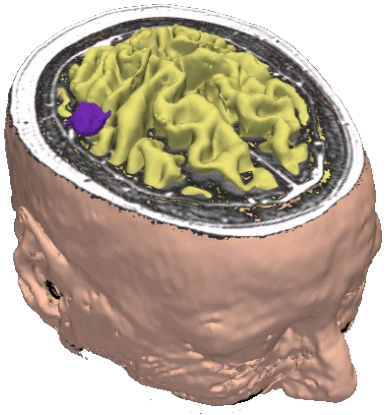
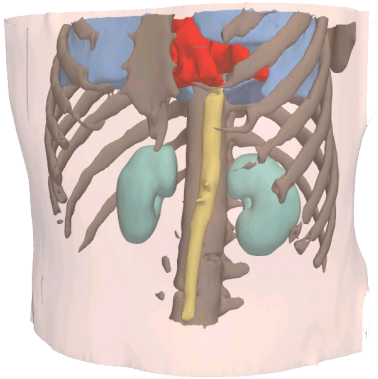
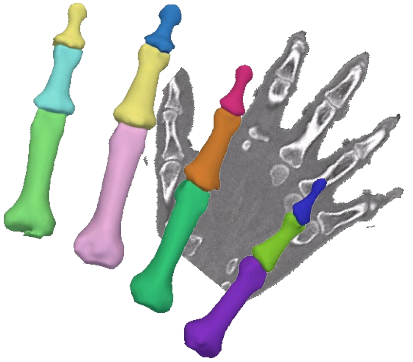
EMSegmenter Tutorial (Simple Mode)

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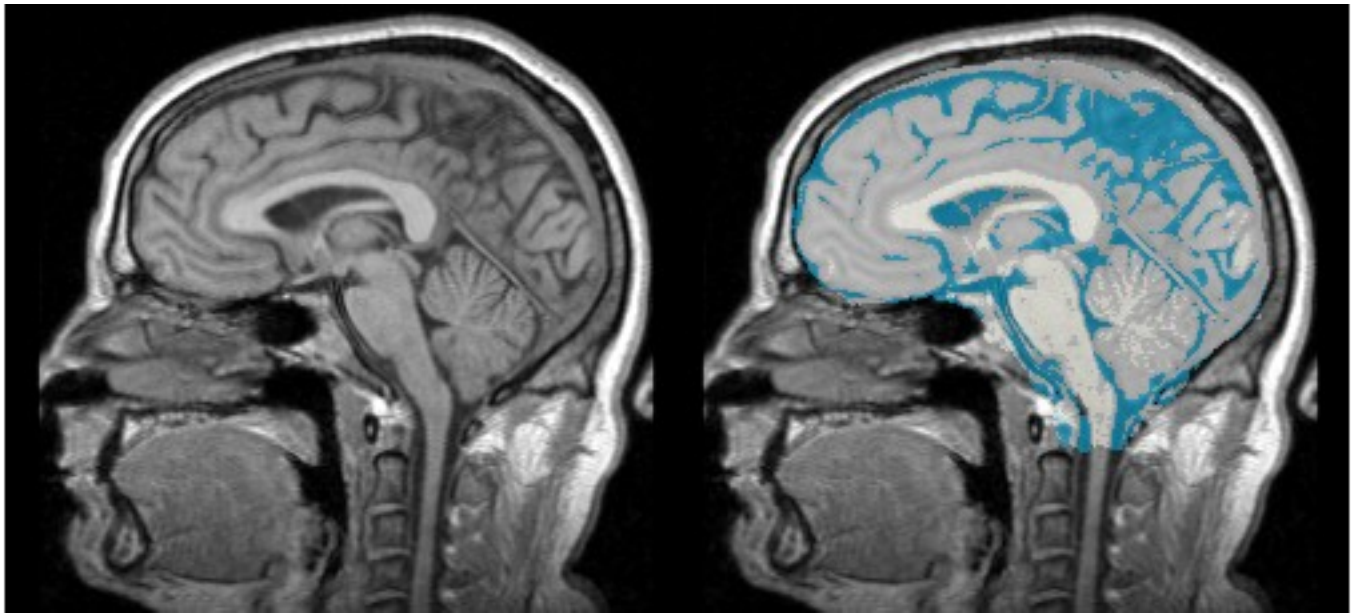
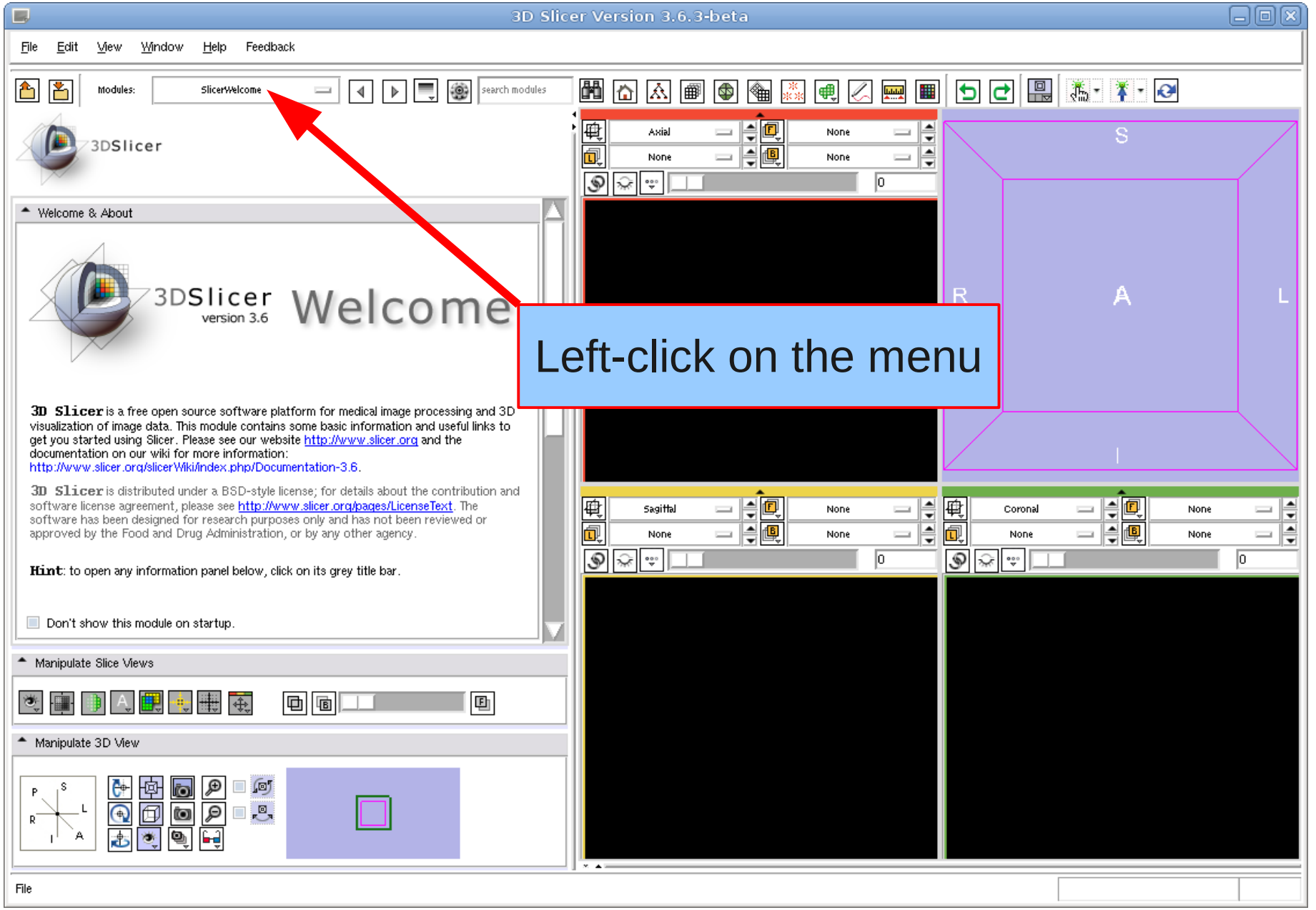
Overview

