


Drawing with 3D Volume tools

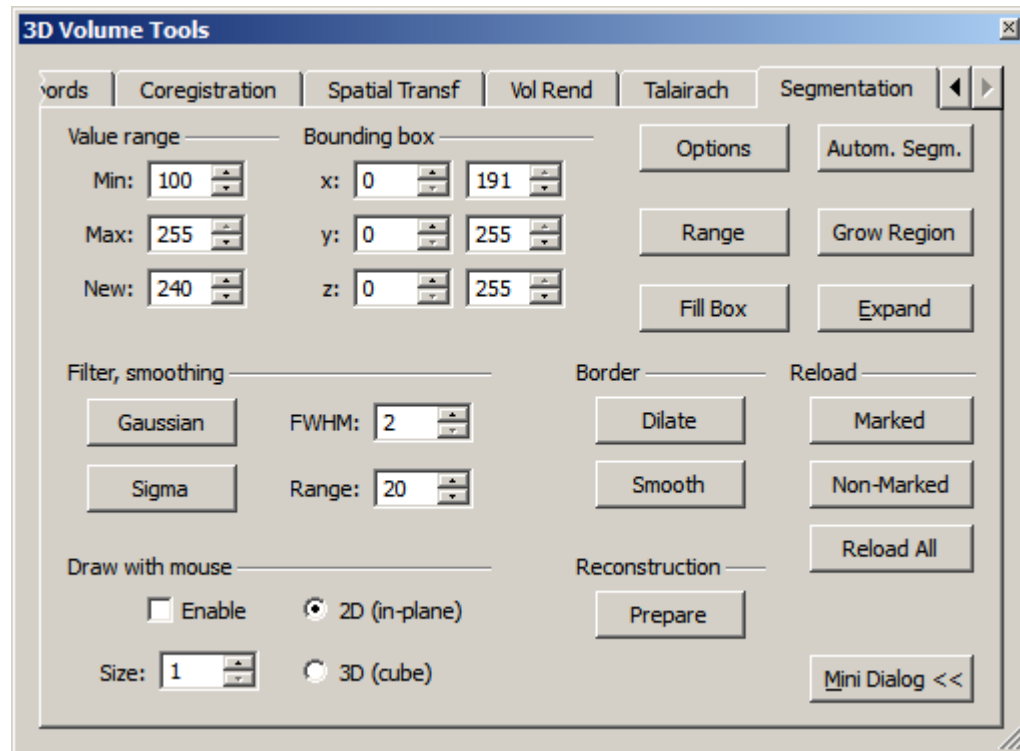
Pim Pullens

Brain Innovation BV

Maastricht, NL July 16, 2009

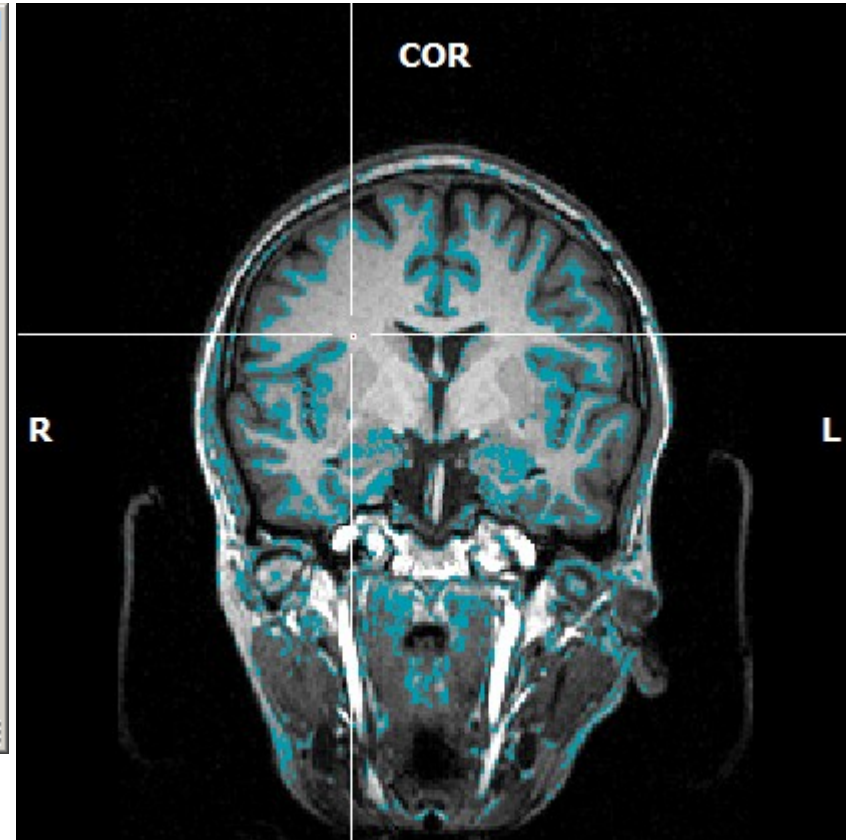
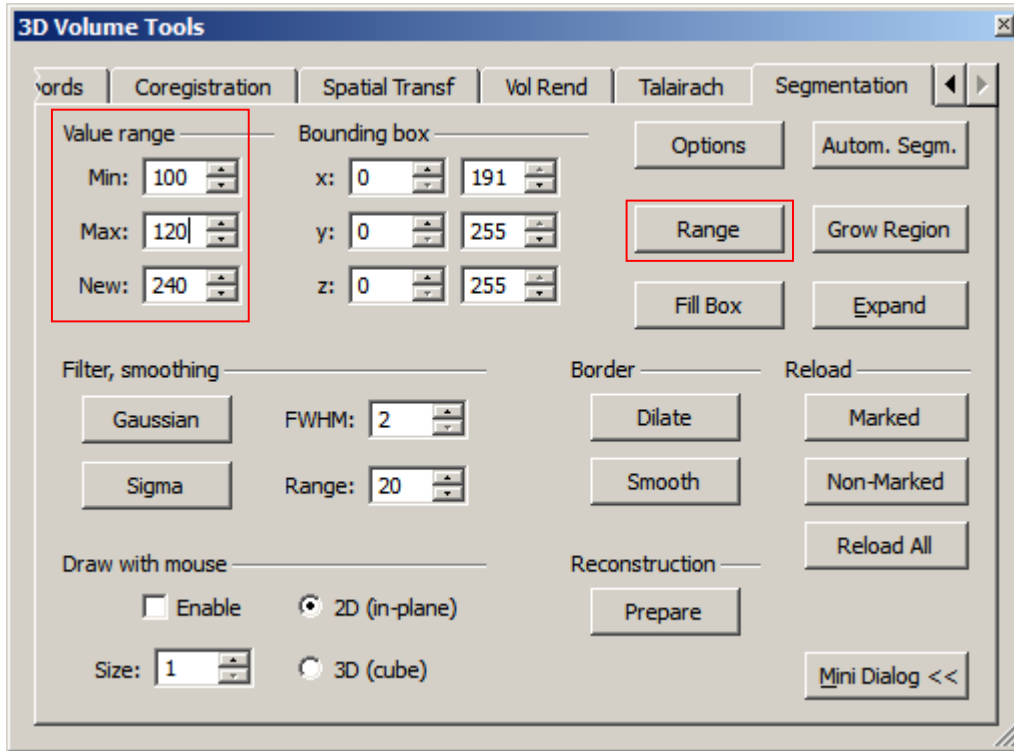
Segmentation Dialog

