

# Getting started with SARscape for Windows

---

April 2022

Index	
1	Introduction ..... 3
2	SARscape Quick Start ..... 3
2.1	Install SARscape..... 3
2.2	About SARscape ..... 5
2.3	Install SARscape Patch..... 6
2.4	Uninstall SARscape ..... 6
2.5	ENVI environment and preferences ..... 8
2.5.1	ENVI environment..... 8
2.5.2	ENVI preferences..... 9
2.6	SARscape preferences ..... 9
2.7	OpenCL Platform and Devices ..... 11
2.8	SARscape environment and modules ..... 11
2.8.1	SARscape Panel (typical) ..... 12
2.8.2	SARscape Workflow ..... 16
2.9	SARscape Extensions and file browser filter..... 19
3	Batch Processing ..... 22
3.1.1	Create Batch File ..... 22
3.1.2	Store batch ..... 22
3.1.3	Batch Browser ..... 22
3.1.4	Batch Chain..... 23
3.1.5	Parallel Batch Processing ..... 24
4	.Log, .Trace and Error report..... 25
5	Clean Working Directory ..... 25

## 1 Introduction

The aim of this document is to provide quick look on SARscape and to guide the user through the most common SARscape functionalities.

The document describes how to install SARscape, the SARscape preferences and SARscape environment. Moreover, the most common functionalities are described providing notes and tips to let the user taking advantage of the whole SARscape processing opportunities and interface. A dedicated chapter describes the processing in batch mode, the reporting files are described as well.

The functionalities and example are referred to **SARscape version 5.6.2**, running under **ENVI 5.6.2** with a standard (GIS-like) interface installed on Windows 10, 64bit.

For other software functionalities, such as interferometry or interferometric stacking, the Reader is referred to dedicated tutorials.

The tutorials can be downloaded <https://www.sarmap.ch/index.php/software/sarscape/>.

## 2 SARscape Quick Start

### 2.1 Install SARscape

SARscape 5.6.2 requires ENVI version 5.5.3 or higher. Annotations can be displayed only with ENVI 5.6.2 or higher.

Before installing SARscape, please make sure you are logged in as an Administrator, that you have enough free disk space on your C: drive (about 2.5 GB) and that all other applications are closed.

On Windows, right click on the *exe* file and click on *Run as Administrator*. The SARscape Setup Wizard guides you through the installation steps. Click *Next* to complete the installation (Figure 1).

In the "Select Additional Tasks" tab, select *Install Intel OpenCL CPU-only runtime* if you do not have the OpenCL CPU driver (to run OpenCL code on CPU, this flag is selected by default) (Figure 2). In this case, during the installation another installation wizard appears, and the user can customize the installation of the Intel OpenCL Runtime (Figure 2). For further information, please refer to the SARscape\_OpenCL\_Installation.pdf document (located in the SARscape installation doc folder).

If SARscape is properly installed, it appears in the ENVI Toolboxes as a menu (Figure 3).

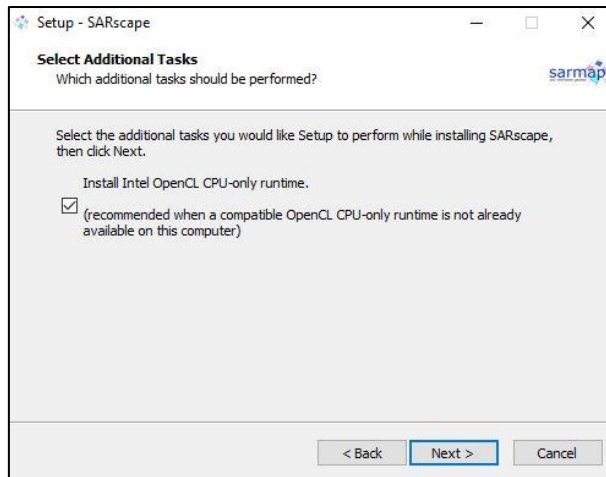


Figure 1 Select Additional Tasks tab during SARscape installation.

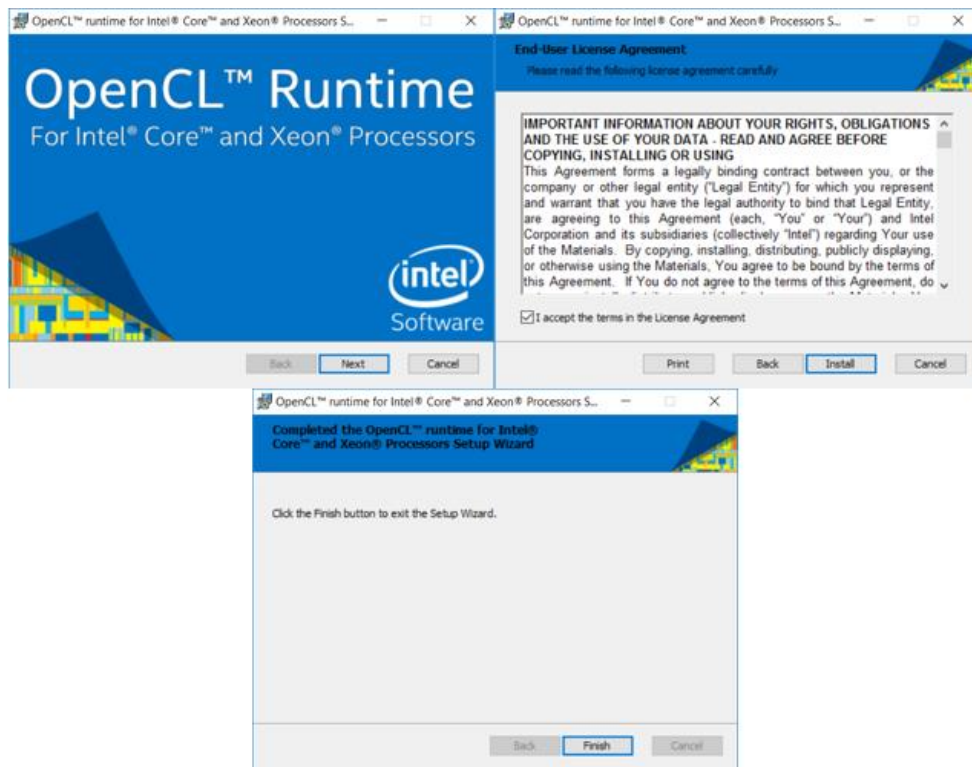


Figure 2 Installation of OpenCL runtime. To use SARscape 5.6.2 and newer, a working OpenCL runtime must be already available on the target machine.

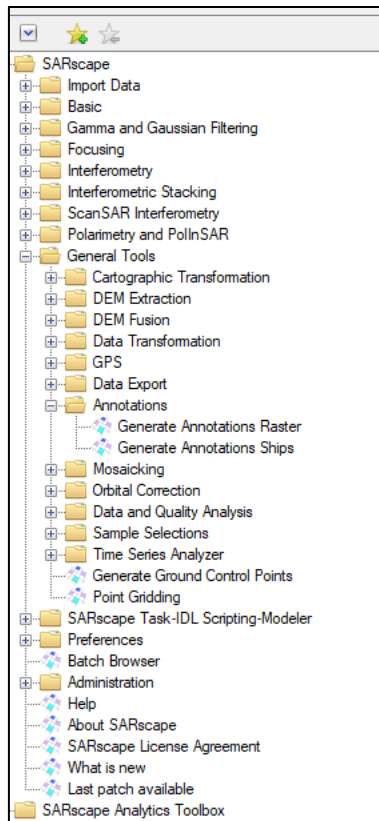


Figure 3 SARscape in ENVI Toolboxes.

## 2.2 About SARscape

By clicking on the *About SARscape* (Figure 4) a pop-up appears (Figure 5) showing information about the currently installed SARscape version as well as the version ID (and eventually the date of the installed patch if present). If a problem occurs, the full version ID should be provided to the sarmap support team. Make sure with your SARscape distributor that you are using the latest version with the latest patch available.

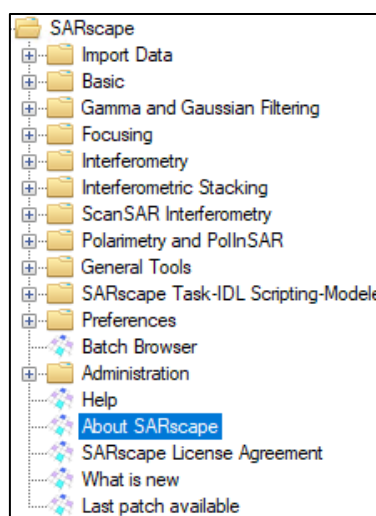


Figure 4 About SARscape in ENVI toolbox.