The goal of this tutorial is to apply the EMSegmenter to MRI brain scans. We will segment the clinical T1 scan shown below into grey matter, white matter, and cerebrospinal fluid.

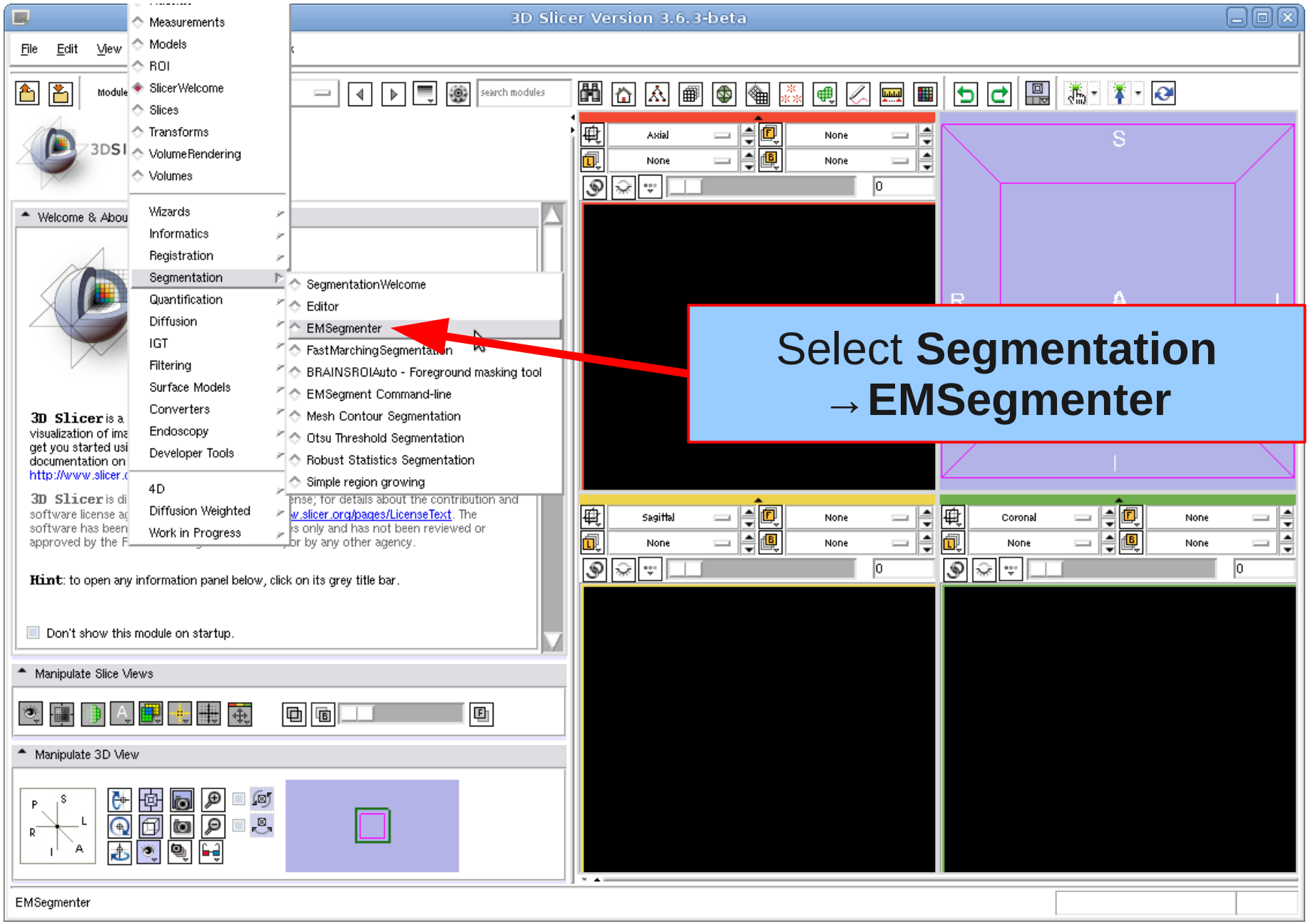
The tutorial is based on Slicer 3.6.2 .

Before  After

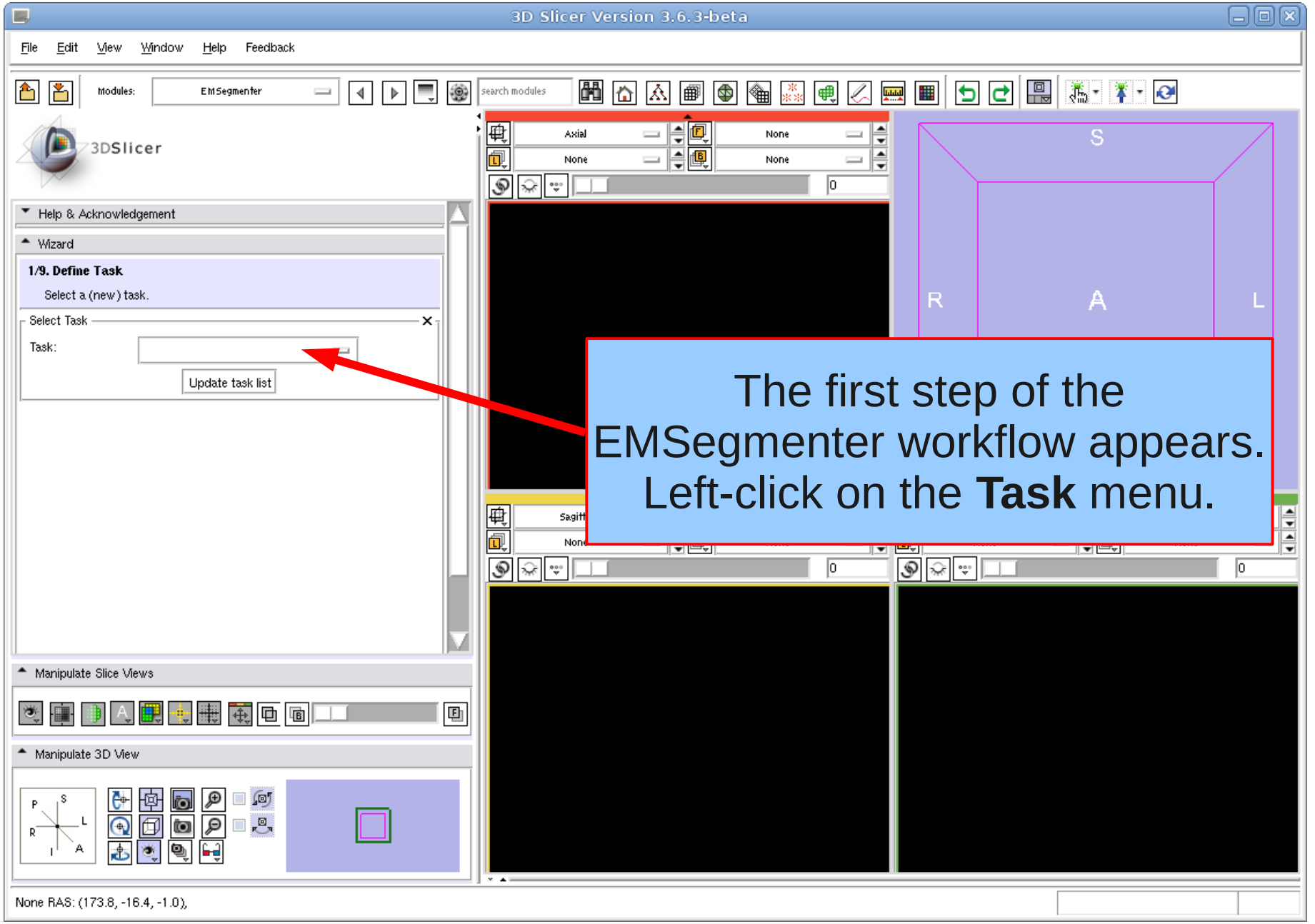
EMSegmenter (simple mode)



