



UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH

Escola Tècnica Superior d'Enginyeria
de Telecomunicació de Barcelona



GRASP Builder User Manual

Master Thesis
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by
Mireia López Barrón

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Advisor: name of the advisor
Barcelona, Date XXXXX



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1 Project management

When the application is launched, the home screen is displayed showing three different buttons to manage projects.

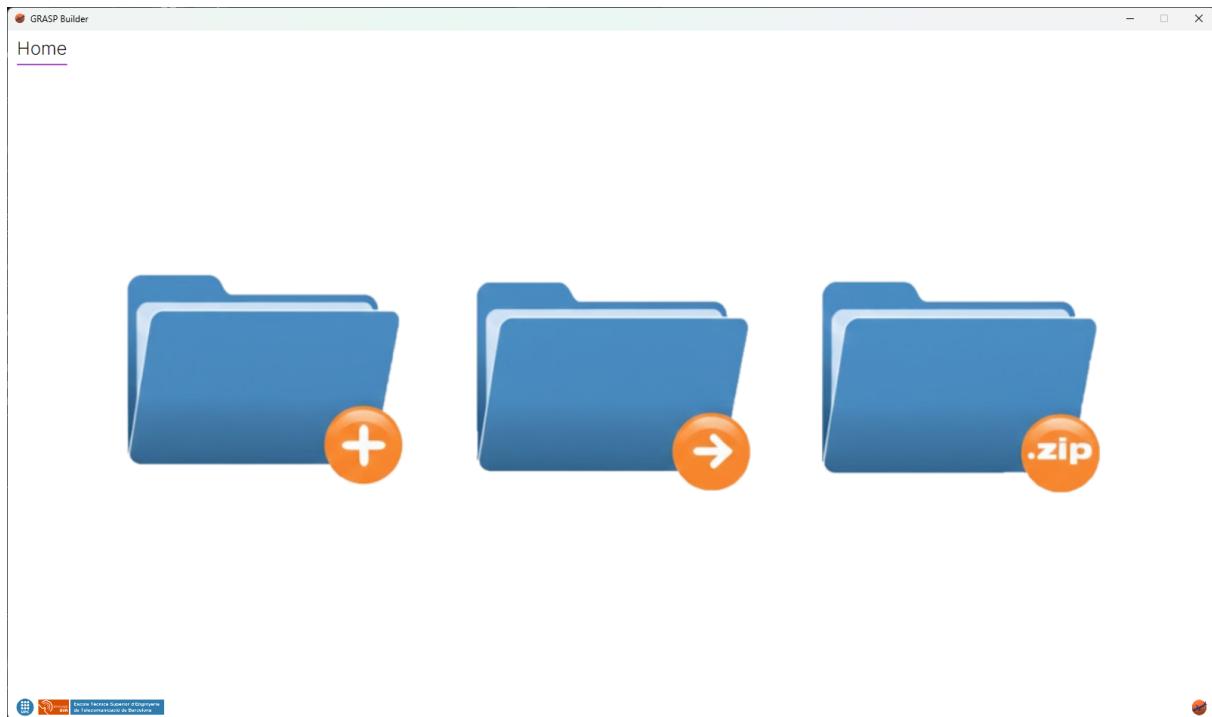


Figure 1: Home screen

First button will open a dialog to create a new project (Figure 2). Second button will open a dialog that allows the user to open an existing project (Figure 3). Third button will open a dialog that allows the user to import a project from a zip file (Figure 6).

When creating a new project, the user must provide a name for the project and select a location to save it. In the project folder, a new file called "project.grasp" will be created. This file will contain the corresponding project configuration.

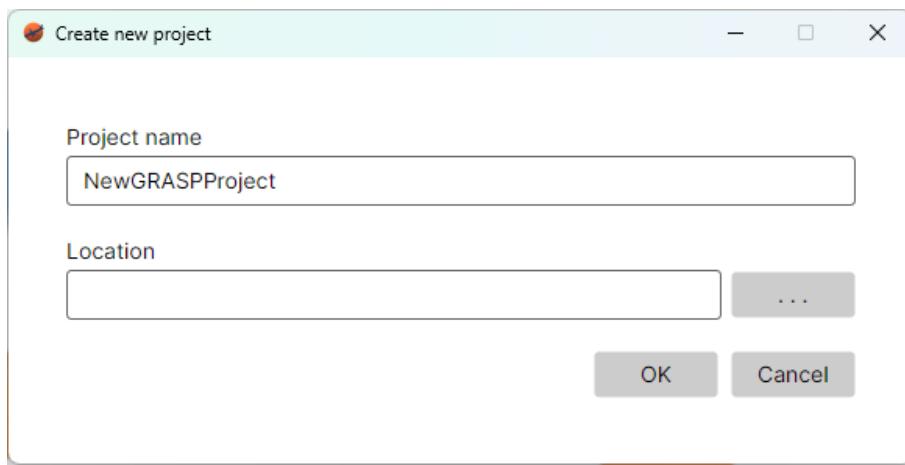


Figure 2: Create new project window

When opening a project, the user must select a project folder that contains an existing project.

