the Workflow output files section (under the Workflow status diagram section).



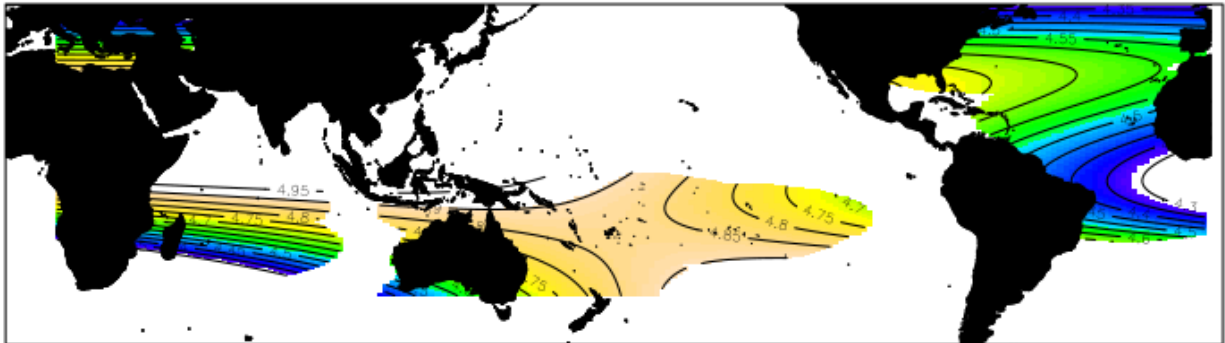
There, we see a folder structure. A folder is created for each workflow component. Simply **click on a folder** to view its contents. Since the Modeler component is the last step of our workflow, we want to view the output found under the ComponentModeler0 folder.

To download the result (predic_map.png), click on the three dots next to the file and **select the Download option**.



You can also download the log.txt file if you care to see the output of the backend program output logs.

Opening the predic_map.png file looks something like this:



You successfully run a Crustaceans functional biogeography workflow using Tesseract.

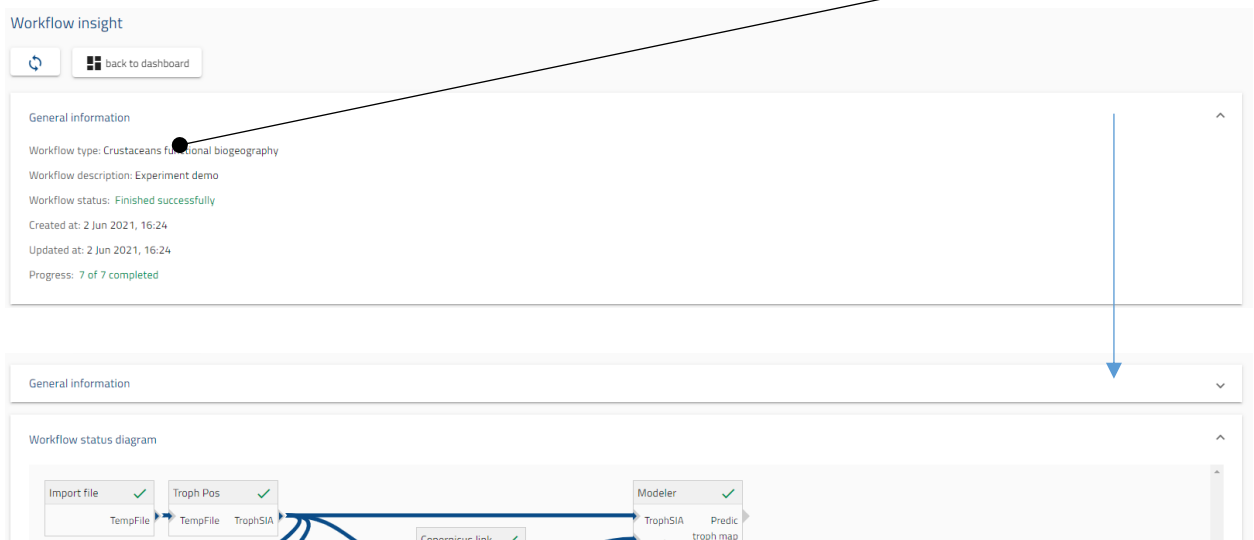
5. Extras

Here a few extra functionalities are presented that may help you adjust the platform to your preferences.