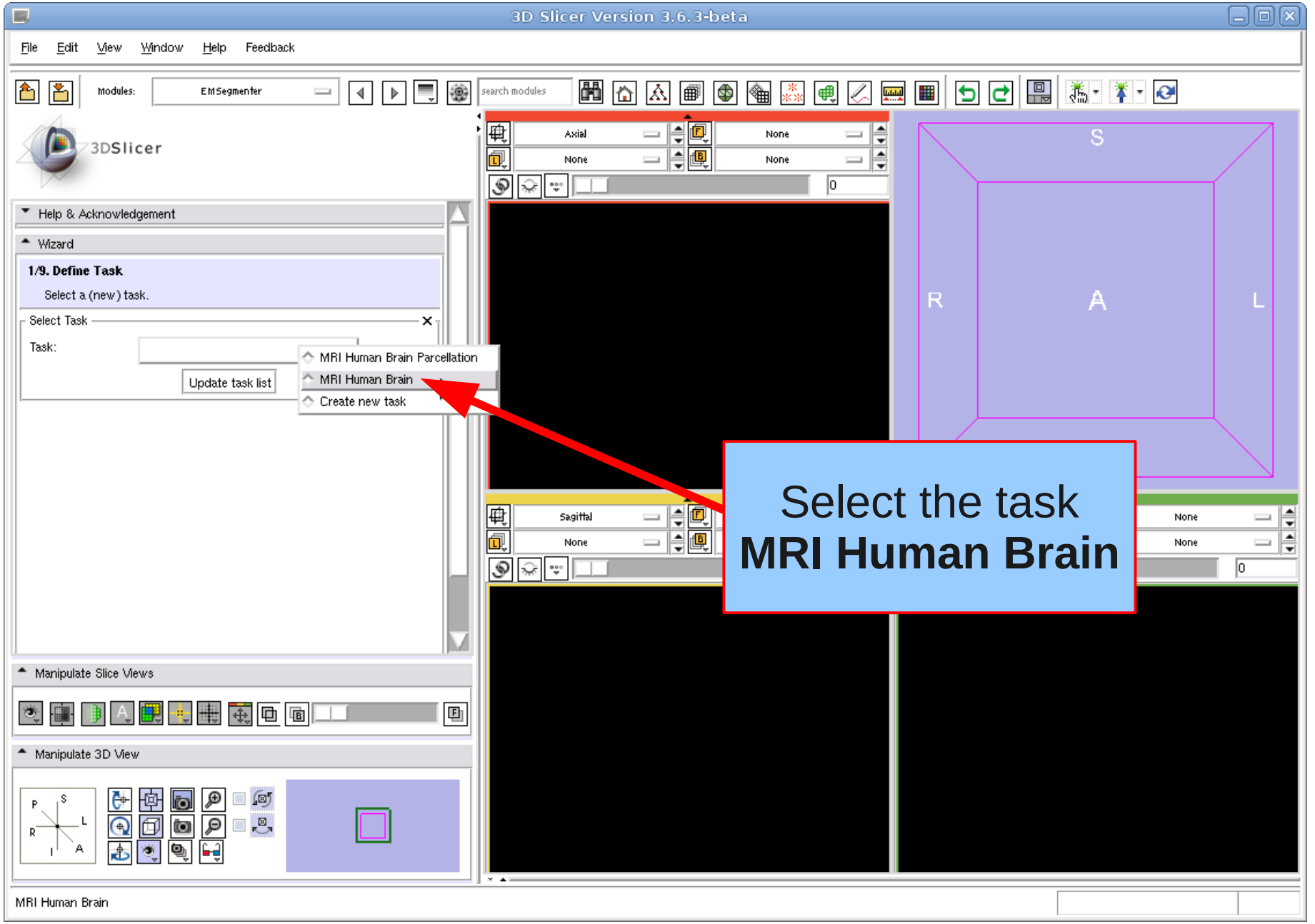
Select EMSegmenter module



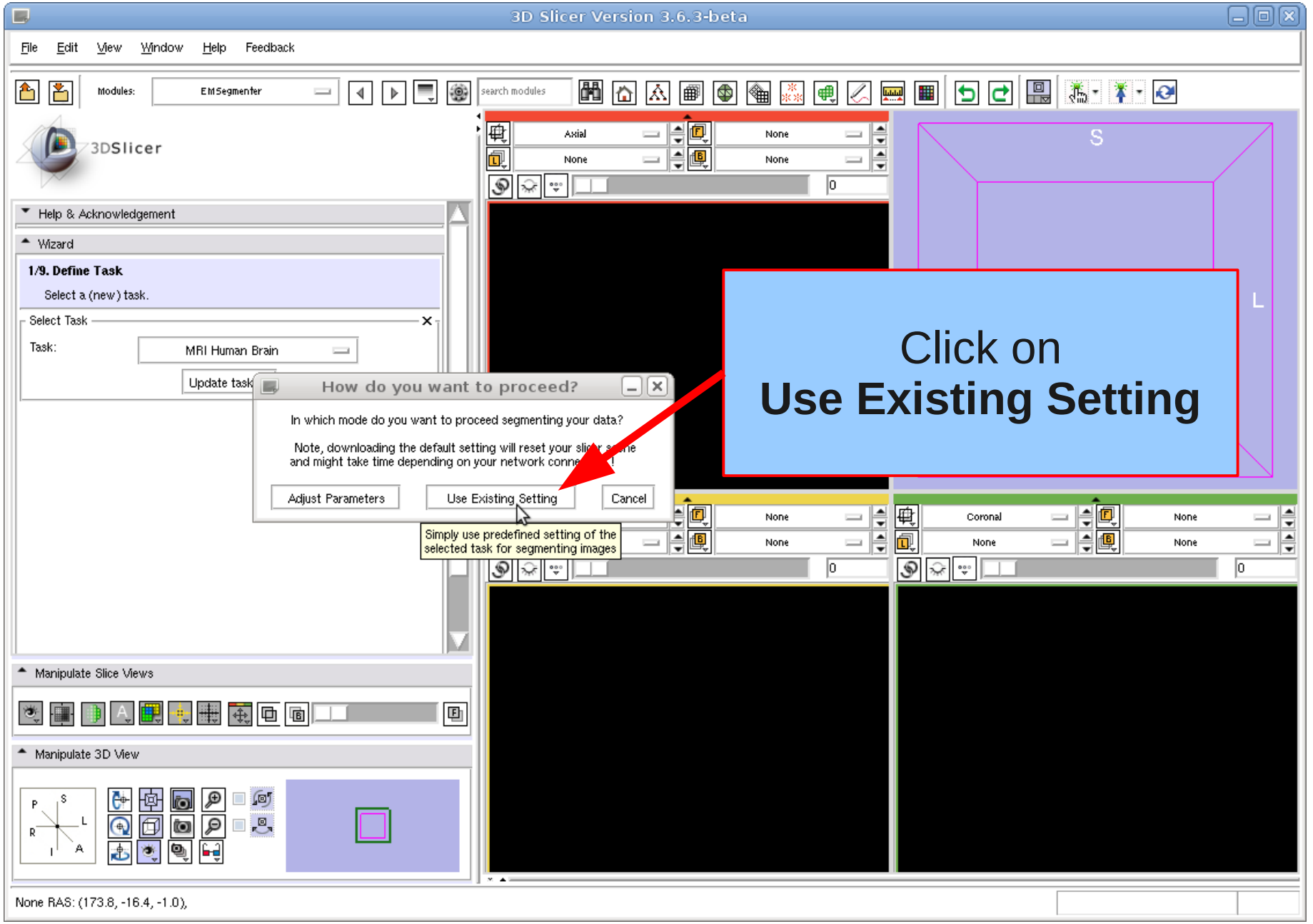
Select Task


3D Slicer Version 3.6.3-beta
File Edit View Window Help Feedback
Modules: EMSegmenter
search modules
3DSlicer
Help & Acknowledgement
Wizard
1/9. Define Task
Select a (new) task.
Select Task
Task:
Update task list
Axial
None
None
None
S
R
A
L
Manipulate Slice Views
Manipulate 3D View
P S R L I A
None RAS: (173.8, -16.4, -1.0),