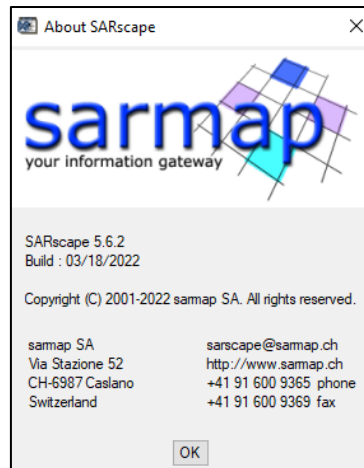


Figure 5 About SARscape pop up showing SARscape version ID and other information.

## 2.3 Install SARscape Patch

An internet link allows downloading the latest available patch for the current version. The button is located at the bottom of the SARscape menu (Figure 6). Before installing SARscape patch, please make sure you are logged in as an Administrator. The last available patch includes all the bug fixing and improvements created in the previous patches for the same SARscape version.

**Important:** Please do not uninstall the older patch version.

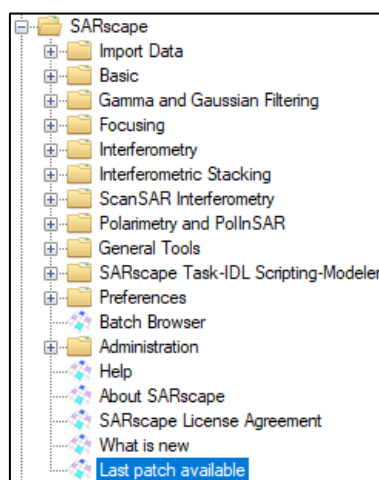


Figure 6 Last patch available button opens an internet link where it is possible to download the latest available patch for current version.

## 2.4 Uninstall SARscape

Before uninstalling SARscape, please make sure you are logged in as an Administrator and that all applications are closed. This procedure uninstalls SARscape from your computer.

The steps to uninstall SARscape are the following:

- Open the Windows Control Panel

- Click on Uninstall a program (Figure 7)
- Right click on the SARscape version you want to uninstall and click on Uninstall (Figure 8)
- Uninstall any SARscape patch.

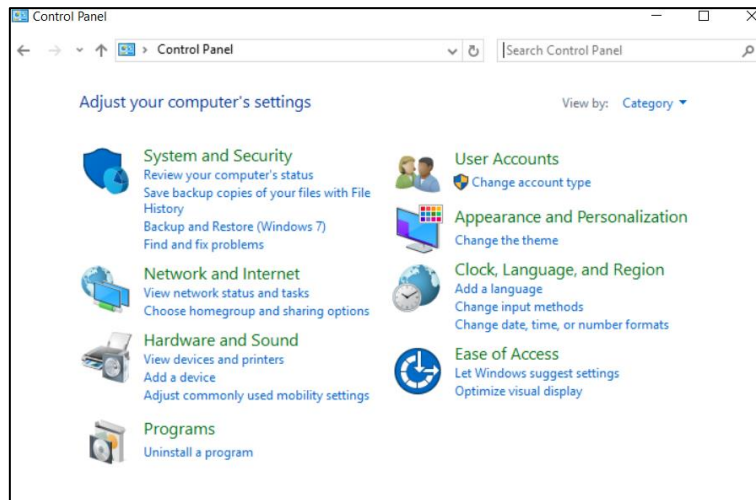


Figure 7 Uninstall a program in the Windows Control Panel

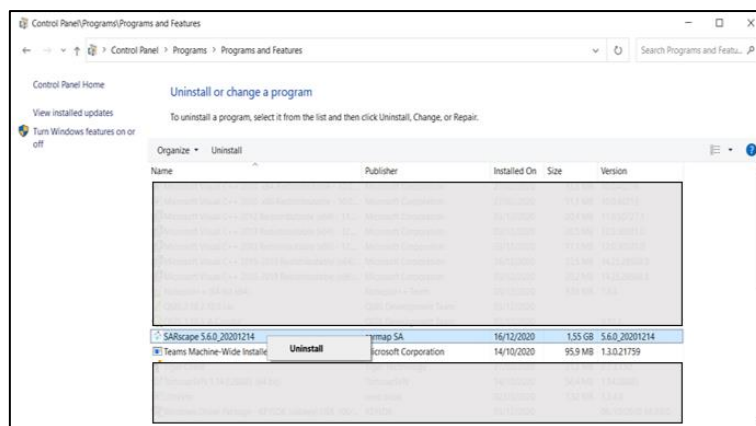


Figure 8 List of all installed programs. Right click on SARscape and click on Uninstall.

## 2.5 ENVI environment and preferences

### 2.5.1 ENVI environment

The ENVI standard interface is divided into three parts (Figure 9): *Layer Manager* (left), *View* (center) and *Toolbox* (right). These parts are described as follows:

- **Layer Manager:** it shows all the current loaded layers. It is possible to check/uncheck each layer to make it visible/hidden.
- **View:** it shows the active layers in the *Layer Manager*. In the *View* panel it is possible to pan and zoom into/out from the shown layers.  
**Note:** *View* can be split into several views using ENVI *Views* menu.
- **Toolbox:** it contains all ENVI tools divided in folders.

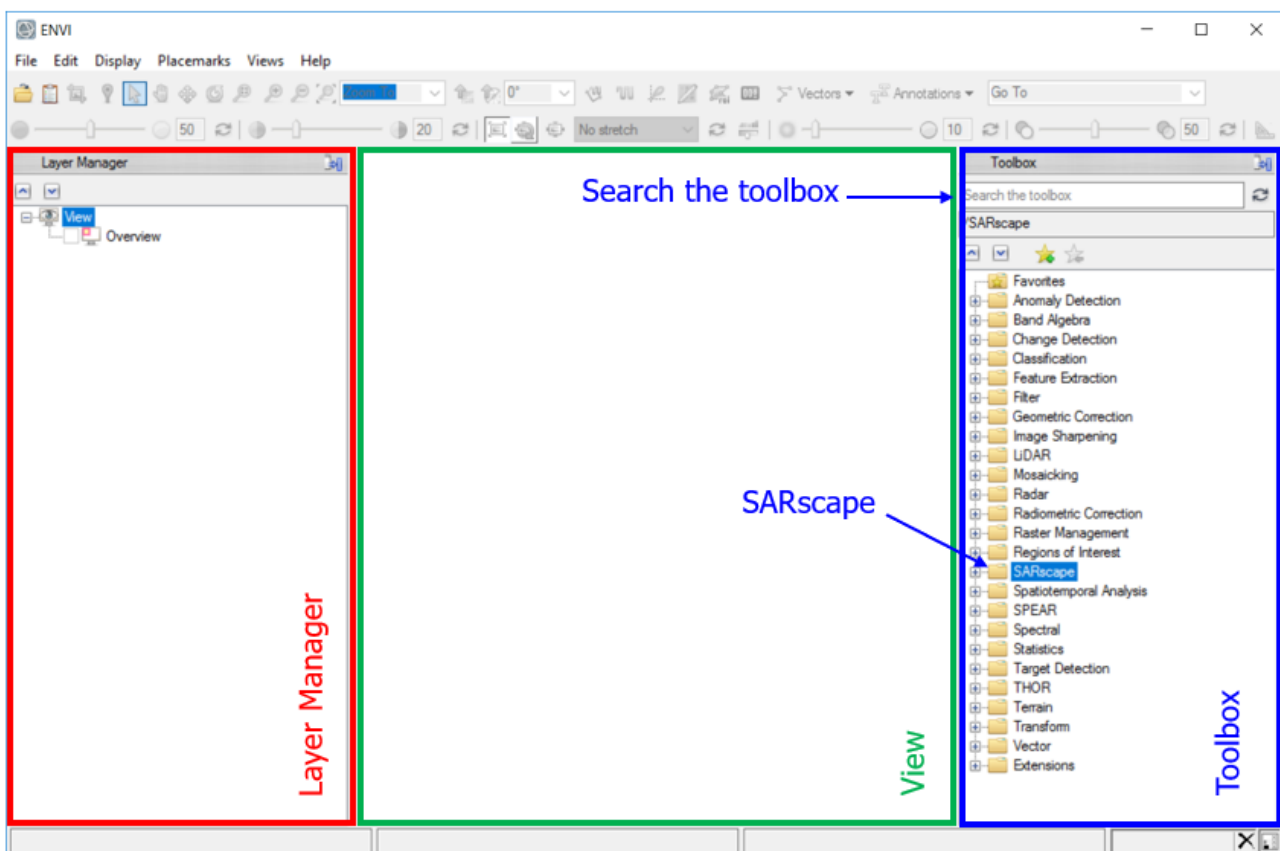


Figure 9 ENVI window, divided in *Layer Manager* (left), *View* (centre) and *Toolbox* (right) with SARscape and the search field.

**Tip:** If the name of a module is known (both SARscape or ENVI modules), it is possible to type the name (or part of it) in the *Search the toolbox* field at the top of the Toolbox panel. Thus, only the modules containing the searched name are shown in the toolbox. To display all the modules again the text in the *Search the toolbox* has to be deleted.