- in the menu: Volumes > 3D Volume tools
- or click on the  button on the left of the screen

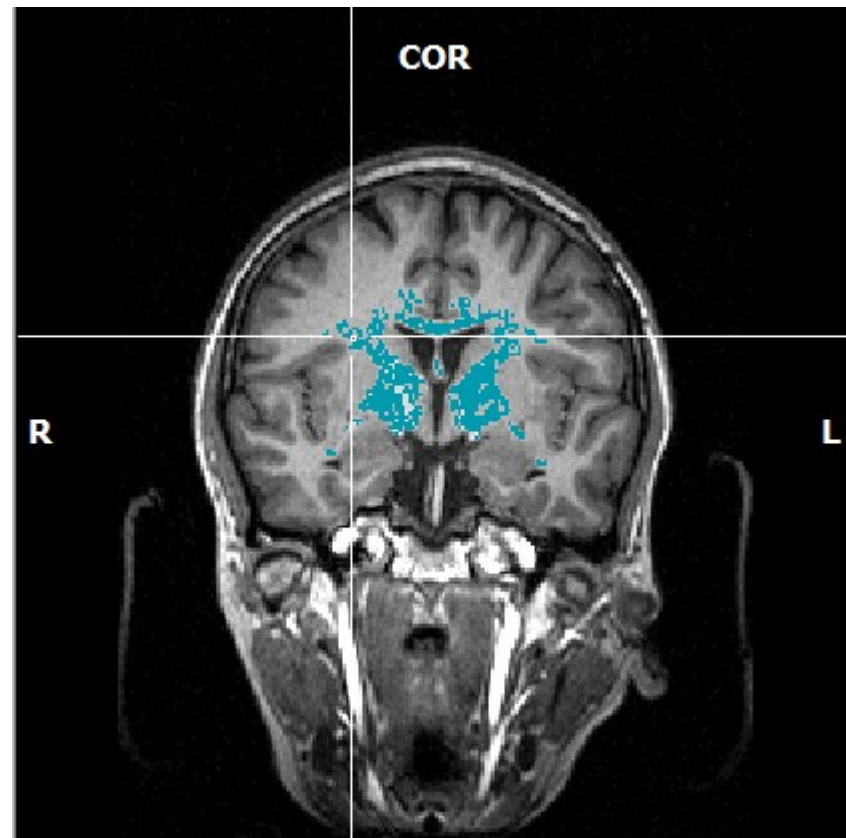
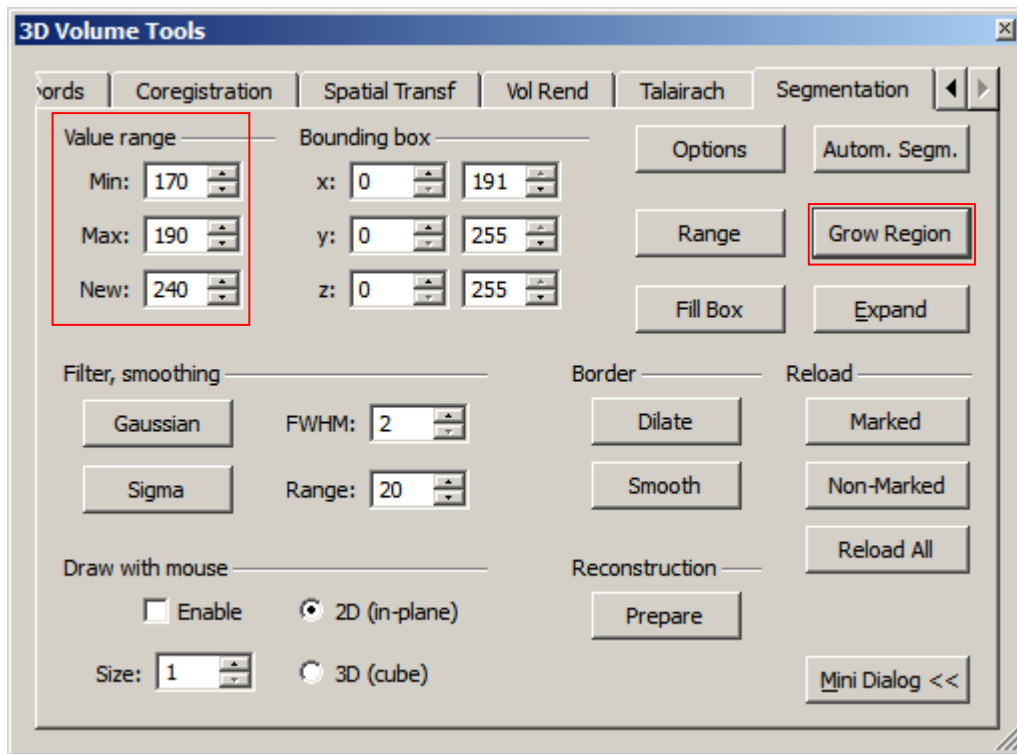