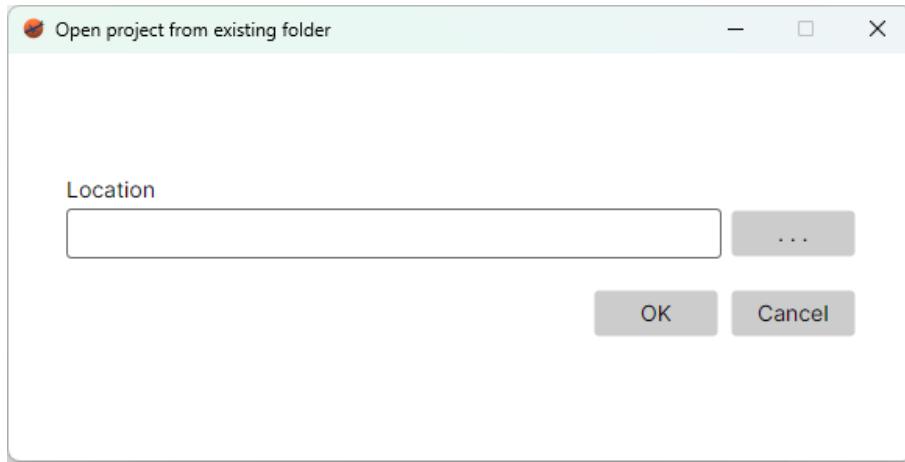


Figure 3: Open project window

All dialogs allow the user to navigate through the file system to select a project folder by using the browser button "..." (Figure 4).