The first step of the EMSegmenter workflow appears. Left-click on the **Task** menu.

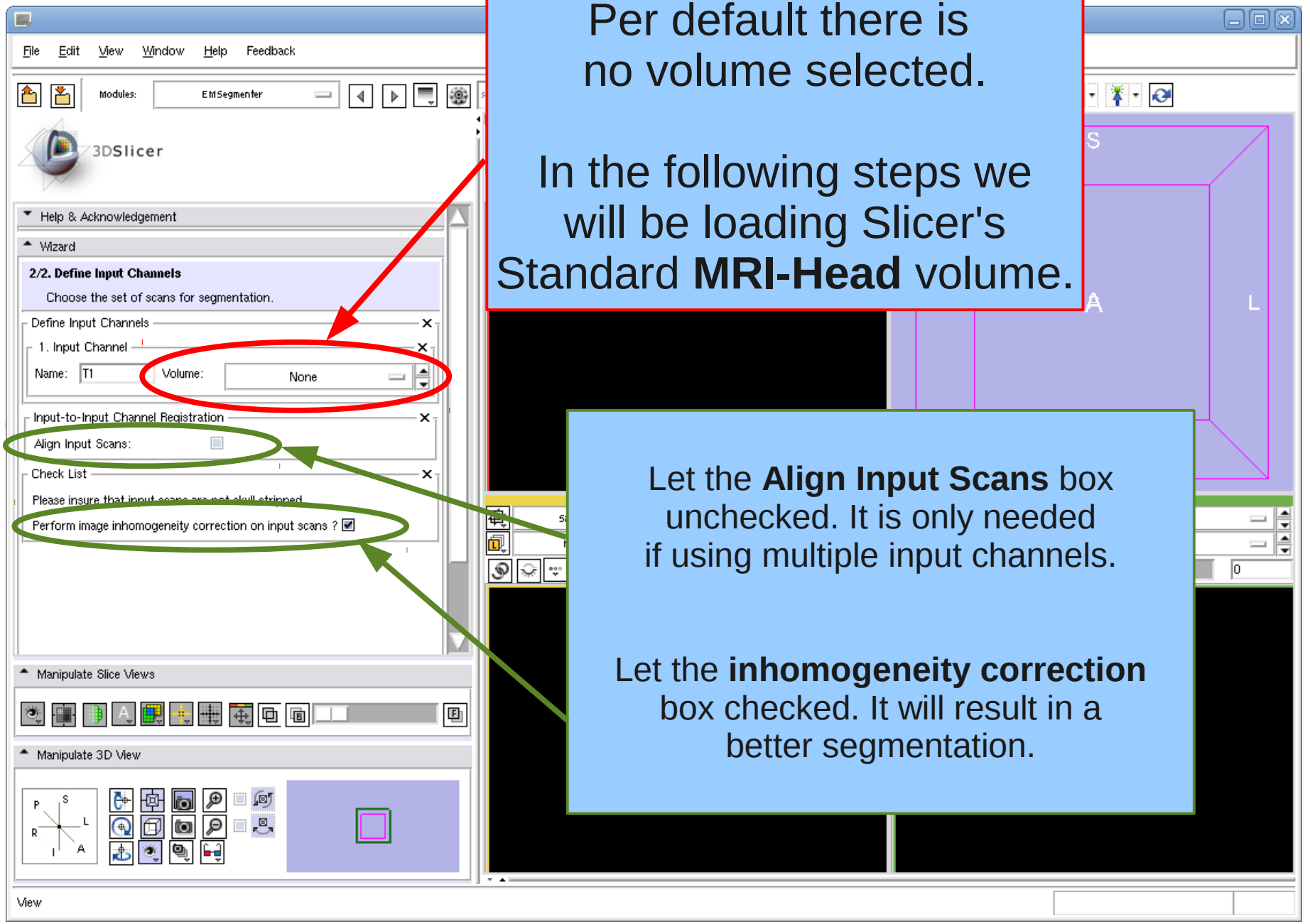
Select Task


3D Slicer Version 3.6.3-beta
File
Edit
View
Window
Help
Feedback
Modules:
EMSegmenter
search modules
3DSlicer
Help & Acknowledgement
Wizard
1/9. Define Task
Select a (new) task.
Select Task
Task:
Update task list
MRI Human Brain Parcellation
MRI Human Brain
Create new task
Axial
Sagittal
None
S
R
A
L
Manipulate Slice Views
Manipulate 3D View
MRI Human Brain
Select the task
MRI Human Brain

