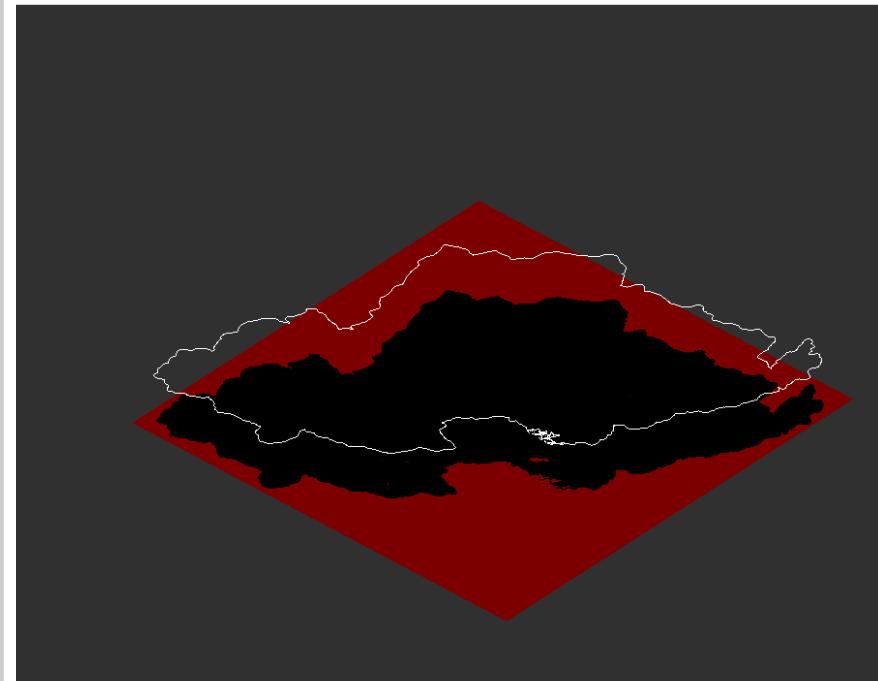


## Airborne LIDAR tutorial

# Footprint computing

Computing footprint for  
a set of airborne LIDAR data



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Summary of steps



## OBJECTIVE

Presentation of the steps to compute the footprint of a Airborne LIDAR dataset.



## REQUIRES

LAS/LAZ files containing the LIDAR point clouds corresponding to the tiles, one file per tile.



## RESULTS

A raster and a shapefile of the dataset's footprint

# How to cite this processing chain

The software and plugins used in this script are subject to intellectual property. For quoting them, click, at the end of the creation of the script, on ①. This button allows you to export the script as a documented version.



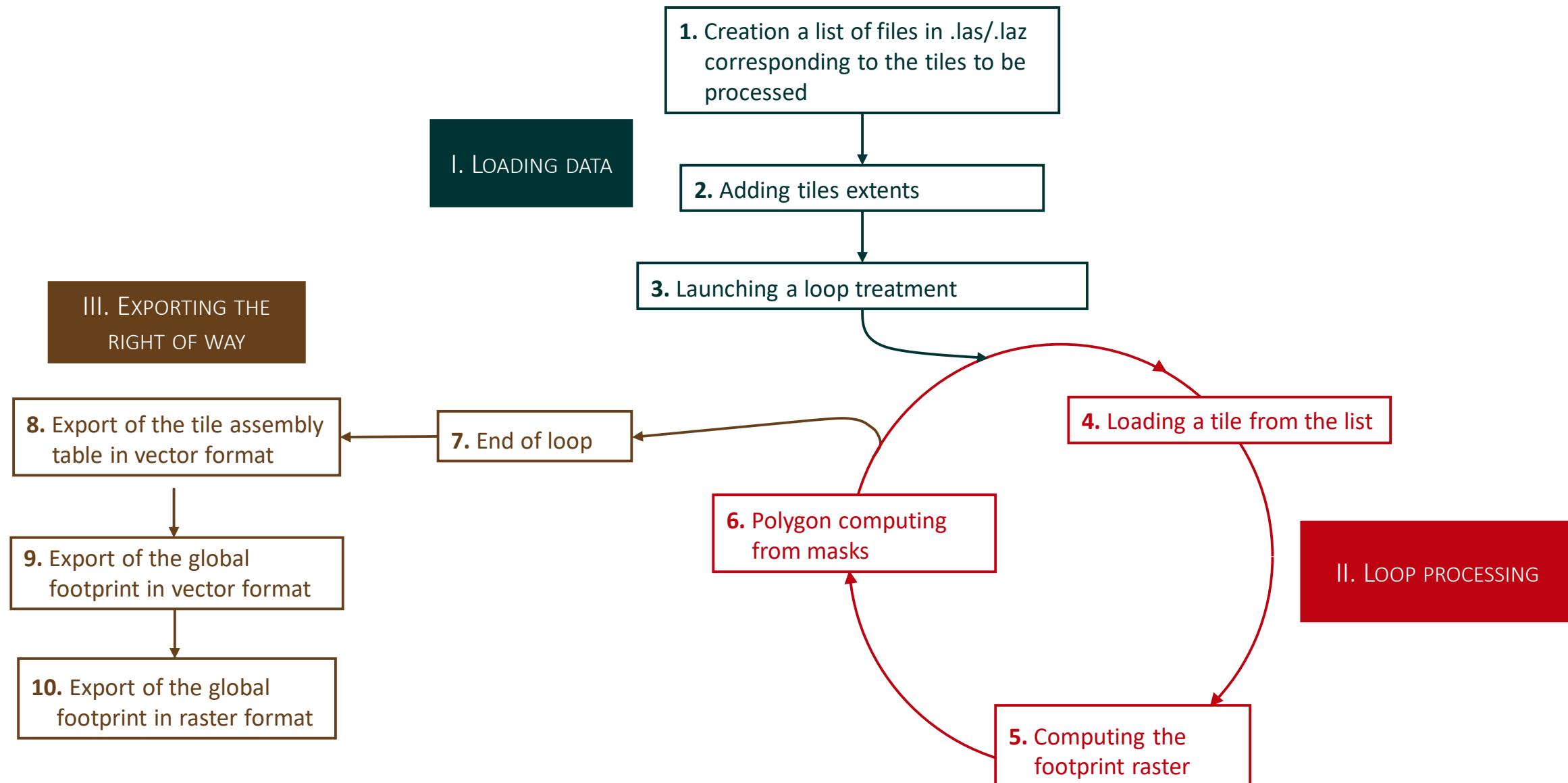
The plugins used here :

- [ONF Plugin]  
**Piboule Alexandre.2022.** *ONF Plugin for Computree*. Office National des Forêts, RDI Department.  
[ONF plugin web page](#).

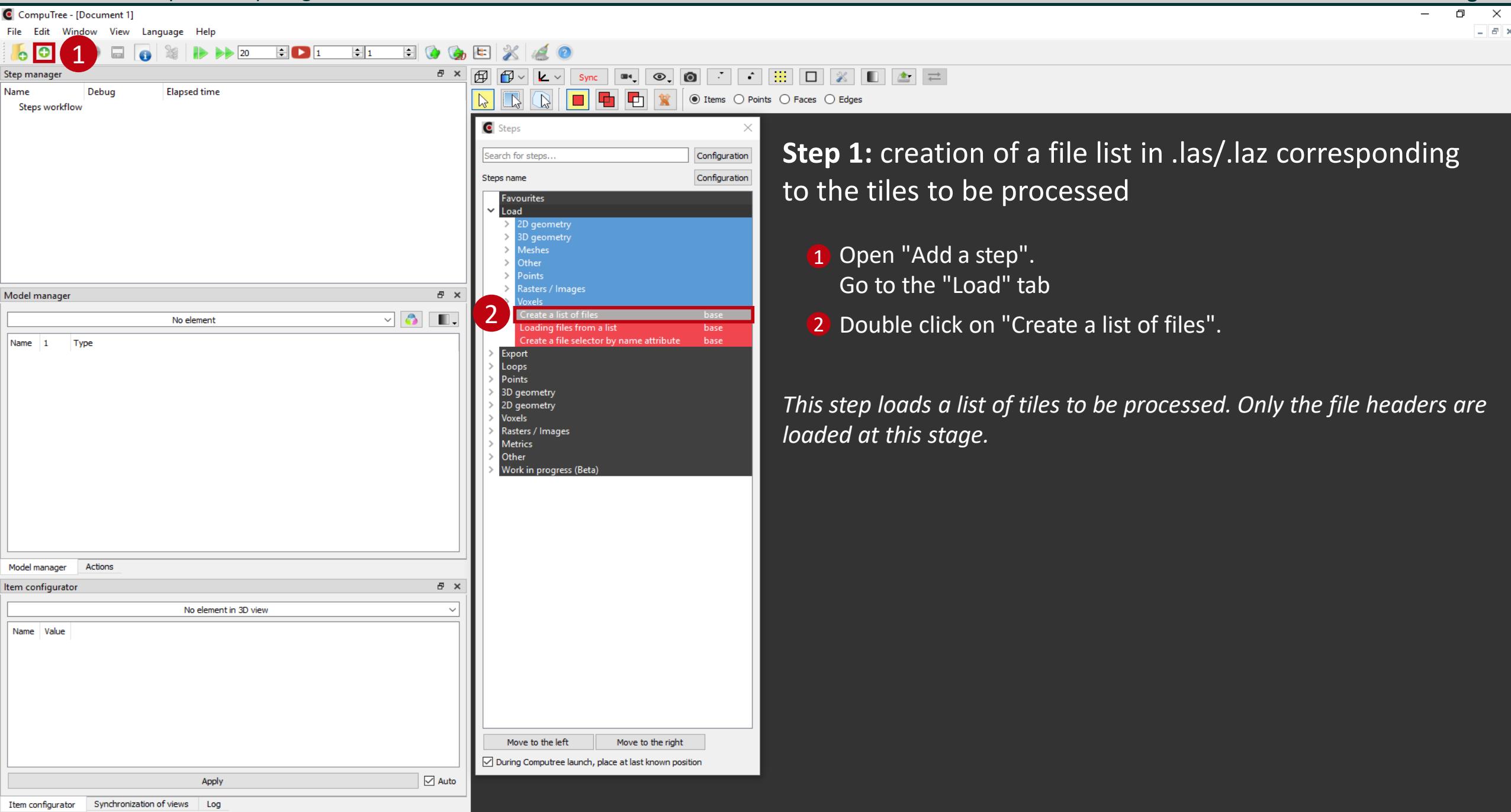
# Method for computing the footprint

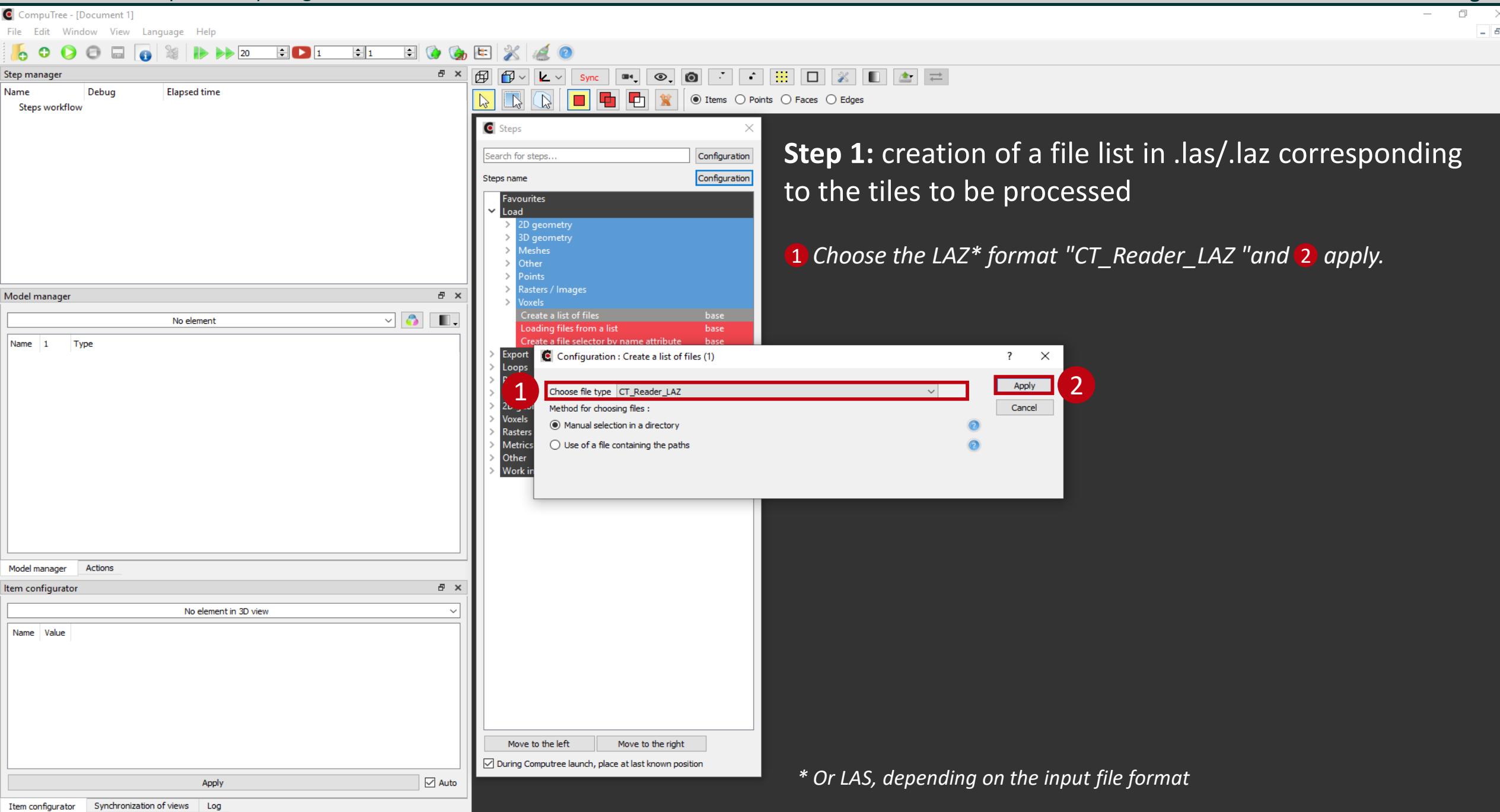
- The footprint is created from the intersection of the theoretical tiling and the 3D point cloud of the tiles.
- For each elementary unit within the theoretical tiling, 10 m by default, but resolution can be modified, the presence of at least one point in the point cloud allows to consider this elementary unit as part of the footprint.
- Thus a TRUE/FALSE footprint raster is obtained. The TRUE pixels correspond to all elementary units with at least one point in the point cloud.
- The vector footprint is a polygon that corresponds to the outline of the raster footprint.