Before you start

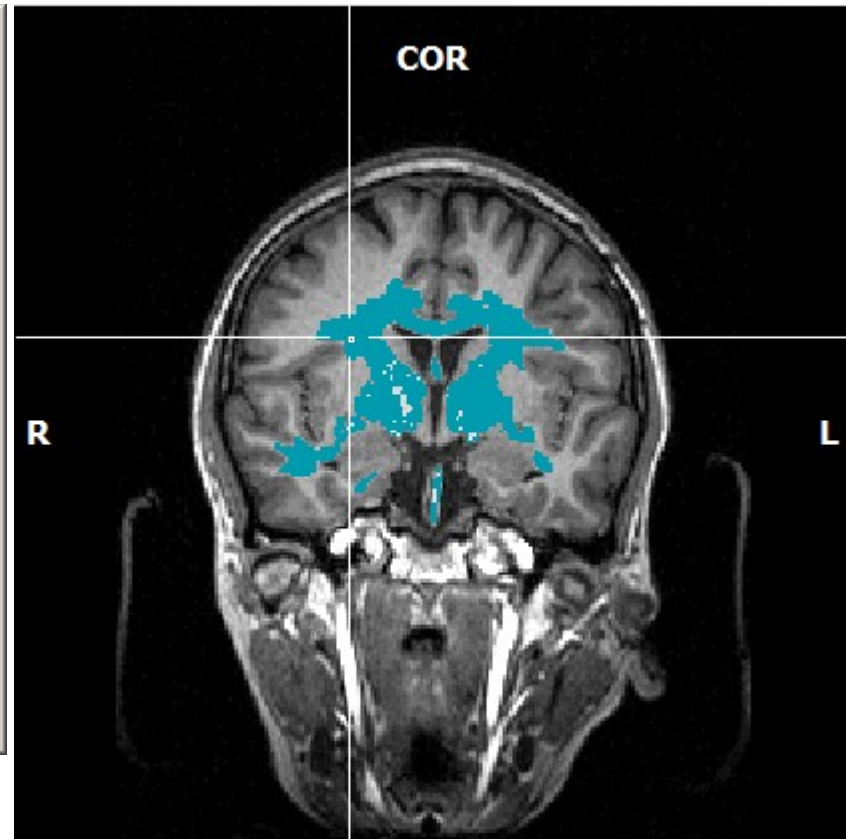
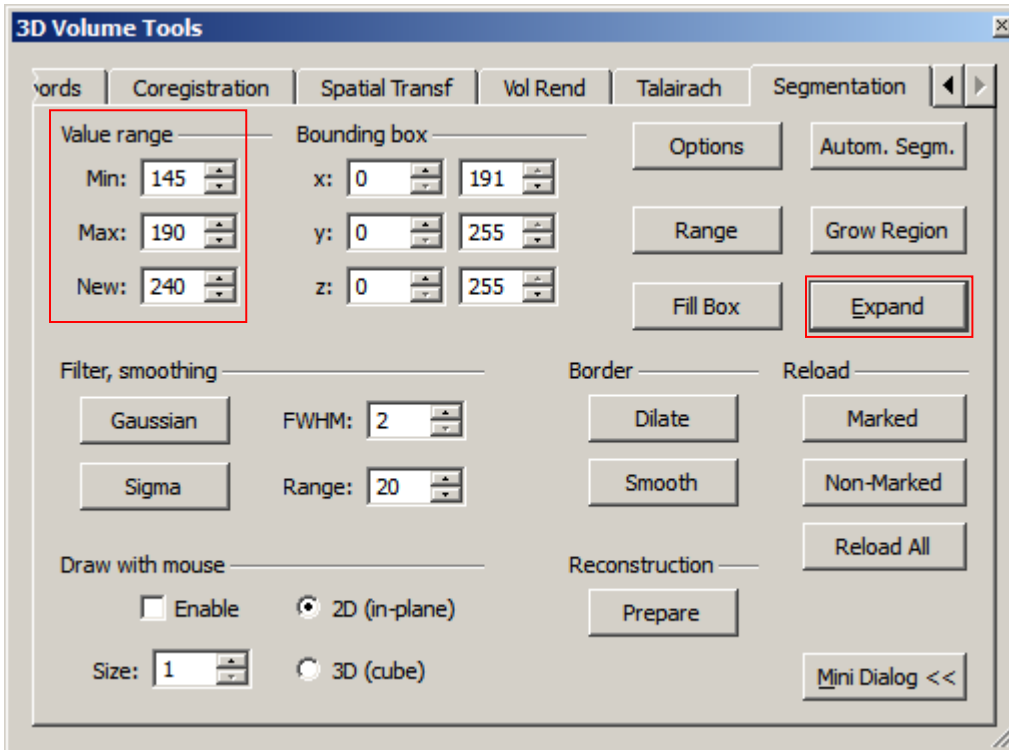
- Open a VMR
- Save the VMR with a different name, because there is no “undo” button for drawing.



