Get EEG into another parcellation

**Too long; didn’t read**: Kirk only knows how to parcellate things into either the Desikan-Killiany atlas or the Destrieux atlas. But he has a few ideas for other parcellations.

As part of my (Kirk) EEG project, I created a bunch of different connectomes based on the Desikan-Killiany atlas. They are saved on Rundle under signe\_team/Kirk/EEG Project/connectomes. I also created a few connectomes with the Destrieux atlas.

If you want to do the same thing (or a similar thing) with other data, try reading my how to preprocess EEG guide, also on Rundle.

The parcellation used is determined by the last step in my preprocessing guide, using the program source localization 8.py. That’s the program that takes the forward solution (created by source localization 7.py), uses that to generate the inverse solution for the data, then applies a parcellation to the data in source space.

It’s really easy if you want your EEG data in either the Desikan-Killiany atlas or the Destrieux Atlas as both come with Free Surfer.

For source localization 8, if you want to instead use the Destrieux atlas, change the code at the top from:

parclist = ['aparc']

to

parclist = ['aparc.a2009s']

Suppose you want to use a different parcellation? For each participant, from their Freesurfer data, you’ll have to create an annotation file. You’ll notice in the Freesurfer folder there’s a file that looks like this:

/Freesurfer\_files/sub-1973002P\_ses-3/label/lh.aparc.annot

As best I can tell, if you simply create a new annotated file for a different parcellation, you’ll be good to go

How do you create an annotated file? I have no idea!

There might be other options:

In my source localization 8.py script, you’ll find the line that looks like this:

labels\_parc = mne.read\_labels\_from\_annot(subject, parc=parc,subjects\_dir=subjects\_dir)

The MNE website has more information on this:

<https://mne.tools/stable/generated/mne.read_labels_from_annot.html>

(including tutorials. Maybe they can shed light on how to use other parcellations?)

MNE also has various other ways to read labels, such as:

<https://mne.tools/stable/generated/mne.read_label.html>

I’m not sure that helps. I’d try reading MNE’s tutorials. They’re kinda decent. Or Google. Or just use another package to deal with EEG files.

After source localization 7.py, the two important files are generated:

The forward solution:

e.g., sub-1973002P\_ses-1\_task-DORA3\_eeg\_repint\_lol-fwd.fif

And the remontaged EEG data:

e.g., sub-1973002P\_ses-1\_task-DORA3\_eeg\_repint\_remontage\_epo.fif

Those are what you need to get data in source space, from which you can apply a parcellation of your choosing, and generate connectomes.

Best of luck.