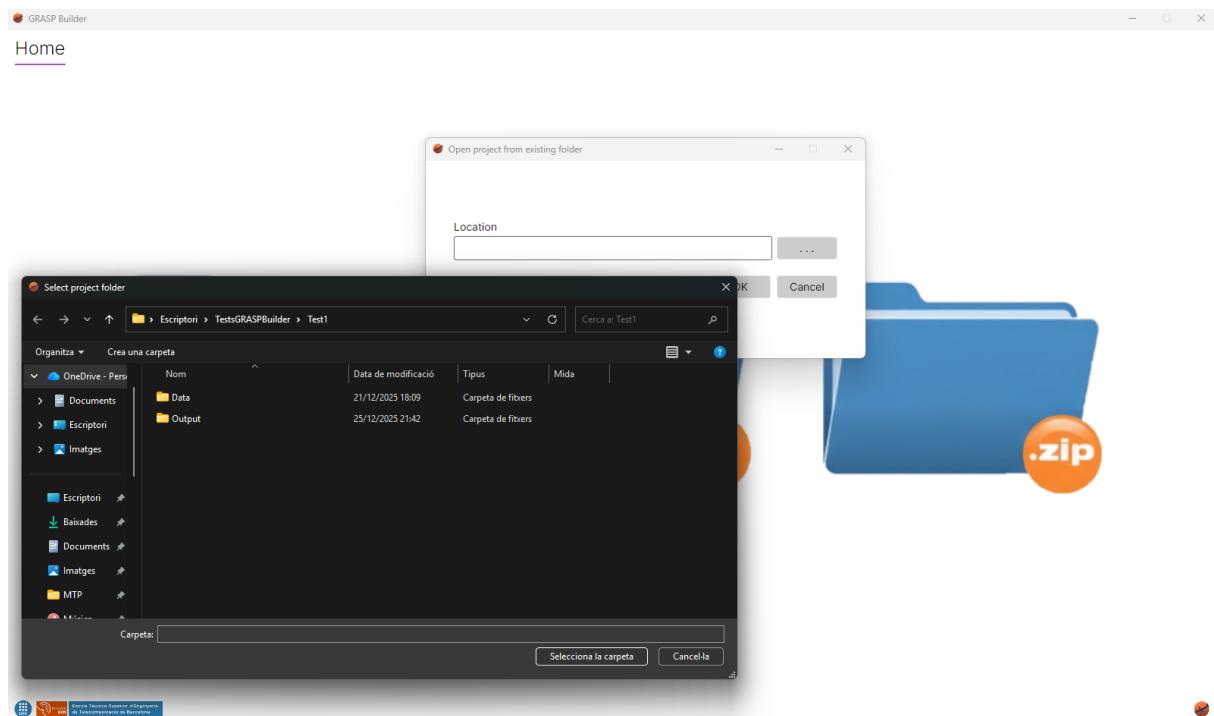


Figure 4: Open project browser

In the project folder, it is necessary it exists the file "project.grasp". Without this file, the application will not be able to load the project and an error message will be displayed (Figure 5).

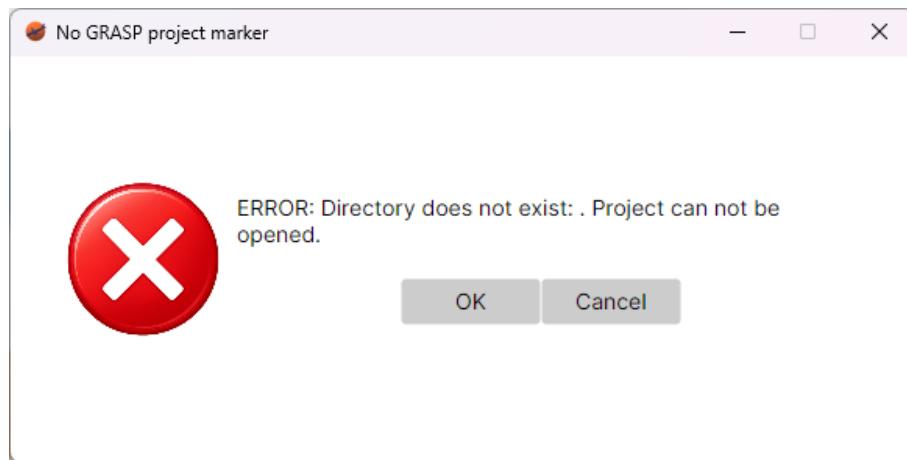


Figure 5: Error when opening a project

When importing a project, the user must select a zip file that contains an existing project. This zip file must also contain the file "project.grasp". Zip file should be located in the directory where the user wants the project to be created.

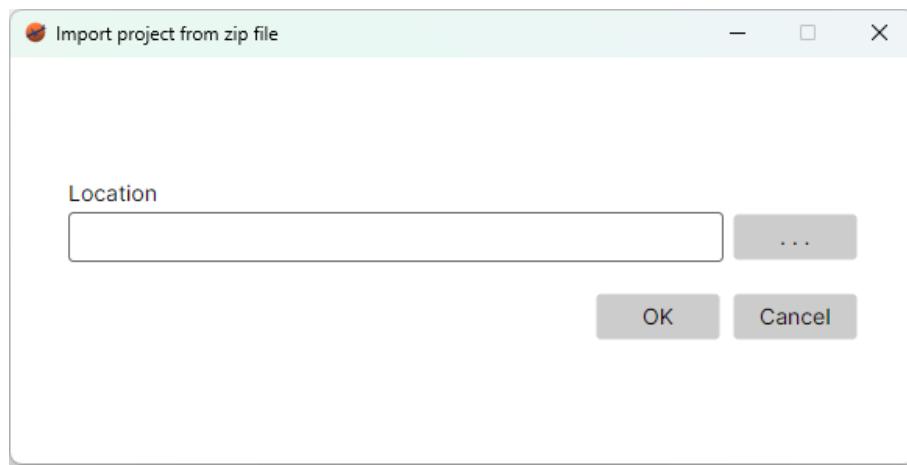


Figure 6: Import project window

Once a project is initialized, the user can access the File menu to perform different actions, in order to manage the current project (Figure 7).