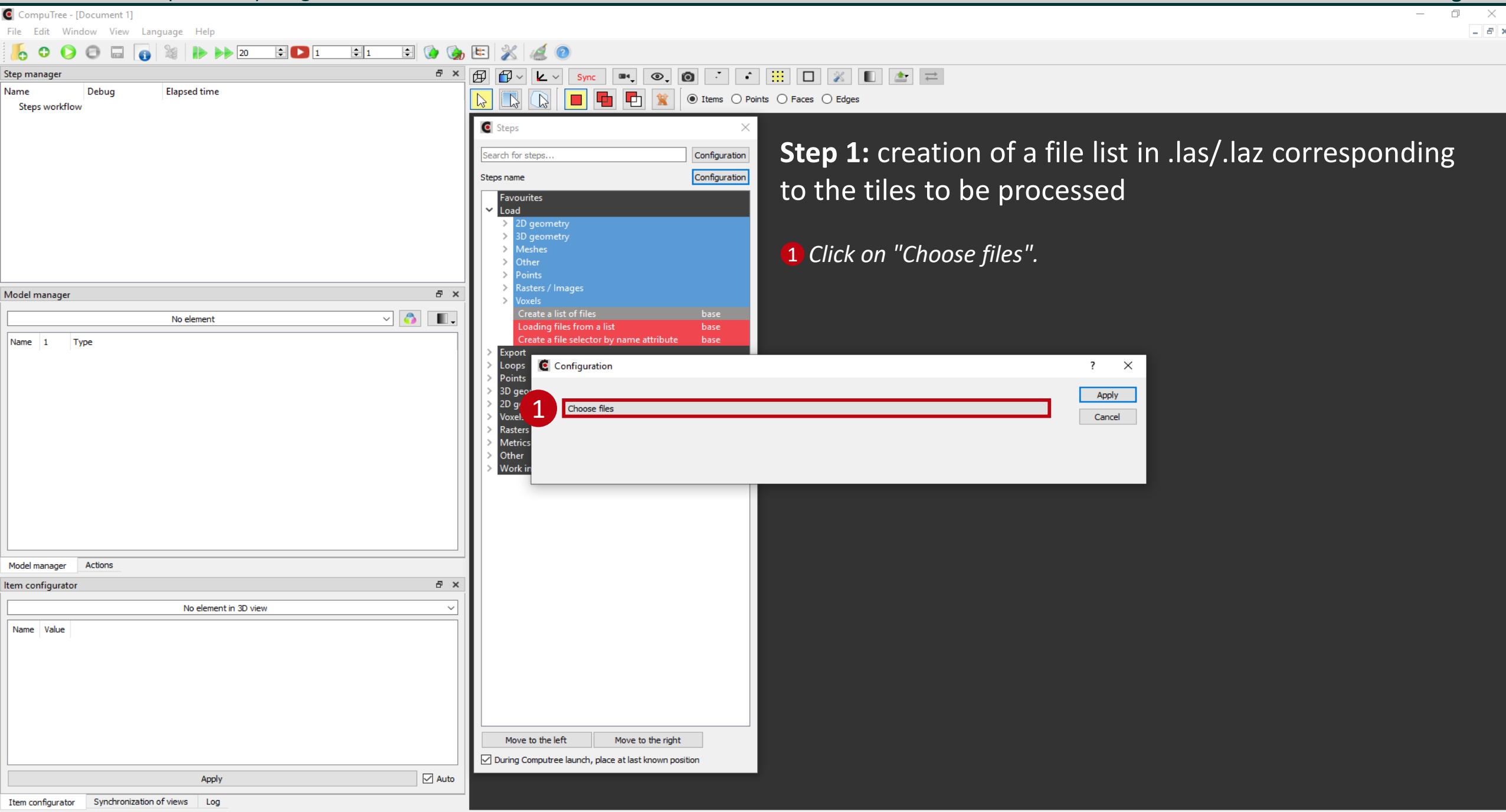
# Major steps of the processing chain

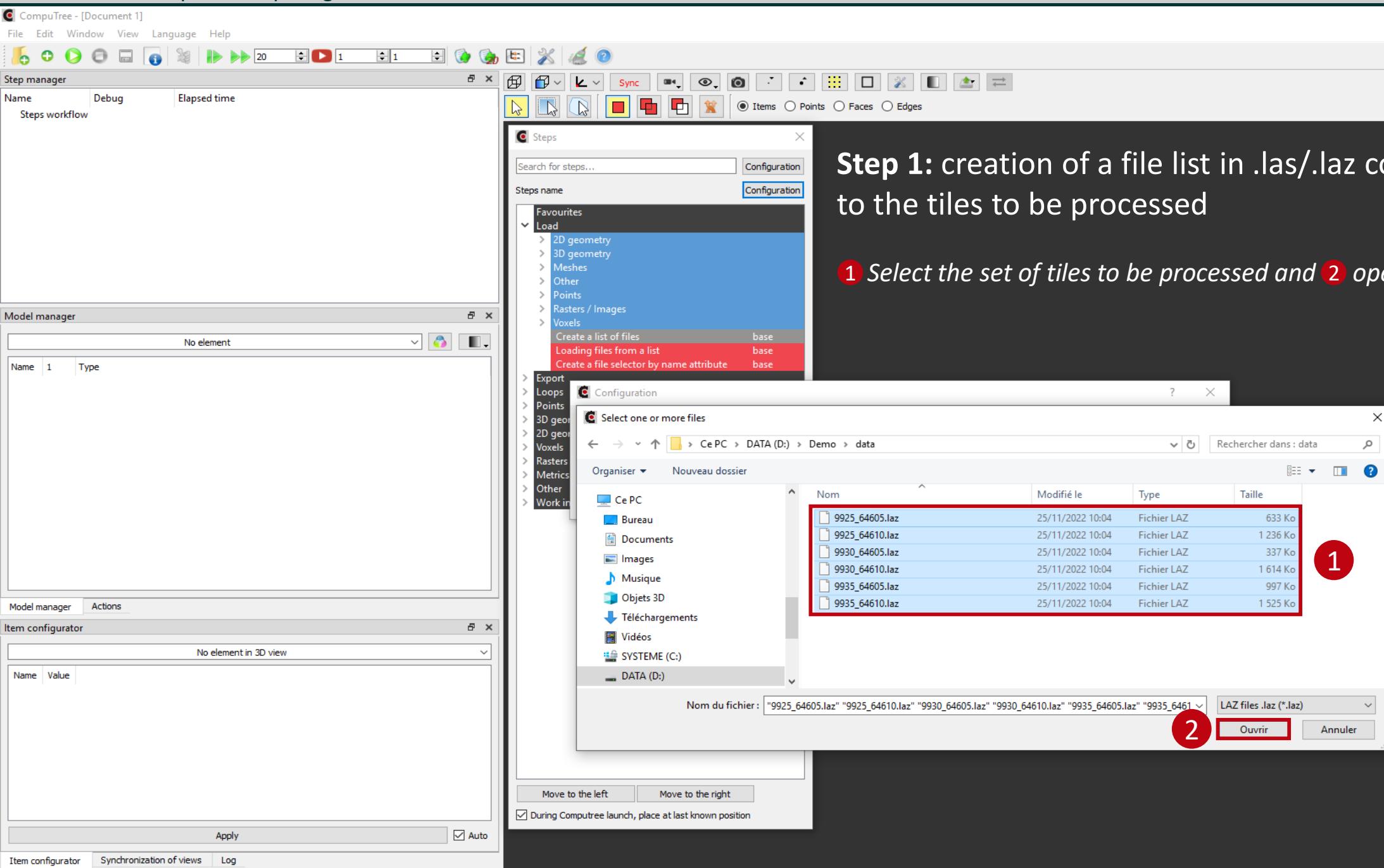


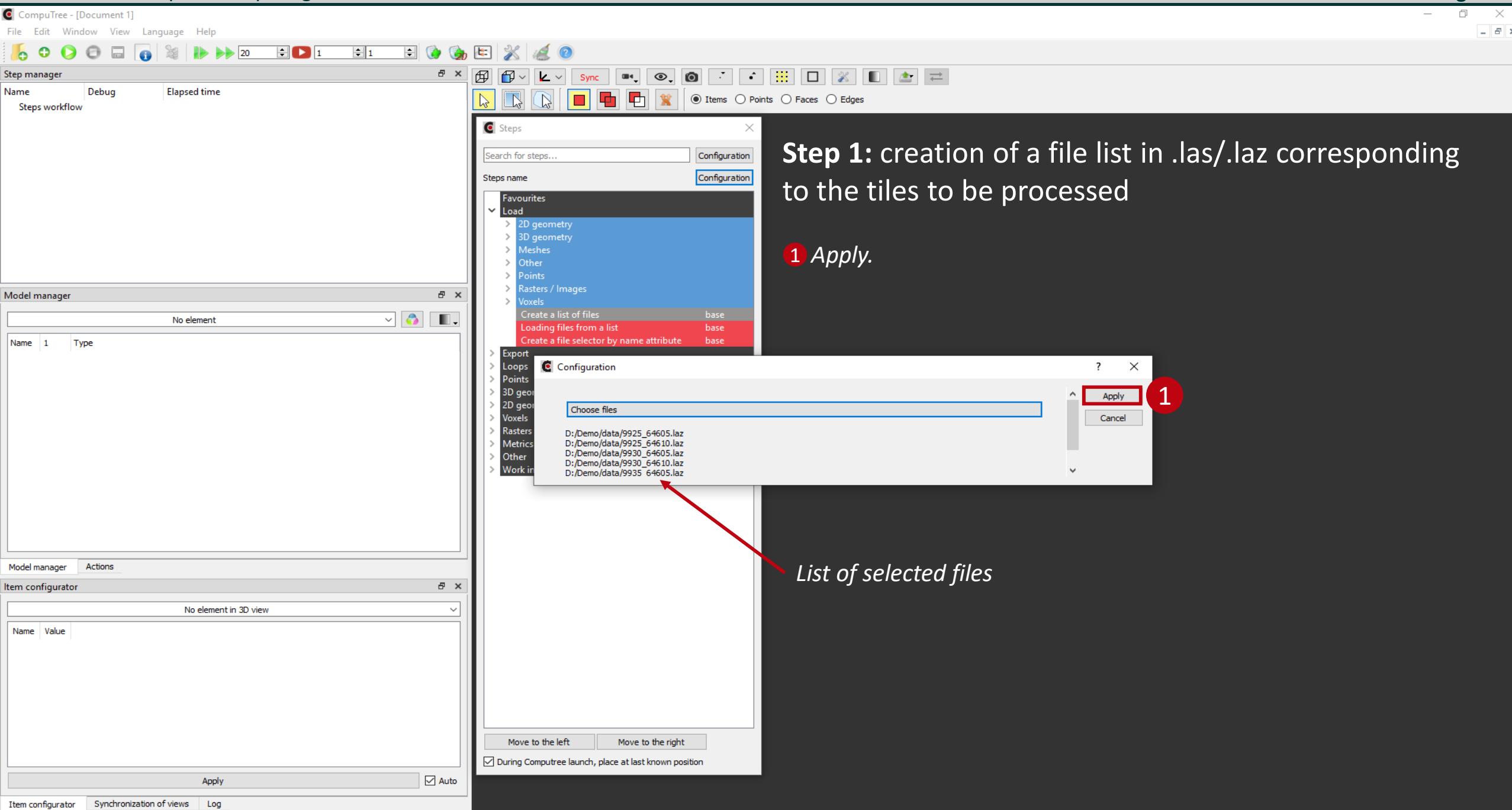
Detailed steps of the processing chain











The screenshot shows the CompuTree software interface with several open panes:

- Step manager**: Shows a workflow named "Steps workflow" with one step: "Create a list of files". A red circle labeled "1" is on the toolbar.
- Model manager**: Shows a list of elements: "No element".
- Item configurator**: Shows a table with columns "Name" and "Value".

A central dialog box is open:

- Steps** dialog:
  - Search bar: "Search for steps..."
  - Buttons: "Configuration", "Sync", "Items", "Points", "Faces", "Edges".
  - Tree view:
    - Favourites: Load, Export, Loops, Points, 3D geometry, 2D geometry.
    - 2D geometry: Footprints (selected), Add extents to tiles, Compute cumulative convex hull, Compute footprint raster, Create tiling, Creating polygons from a mask, Keep items contained in an extent, Keep items intersecting reference sur..., Load extent corresponding to a file n...    - Plots
    - Voxels
    - Rasters / Images
    - Metrics
    - Other
    - Work in progress (Beta)

A red circle labeled "2" is on the "Footprints" item in the tree view.

**Step 2: Adding tiles extents**

- 1 Open "Add a step". Go to the "2D Geometry" tab and then "Footprints".
- 2 Double-click on "Add extents to tiles".

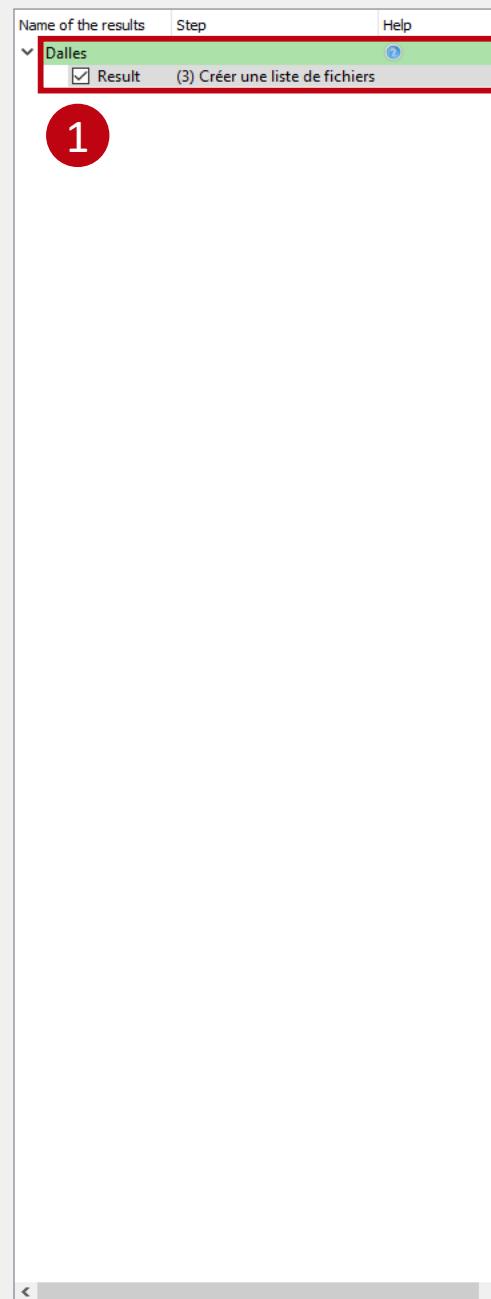
*The LAS files contain the point clouds, but not the theoretical extents used for the tiling.*

*This step aims at reconstructing this tiling, and creating an extent for each input LAS file. To do this, it must be provided with the size and starting point of the tiles.*

*In order to facilitate their use later on, the step gives to each extent the name of the corresponding file. To do this, the attribute containing the file name must be selected.*

Configuration des résultats d'entrée de l'étape "Ajout des emprises de dalles"

— X

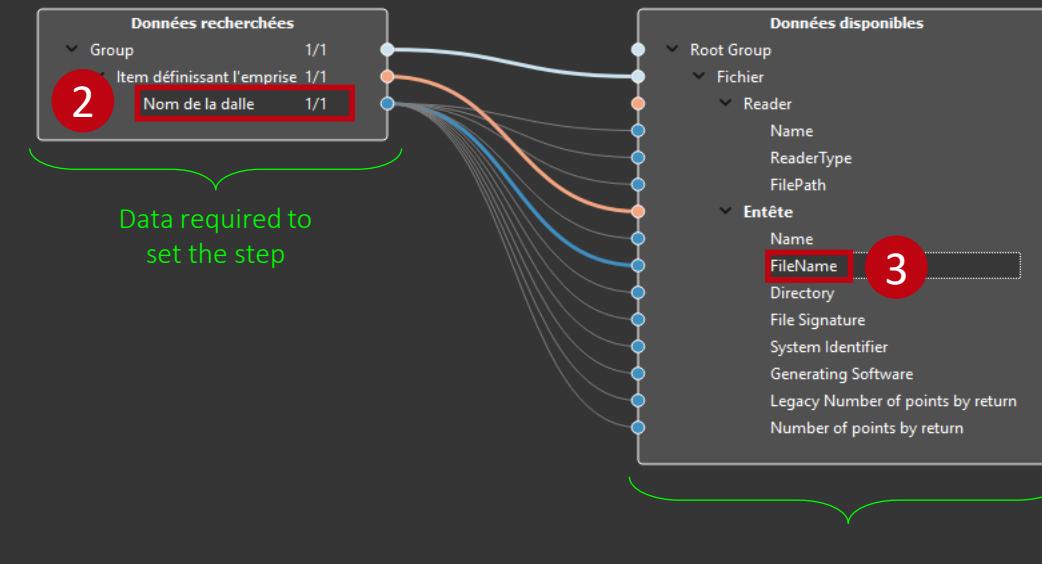


## Step 2: Adding tiles extents

1

This window allows you to select the attribute containing the file name to be used to name the created extent.

- ① Select results (check the appropriate box)
- ② Select the data you are looking for (click on the name of the data you are looking for)
- ③ Select from the available input data the one to be used (click on the name of the available data)
- ④ Validate



This window appears when there is more than one compatible input data to set up the step. In this case, the input data to be used must be indicated manually.

4

OK

Cancel

CompuTree - [Document 1]

File Edit Window View Language Help

**Step 2: Adding tiles extents**

**Step setting:**

- 1 Choose the reference coordinates.
- 2 Specify the size of the unit tile and ③ apply.