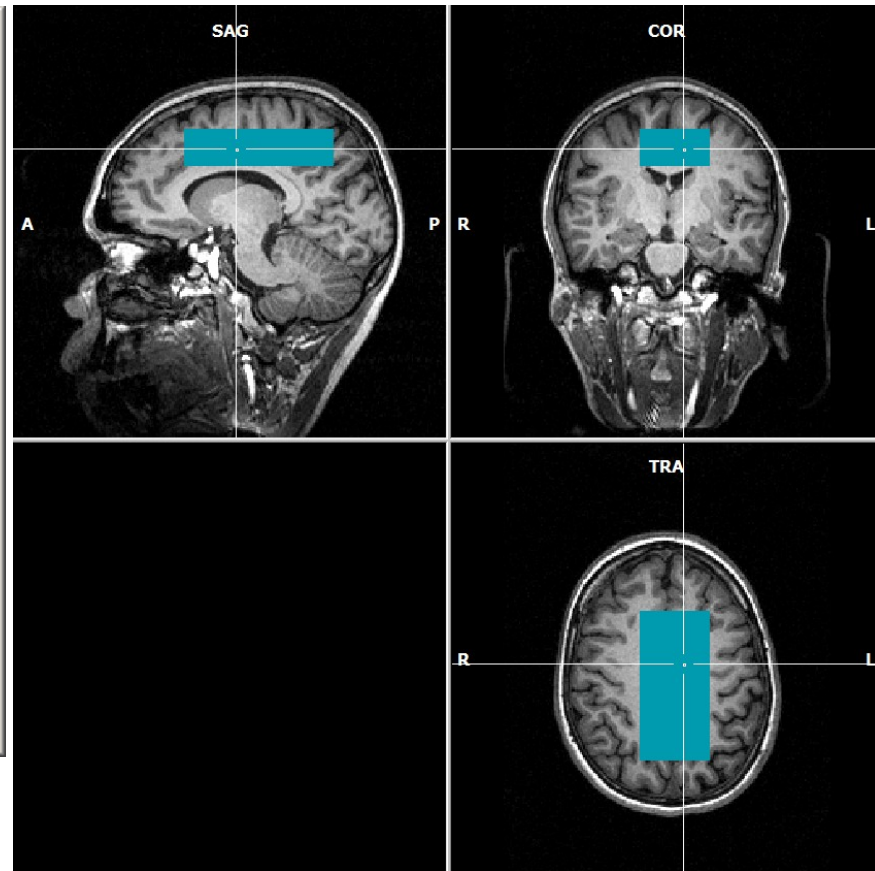
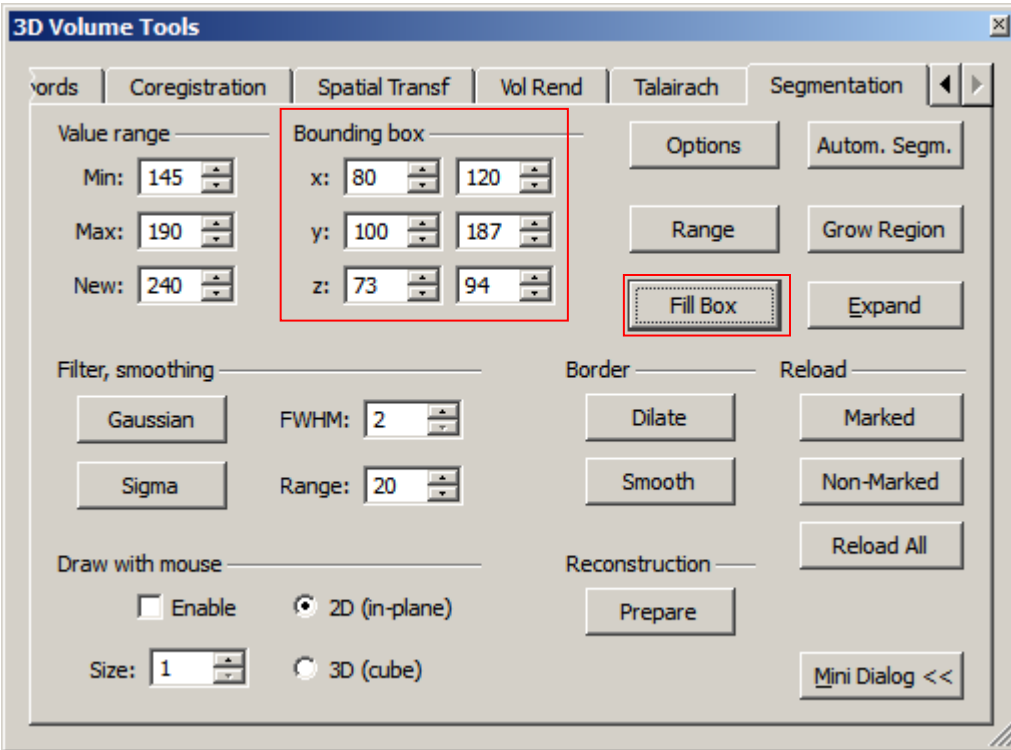
Range: select all voxels in the value range (here 100-120) and make them blue. Selection can be limited in 3-D space by the bounding box.