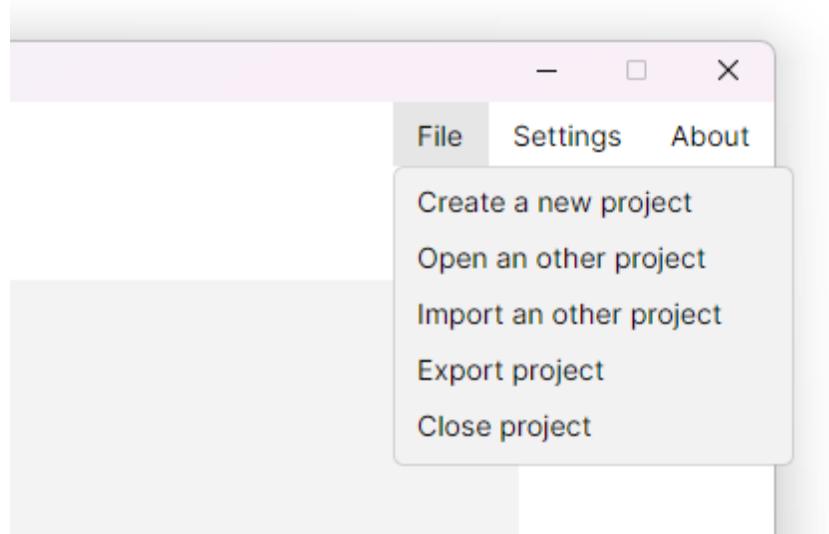


Figure 7: Menu options

Next to the File menu, it can be located the Settings button. This button opens a dialog that allows the user to configure different options of the application Figure 8.

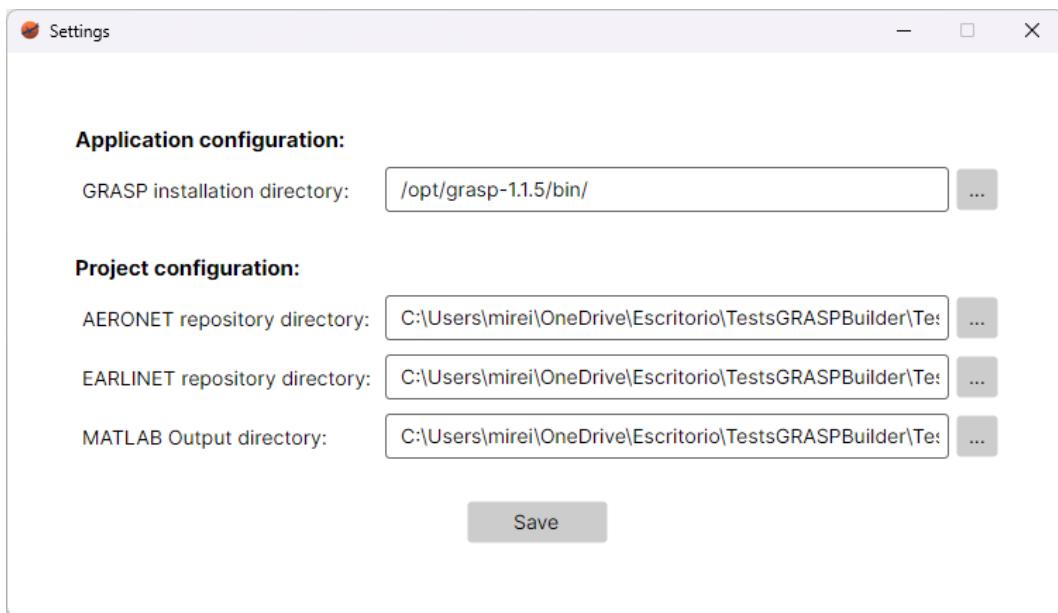


Figure 8: Settings window

The different parameters that can be configured are separated by application configuration parameters and project configuration parameters. The application configuration parameters have the same value for all projects. For now, it only includes the installation directory of GRASP algorithm.

Project configuration parameters are specific for each project. For now, it only includes the corresponding repository directories where the downloaded data will be stored for both, EARLIENT and AERONET sites, and the MATLAB output directory, where all the files created after running the corresponding scripts and GRASP algorithm will be created.

2 Download files

Once a project is created, the first step is to download the files from the different websites in order to have the data available. .