## 2.5.2 ENVI preferences

To immediately have a quick access to the path in the dialog boxes, the ENVI Preferences should be set.

ENVI preferences are in File -> Preferences (Figure 10). The paths have to be set in Directories: the Input Directory (I), the Output directory (O) and the Temporary Directory. ENVI Temporary Directory is used to keep intermediary files during SARscape workflow processes.

**Tip:** Setting an easy reachable folder as *Temporary Directory* allows users to quickly access to the intermediary results of the SARscape workflows. Due to the size of the intermediate files, the *Temporary Directory* must be set accordingly. If "Delete Temporary Files" is set to False, the content of the workflow temporary directory is moved to the *ENVI output directory*. **It is strongly recommended to do not choose USB or external drives as Input/Output or Temporary Directory, due to the large amount of data transfer.**

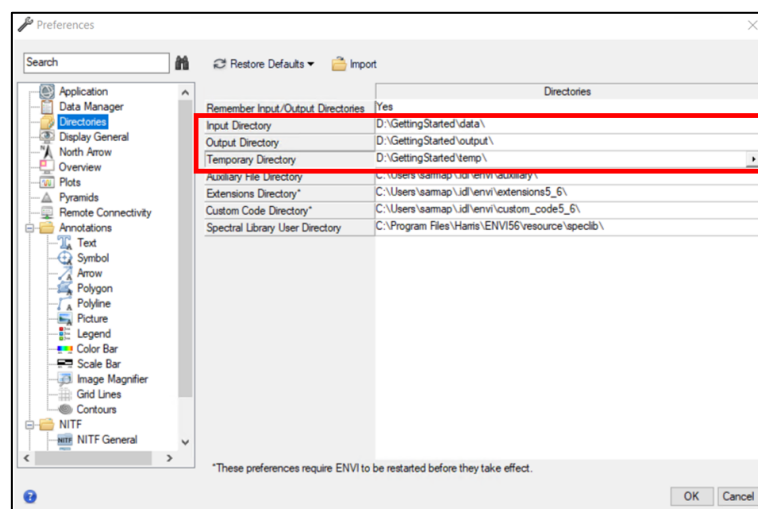


Figure 10 ENVI Preferences / Directories panel. Suggested I/O and temporary directories.

## 2.6 SARscape preferences

To correctly perform SARscape processing, SARscape Preferences have to be set accordingly before starting the processing. Preferences management is split into two modules: *Preferences common* and *Preferences specific*.

**Common preferences** are used to specify general parameters in SARscape, such as *Directories and batch file name, General Parameters, User accounts, Repositories, CSV Fields, Annotations* and *Cluster* parameters (Figure 11).

**Specific preferences** allow loading several preference settings that are ready to be used in SARscape by using the top-left button in SARscape preferences. The Specific Preferences are:

- General
- Stereo
- UHR (better than 1m)
- VHR (better than 3 m)
- HR (better than 6m)
- MR (between 10m and 30m)
- LR (coarser than 30m)
- Interferometry Low Coherence
- Wrong Orbital Data
- TanDEM-X Bistatic Configuration
- CInSAR ERS ASAR Interferometry
- Sentinel TOPSAR (IW-EW)

- PALSAR-2 ScanSAR
- TSX ScanSAR
- Squinted Data

Both common and specific preferences can be modified, adapted, and saved as sml file for future use just loading them using the specific *Load* and *Save* top-left buttons (Figure 12).

**Note:** If the preferences have been changed, these changes are not applied to the open panels. These panels have to be closed and re-opened in order to let the changes take place.

*Directories and batch file name* must be set to store the working files and the batch file on the computer, read/write privileges are mandatory. Please, make sure in setting directories you have read/write privileges.

The Working directory is also used to store some information about SARscape processes, such as *Log* and *Trace* files (as described in the .Log, .Trace and Error report section). The use of the Batch file and the possibility to perform parallel processing using different working directories are explained in the Batch Processing section.

The other directories have to be set if you have created a local (or local network) copy of DEM files or Orbit files.

**Note:** SENTINEL IW-EW has a dedicated preference set called "SENTINEL TOPSAR". This has to be used in case of processing with Sentinel IW-EW data.

**Note:** For Sentinel-1 data, in particular for interferometric processing, it is **strongly recommended** to use precise or restituted orbit files. These data can be downloaded from this link: <https://scihub.copernicus.eu/gnss/#/home> or using the Sentinel Download Auxiliary files that is explained in the specific section.

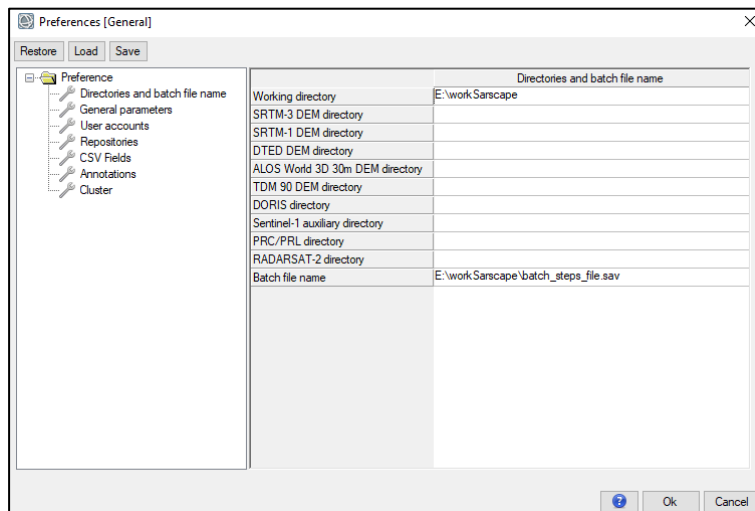


Figure 11 SARscape Preferences common panel.

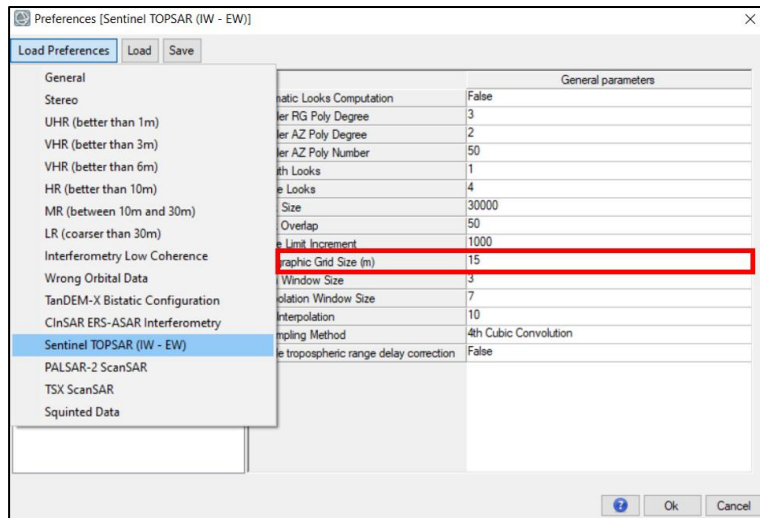


Figure 12 Preferences specific panel. "Load Preferences" button in the upper left part allows loading preferences set that can be chosen from a list. The Cartographic Grid Size set to 15 m in case of Sentinel Toposar data.

## 2.7 OpenCL Platform and Devices

In the Preference common tool, at the top of the General Parameters, two fields called "OpenCL Platform Name" and "OpenCL Device name" are present.

An OpenCL platform is a (vendor specific) OpenCL implementation and an OpenCL device is the actual processor performing the calculations. Each OpenCL platform can see one or more OpenCL Devices. For some SARscape tools, GPU support is provided. To carry out the processing using your GPU, choose it from the OpenCL Device Name list.

By selecting different devices in different working directories, it is possible to launch parallel processing on different devices at the same time. Please refer to the Parallel Batch Processing paragraph.

For further information, please refer to the SARscape\_OpenCL\_Installation.pdf document (located in the SARscape installation doc folder).

## 2.8 SARscape environment and modules

All the tools and modules of SARscape are found in an ENVI toolbox folder, they are usually in the right side of the ENVI window. Clicking on the "plus" symbol near the SARscape folder all the subfolders containing the different SARscape modules are shown (Figure 13).