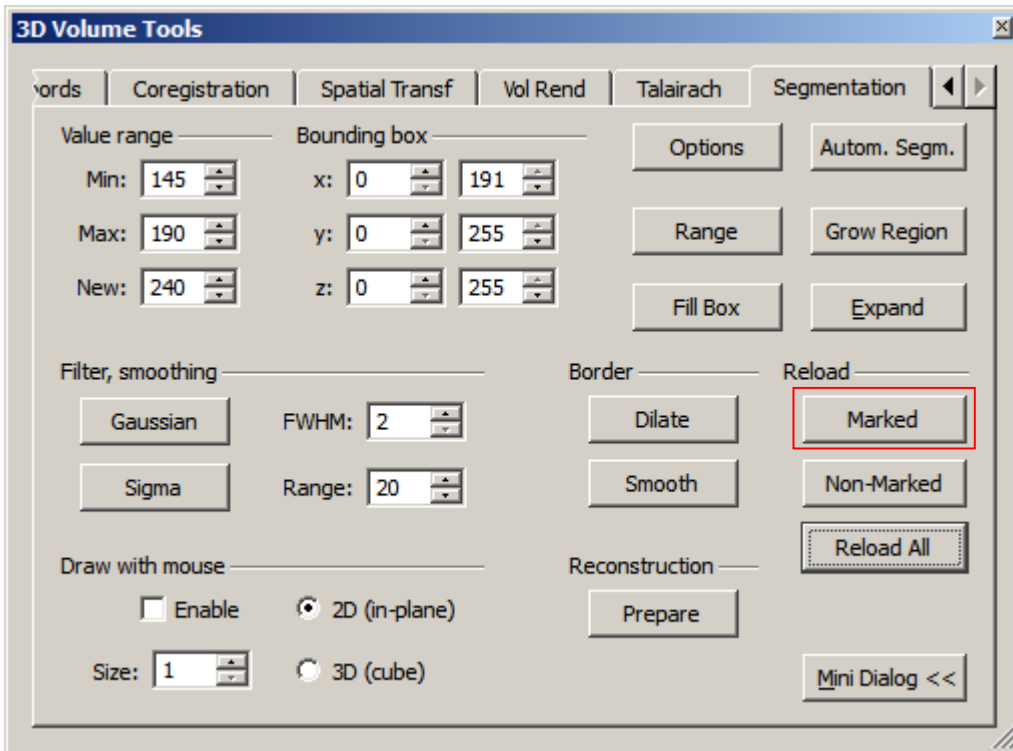
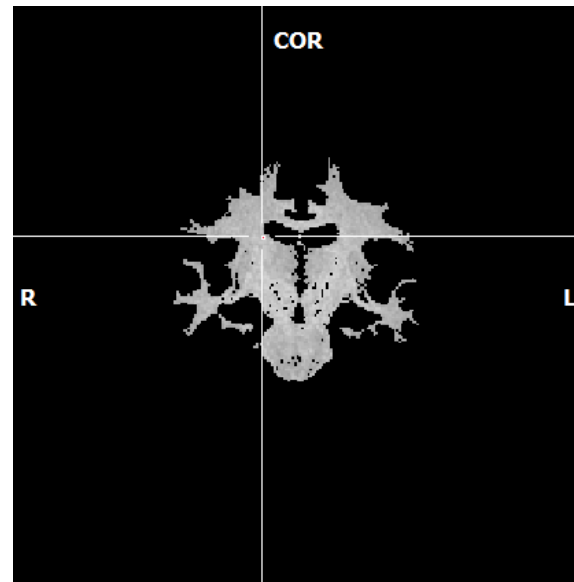
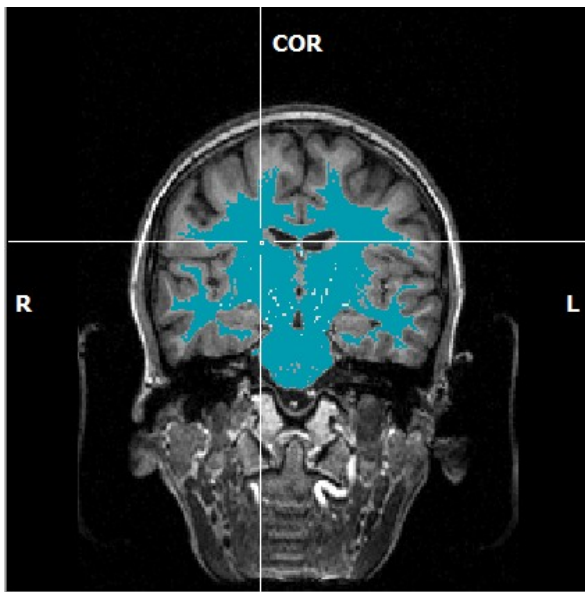
Grow Region select voxels in the value range, starting at the cursor position. Voxel selection can be limited in 3-D space by the bounding box.