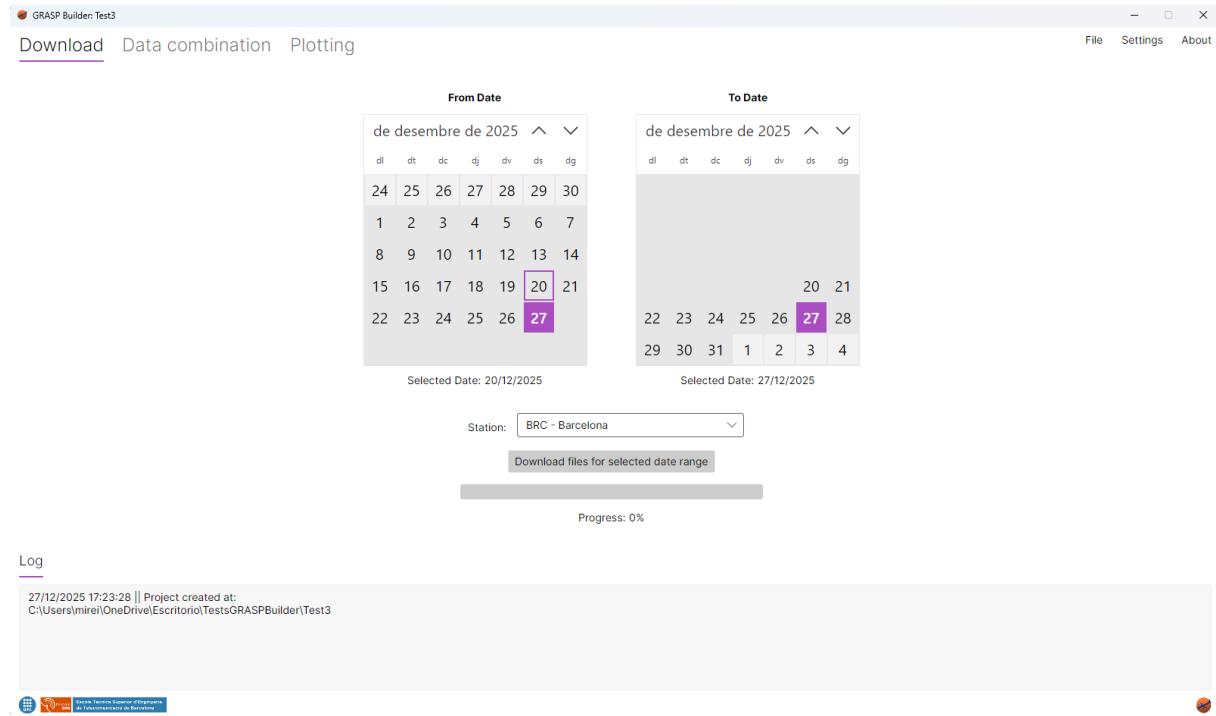


Figure 9: Project loaded

In this tab, the user is available to choose the range of dates to download the files from the different websites. For the moment, it is only available to download files from Barcelona site, but it is planned in the near future to add the option to download files from other sites.

During the process, all buttons will be disabled and the progress bar will show the percentage of files downloaded. Once all files are downloaded, a new section will be shown where the user will be able to see the list of files downloaded and select the files that desires to keep. This section will be also shown if the user opens a project with already downloaded files (Figure 10).

GRASP Builder: Test1

Download Data combination Plotting File Settings About

From Date

de desembre de 2025 ⏪ ⏴

dl	dt	dc	dj	dv	ds	dg
24	25	26	27	28	29	30
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

Selected Date: 20/12/2025

Station: BRC - Barcelona

Download files for selected date range

Progress: 0%

To Date

de desembre de 2025 ⏪ ⏴

dl	dt	dc	dj	dv	ds	dg
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

Selected Date: 27/12/2025

Keep selected files

Downloaded files:

Actris-Earlinet	<input checked="" type="checkbox"/> 20250202brc1245
Aeronet	<input checked="" type="checkbox"/> 20250203brc1033
	<input checked="" type="checkbox"/> 20250203brc1830
	<input checked="" type="checkbox"/> 20250204brc1822