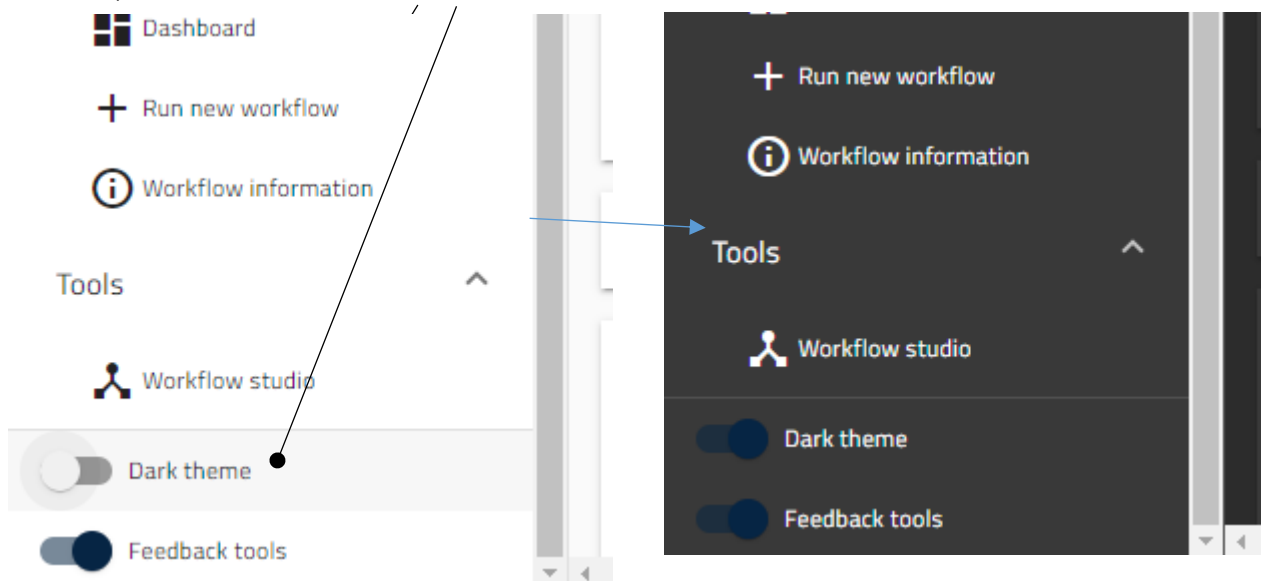
1. You can send feedback to the development team by clicking on the feedback button located in the bottom right of your screen.