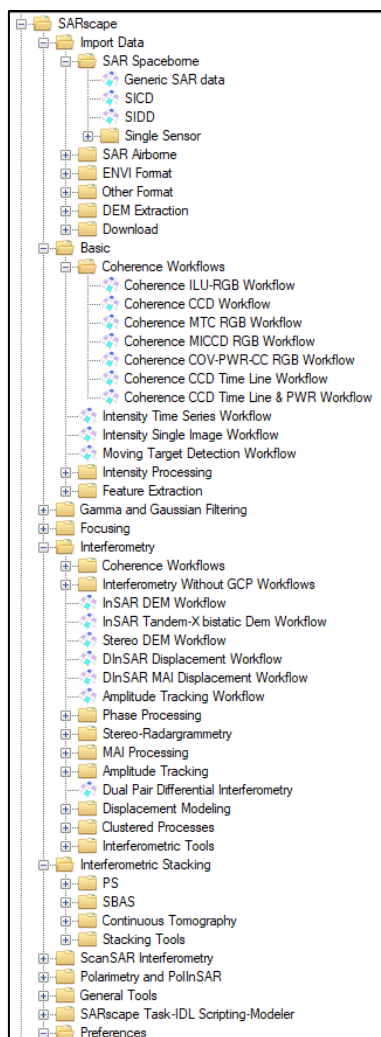


Figure 13 SARscape menu containing SARscape tools in ENVI Toolbox.

### 2.8.1 SARscape Panel (typical)

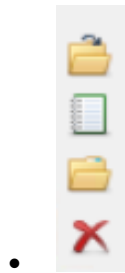
A standard SARscape panel is composed by several tabs. Not all of these are always present. The panel of the Geocoding is used here as an example as it contains all the tabs.

The Drag & Drop option allows selecting one or more files via the OS file system explorer or the ENVI Layer Manager, and to drop them in a panel.

- **Input Files**

The files used for the processing must be inserted here (Figure 14, left). Unless otherwise specified, these files are mandatory. Valid entries include a list of one or more file names.

The right buttons in the panel allows the following entries:



- **Browse File:** Browse one or more files to add as input
- **Select File List:** Select an input file list
- **Open Folder:** Allows adding all the files in a folder (and subfolders) that match the default file extension filter. This option is available only in some import tools.
- **Remove All:** Removes one or more files from the list.

**Note:** in some tools, like interferometric refinement and re-flattening, when the first input is inserted, the following input files are automatically completed assuming that the filename was never changed and moved during the processing and that the default extensions were used.

- **Optional Files**

These files, which are not mandatory, can be used to refine or to help the processing (Figure 14, right).

- **DEM/Cartographic System**

In this tab, a DEM has to be entered or a cartographic system has to be selected (Figure 15). If a DEM is provided, its cartographic system is automatically selected.

Inside the panel, mainly the used buttons are:



This button allows creating the file that has to be inserted calling the proper tool (a functionality available for GCP Creation and DEM Extraction). After the creation of the file, the path is automatically inserted in the correct field.

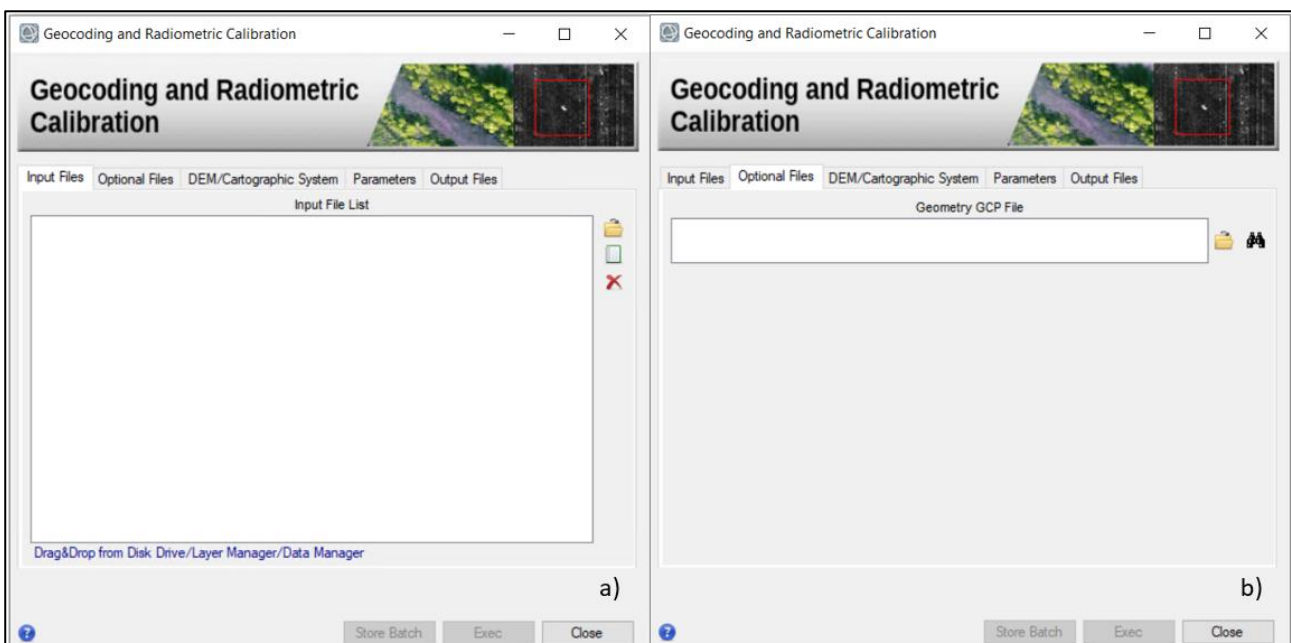


Figure 14 a) Input Files tab. It contains import buttons. **Note:** *Open folder* is active only in some import tools; b) Optional Files tab. The Geometry GCP File can be used to correct orbital information (please refer to the GCP manual [http://sarmap.ch/tutorials/GCP\\_Manual.pdf](http://sarmap.ch/tutorials/GCP_Manual.pdf)).

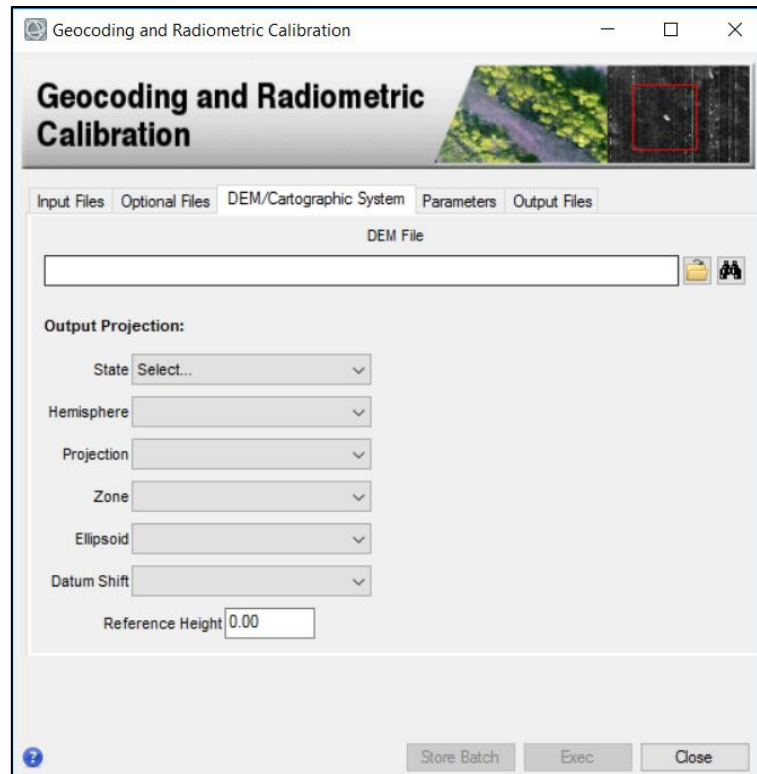


Figure 15 DEM/Cartographic System tab. In most cases, it is mandatory to select a DEM File or an output Projection (in this case, a Reference Height has to be defined).

- **Parameters**

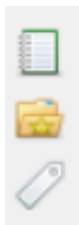
This tab contains the parameters used for the processing. The *Principal Parameters* are set according to the selected Preferences (Figure 16, left). Advanced parameters can be set from the "Other parameters" tab (Figure 16, right).

- **Output Files**

This tab contains the output files. In most cases, the output files appear automatically in the path string or in the list.

It is strongly recommended to do not choose USB or external drives as Input/Output or Temporary Directory, due to the large amount of data transfer.

A right click on the list opens a contextual menu with the following entries (Figure 17):



- **Select File List:** Select an output file list
- **Change Output Directories:** This button opens a file browser window allowing the user to browse and select the folder for outputs. All the output files are stored in this selected folder.
- **Change File Extension** Change the filename final suffix.