Figure 10: Files downloaded

3 Data Combination View

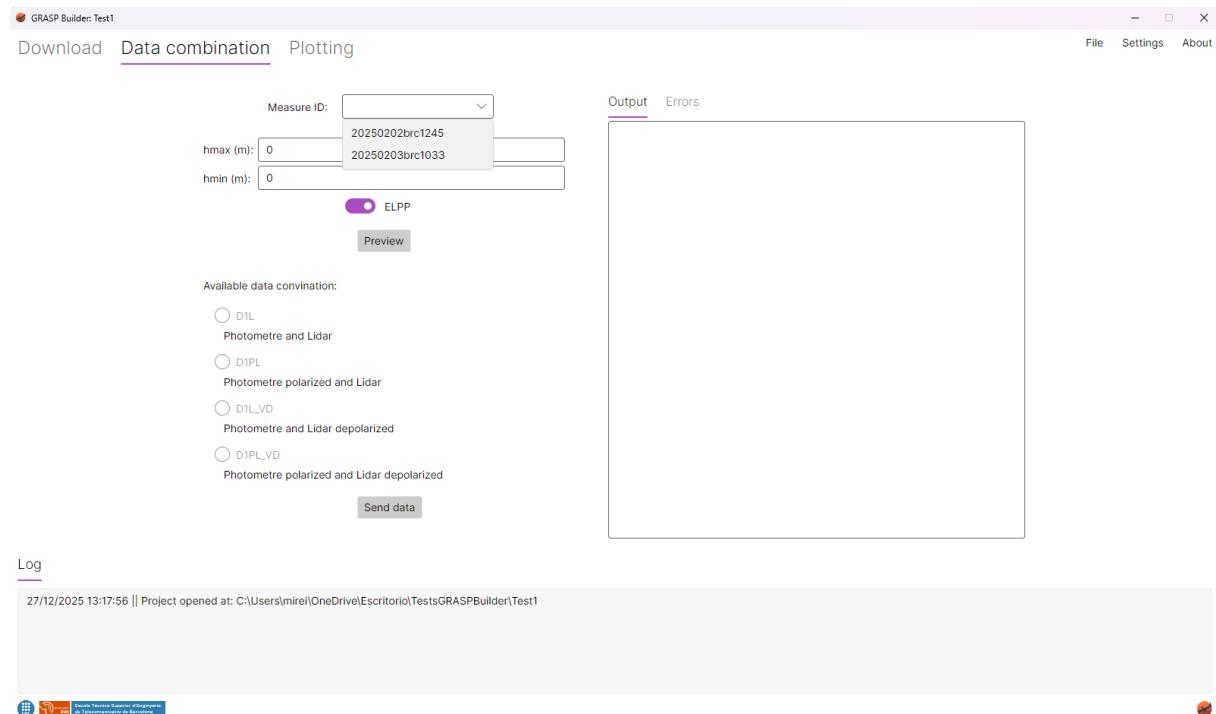


Figure 11: Data combination view

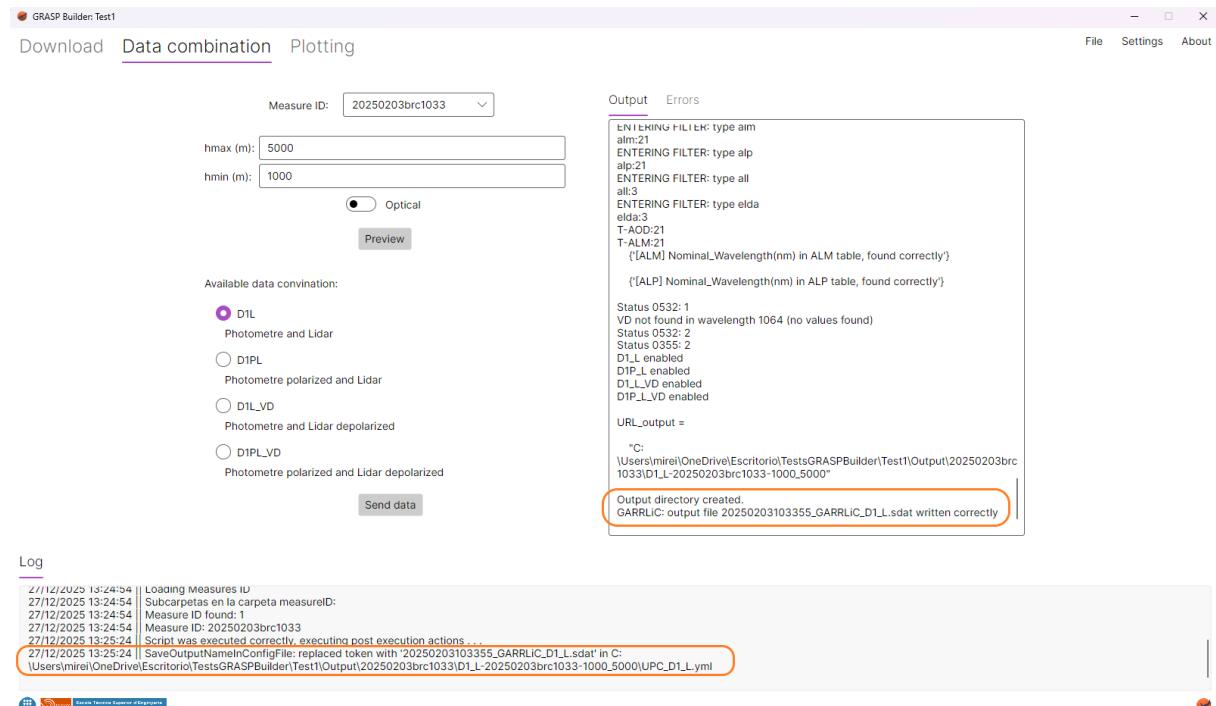