The sizes of the unit tile and the buffer zone (if any) must be known

Check the box if the input files contain a buffer zone

1  
2  
3

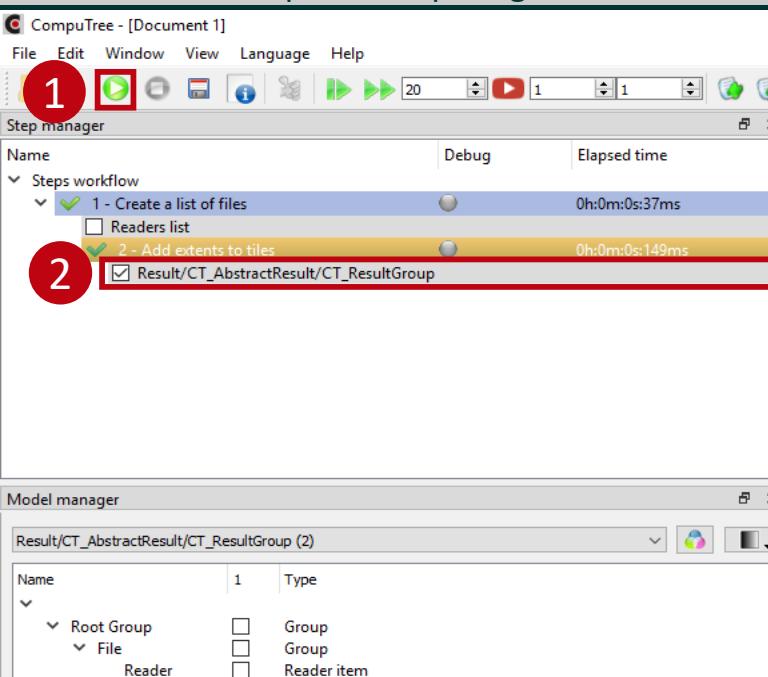
Configuration : Add extents to tiles (2)

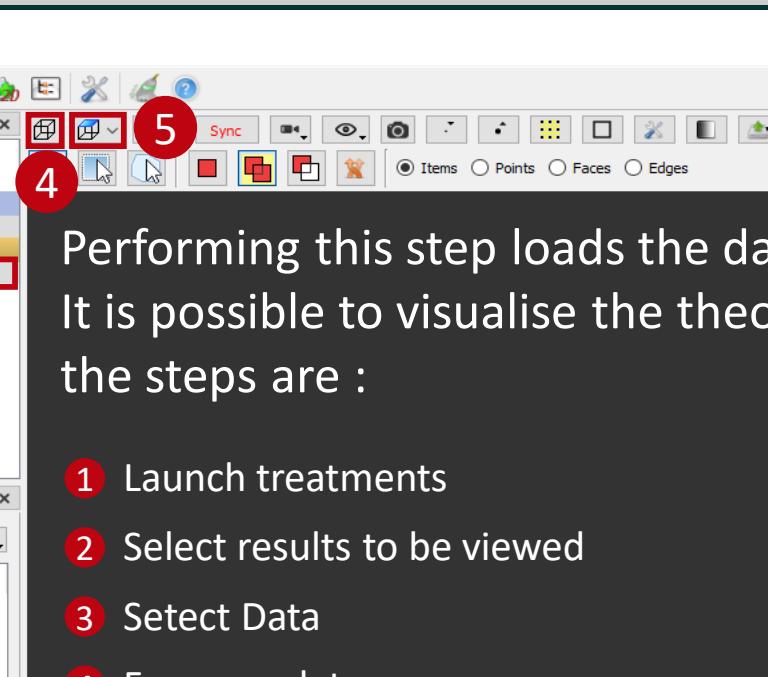
Reference X coordinate: 0.0000 m  
 Reference Y coordinate: 0.0000 m  
 Unit tile size (excluding buffer zones): 500.0000 m  
 Size of buffer: 20.0000 m  
 Check if the input files include the buffer zones

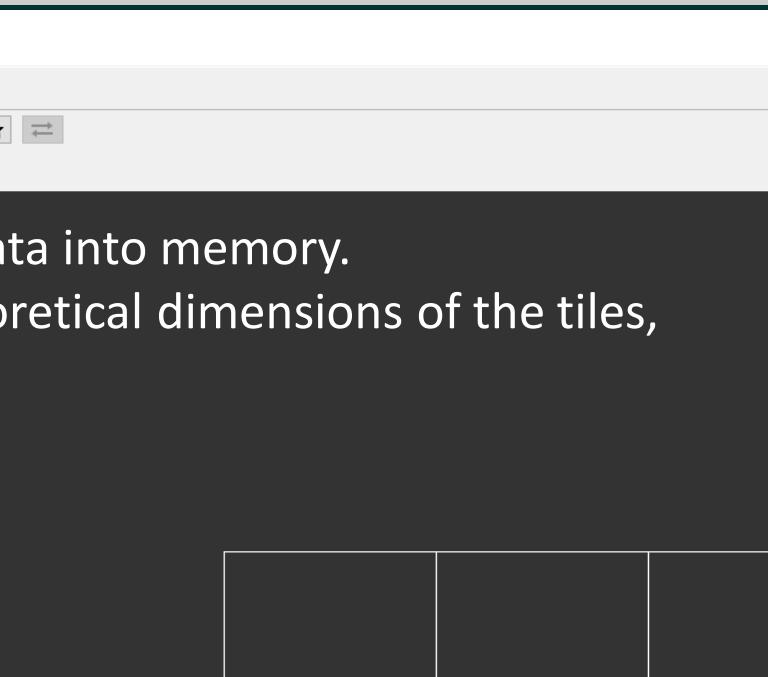
Apply Cancel

Move to the left Move to the right

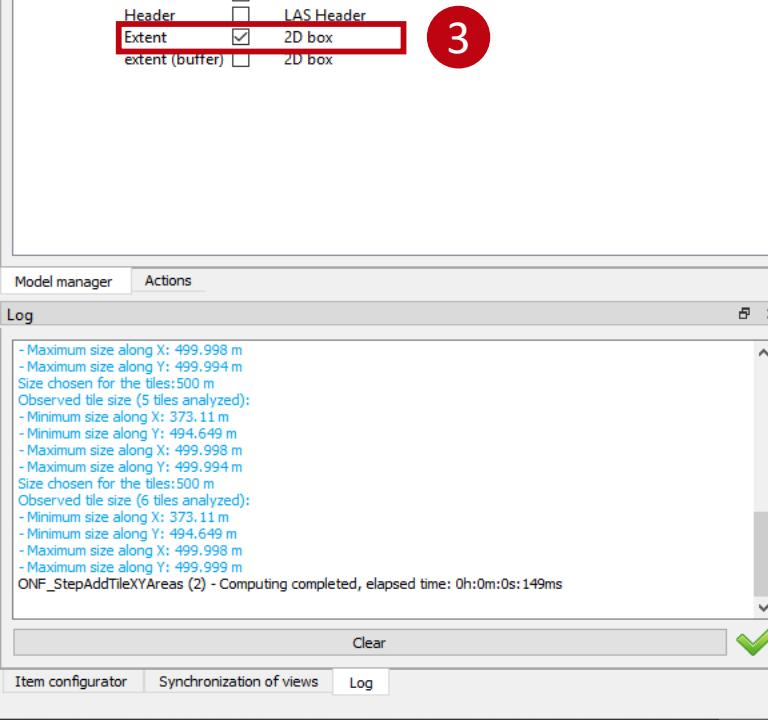
During Computree launch, place at last known position

**1** 

**2** 

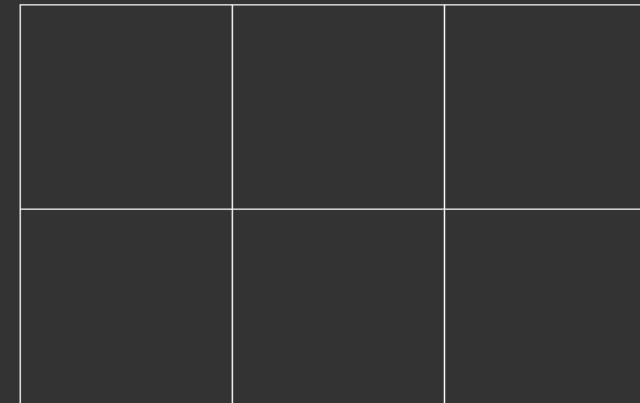
**3** 

**4** 

**5** 

Performing this step loads the data into memory.  
It is possible to visualise the theoretical dimensions of the tiles,  
the steps are :

- ① Launch treatments
- ② Select results to be viewed
- ③ Select Data
- ④ Focus on data
- ⑤ View from above



\* The execution of the steps is not mandatory for the creation of the rest of the script

CompuTree - [Document 1]

File Edit Window View Language Help

Step manager

Name	Debug	Elapsed time
Steps workflow		
1 - Create a list of files	Debug	0h:0m:0s:37ms
Readers list		
2 - Add extents to tiles	Debug	0h:0m:0s:149ms
Result/CT_AbstractResult/CT_ResultGroup		

Model manager

Result/CT\_AbstractResult/CT\_ResultGroup (2)

Name	1	Type
Root Group	<input type="checkbox"/>	Group
File	<input type="checkbox"/>	Group
Reader	<input type="checkbox"/>	Reader item
Header	<input type="checkbox"/>	LAS Header
Extent	<input checked="" type="checkbox"/>	2D box
extent (buffer)	<input checked="" type="checkbox"/>	2D box

Log

```
- Maximum size along X: 499.998 m
- Maximum size along Y: 499.994 m
Size chosen for the tiles: 500 m
Observed tile size (5 tiles analyzed):
- Minimum size along X: 373.11 m
- Minimum size along Y: 494.649 m
- Maximum size along X: 499.998 m
- Maximum size along Y: 499.994 m
Size chosen for the tiles: 500 m
Observed tile size (6 tiles analyzed):
- Minimum size along X: 373.11 m
- Minimum size along Y: 494.649 m
- Maximum size along X: 499.998 m
- Maximum size along Y: 499.999 m
ONF_StepAddTileXYAreas (2) - Computing completed, elapsed time: 0h:0m:0s:149ms
```

Clear  Log

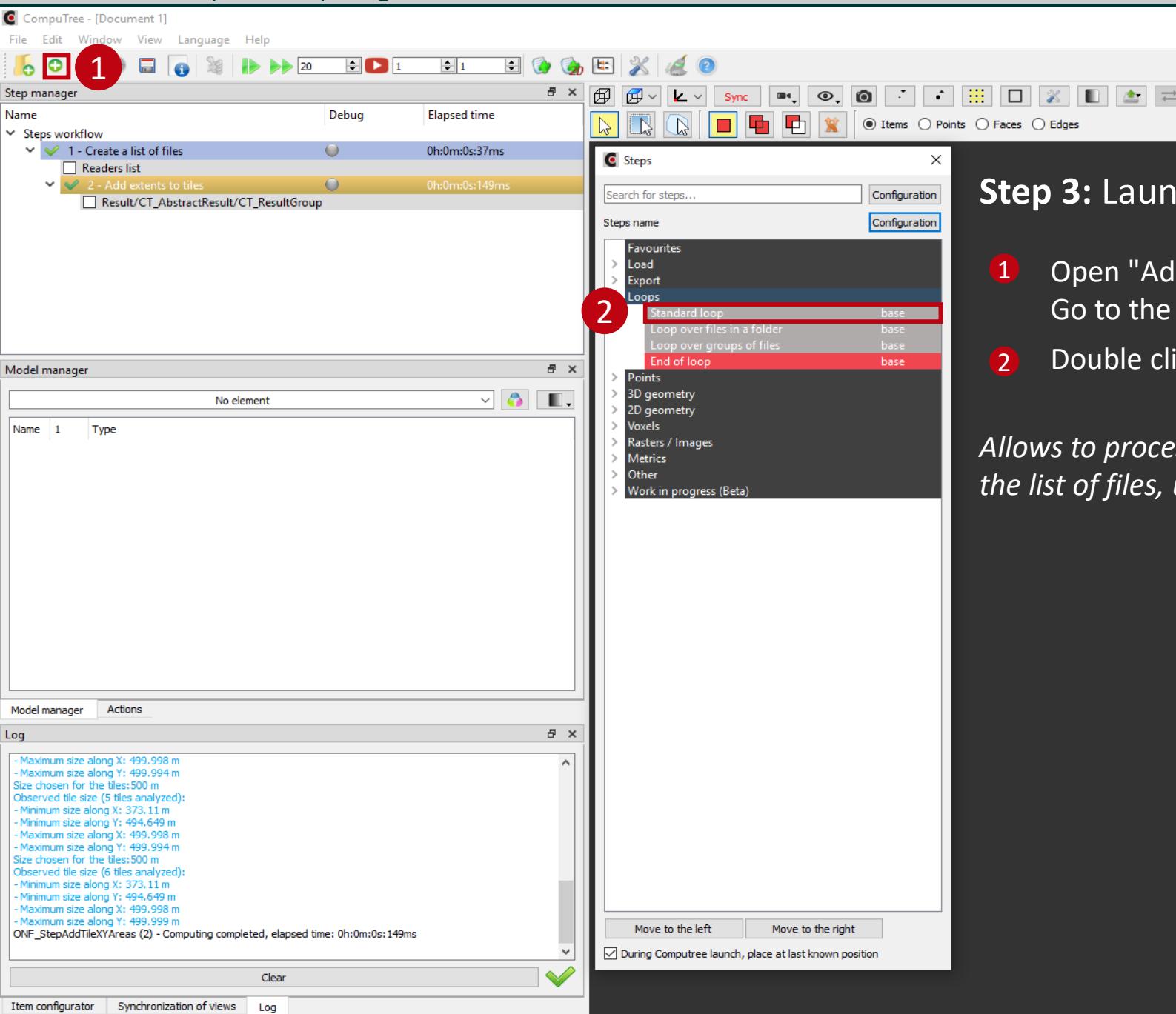
Item configurator Synchronization of views Log

① The step automatically calculates a buffer zone for each tile (red lines), of the chosen size

② The log allows you to check whether the size chosen for the tiles corresponds to the size observed



\* The execution of the steps is not mandatory for the creation of the rest of the script



## Step 3: Launching a loop treatment

- 1 Open "Add a step". Go to the "Loops" tab
- 2 Double click on "Standard loop".

*Allows to process successively the whole of the LAS tiles selected in the list of files, using a loop.*

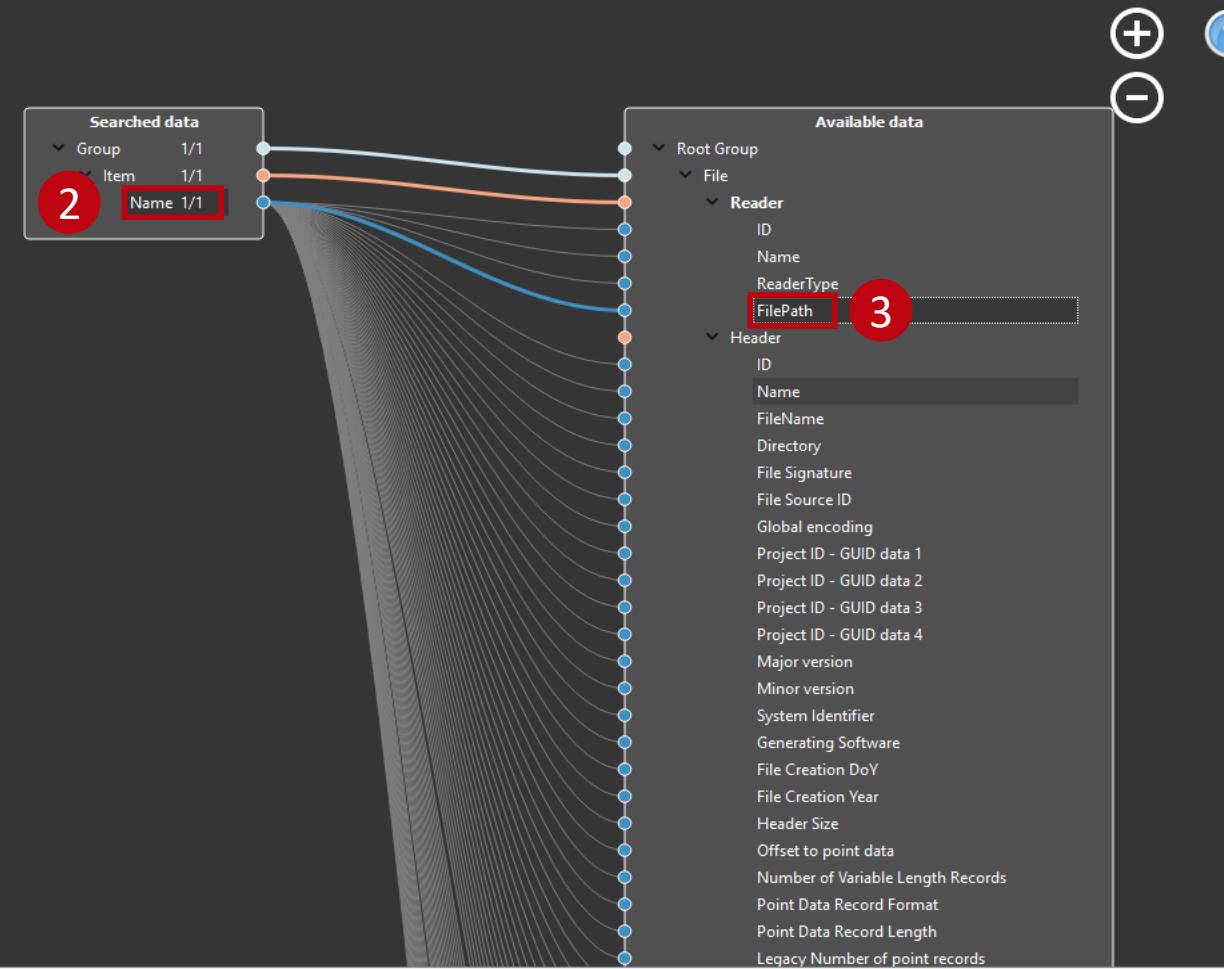
Configuration des résultats d'entrée de step "Standard loop"