Select Task


3D Slicer Version 3.6.3-beta
File Edit View Window Help Feedback
Modules: EMSegmenter
search modules
3DSlicer
Help & Acknowledgement
Wizard
1/9. Define Task
Select a (new) task.
Select Task
Task: MRI Human Brain
Update task
How do you want to proceed?
In which mode do you want to proceed segmenting your data?
Note, downloading the default setting will reset your slicer scene and might take time depending on your network connection!
Adjust Parameters
Use Existing Setting
Cancel
Simply use predefined setting of the selected task for segmenting images
Click on
Use Existing Setting
Manipulate Slice Views
Manipulate 3D View
Axial
Coronal
None
None RAS: (173.8, -16.4, -1.0)

Define Input Channels



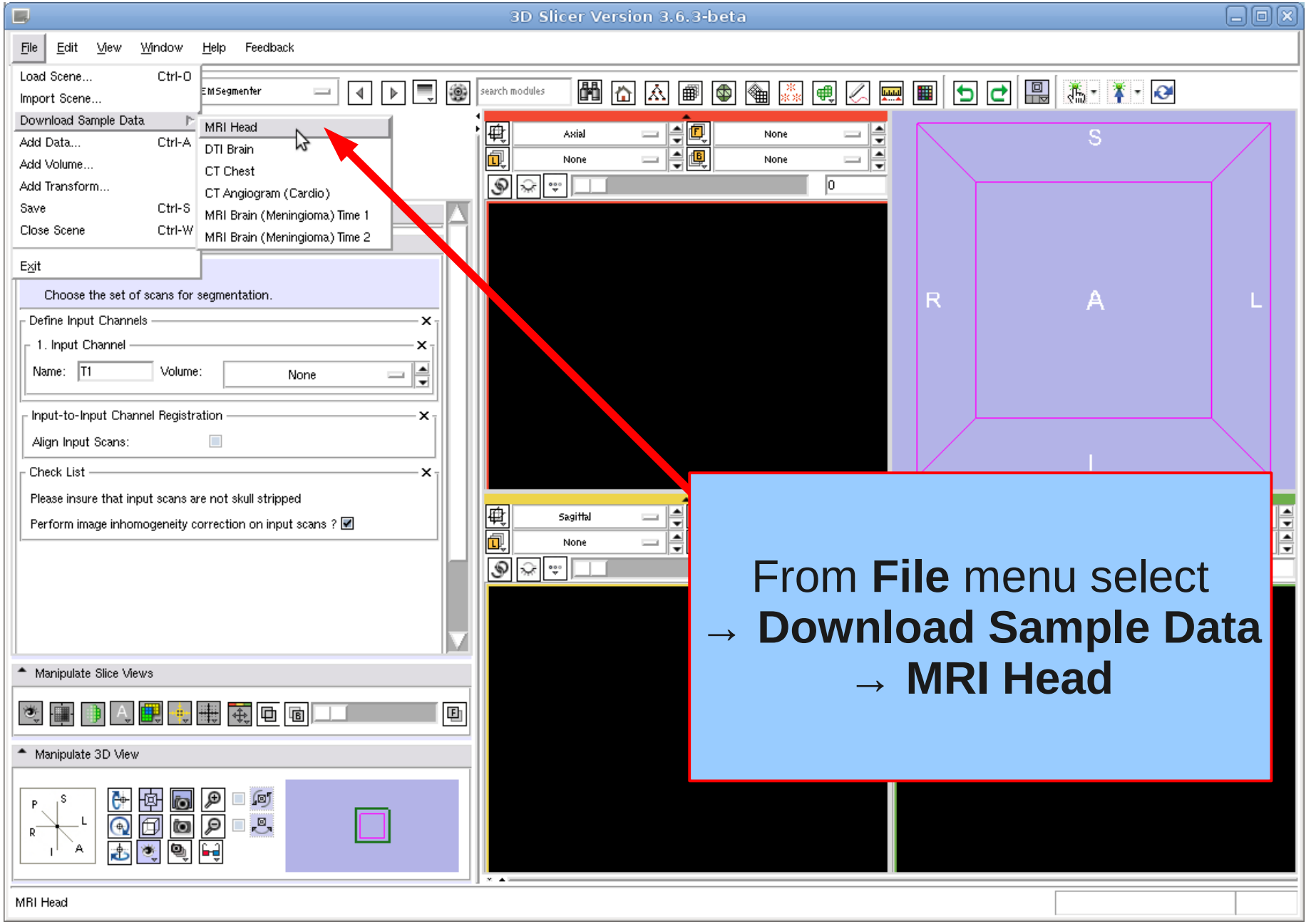
Per default there is no volume selected.

In the following steps we will be loading Slicer's Standard **MRI-Head** volume.

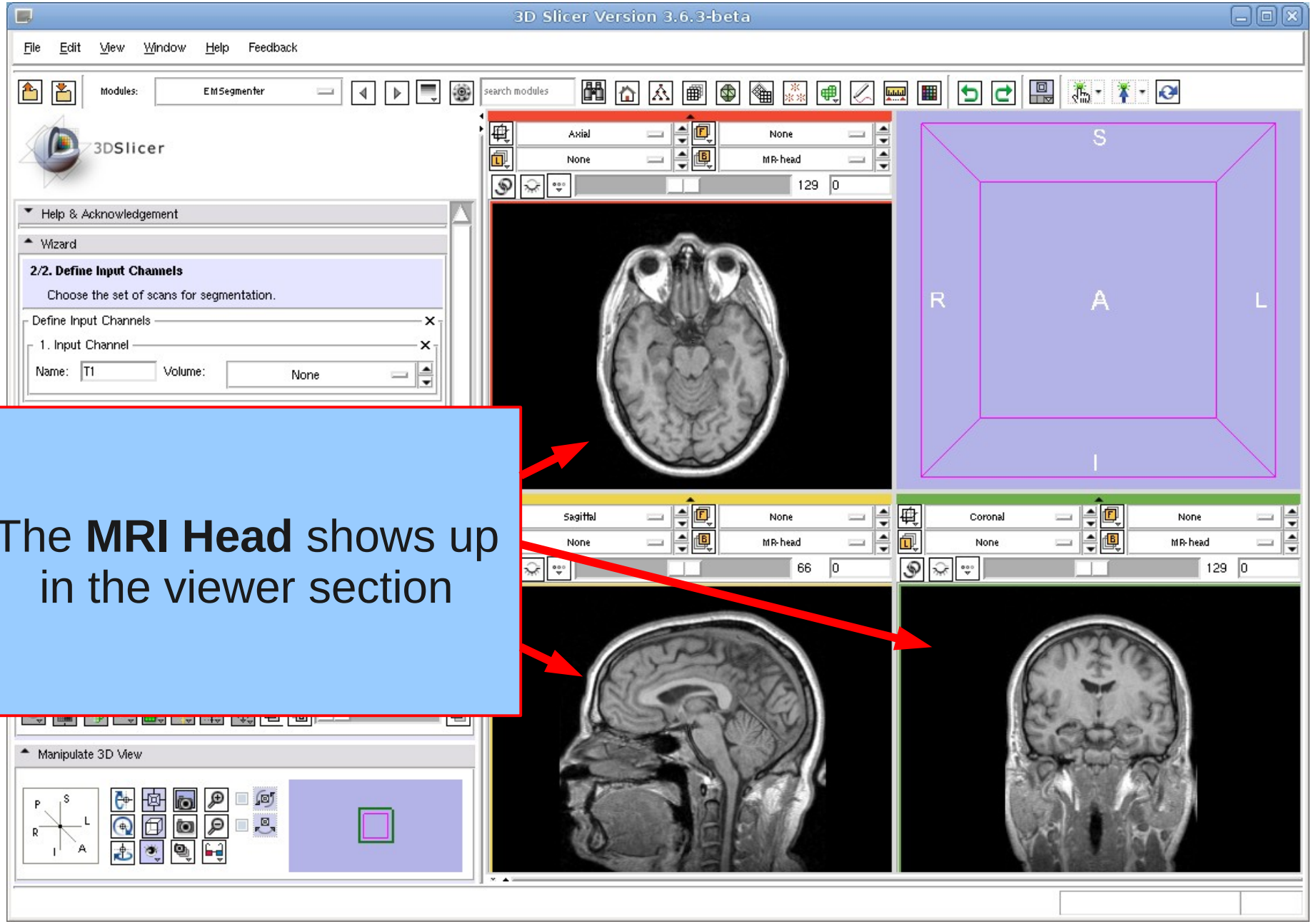
Let the **Align Input Scans** box unchecked. It is only needed if using multiple input channels.