Figure 12: Execute SendFiles script

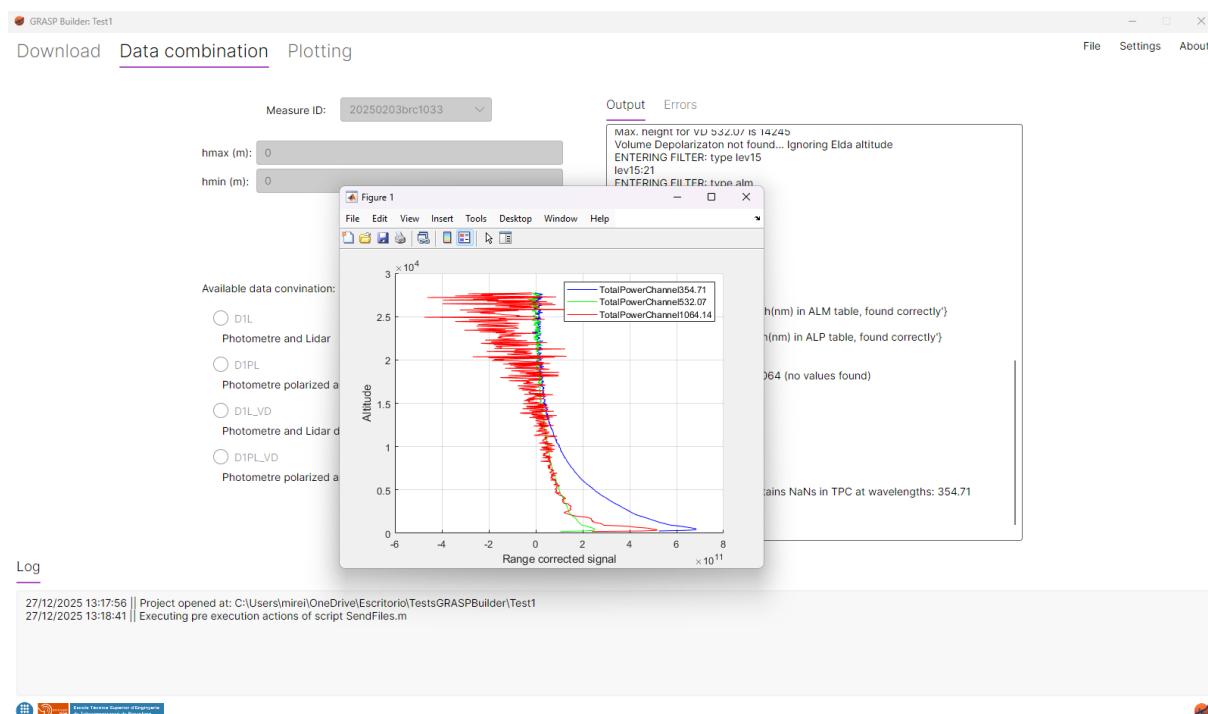


Figure 13: Execute preview without ELPP

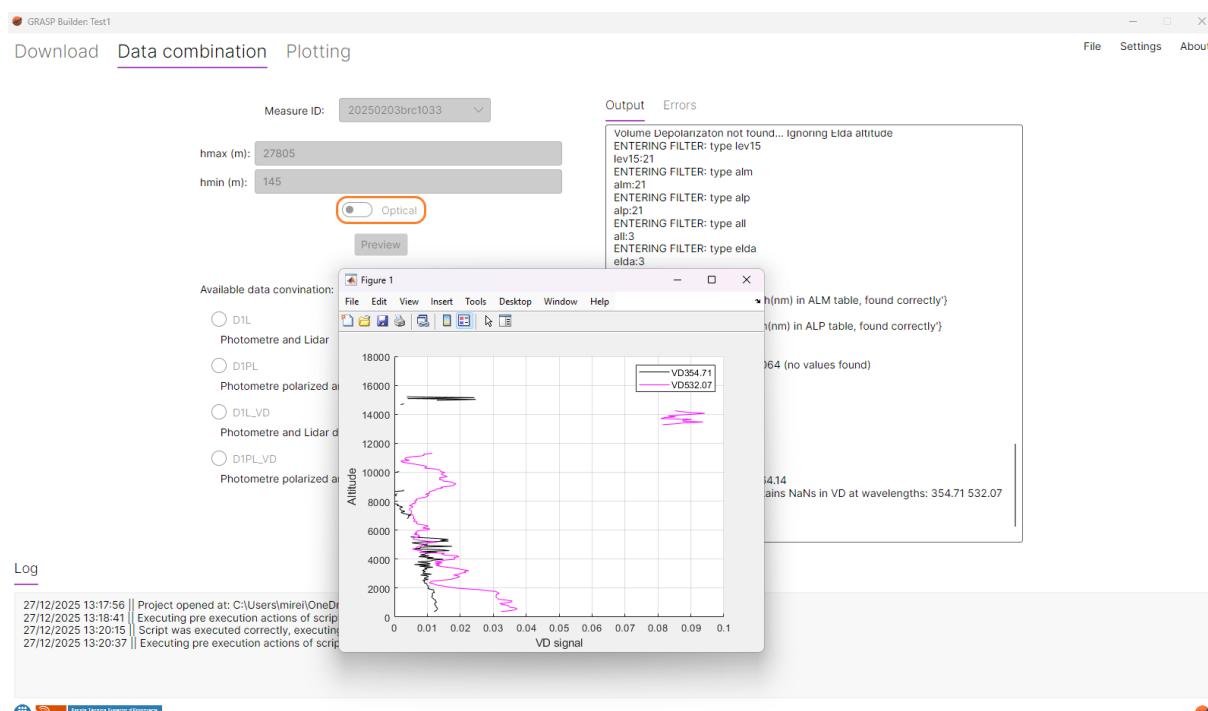