Name of the results	Step	Help
<input checked="" type="checkbox"/> In Result		
<input checked="" type="checkbox"/> (2) Add extents to tiles		

1

## Step 3: Launching a loop treatment

*This step allows you to name the loop turns with the file names.*



4

CompuTree - [Document 1]

File Edit Window View Language Help

**1**

Step manager

Name	Debug	Elapsed time
Steps workflow		
1 - Create a list of files	0h:0m:0s:37ms	
Readers list		
2 - Add extents to tiles	0h:0m:0s:149ms	
Result/CT_AbstractResult/CT_ResultGroup		
(0%) 3 - Standard loop	0h:0m:0s:0ms	

Model manager

No element

Name 1 Type

**2**

Steps

Search for steps... Configuration

Steps name Configuration

Favourites

Load

- > 2D geometry
- > 3D geometry
- > Meshes
- > Other
- > Points
- > Rasters / Images
- > Voxels

Create a list of files	base
<b>Loading files from a list</b>	<b>base</b>
Create a file selector by name attribute	base

- > Export
- > Loops
- > Points
- > 3D geometry
- > 2D geometry
- > Voxels
- > Rasters / Images
- > Metrics
- > Other
- > Work in progress (Beta)

Move to the left Move to the right

During Computree launch, place at last known position

Log

```
- Maximum size along X: 499.998 m
- Maximum size along Y: 499.994 m
Size chosen for the tiles: 500 m
Observed tile size (5 tiles analyzed):
- Minimum size along X: 373.11 m
- Minimum size along Y: 494.649 m
- Maximum size along X: 499.998 m
- Maximum size along Y: 499.994 m
Size chosen for the tiles: 500 m
Observed tile size (6 tiles analyzed):
- Minimum size along X: 373.11 m
- Minimum size along Y: 494.649 m
- Maximum size along X: 499.998 m
- Maximum size along Y: 499.999 m
ONF_StepAddTileXYAreas (2) - Computing completed, elapsed time: 0h:0m:0s:149ms
```

Clear

Item configurator Synchronization of views Log

1 2 3 4 5

**Step manager**

Name	Debug	Elapsed time
Steps workflow		
1 - Create a list of files	0h:0m:0s:37ms	
2 - Add extents to tiles	0h:0m:0s:149ms	
3 - Standard loop	0h:0m:0s:15ms	
5 - Loading files from a list	0h:0m:0s:189ms	
Result/CT_AbstractResult/CT_ResultGroup		

**Model manager**

Result/CT\_AbstractResult/CT\_ResultGroup (5)

Name	Type
Root Group	Group
File	Group
Reader	Reader item
Header	LAS Header
Extent	2D
extent (buffer)	2D
Scene	Point cloud
LAS attributes	LAS point attributes
Return Number	Point CT_Reader_LAZ::PointCore6_10 attributes
Number of Returns	Point CT_Reader_LAZ::PointCore6_10 attributes
Classification Flags	Point CT_Reader_LAZ::PointCore6_10 attributes
Scanner Channel	Point CT_Reader_LAZ::PointCore6_10 attributes
Scan Direction Flag	Point CT_Reader_LAZ::PointCore6_10 attributes
Edge of Flight Line	Point CT_Reader_LAZ::PointCore6_10 attributes
Intensity	Point CT_Reader_LAZ::PointCore6_10 attributes

**Item configurator**

Item with points

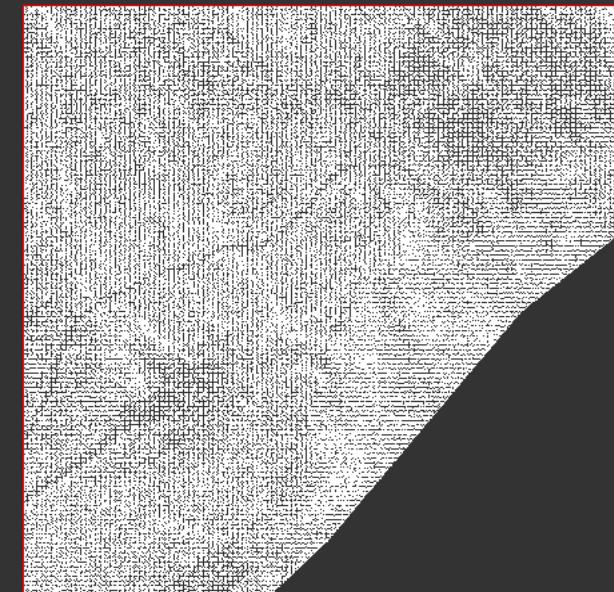
Name	Value
1 Points	<input checked="" type="checkbox"/> Activate
2 Bounding Shape	<input type="checkbox"/> Activate
3 Centre of the Bounding Shape	<input type="checkbox"/> Activate

Apply  Auto

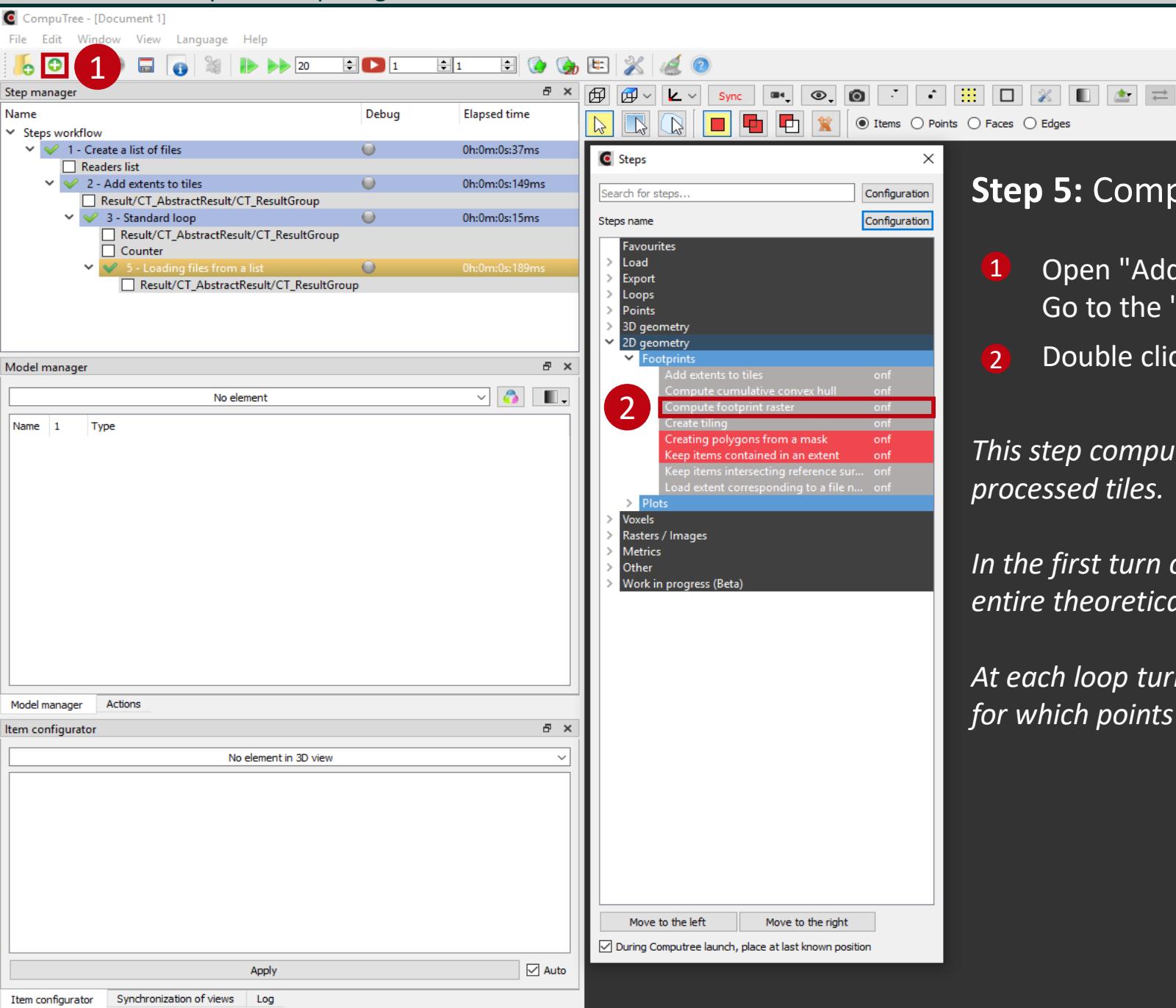
**Sync**

Items Points Faces Edges

If the loop is not closed, only the first tile in the list is loaded and can be viewed. The superimposition of the extent (red line) and the point cloud allows a visual control.



\* The execution of the steps is not mandatory for the creation of the rest of the script



## Step 5: Computing the footprint raster

- 1 Open "Add a step".  
Go to the "2D Geometry" tab and then "footprints".
- 2 Double click on "Compute footprint raster".

*This step computes a raster of the global footprint of all the processed tiles.*

*In the first turn of the loop, the step creates the raster covering the entire theoretical extent of all the selected tiles.*

*At each loop turn, the step modifies the raster by indicating the cells for which points are present.*

Configuration des résultats d'entrée de step "Compute footprint raster"

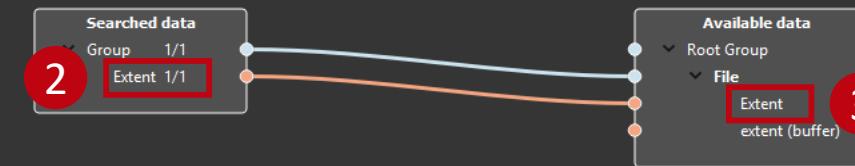
1

Select the step Add extends to tiles, before the loop

The screenshot shows the configuration interface for the 'Compute footprint raster' step. A red circle labeled '1' highlights the 'Add extents to tiles' step under the 'Total footprint (all tiles)' section. A red arrow points from this step down to the 'Available data' diagram below.

## Step 5: Computing the footprint raster

Selection of extent (without a buffer zone) to calculate the global extent of all the selected tiles.



Configuration des résultats d'entrée de step "Compute footprint raster"

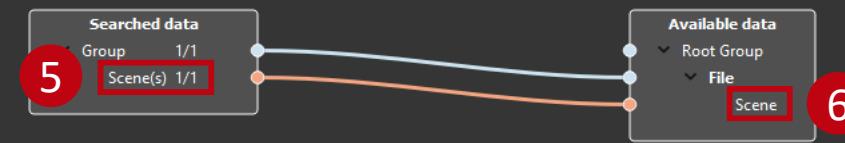
X

Name of the results	Step	Help
Total footprint (all tiles)	(5) Loading files from a list Result (3) Standard loop (3) Standard loop (2) Add extents to tiles	
Scene(s)	(5) Loading files from a list <input checked="" type="checkbox"/>	
Counter result	Result (3) Standard loop	

4

## Step 5: Computing the footprint raster

Select the scene (point cloud) loaded from the current turn tile.



OK Cancel

Configuration des résultats d'entrée de step "Compute footprint raster"

X

Name of the results	Step	Help
Total footprint (all tiles)	(5) Loading files from a list Result (3) Standard loop (3) Standard loop (2) Add extents to tiles	?
Scene(s)	(5) Loading files from a list	?
Counter result	Result (3) Standard loop	?

7

## Step 5: Computing the footprint raster

*Don't forget to check the counter that allows to follow the turns processed in the loop*



10

OK

Cancel

CompuTree - [Document 1]

File Edit Window View Language Help

**Step manager**

Name	Debug	Elapsed time
Steps workflow		
1 - Create a list of files		0h:0m:0s:37ms
Readers list		
2 - Add extents to tiles		0h:0m:0s:149ms
Result/CT_AbstractResult/CT_ResultGroup		
3 - Standard loop		0h:0m:0s:15ms
Result/CT_AbstractResult/CT_ResultGroup		
Counter		
5 - Loading files from a list		0h:0m:0s:189ms
Result/CT_AbstractResult/CT_ResultGroup		

**Model manager**

No element

Name 1 Type

**Item configurator**

No element in 3D view

Apply Auto

**Step 5: Computing the footprint raster**

**Step setting:**

① Choose the resolution of the raster and ② apply.

This is the elementary area on which at least one point of the point cloud is required. The finer the resolution, the bigger the raster output.

The screenshot shows the CompuTree software interface with several panes:

- Step manager:** Shows a workflow named "Steps workflow" with six steps:
  - 1 - Create a list of files (0h:0m:0s:37ms)
  - 2 - Add extents to tiles (0h:0m:0s:149ms)
  - 3 - Standard loop (0h:0m:0s:15ms)
  - 4 - Loading files from a list (0h:0m:0s:189ms)
  - 5 - Compute footprint raster (0h:0m:0s:0ms)
  - 6 - Compute footprint raster (0h:0m:0s:0ms) (highlighted in yellow)
- Model manager:** Shows "No element".
- Item configurator:** Shows "No element in 3D view".
- Steps dialog:** Shows a list of steps under the "Footprints" category:
  - Add extents to tiles (onf)
  - Compute cumulative convex hull (onf)
  - Compute footprint raster (onf)
  - Create tiling (onf)
  - Creating polygons from a mask (onf)** (highlighted in red)
  - Keep items contained in an extent (onf)
  - Keep items intersecting reference sur... (onf)
  - Load extent corresponding to a file n... (onf)

**Step 6: Polygon computing from masks**

- 1 Open "Add a step". Go to the "2D Geometry" tab and then "Footprints".
- 2 Double click on "Creating polygons from a mask".

*This step allows the computing of the global footprint in vector format, of all of the tiles, from the previously computed raster.*

The screenshot shows the CompuTree software interface with several panels:

- Step manager:** Displays a workflow with steps: 1 - Create a list of files, 2 - Add extents to tiles, 3 - Standard loop, 5 - Loading files from a list, and 6 - Compute footprint raster. Step 6 is currently running at 0h:0m:0s:0ms.
- Model manager:** Shows a list of elements with one item named "1".
- Item configurator:** Shows a 3D view with no elements and an "Apply" button.

A context menu is open over step 6, specifically the "Footprints" option under "2D geometry". A configuration dialog is displayed for "Creating polygons from a mask". The dialog has two radio button options:

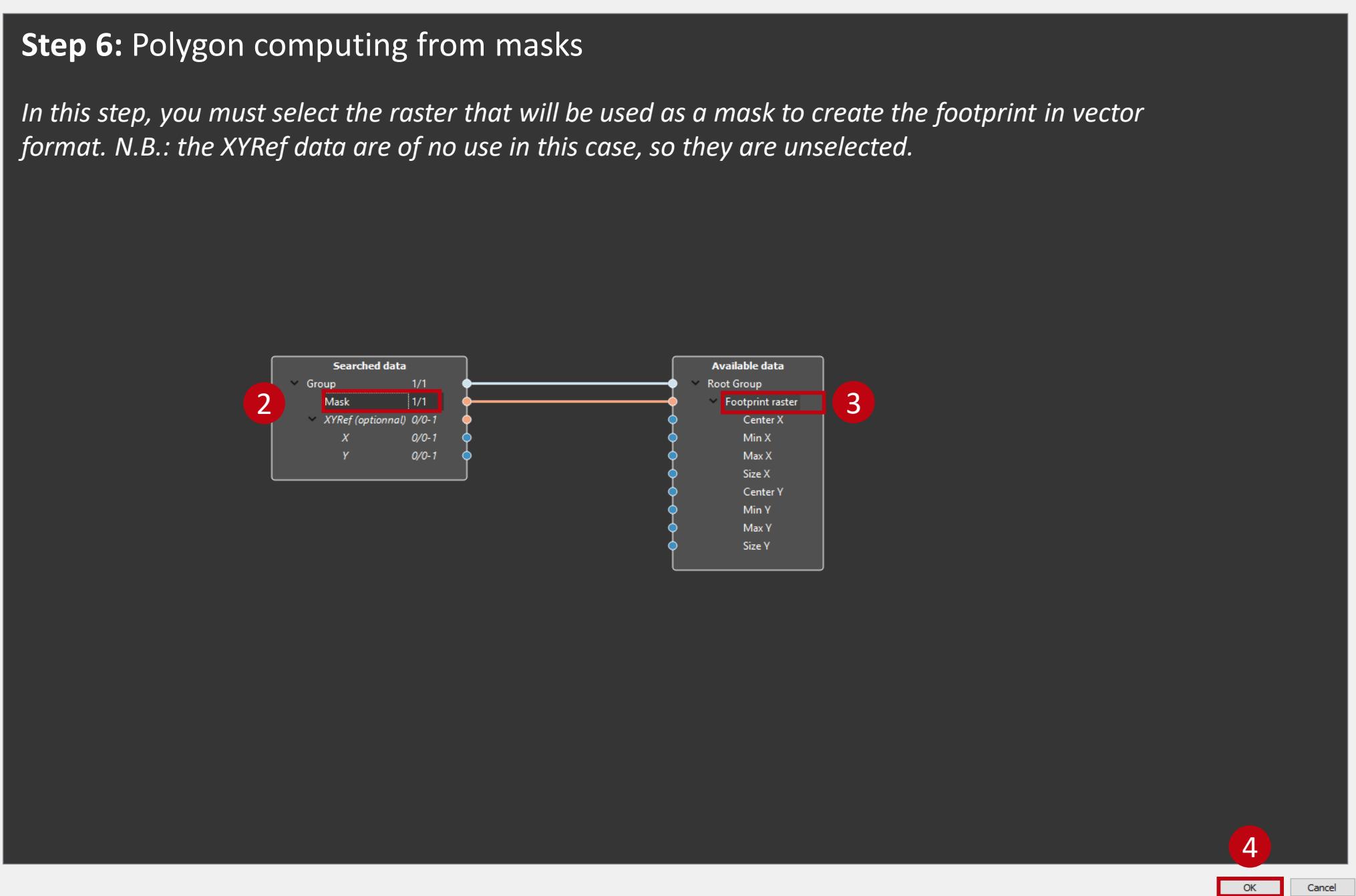
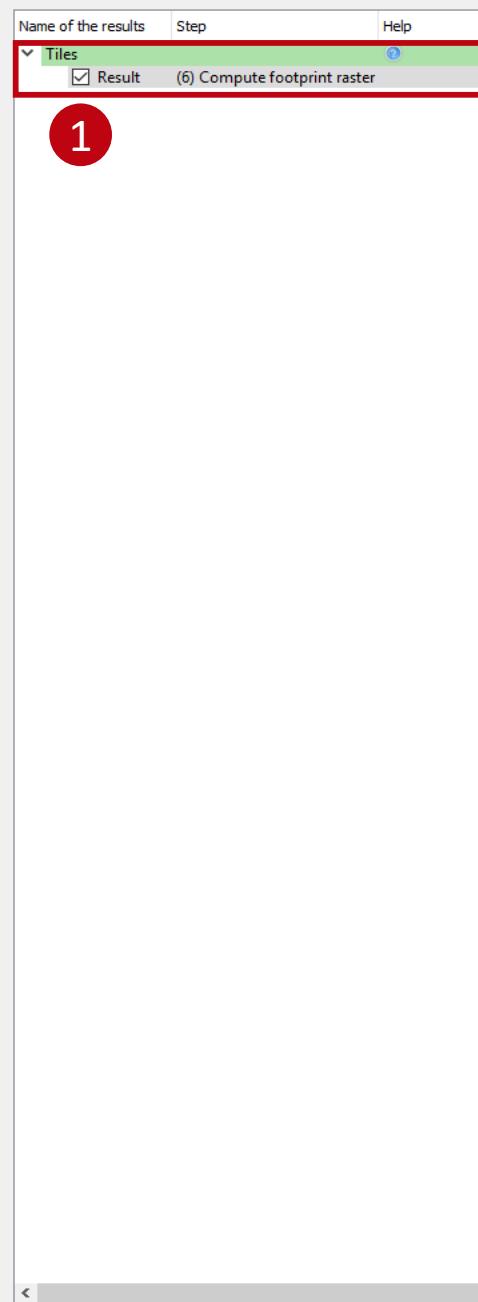
- One single polygon for each mask
- One or more polygons for each mask

A red circle labeled "1" is placed over the second radio button. A red arrow points from this configuration dialog down to a callout bubble.

## Step 6: Polygon computing from masks

Choose "one or more polygons for each mask", because the point cloud can be made up of several geographical blocks.

Configuration des résultats d'entrée de step "Creating polygons from a mask"



The screenshot shows the CompuTree software interface with several windows open:

- Step manager:** Shows a tree view of treatment steps. Step 7 ('Creating polygons from a mask') is highlighted with a yellow background.
- Model manager:** Shows a list of elements with one item named 'No element'.
- Item configurator:** Shows a 3D view with 'No element in 3D view' and an 'Apply' button.

A floating dialog box titled 'Steps' is open, listing various step types:

- Favourites:
  - > Load
  - > Export
- Loops:
  - > Standard loop
  - > Loop over files in a folder
  - > Loop over groups of files
  - End of loop** (highlighted with a red border)
- Points:
  - > 3D geometry
  - > 2D geometry
  - > Voxels
  - > Rasters / Images
  - > Metrics
  - > Other
  - > Work in progress (Beta)

Red numbered circles indicate specific actions:

- 1 Open "Add a step". Go to the "Loops" tab.
- 2 Double click on "End of loop".

**Step 7: end of loop**

*This step completes the loop in the treatment.*

CompuTree - [Document 1]

File Edit Window View Language Help

Step manager

Name

- 3 - Standard loop
- 5 - Loading files from a list
- 6 - Compute footprint raster
- 7 - Creating polygons from a mask
- 8 - End of loop

Debug Elapsed 0h:0m:0s

Items Points Faces Edges

Model manager

Result/CT\_AbstractResult/CT\_ResultGroup (7)

Name	Type
Root Group	Group
Group	Group
Polygon	2D polygon
Footprint raster	Raster<quint8>

Actions

Item configurator

Raster <quint8>

Name	Value
1 Bounding Shape	<input type="checkbox"/> Activate
2 Centre of the Bounding Shape	<input type="checkbox"/> Activate
3 Point size (Bounding Shape)	10
4 Raster mode	<input checked="" type="checkbox"/> Activate
5 Raster mode: Set the Z level	<input type="checkbox"/> Activate
6 Raster mode: Z level (m)	0

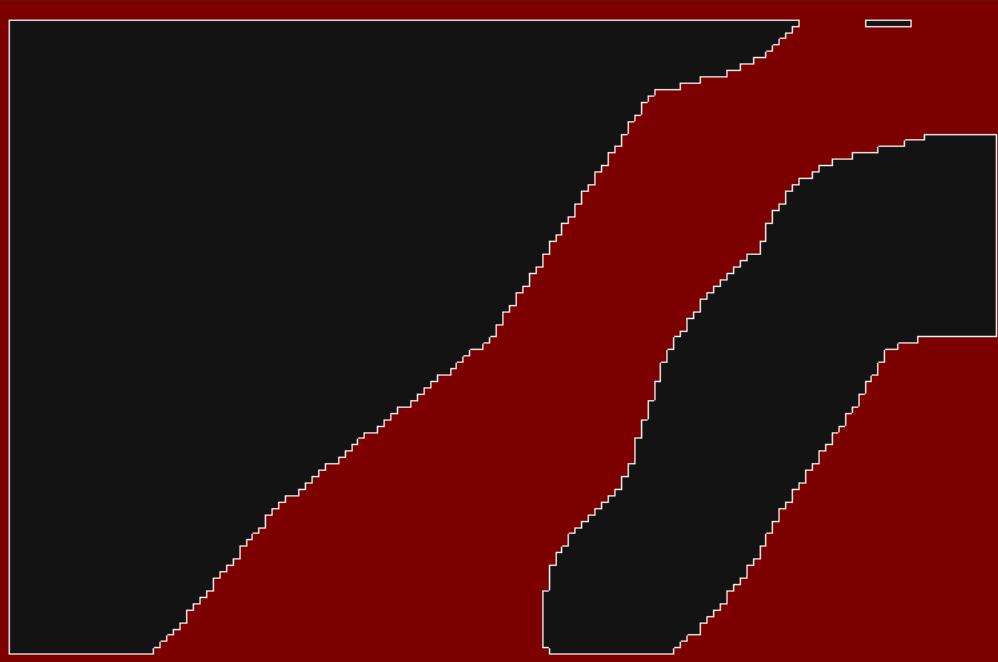
Apply Auto

Synchronization of views Log

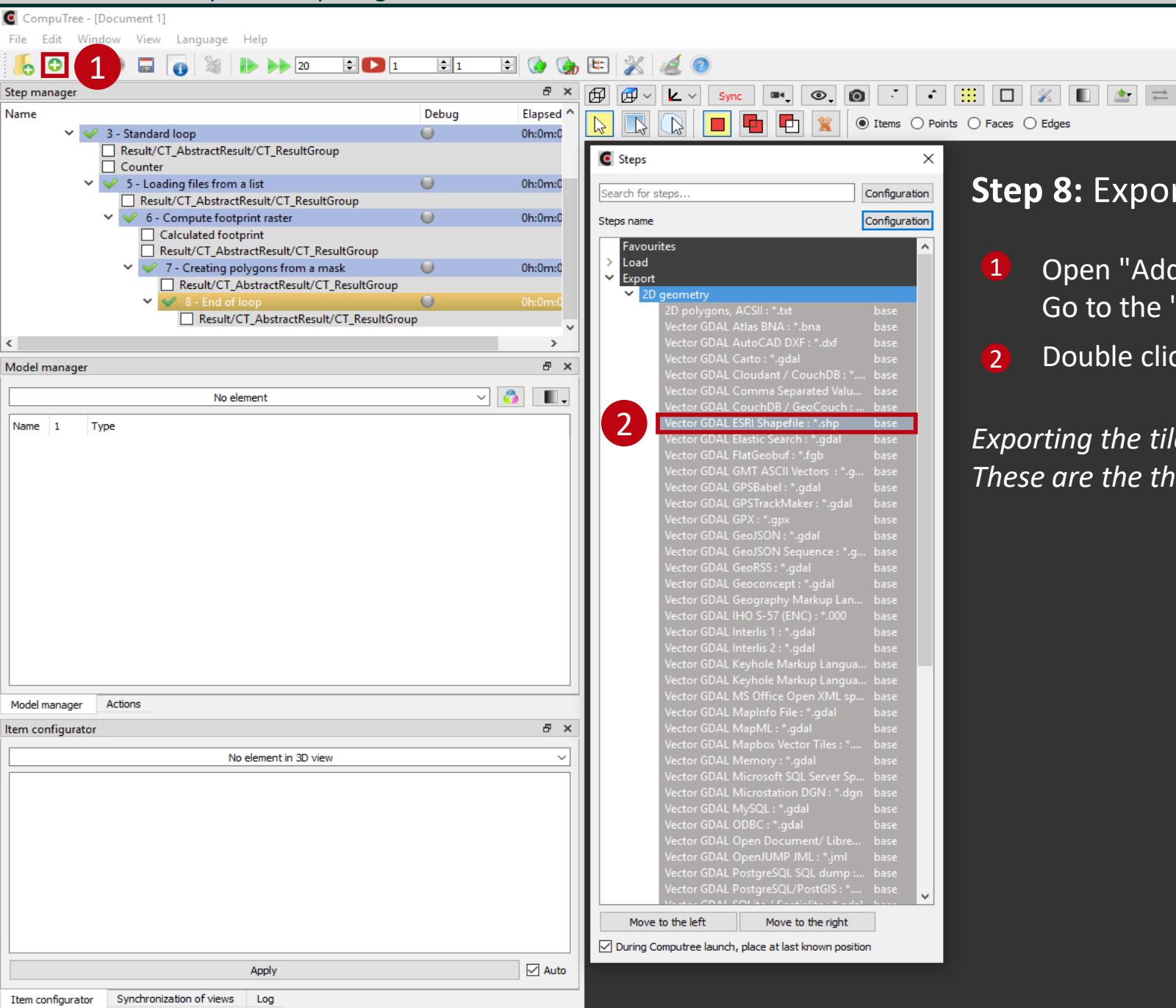
1 2 3 4 5

When the loop is closed, if you run the script it is possible to view the footprint raster and polygons created (in white) for the whole of the tiles of the list.

⚠ *Depending on the number of tiles, treatments can be very long (several hours)*



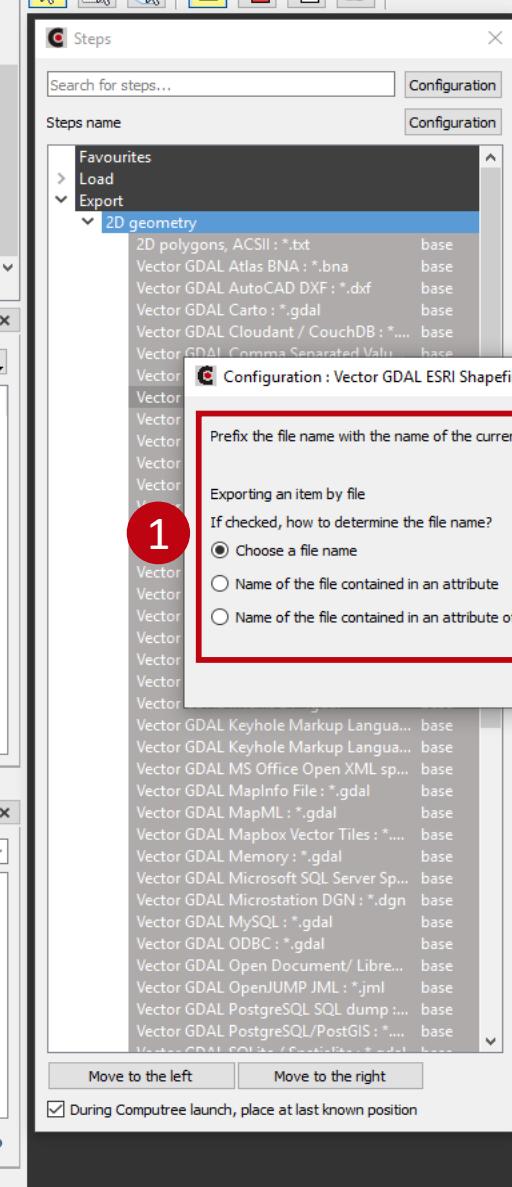
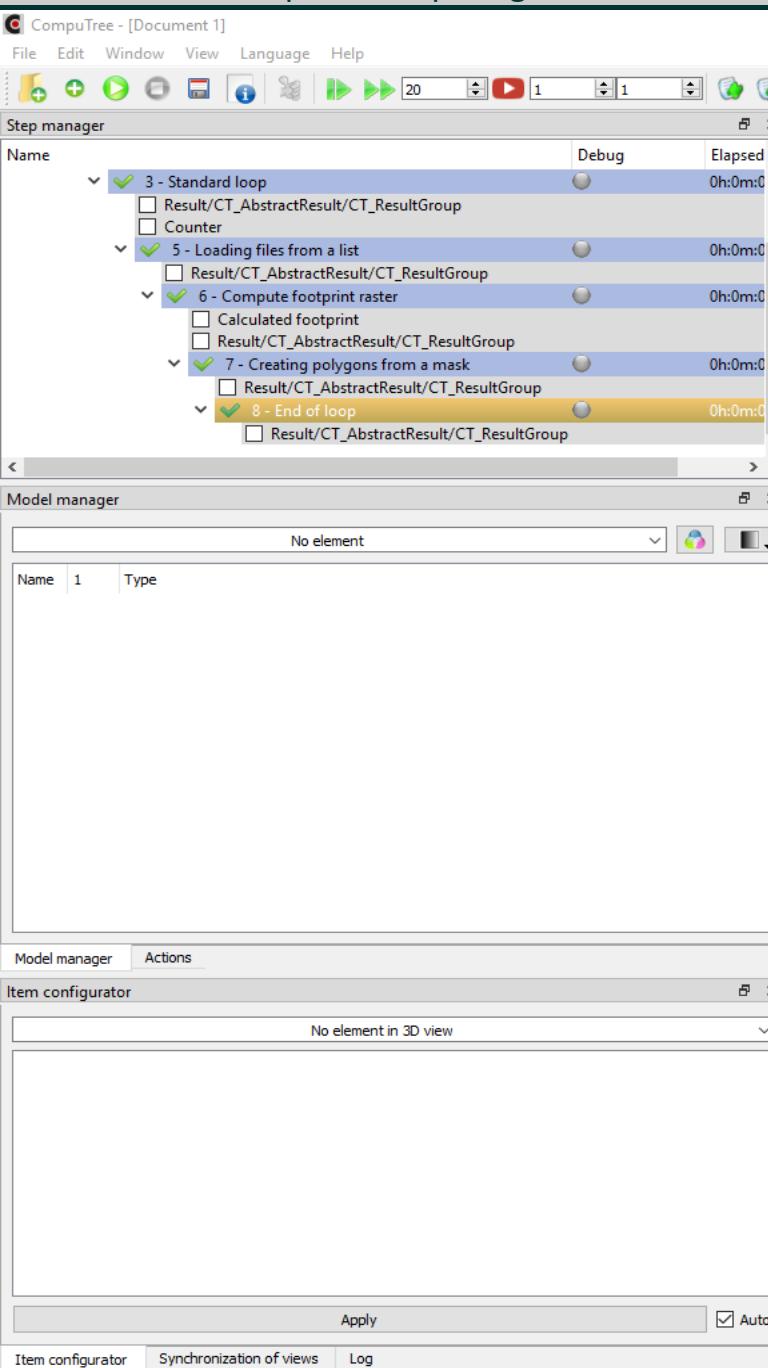
\* The execution of the steps is not mandatory for the creation of the rest of the script