Let the **inhomogeneity correction** box checked. It will result in a better segmentation.

Load subject volume

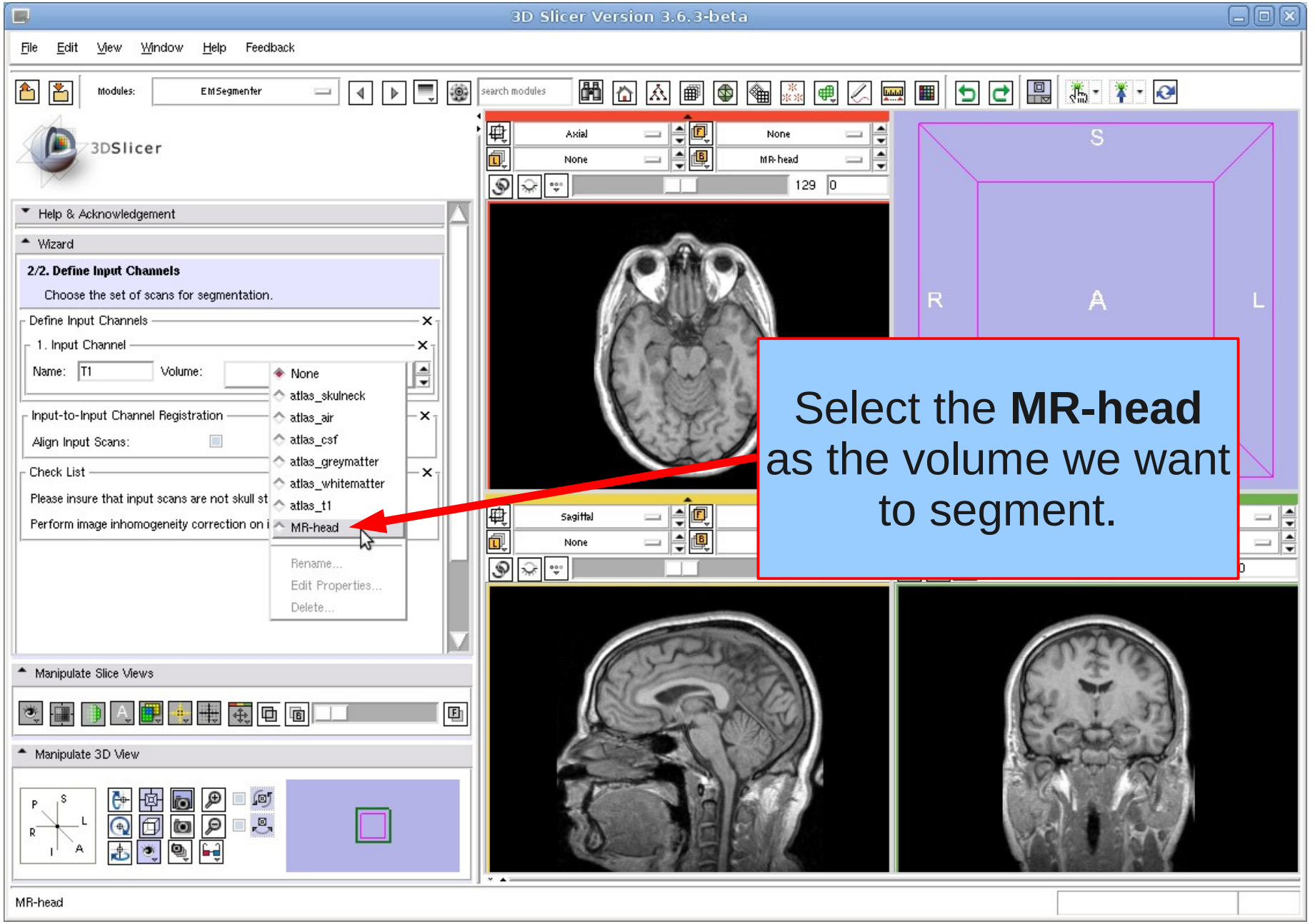


Display MRI Head

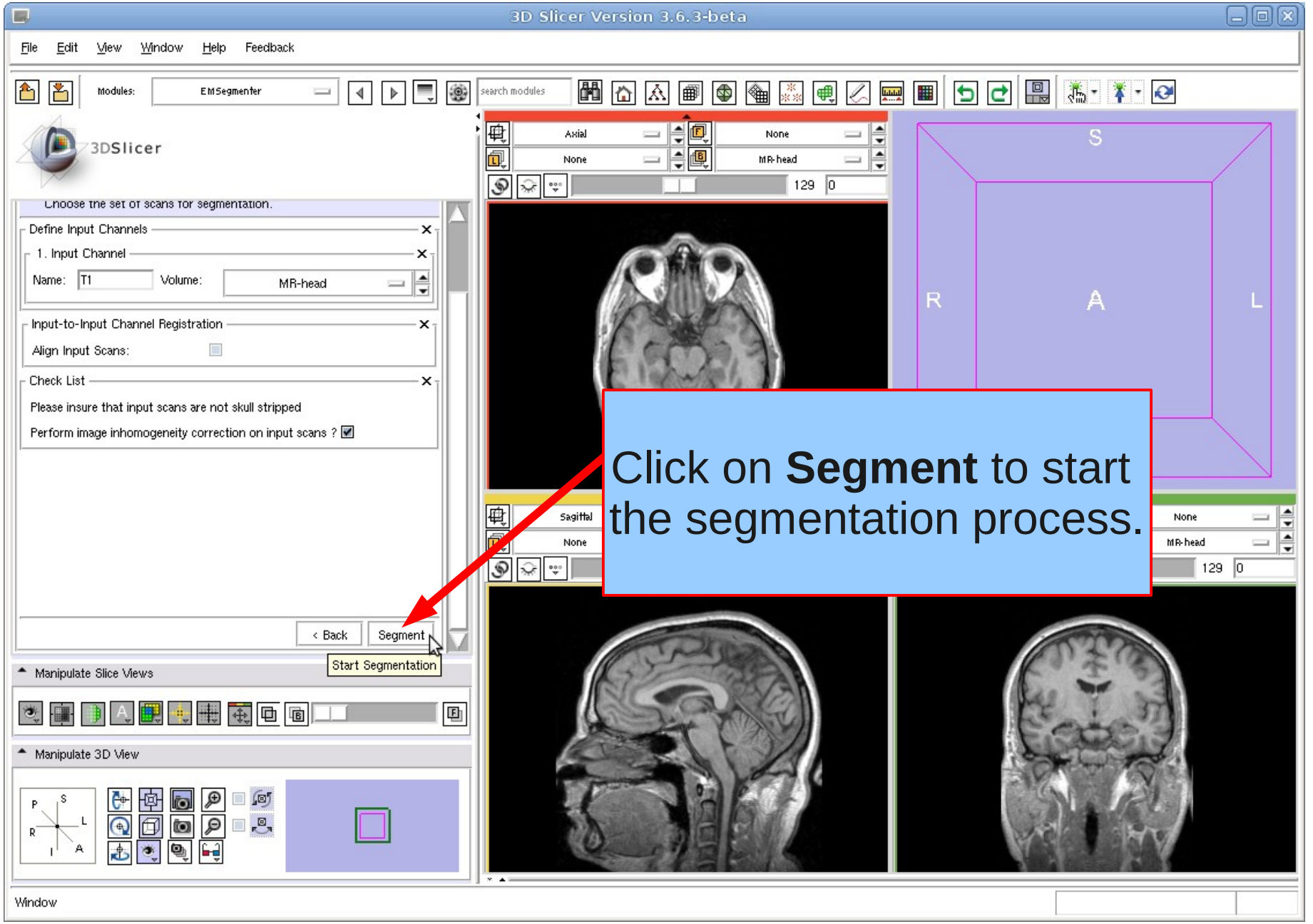


The **MRI Head** shows up in the viewer section

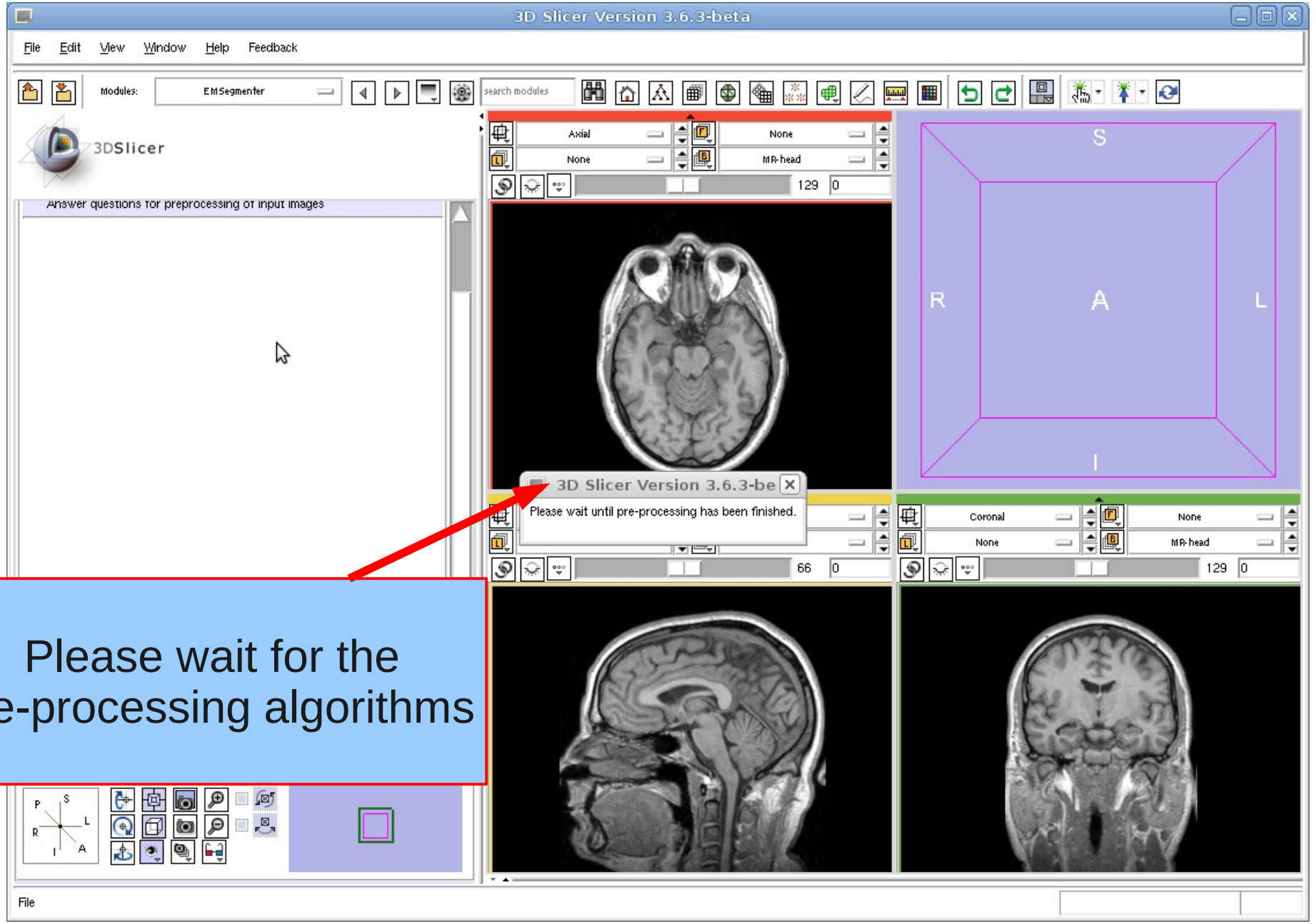
Define Input Channel