Figure 14: Execute preview with VD option and heights defined

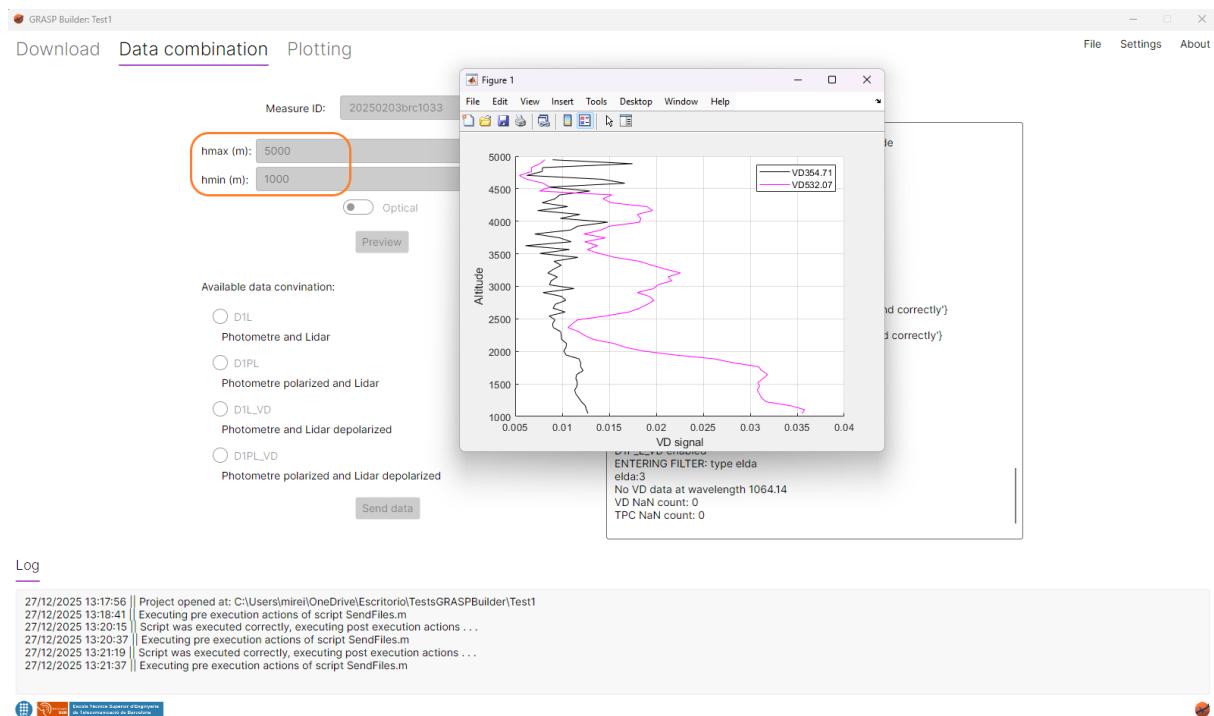


Figure 15: Execute preview with VD option