## Step 8: Export of the tile assembly table in vector format

- 1 Open "Add a step". Go to the "Export" tab and then "2D Geometry".
- 2 Double click on "Vector GDAL ESRI Shapefile"

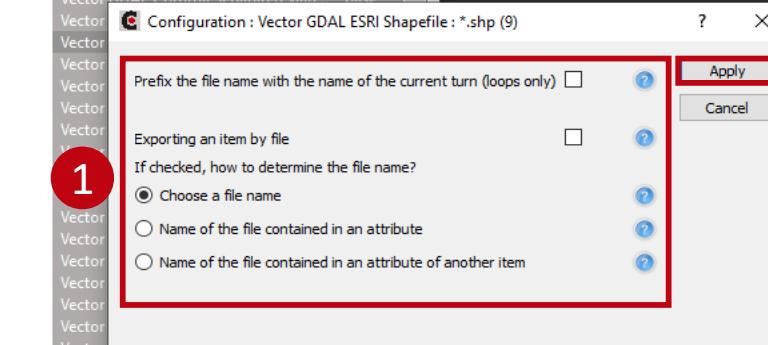
*Exporting the tile assembly table in shapefile.  
These are the theoretical square extent of each tile.*



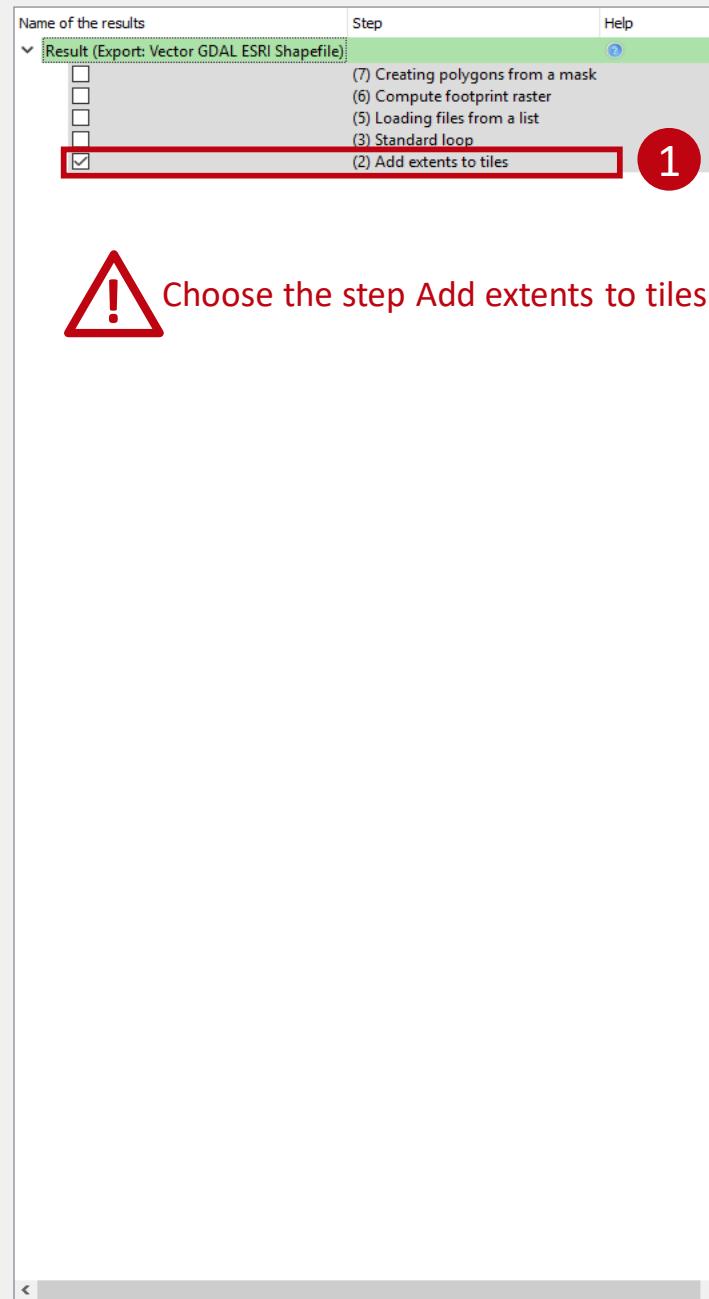
## Step 8: Export of the tile assembly table in vector format

Step setting:

- ① Choose the name of the file to be exported and ② apply.

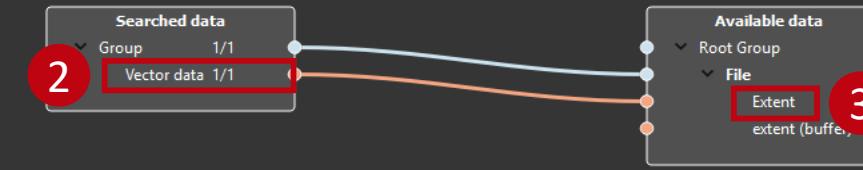


Configuration des résultats d'entrée de step "Vector GDAL ESRI Shapefile : \*.shp"



## Step 8: Export of the tile assembly table in vector format

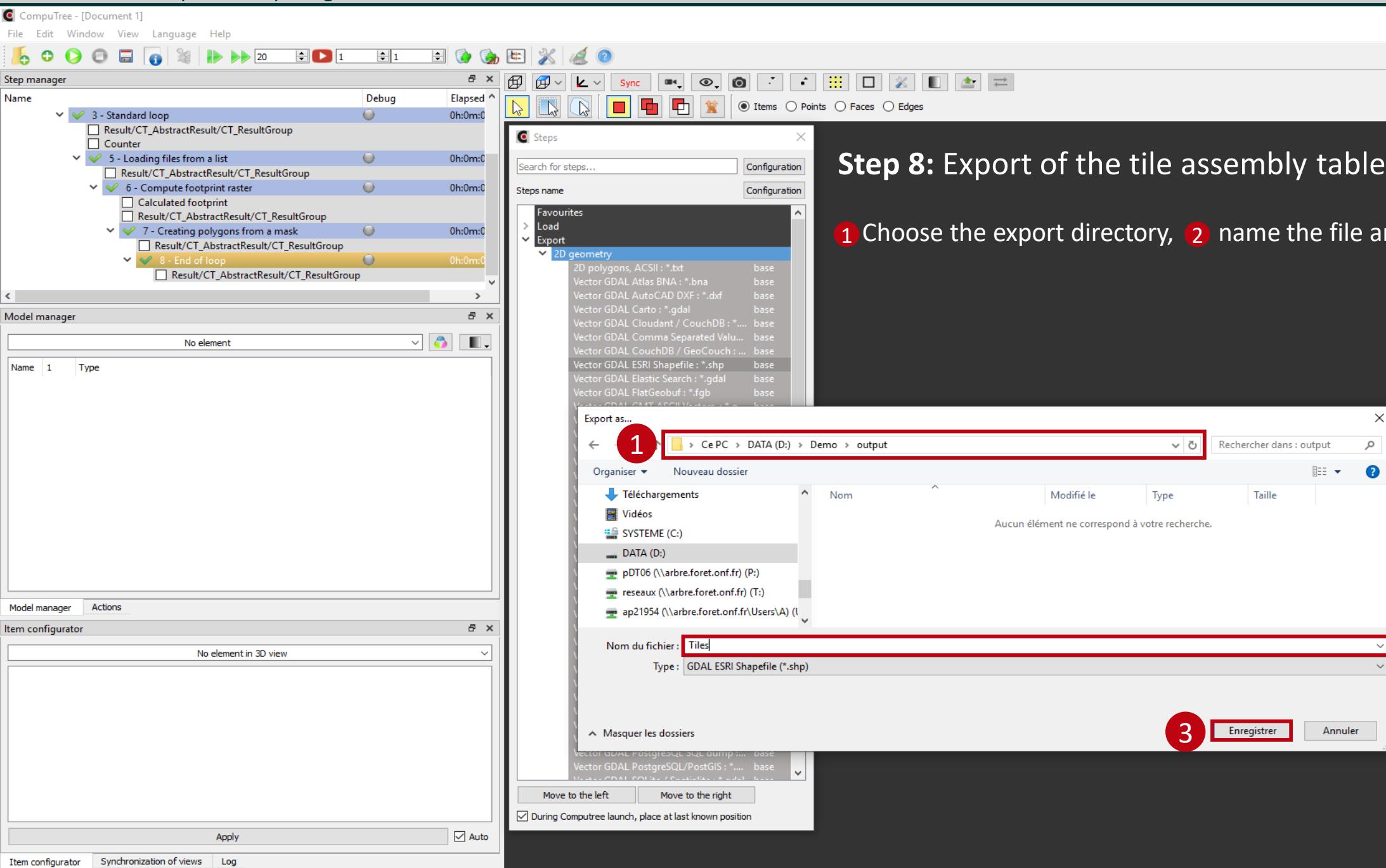
*Export of the tile assembly table in shapefile format.*



4

OK

Cancel

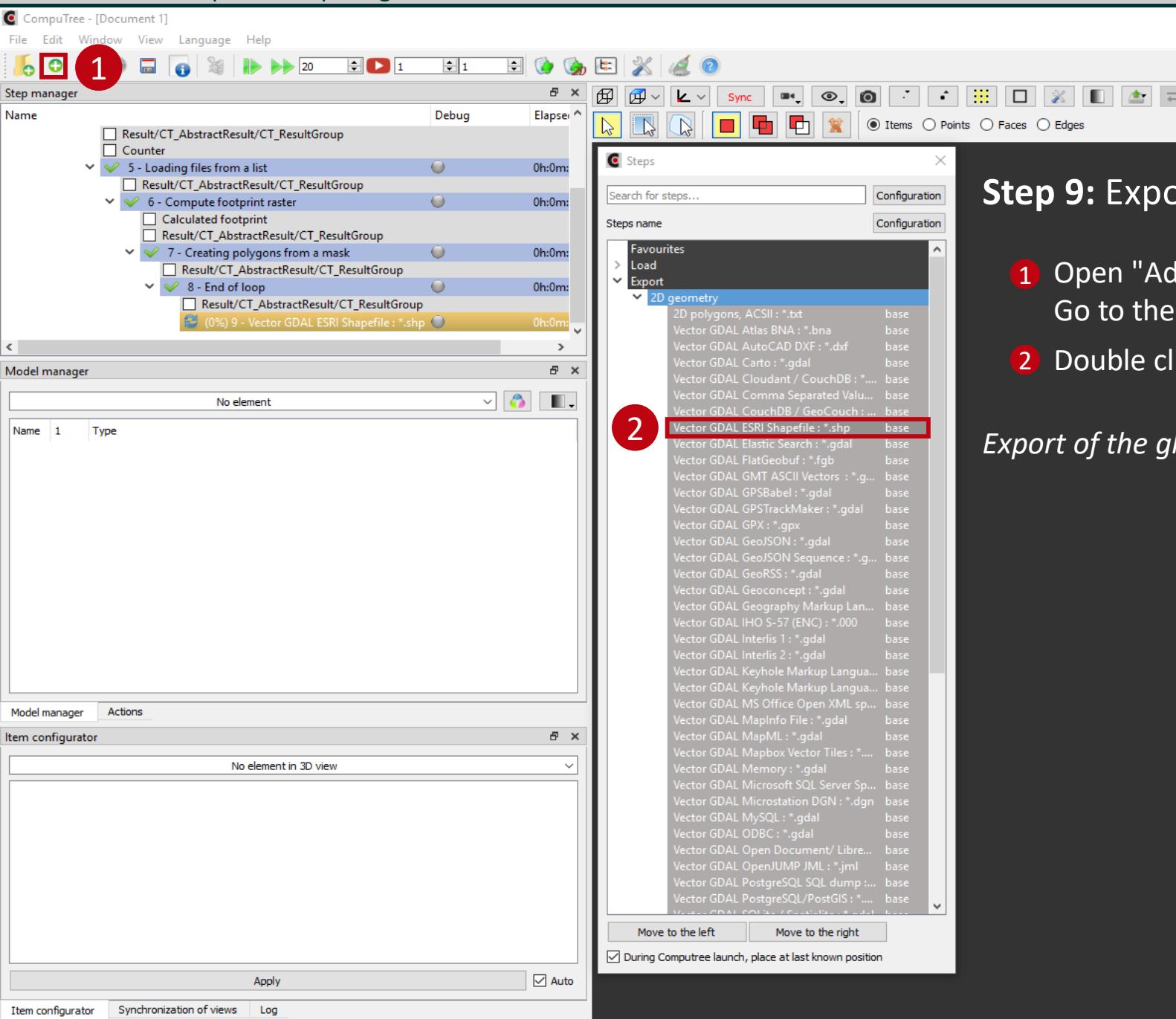


## Step 8: Export of the tile assembly table in vector format

1 Choose the export directory, 2 name the file and 3 save

2

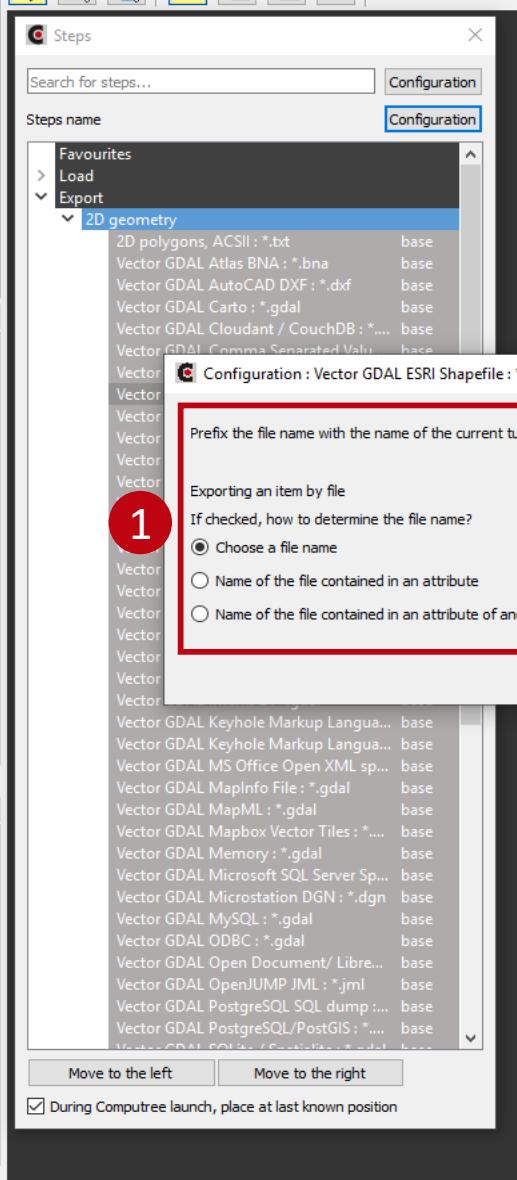
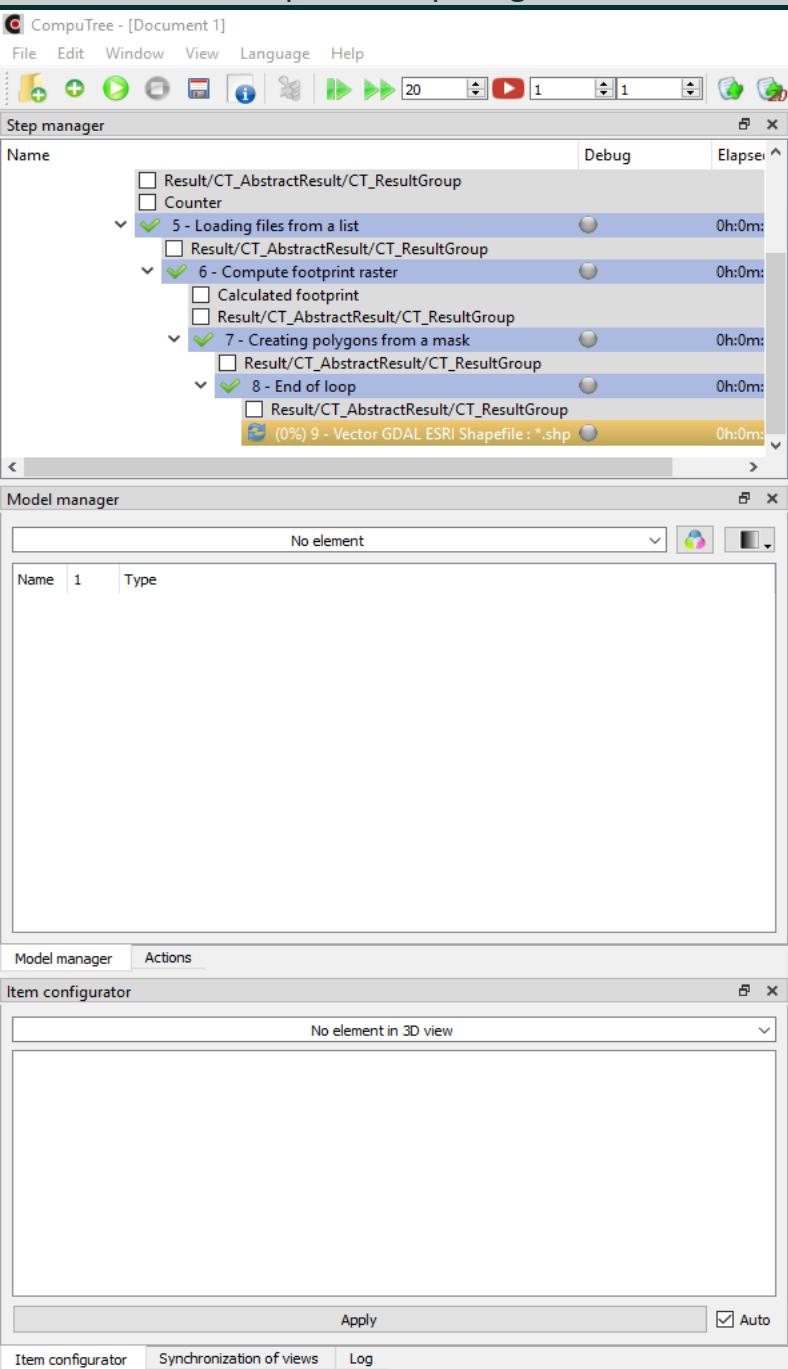
3



## Step 9: Export of the global footprint in vector format

- 1 Open "Add a step".  
Go to the "Export" tab and then "2D Geometry".
- 2 Double click on "Vector GDAL ESRI Shapefile"

*Export of the global footprint in shapefile format.*



## Step 9: Export of the global footprint in vector format

Step setting:

- ① Choose the name of the file to be exported and ② apply.