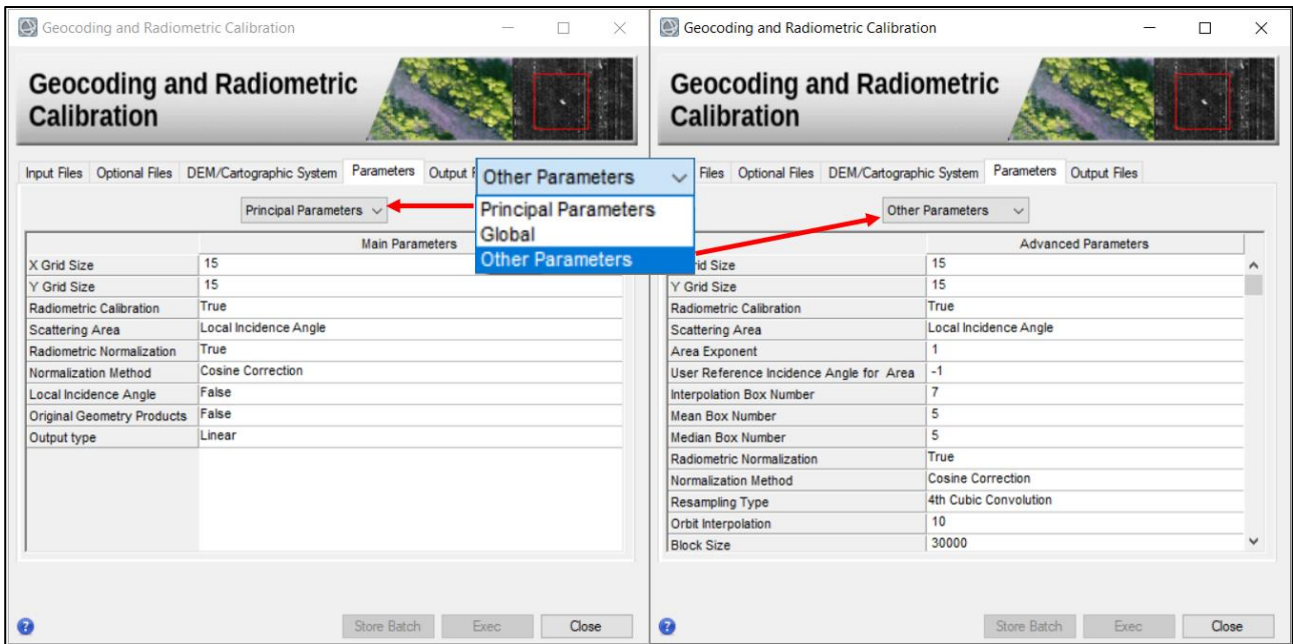


Figure 16 Parameters tab of the Geocoding panel. The parameters set to modify can be changed as shown in the image in order to have access to Advanced Parameters.

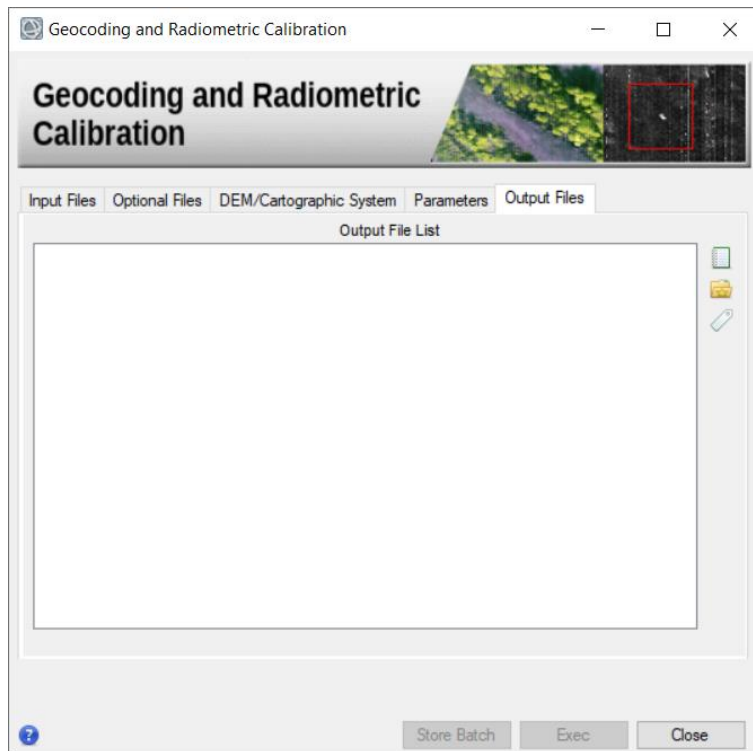


Figure 17: Output Files tab of the Geocoding panel. It contains an output file list. Clicking on the right mouse button the menu appears showing the *Edit*, *Show Name* and *Show Located In* buttons as shown in the figure.



Most of SARscape panels display the following four buttons at the bottom (Figure 18):

- **(Help)** ?

The help page of the current panel is opened in the default browser.

- **Store Batch**

The processing step is stored in the batch list. The batch browser button allows to load the batch processing list. For further information, please check the Batch Processing chapter.

- **Exec**

The processing step is executed.

- **Close**

The window is closed.

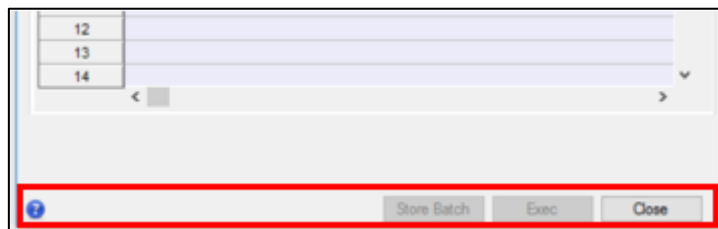


Figure 18 Buttons at the bottom of a typical SARscape panel.

## 2.8.2 SARscape Workflow

SARscape workflows are intended to simplify the procedure of filling the different processing panels with the appropriate information (i.e. files and parameters).

This chapter provides a description applicable to most of the workflow processing panels, although some interfaces may require more detailed information about specific files, parameters or settings, which are not considered here.

**Note:** The *Store Batch* (Paragraph 4) button is not available for workflows.

A SARscape workflow is composed by 3 main steps:

- the input step,
- the parameter step(s)
- the output steps.

Further details can be found in the bullet list below. The name of the current step appears below the Workflow title and it is highlighted in the step list on the left (Figure 19). In some workflows, it is necessary to insert GCPs during the workflow.



- **Input**

This part of the processing chain is dedicated to the input files and principal parameters required by the workflow. In the different tabs it is possible to enter all mandatory inputs. The following three tabs are available in this section (Figure 19, top-left):

- **Input File:** The name and location of the input files are entered either as single files or as file list.
- **DEM/Cartographic System:** This tab allows either defining the output cartographic reference system, entering the reference Digital Elevation Model or choose an external one to download through the Digital Elevation Model extraction tool. This information will be considered in processes such as the Geocoding, the Interferogram Generation, the Interferometric Digital Elevation Model Workflow and others.
- **Parameters:** The principal parameters of the processing chain to be entered.

- **Parameters**

(Figure 19, top-right) The interface is structured in parts, showing the name of the steps that is performed in the workflow. By selecting one of the sections (e.g. *Coregistration*, *Filtering*, *Flattening*, etc.), the appropriate parameters show up in the dialog. The workflow can be used both by beginners and advanced users. The suggested approach for beginners is to set the Input in the workflow and modify the *Principal Parameters* (the default Principal Parameters are set according to the active *Preferences*). The Outputs are stored in the *Temporary Directory* if the Output Root Name is not set. The suggested approach for advanced users is to consider several groups of advanced parameters in the pull-down menu. The name of each group is based on the parameters, which it contains.

It is worth to mention that the original parameters, which are shown within each interface when this is first opened, are the same as those written in the currently active Preferences. If one or more parameters are modified in any specific processing interface, these new values are adopted for the subsequent processing, while the values written in the currently active Preferences remain unchanged. In other words, the Preferences are not affected by changes applied to the processing interfaces.

- **Output Files**

This is the part of the processing chain dedicated to the output files and options (Figure 19, bottom-right):

- **Output Root Name:** The name and location of the output files are entered either as single files, as file list or output root name. This parameter must be specified at the end of the processing chain. More than one output option might be required.
- **Delete Temporary Files:** If flagged, it allows to erase all the intermediate temporary files generated during the processing steps. If Temporary Files are not deleted, they can be found in ENVI output directory or in the specified output folder.