2. You can collapse sections (i.e. in the Workflow insight page) by clicking on the section title



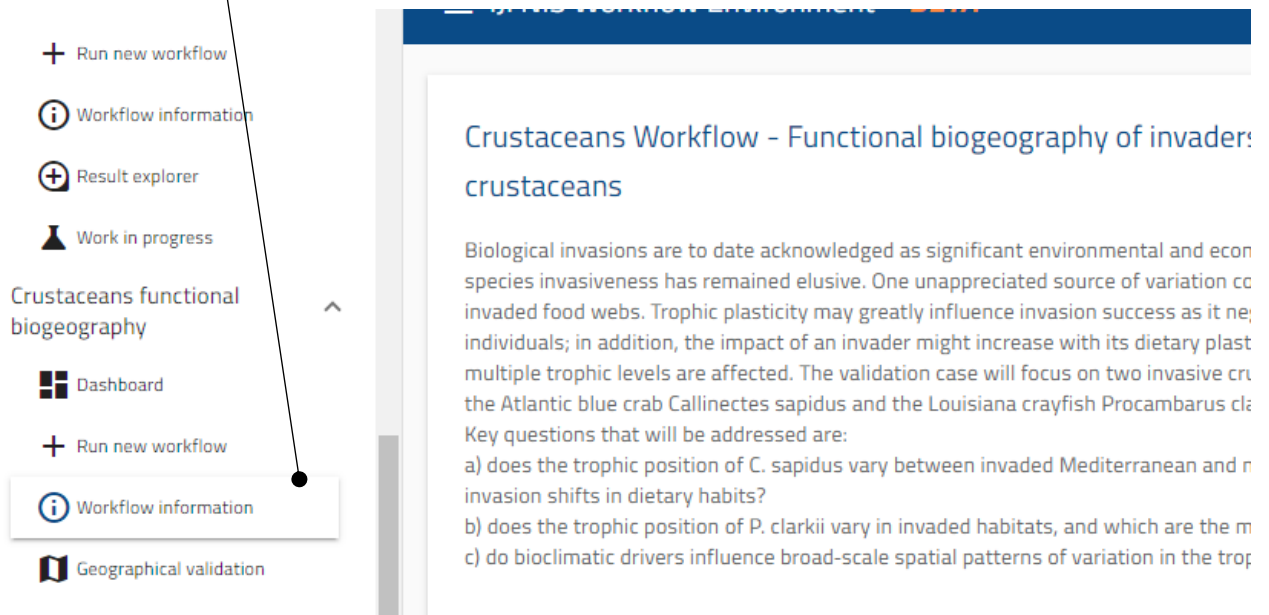
- If you prefer darker colors or simply working at night, you can enable the platform dark theme, located at bottom end of the sidebar.



- You can delete uploaded files and created folders by clicking on the delete option.



5. You can view information about a workflow category by clicking on the Workflow information button.

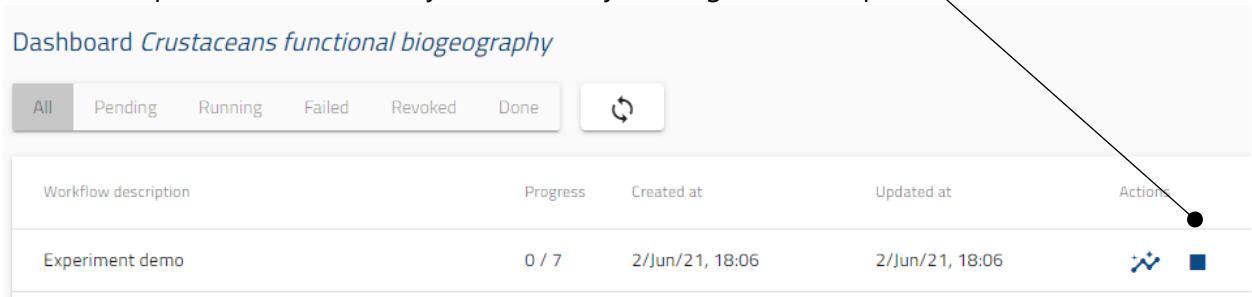


Crustaceans Workflow - Functional biogeography of invader: crustaceans

Biological invasions are to date acknowledged as significant environmental and economic species invasiveness has remained elusive. One unappreciated source of variation comes from invaded food webs. Trophic plasticity may greatly influence invasion success as it affects individuals; in addition, the impact of an invader might increase with its dietary plasticity as multiple trophic levels are affected. The validation case will focus on two invasive crustaceans: the Atlantic blue crab *Callinectes sapidus* and the Louisiana crayfish *Procambarus clarkii*. Key questions that will be addressed are:

- a) does the trophic position of *C. sapidus* vary between invaded Mediterranean and non-invaded habitats?
- b) does the trophic position of *P. clarkii* vary in invaded habitats, and which are the most important drivers?
- c) do bioclimatic drivers influence broad-scale spatial patterns of variation in the trophic position?

6. You can stop/revoke a workflow you created by clicking on the stop button.



Dashboard *Crustaceans functional biogeography*

All Pending Running Failed Revoked Done

Workflow description	Progress	Created at	Updated at	Actions
Experiment demo	0 / 7	2/Jun/21, 18:06	2/Jun/21, 18:06	Stop Refresh

- The sidebar can be collapsed or expanded by clicking the menu button on the top left of your screen.