2

Configuration des résultats d'entrée de step "Vector GDAL ESRI Shapefile : \*.shp"

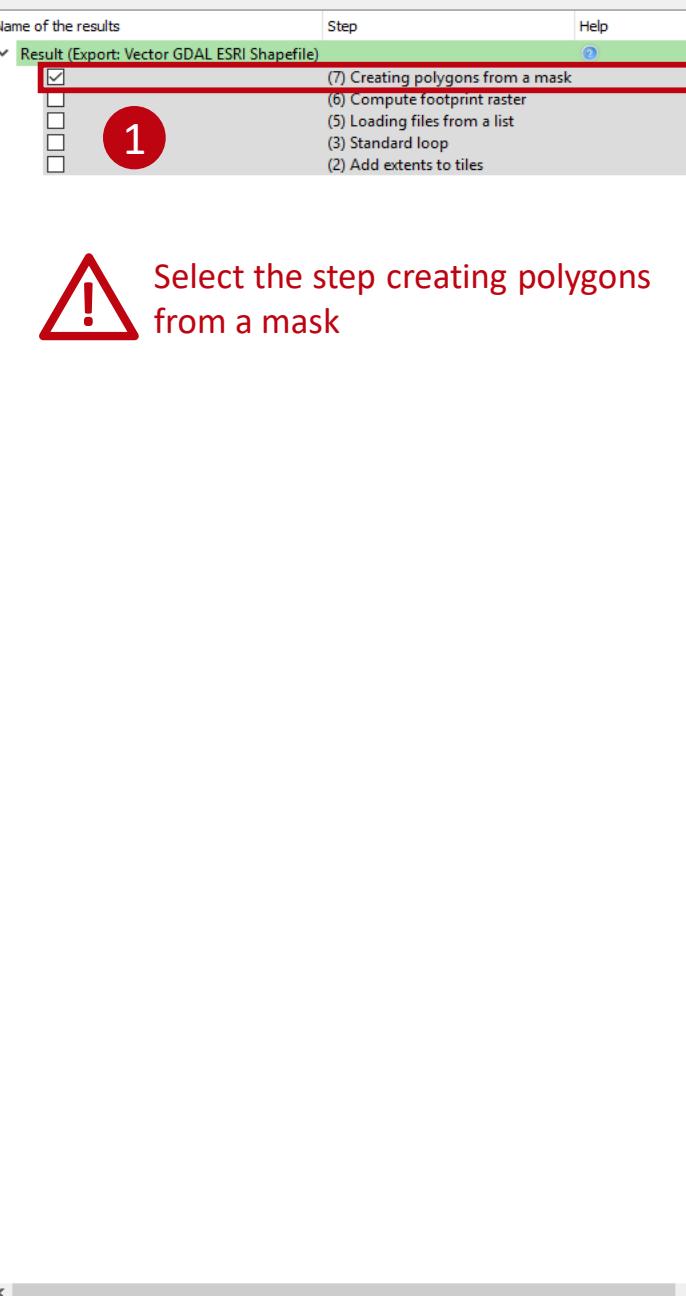
Name of the results Step Help

Result (Export: Vector GDAL ESRI Shapefile)

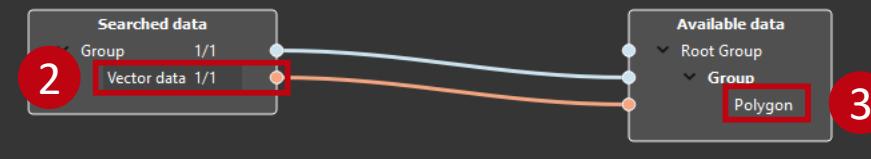
- (7) Creating polygons from a mask
- (6) Compute footprint raster
- (5) Loading files from a list
- (3) Standard loop
- (2) Add extents to tiles

1

Select the step creating polygons from a mask



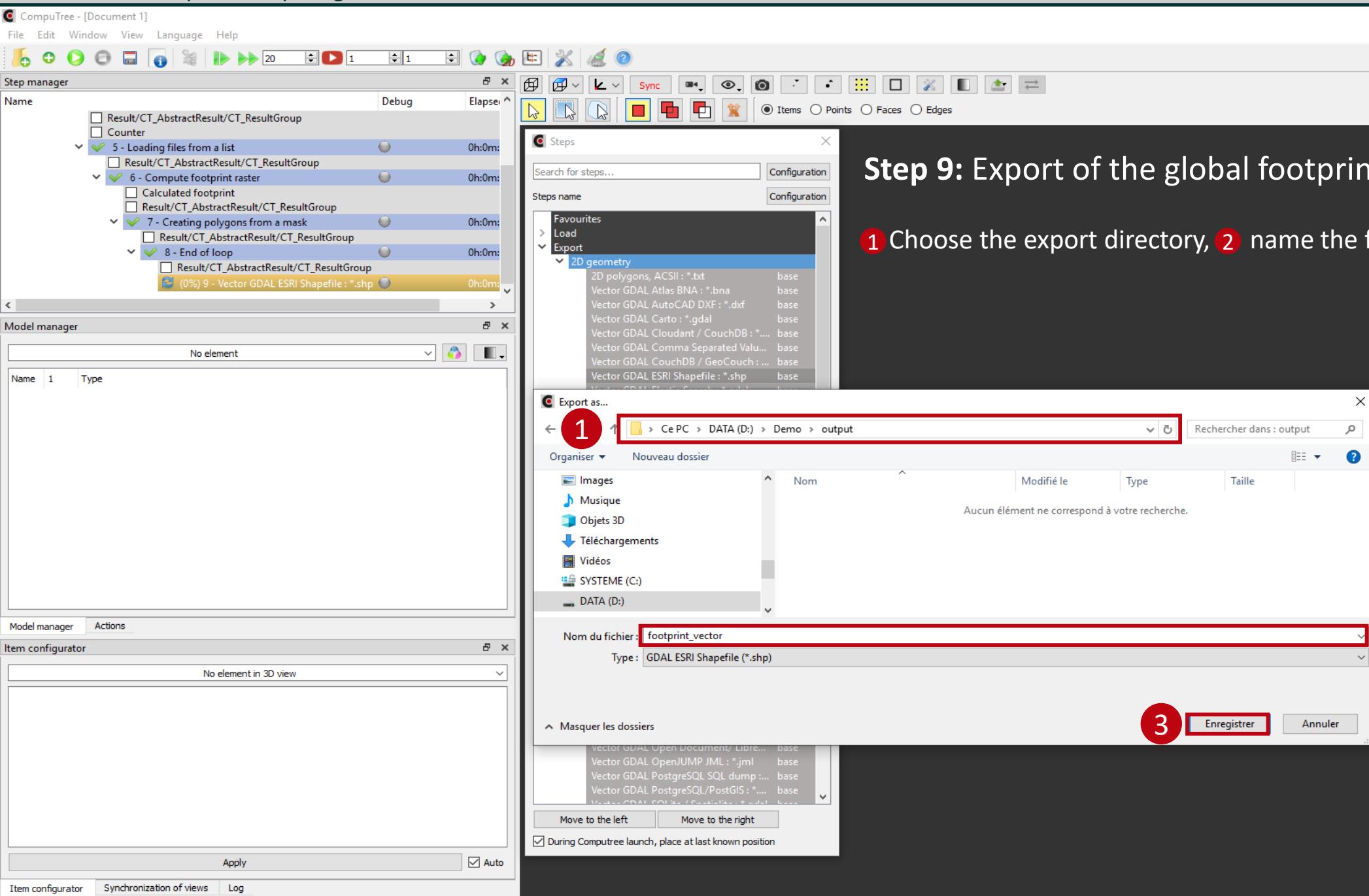
## Step 9: Export of the global footprint in vector format