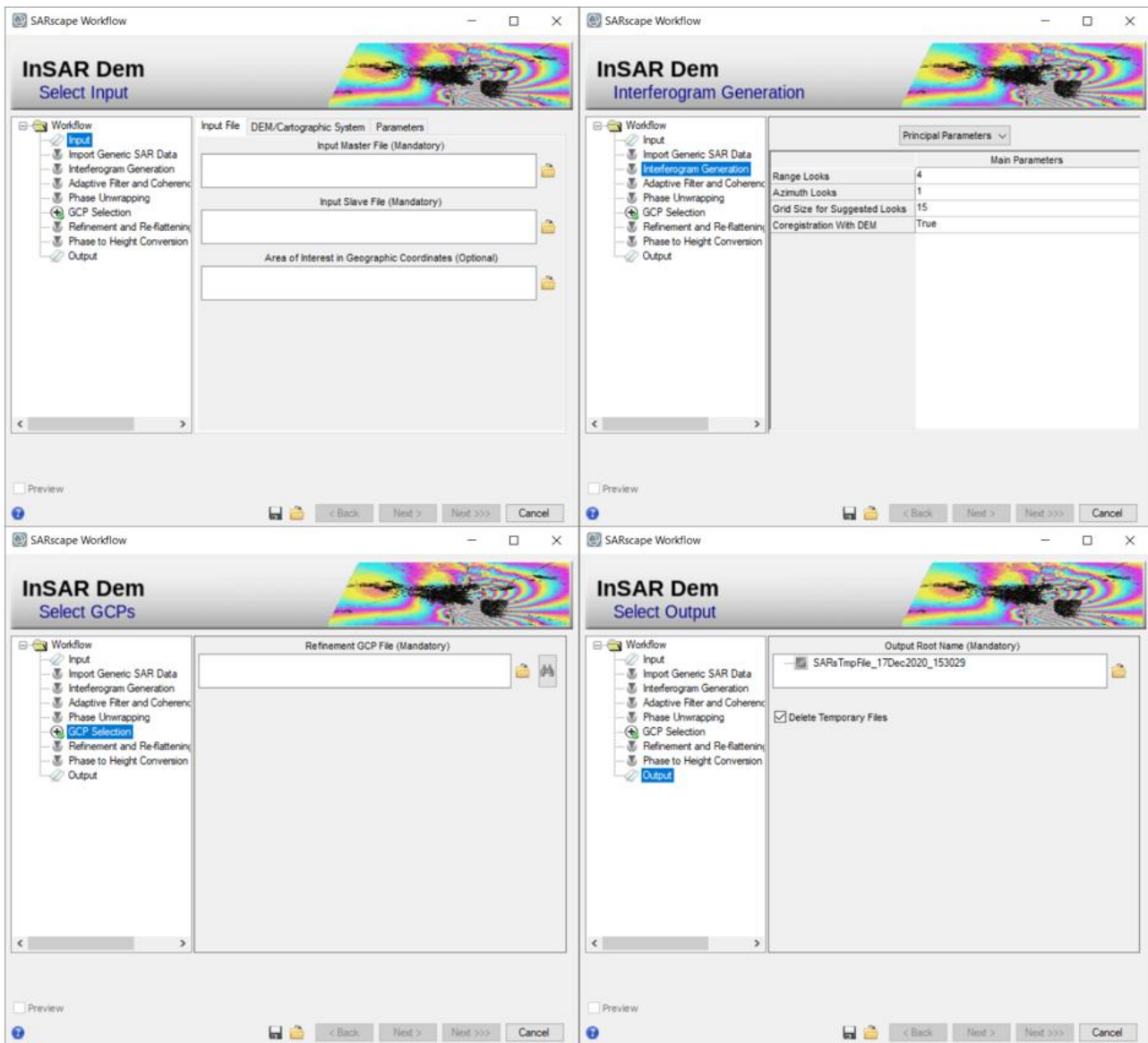





Figure 19 Workflow panel sections. Top-left: Input step. Top-right: parameter step. Bottom-left: GCP selection. Bottom-right: Output step.

The following buttons can be found at the bottom of each SARscape workflow (Figure 20):

- **Preview**
-  **Help**
-  **Save**
-  **Open**
- **< Back**
- **Next >**

By setting this flag, at the end of each processing step the intermediate outputs are made available for visualisation/analysis.

The help page of the current panel is opened in the default browser. Clicking this button allows to save and close the workflow at the current step. After saving the workflow window will be closed.

Clicking this button allows to open a previously saved workflow

The workflow is brought to the previous step in the chain. This action can also be performed by selecting the desired section in the processing window: if the parameters are changed, all the temporary files generated by the subsequent steps will be erased and the process restarted from the selected section.

The workflow is running up to the following step in the chain.

- **Next >>>** By clicking this button all the steps are performed in sequence and it is not necessary to use the "Next >" button. Make sure that all settings in all the steps are correctly set before starting with this processing. The preview option is not available in this case. If a GCP file is required, the workflow will stop at this step.
- **Cancel** The window will be closed.

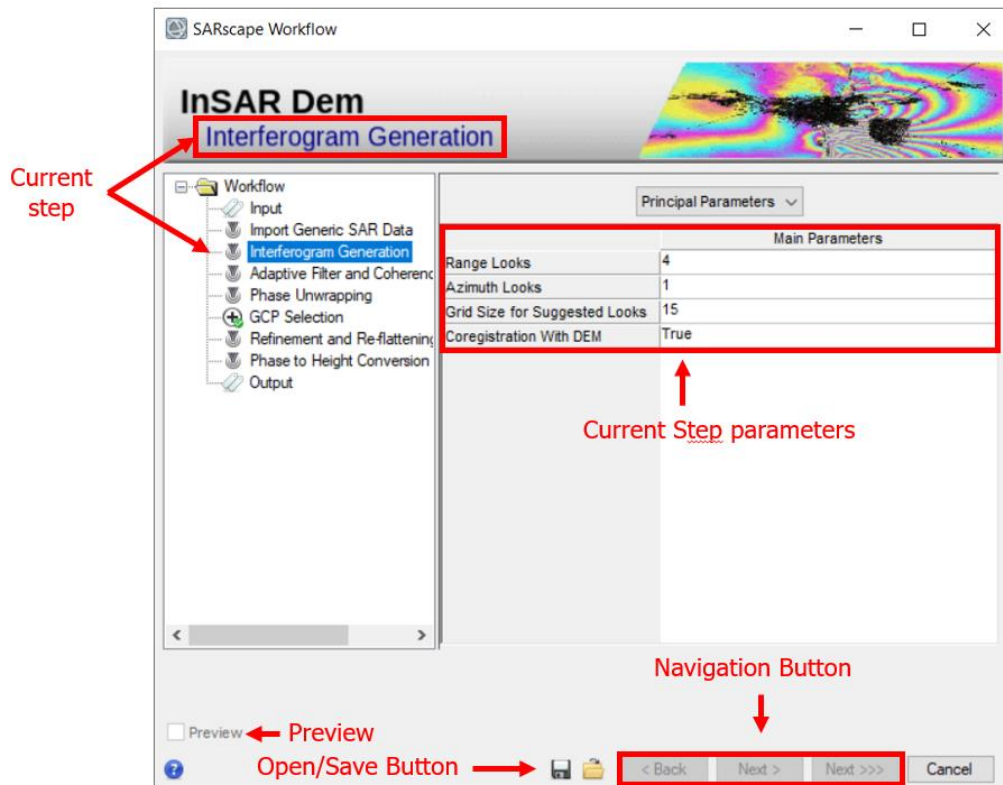


Figure 20 Example of InSAR DEM workflow at the Interferogram Generation step. The most important sections of the panel are explained here.

## 2.9 SARscape Extensions and file browser filter

Files created in SARscape are always composed by three separates files.

- **Binary data** (usually float, complex and byte) containing the **data matrix**.
- **.sml** SARscape ASCII header containing **all the mandatory information** for the data processing.
- **.hdr** corresponding to the ENVI header format. This enables the product **compatibility** within ENVI.

It is important to point out that the **binary data do not have Operating System (OS) extension** (using the dot symbol). The OS considers them as files without extension and it classifies the *Type* simply as "file" (Figure 21). Once SARscape runs a processing, it adds extensions using the underscore symbol (e.g. *\_slc*, *\_pwr*, *\_geo*). This nomenclature helps to rapidly find a file of a certain type when a filter in the file browser is active. However, the real file type is saved in the *.sml* file and the binary file can have any extension or no extension at all.

A list of extensions can be found in SARscape help selecting *General Information>Data Format>Nomenclature*.

Name	Date modified	Type	Size
burst_IW2_1_slc	17/12/2020 16:46	File	115,295 KB
burst_IW2_1_slc.dbf	17/12/2020 16:46	DBF File	1 KB
burst_IW2_1_slc.hdr	17/12/2020 16:46	HDR File	1 KB
burst_IW2_1_slc.kml	17/12/2020 16:46	KML File	2 KB
burst_IW2_1_slc.prj	17/12/2020 16:46	PRJ File	1 KB
burst_IW2_1_slc.shp	17/12/2020 16:46	SHP File	1 KB
burst_IW2_1_slc.shp.sml	17/12/2020 16:46	SML File	3 KB
burst_IW2_1_slc.shx	17/12/2020 16:46	SHX File	1 KB
burst_IW2_1_slc.sml	17/12/2020 16:46	SML File	48 KB

Figure 21 SAR data (in blue) identified by “\_slc” extension and the corresponding-.sml and .hdr files. Please, note that the two header files are recognized as HDR and SML files by the OS (Type column) whereas \_slc (no “dot” for the extension) is recognized simply as a “file”. Note: the highlighted files are the SAR files, the other files are related to the shapefile and its auxiliaries.