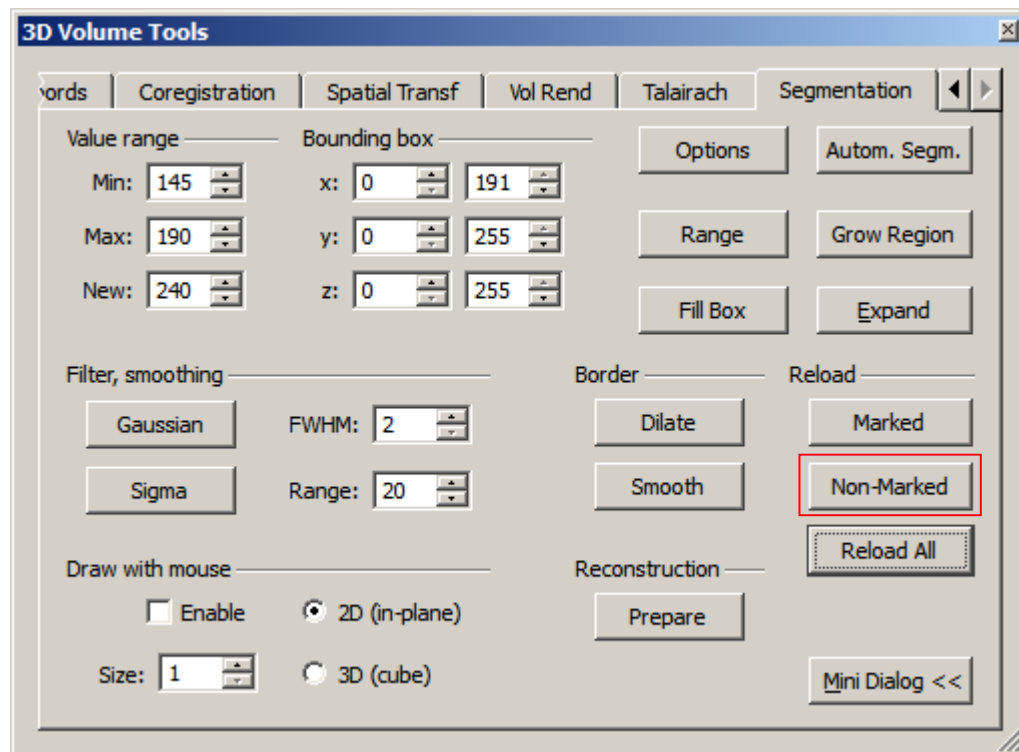
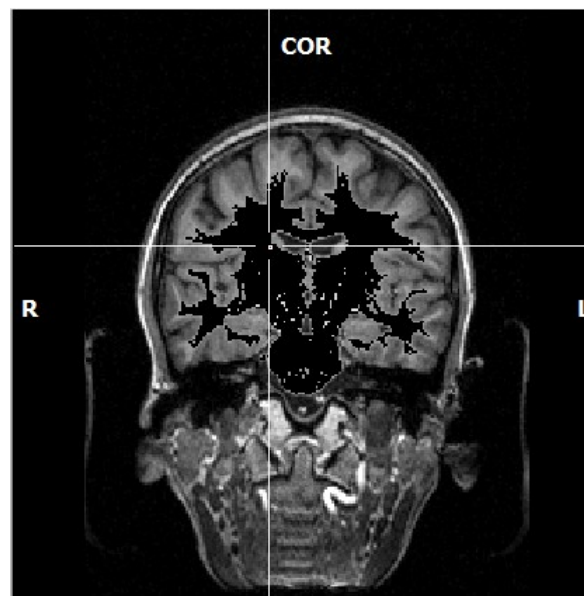
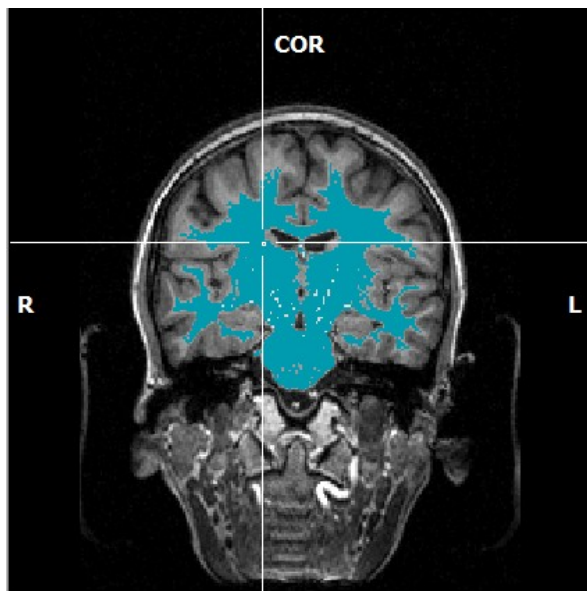
Expand the existing selection. Click multiple times to expand further. Expansion can be controlled by increasing/decreasing the value range. Expansion can be limited in 3-D space by the bounding box.



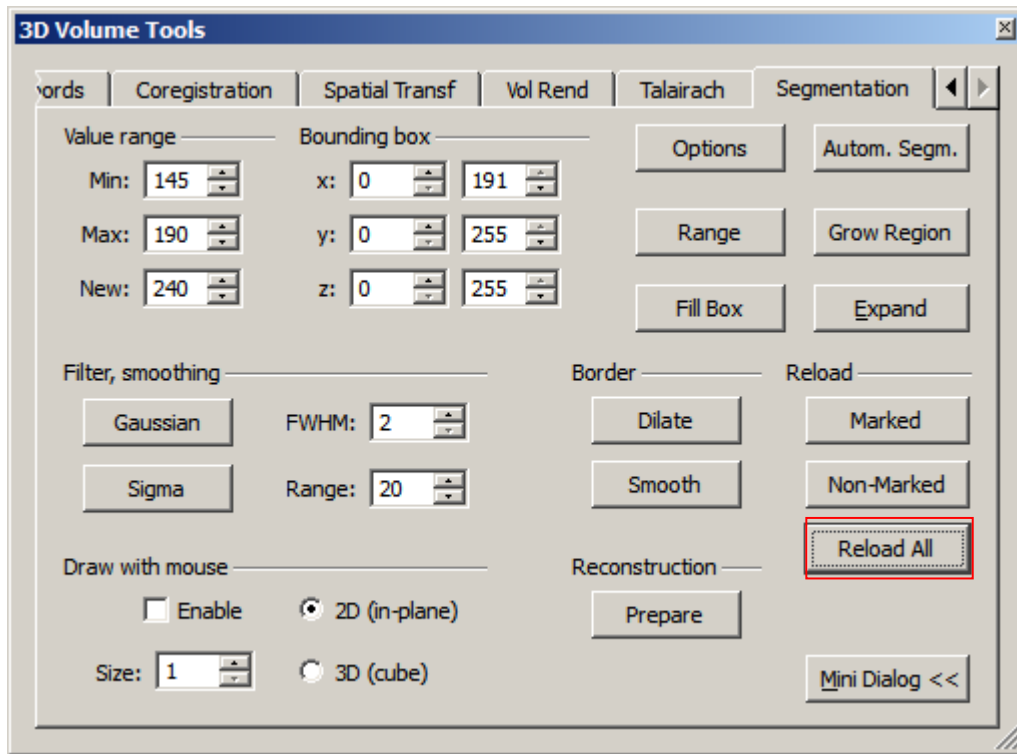
Fill the box defined by the bounding box



Reload **marked** part

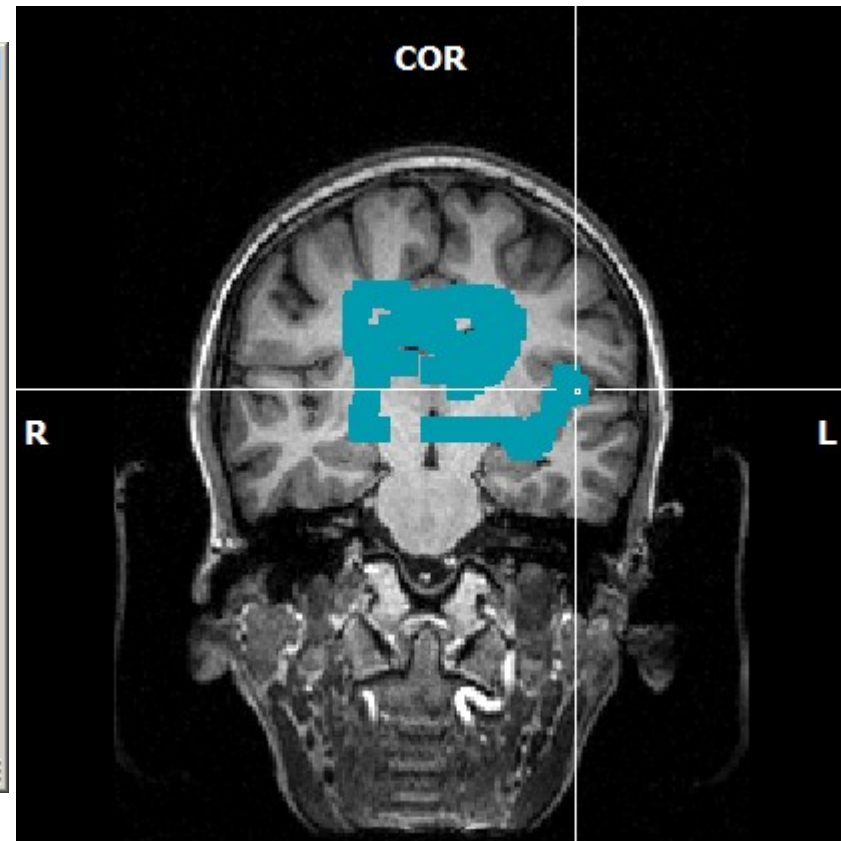
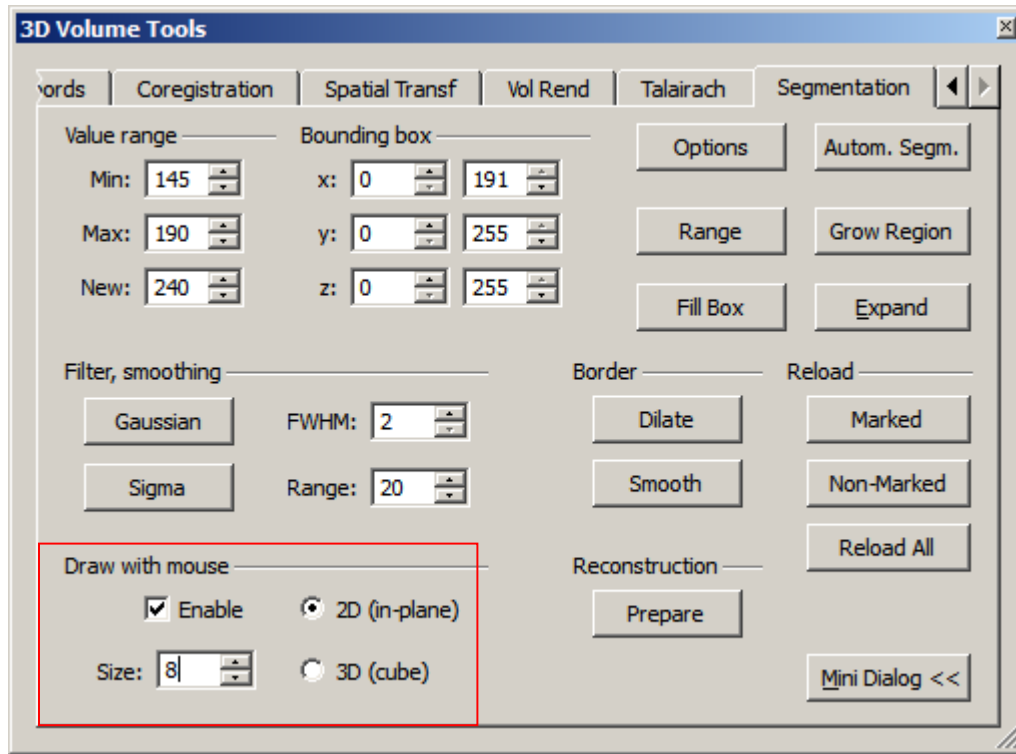


Reload non-marked part



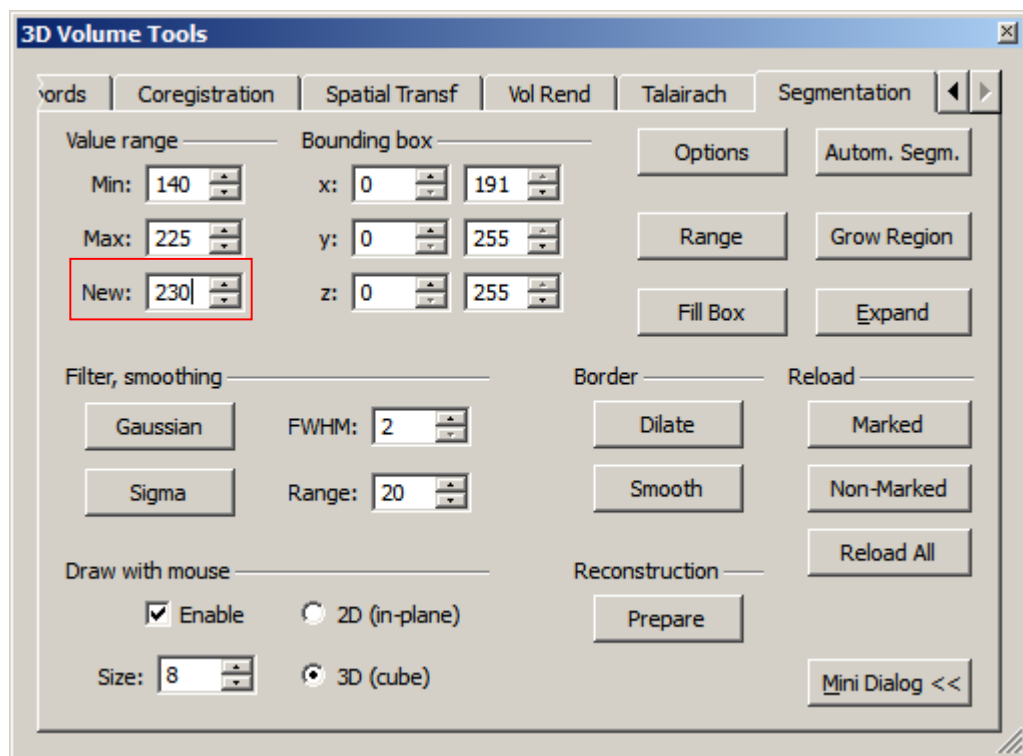
Reload all: revert to the last saved stage of the VMR.

Warning: if you save a VMR with blue voxels on it, they will be saved in the VMR and can't be reverted to the original VMR data!



Draw 2D/3D. Click the enable box, set the pencil size and use Ctrl + left mouse button to draw. Shift + Left mouse button removes voxels (set value to 0).

Pen colors



value	color
255, 250	white
245	green
240	blue
235	yellow
230	orange
225	white
0-225	black to white

Example use of the bounding box

- segmentation of temporal lobe
- look up proper x, y, z dimensions (cursor coordinates are displayed in status bar on the lower left of the screen)
- set the bounding box
- place cursor in temporal lobe and click grow region

Result