4

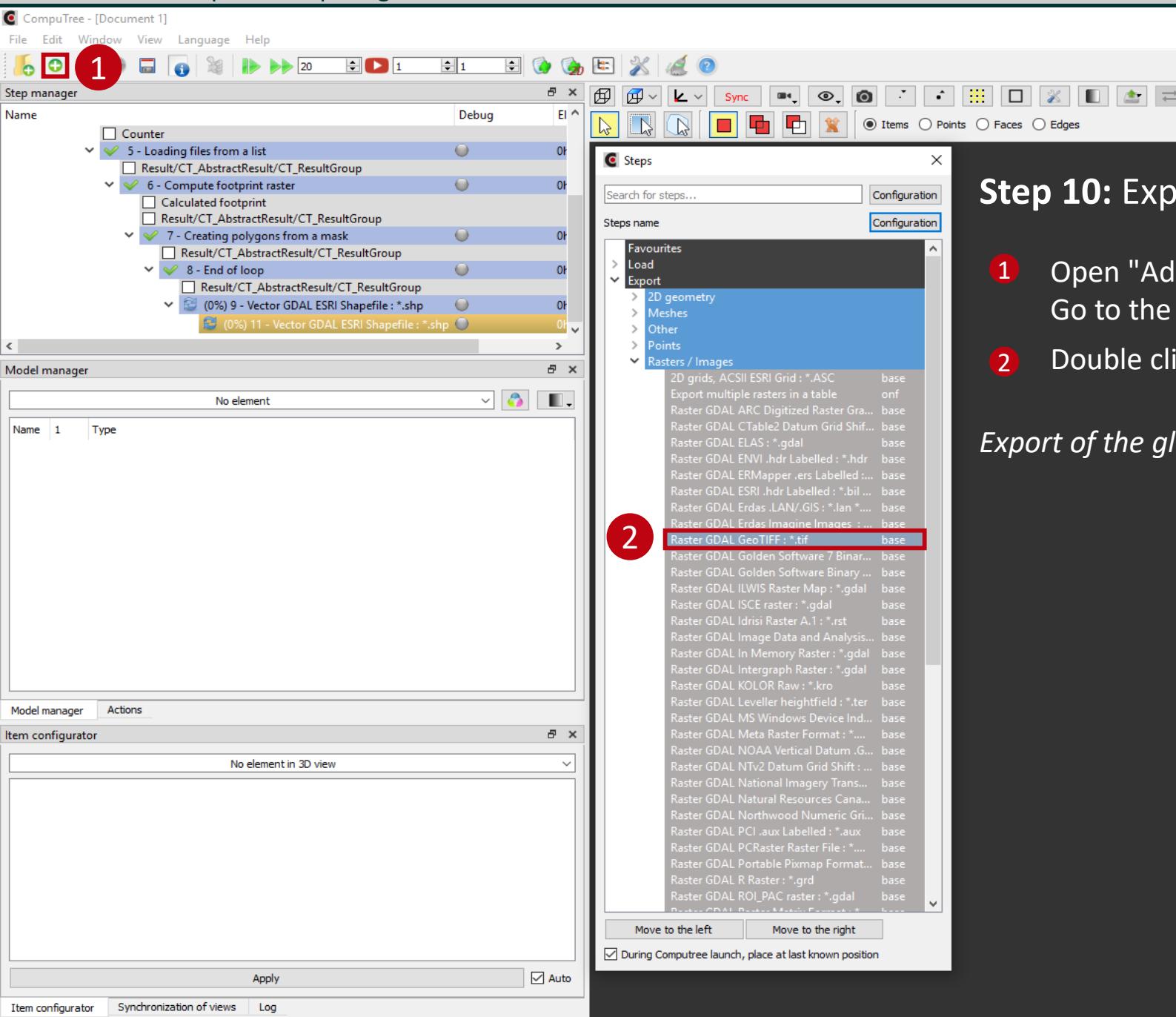
OK

Cancel



## Step 9: Export of the global footprint in vector format

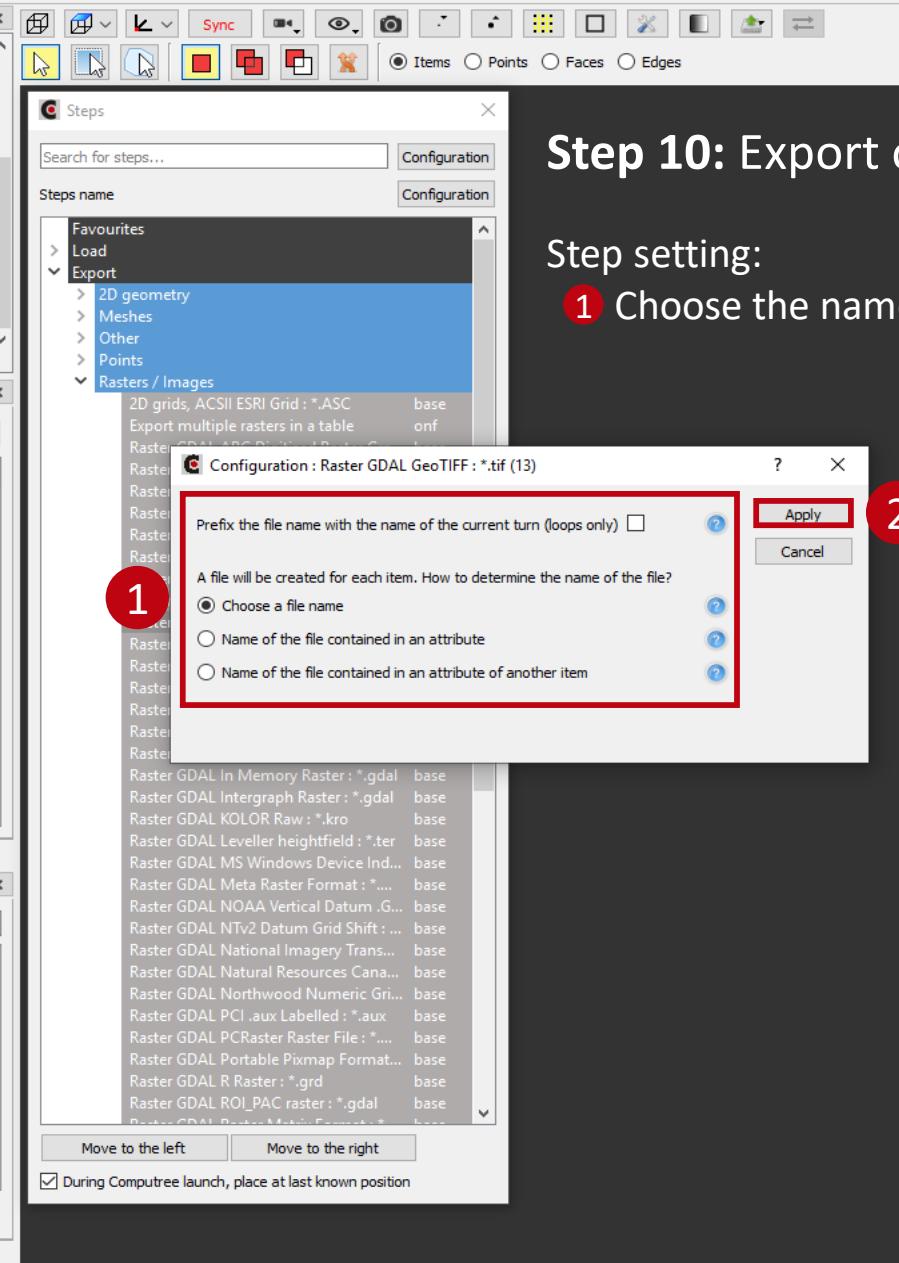
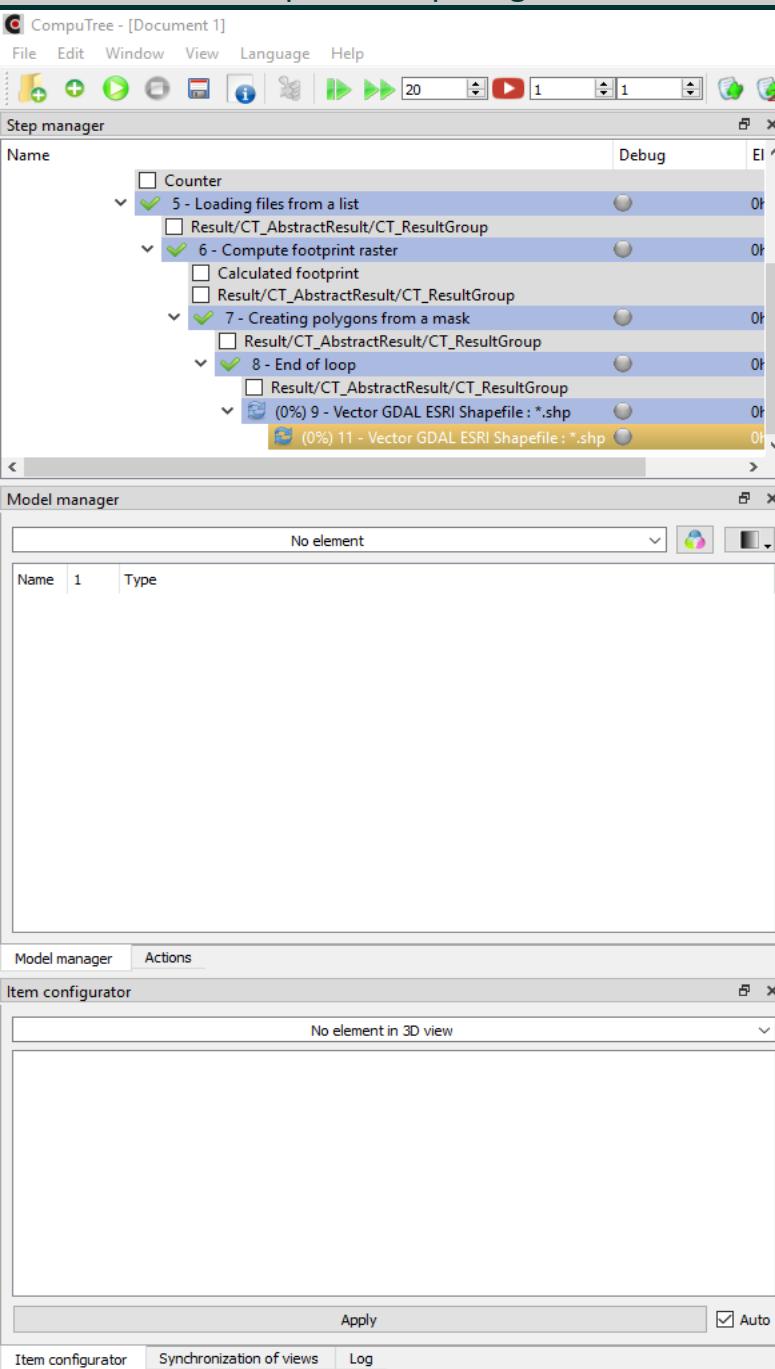
1 Choose the export directory, 2 name the file and 3 save



## Step 10: Export of the global footprint in raster format

- 1 Open "Add a step".  
Go to the "Export" tab and then "Raster / Images".
- 2 Double click on "Raster GDAL GeoTIFF "

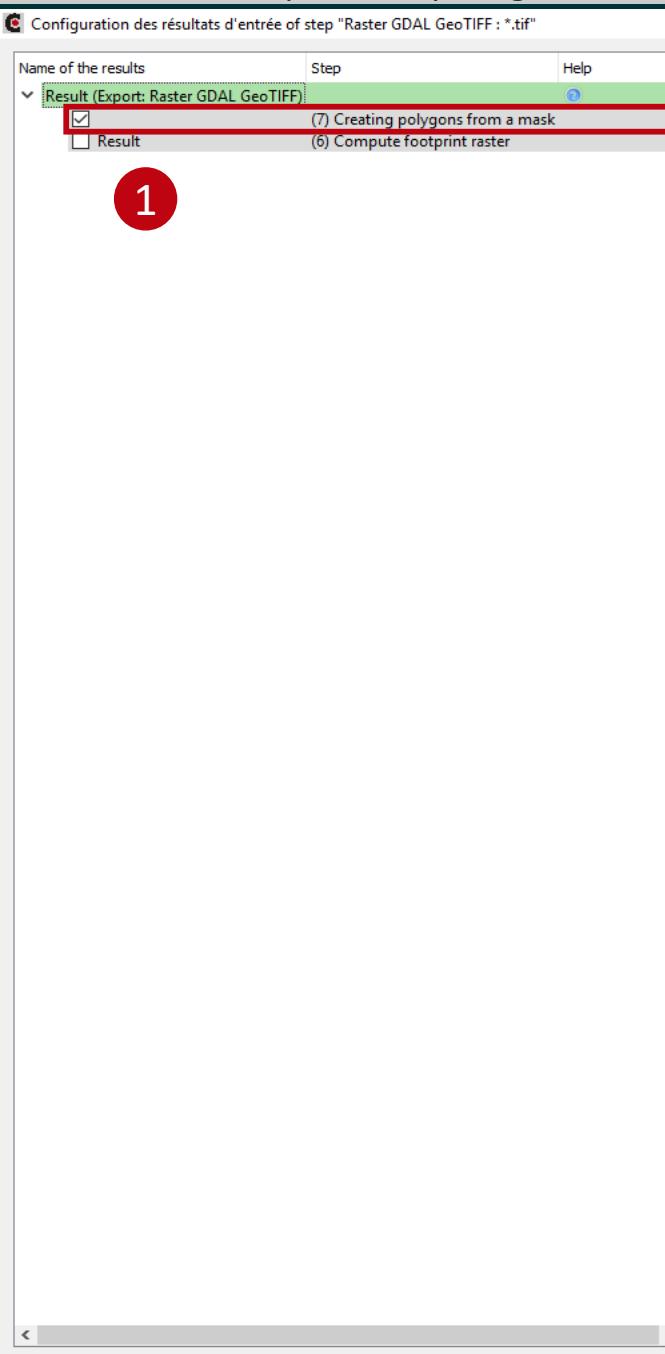
*Export of the global LIDAR data footprint in GeoTIFF (raster).*



## Step 10: Export of the global footprint in raster format

Step setting:

- 1 Choose the name of the exported file and 2 apply.



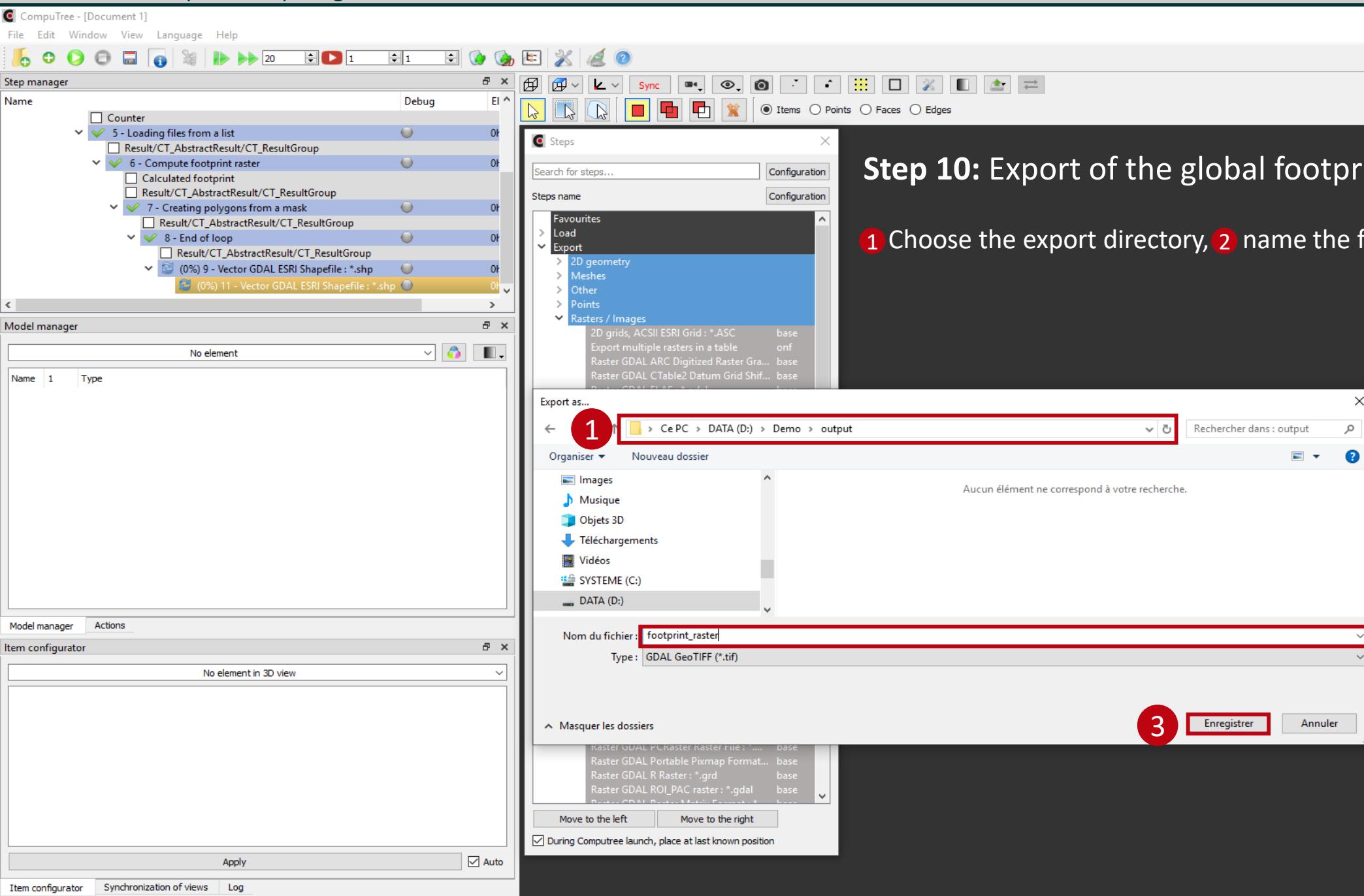
## Step 10: Export of the global footprint in raster format

*Select the footprint raster*



4

OK Cancel



## Step 10: Export of the global footprint in raster format

1 Choose the export directory, 2 name the file and 3 save

CompuTree - [Document 1]

File Edit Window View Language Help

Step manager

Name Debug Elapse

- Readers list
- 2 - Add extents to tiles
- Result/CT\_AbstractResult/CT\_ResultGroup
- 3 - Standard loop
- Counter
- Result/CT\_AbstractResult/CT\_ResultGroup
- 5 - Loading files from a list
- Result/CT\_AbstractResult/CT\_ResultGroup
- 6 - Compute footprint raster
- Calculated footprint
- Result/CT\_AbstractResult/CT\_ResultGroup
- 7 - Creating polygons from a mask
- Result/CT\_AbstractResult/CT\_ResultGroup

Model manager

No element

Name Type

Model manager Actions

Item configurator

No element in 3D view

Apply Auto

Item configurator Synchronization of views Log

Created files (viewed in a file explorer)

① Shapefile containing the data footprint in vector format

② Raster file containing the data at 10m resolution

③ Shapefile containing the (square) tile extents

N.B.: the two text files list the fields of the shapefiles. They are of no use in this case.

The screenshot shows the CompuTree software interface with various managers and toolbars. On the left, the Step manager lists a sequence of steps: Readers list, 2 - Add extents to tiles, Result/CT\_AbstractResult/CT\_ResultGroup, 3 - Standard loop (with Counter), Result/CT\_AbstractResult/CT\_ResultGroup, 5 - Loading files from a list, Result/CT\_AbstractResult/CT\_ResultGroup, 6 - Compute footprint raster (with Calculated footprint), Result/CT\_AbstractResult/CT\_ResultGroup, and 7 - Creating polygons from a mask, Result/CT\_AbstractResult/CT\_ResultGroup. The Model manager and Item configurator panes are mostly empty. The main workspace has a toolbar with various icons. A central panel displays the text "Created files (viewed in a file explorer)". To the right is a Windows File Explorer window titled "output" showing files in the directory "Ce PC > DATA (D:) > Demo > output". The files listed are:

Nom	Date	Type	Taille	Mots clés
footprint_raster.tif	28/11/2022 14:59	Fichier TIF	65 Ko	
footprint_vector.dbf	28/11/2022 14:59	Fichier DBF	2 Ko	
footprint_vector.shp	28/11/2022 14:59	Fichier SHP	19 Ko	
footprint_vector.shx	28/11/2022 14:59	Fichier SHX	1 Ko	
footprint_vector_fields_names.txt	28/11/2022 14:59	Fichier TXT	1 Ko	
Tiles.dbf	28/11/2022 14:59	Fichier DBF	4 Ko	
Tiles.shp	28/11/2022 14:59	Fichier SHP	2 Ko	
Tiles.shx	28/11/2022 14:59	Fichier SHX	1 Ko	
Tiles_fields_names.txt	28/11/2022 14:59	Fichier TXT	1 Ko	

Red arrows point from the numbered labels to the corresponding files in the file explorer: arrow 1 points to the footprint\_vector files, arrow 2 points to the footprint\_raster.tif file, and arrow 3 points to the Tiles files.

CompuTree - [Document 1]

File Edit Window View Language Help

Step manager

1

Name Elapse

- 5 - Loading files from a list Debug 0h:0m
- Result/CT\_AbstractResult/CT\_ResultGroup
- 6 - Compute footprint raster Debug 0h:0m
- Calculated footprint
- Result/CT\_AbstractResult/CT\_ResultGroup
- 7 - Creating polygons from a mask Debug 0h:0m
- Result/CT\_AbstractResult/CT\_ResultGroup
- 8 - End of loop Debug 0h:0m
- Result/CT\_AbstractResult/CT\_ResultGroup
- 9 - Vector GDAL ESRI Shapefile : \*.shp Debug 0h:0m
- 11 - Vector GDAL ESRI Shapefile : \*.shp Debug 0h:0m
- 13 - Raster GDAL GeoTIFF : \*.tif Debug 0h:0m

Model manager

No element

Name Type

Model manager Actions

Item configurator

No element in 3D view

Apply Auto

Synchronization of views Log

Sync Items Points Faces Edges

# End of script

1 You can save the script

The screenshot shows the CompuTree software interface. On the left, there are several panels: 'Step manager' listing a sequence of 13 steps with their names, descriptions, and execution times; 'Model manager' showing a single unnamed element; 'Item configurator' showing no elements in 3D view; and a bottom panel for 'Synchronization of views' and 'Log'. The main workspace on the right displays the text 'End of script' and a numbered instruction '1 You can save the script'. A red circle with the number '1' is overlaid on the 'Step manager' panel.

# Summary of steps

- |  |                         |
|--|-------------------------|
| 1 - Create a list of files: <i>PB_StepCreateReaderList</i>                                 | <a href="#">Page 8</a>  |
| 2 - Add extents to tiles: <i>ONF_StepAddTileXYAreas</i>                                    | <a href="#">Page 13</a> |
| 3 - Standard loop: <i>PB_StepBeginLoopThroughGroups02</i>                                  | <a href="#">Page 18</a> |
| 4 - Loading files from a list: <i>PB_StepUseReaderToLoadFiles</i>                          | <a href="#">Page 20</a> |
| 5 - Compute footprint raster: <i>ONF_StepComputeBoundaryV2</i>                             | <a href="#">Page 22</a> |
| 6 - Creating polygons from a mask: <i>ONF_StepPolygonFromMask</i>                          | <a href="#">Page 27</a> |
| 7 - End of loop: <i>CT_StepEndLoop</i>   | <a href="#">Page 30</a> |
| 8 -Vector GDAL ESRI Shapefile (tile extents): <i>EXPORTVector GDAL ESRI Shapefile</i>      | <a href="#">Page 32</a> |
| 9 -Vector GDAL ESRI Shapefile (global footprint) : <i>EXPORTVector GDAL ESRI Shapefile</i> | <a href="#">Page 36</a> |
| 10 - Raster GDAL GeoTIFF (global footprint): <i>EXPORT Raster GDALGeoTIFF</i>              | <a href="#">Page 40</a> |