As stated before, SARscape uses **filters** in the file browser window **to help selecting** the correct files. A set of default extensions are displayed (Figure 22), the filter can be turned off (Figure 23), or it can be customized by the User (Figure 24). In the latter case, the star symbol is used as a wildcard with the following interpretation:

- When the star is at the beginning of the filter text (\*filtertext), only the files with the filename ending with the filter text are shown.
- When the star is at the end of the filter text (filtertext\*), only the files with the filename beginning with the filter text are shown.
- When the star is at the beginning and at the end of the filter text (\*filtertext\*), only the files with the filter text inside the filename are shown.

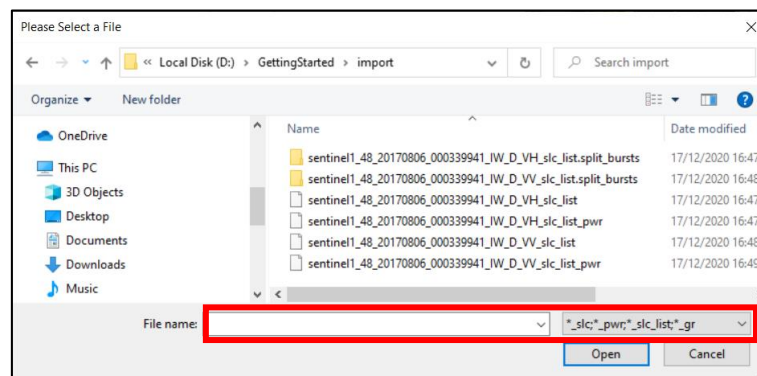


Figure 22: Filter with predefined extensions. Only the files in the selected directory that end with the extensions in the bottom-right corner (\_pwr, \_gr, \_slc and \_fil) are shown.

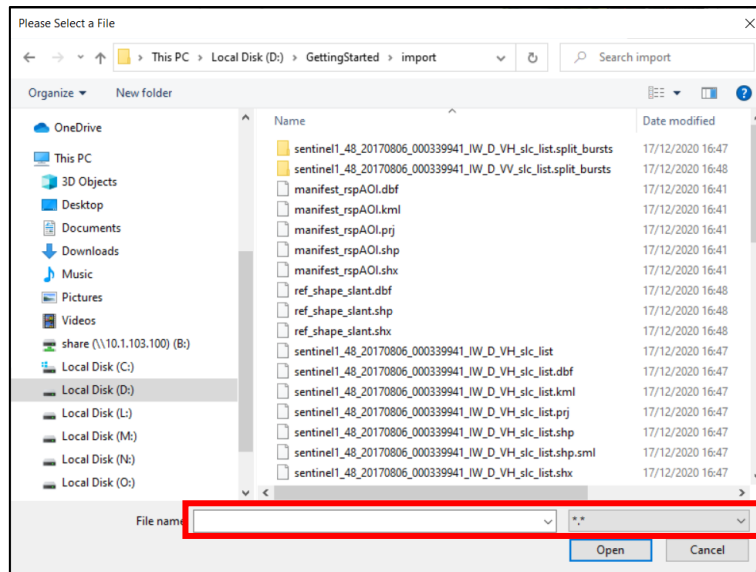


Figure 23 Filter is turned off. When the filter tab shows "\*.\*" (bottom right corner), all the files in the selected directory are shown.

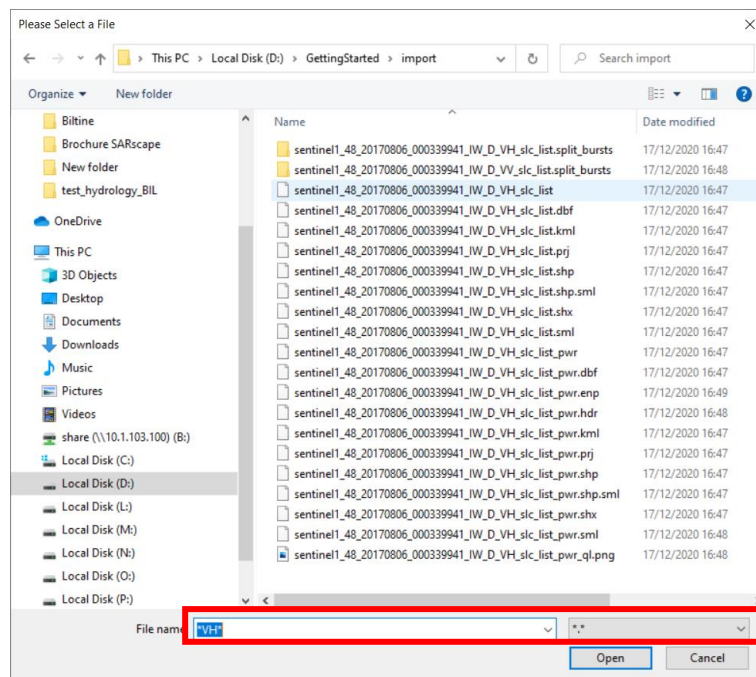


Figure 24 Customized filter. When the filter text is between the star symbols, it is possible to create a custom filter writing the filter text in the "File name:" field. In the example shown in the figure the files containing VH in the file names are shown. The filters on the bottom right side are ignored.



### 3 Batch Processing

Batch processing allows performing several checks and editing actions in a previously stored processing sequence. A *Store Batch* function is available in each processing panel. In addition, if the user has more than 1 licenses available, this function allows two or more processing runs to be carried out at the same time as each run creates a different *working directory*.

#### 3.1.1 Create Batch File

A Batch File Name has to be entered in the SARscape preferences (see SARscape preferences section).

#### 3.1.2 Store batch

All the SARscape processing panels show a *store batch* button. By pressing it, SARscape stores all the input/output files, variables and panel parameters to a Batch Step. A popup will display the step numbers.

#### 3.1.3 Batch Browser

Clicking on the Batch Browser, SARscape opens the batch file located in the batch path (see SARscape preferences) and the Batch browser Window is shown (Figure 25). Once the Batch Processing is started, the steps are performed top to bottom. The *Ignore Errors and Continue Batch* flag allows the process to skip possible errors and continue with the execution of subsequent steps. In case of error, no error message is shown. If this flag is not selected, the process stops at the first error and an error message is be shown.

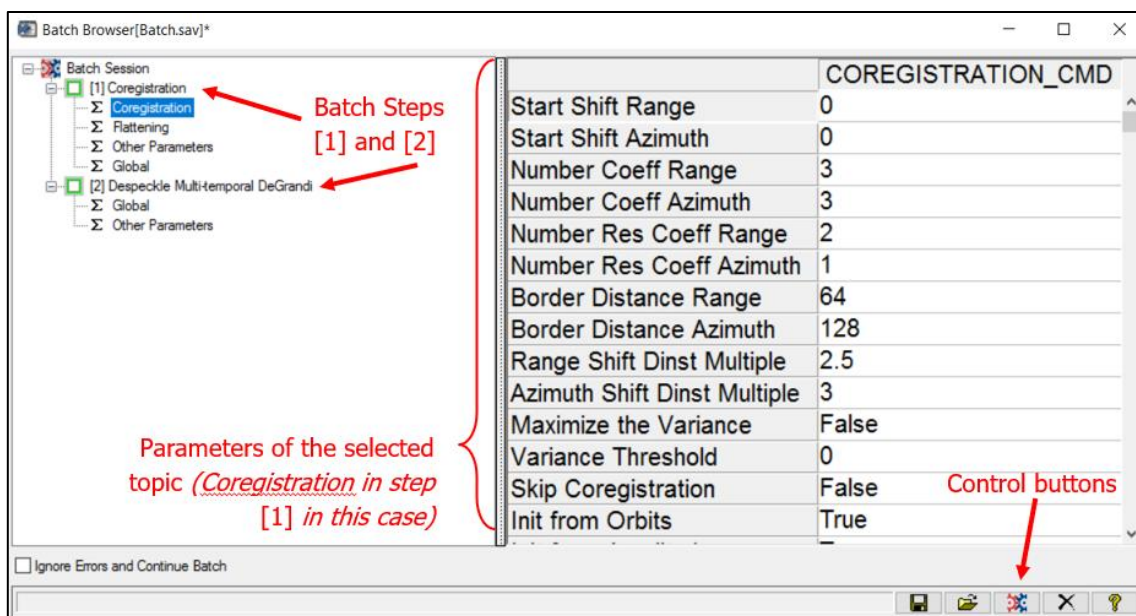









Figure 25 Batch browser window with the list of the steps on the left, the parameters on the right and control buttons on the bottom-right corner.

Control buttons for the batch browser are located in the bottom right corner of the batch browser window:

-  : generates a SARscapebatch script

-  : Saves the current batch processing chain
-  : Opens a batch file (.sav)
-  : Runs the current batch processing chain
-  : Resets the current Batch Session
-  : Opens the batch processing Help

### 3.1.3.1 Run batch

Before running a batch processing, check that only the steps that are intended to be processed are activated. Active steps are shown by a white square with green border , whereas inactive steps are shown by a red square . To switch from active to inactive (and vice versa): right mouse click on the step and then select *On/Off Command* (Figure 26). By selecting *Delete Command* the step is deleted and not loaded again. By selecting *Copy Command* the step can be copied and modified for additional steps.

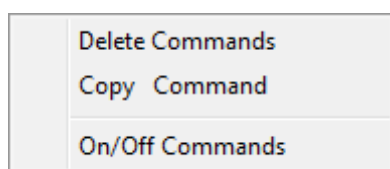



Figure 26 Context menu after right click on a Batch step.

Once all the needed steps are selected, click the  button to run the batch process (third control button from the left). This will create a new working directory inside the actual working directory.

If the different steps are dependent one to another, then it is suggested to uncheck the *Ignore Errors and Continue Batch* flag. If, instead, the steps are independent, then it is suggested to check this flag, so that if an error occurs, the other steps can be executed anyway.

**Note** It is not possible to store a batch step while the batch browser window is open. It is also not possible to open more than one batch browser window at time.

**Note** When a batch processing chain is started, a folder in the SARscape working directory is created. This folder contains the *Process.log* and *Process.trace* files.

### 3.1.3.2 Modify a step

To modify a step, click on the “plus” symbol near the step name: all the parameters set will be shown with a  $\Sigma$  symbol. Clicking on each parameter set will show all the parameters that can be modified.

**Note** Press “enter” on the keyboard after each change to the batch parameters in order to ensure that the changes take place.

## 3.1.4 Batch Chain

If the filename of each output is known, it is possible provide these as inputs to subsequent steps. This allows creating a chain where each output is the input of the following step. In this way, it is possible to build a long processing chain and let it run over night or weekends. This is useful in case of very large datasets or heavy processing, as well as when the same needs to be rerun using different parameters.

**Note:** It is important that the filename of the output is correctly known. If not, the subsequent step will not find the input files and the whole chain will crash. Please also note that if the Sentinel Import (or any other import) has the "Rename The File Using Parameters" check set to true, the input file of the subsequent step has to be exactly the name that SARscape will give when automatically renaming the output. If this cannot be foreseen, the import step can be separated from the other steps.

**Tip:** For a processing chain containing several steps, it is possible to create a batch file where you simply have to change the input of the first step and the output of the last step. The filenames of the internal steps can be always the same and used only to connect the different process (such as "output\_1" and so on). An improved version, using IDL scripting, can be found in "SARscape IDL scripting>Examples>Interferometry using sav" where an example is shown and described.

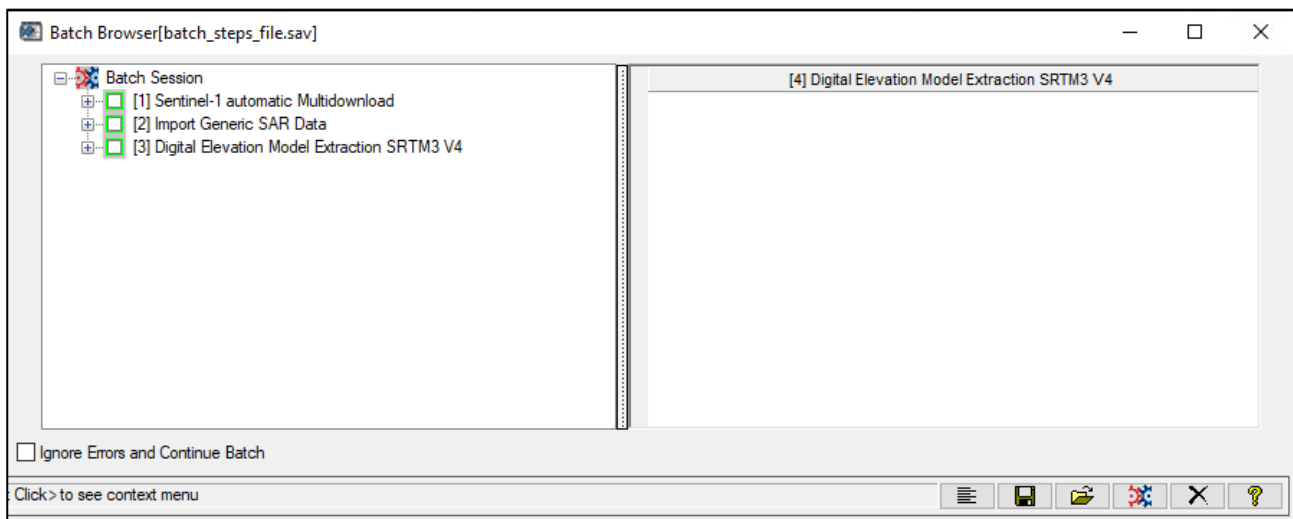


Figure 27: Batch Browser Window showing the active steps. **Note:** *Ignore Errors and Continue Batch* check is unchecked. Each process is dependent of the previous one, so in this case it makes no sense to continue the batch in case of errors.

### 3.1.5 Parallel Batch Processing

Depending on the number of available licenses, the Batch option allows the parallel processing. After a batch processing is started, it is possible to change the working directory and the batch name in the *SARscape preferences/directories*, create another batch processing chain and run it in parallel. It is also possible to set a different OpenCL device for each working directory by selecting it in the SARscape preferences → General Parameters and thus run different processes on different OpenCL devices at the same time.

**Tip** This functionality is useful to prepare several parallel processes that can be run for instance without the need of operator action.

**Note** Before starting a new batch processing, users have to make sure the batch browser window is closed.

**Note** It is not recommended to launch several parallel batch processing on low performance computers, since parallel processes anyhow use shared resources (CPUs, GPUs and RAM).



## 4 .Log, .Trace and Error report

In the SARscape Administration menu it is possible to view a Log (*Process.log*) and a Trace (*Process.trace*) file (Figure 28).

The **Log file** shows **all the processing related information**. Since the information is continuously appended the Log file, and not deleted after every processing run, this file can become very large unless its content is removed from time to time using the delete button.

The **Trace file** instead shows detailed information about the **latest process executed**. This file is overwritten any time a new process is launched.

The *Process.log* file and the *Process.trace* file are in the **working directory** set in SARscape preferences.

It is also possible to save an **Error Report file** by clicking on *Save error report*. The output *.txt* file store all **the error relevant information**. Once an error is reported, the program automatically initiates a procedure to save the *Error Report*.

This functionality can also be used to store the processing information (Log + Trace files), which are relevant to the last step executed.

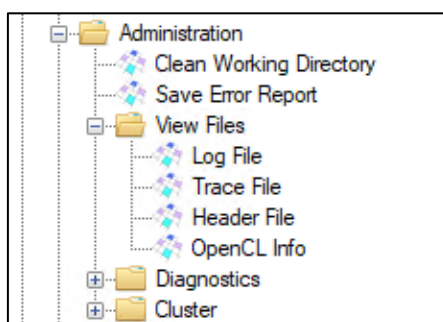


Figure 28 The SARscape Administration menu.

**Note** When saving the *Error Report* be sure that other SARscape processes have not been executed. The problem giving the error has to be the last process run before creating the error report. The *Error Report* has to be sent to the distributor for a further investigation and solution of the problem.

**Note** If the process is launched from the Batch Browser, the *Process.log* file and the *Process.trace* file are inside a folder created in the working directory. The name of the folder contains the date and the time when the batch process was launched. When a new batch is launched, a new folder is created and the *Process.log* and the *Process.trace* files are not overwritten.

## 5 Clean Working Directory

The Clean Working Directory tool, found in the Administrator folder (Figure 29), deletes the current working directory. A pop-up will appear asking if the user want to delete the working directory at the given path. In case folders were stored in the working directory (e.g. SRTM\_DEM\_DIR, GTOPO30\_DIR, etc.), they are not removed.

**Note** This action is irreversible.

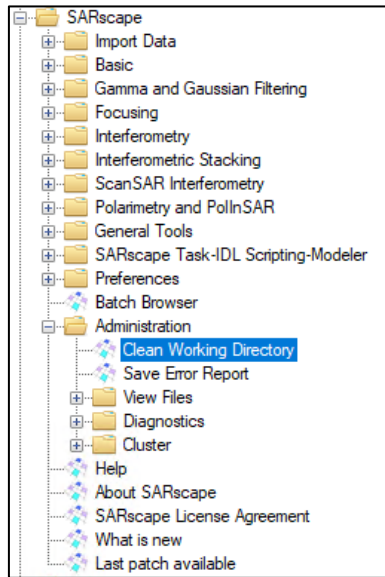


Figure 29 Clean Working Directory tool in ENVI toolbox.