Start Segmentation

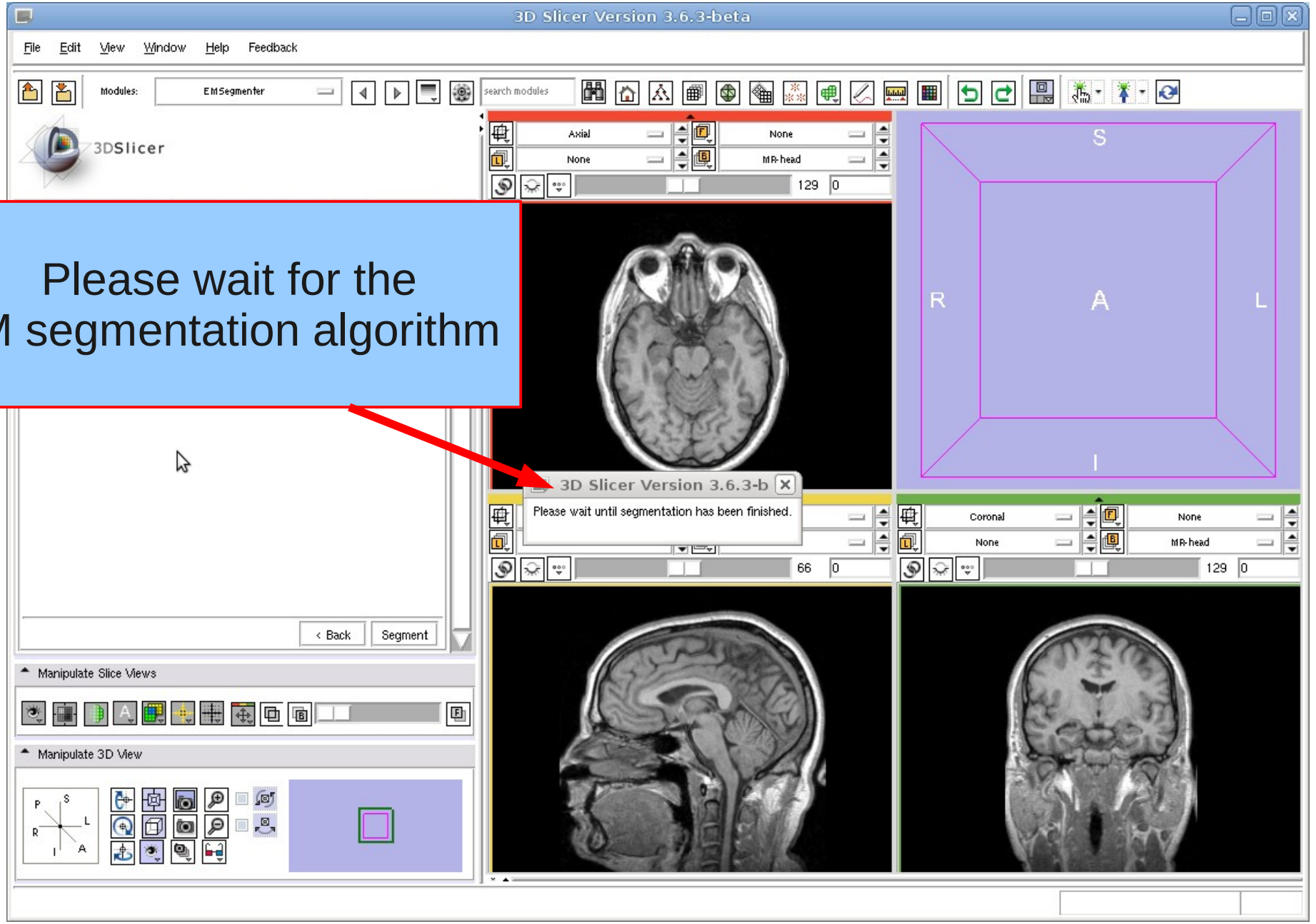


Pre-Processing is running

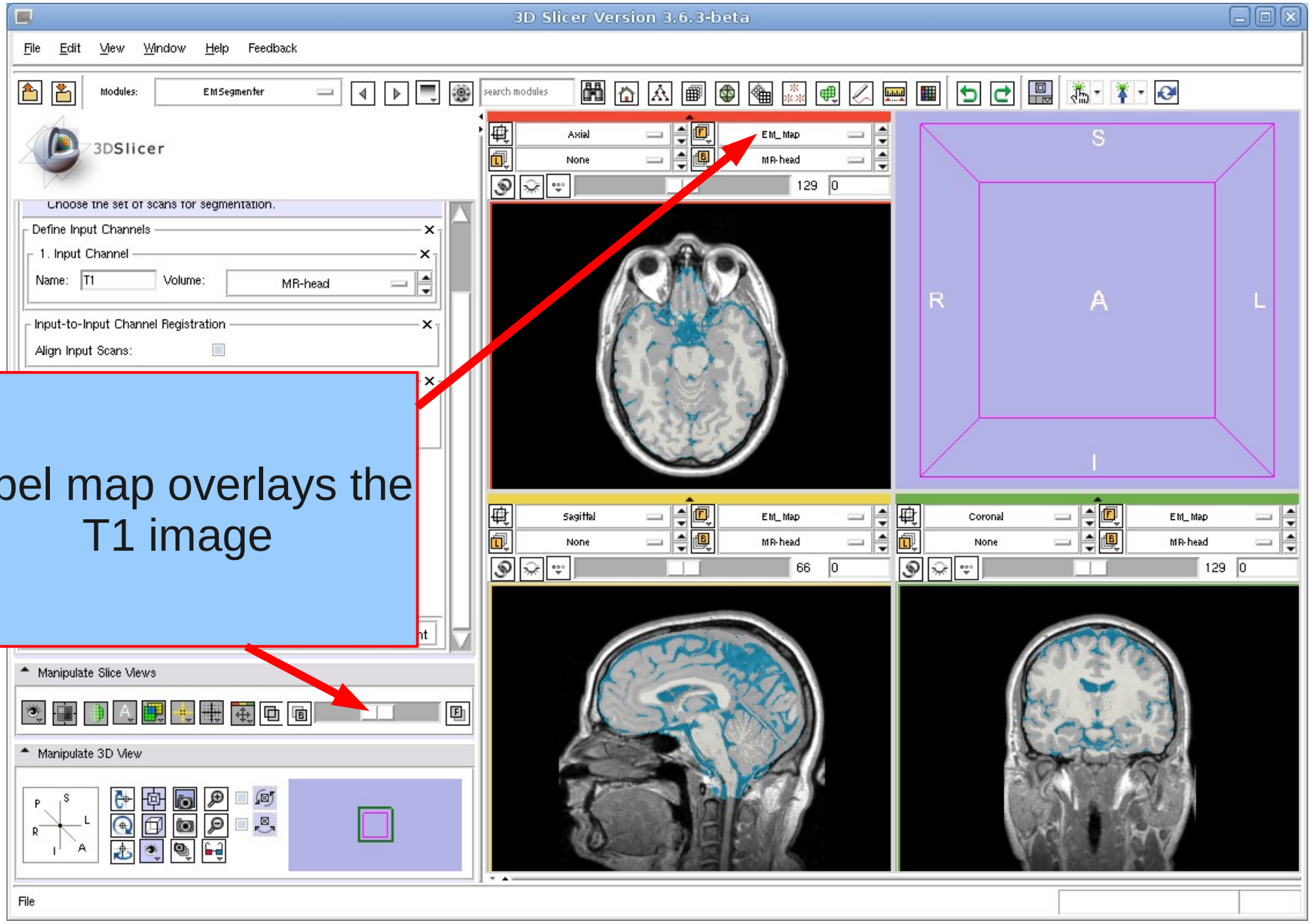


Please wait for the pre-processing algorithms

EM Segmentation is running



Result: Label map



Label map overlays the T1 image

Further Info & Acknowledgments

EMSegmenter Wiki Page:

http://www.slicer.org/slicerWiki/index.php/EMSegmenter-Overview

The EMSegmenter technology behind was reported in:

K.M. Pohl et. A hierarchical algorithm for MR brain image parcellation. IEEE Transactions on Medical Imaging, 26(9), pp 1201-1212, 2007.

We thank the following institutions for their support: