Developing Human Connectome Project (dHCP)

Guidelines for downloading data from the NDA

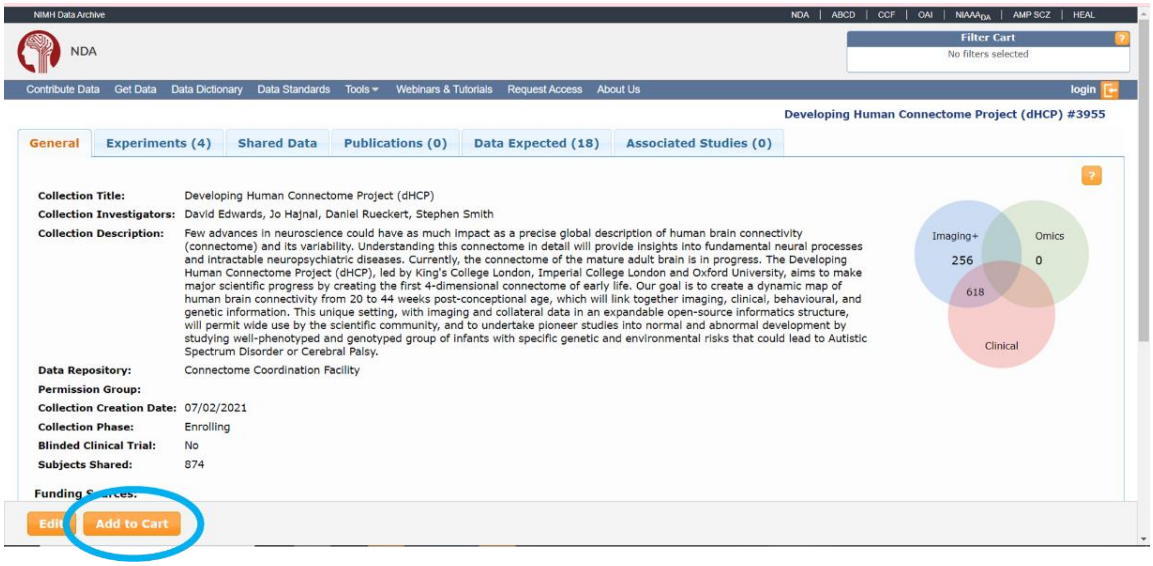
Contents

Before you start you will need:

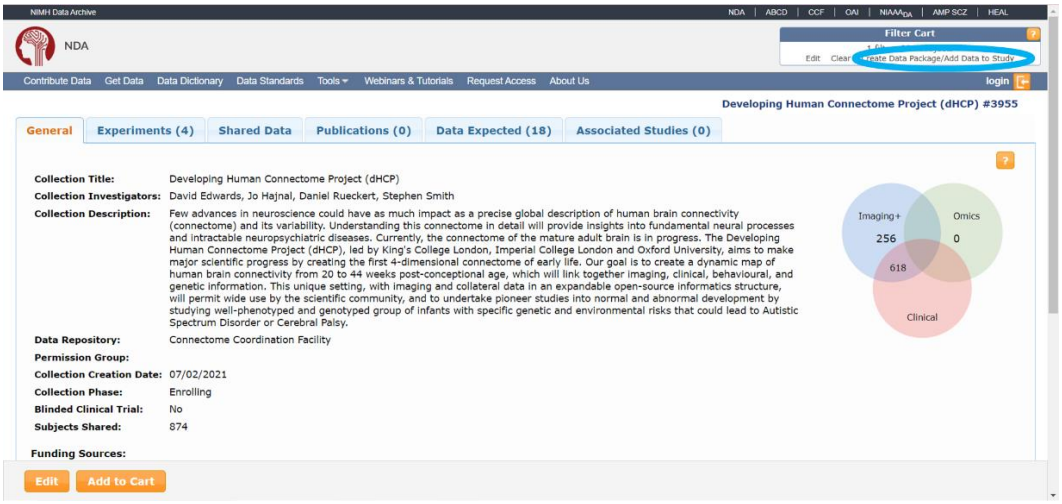
1. NDA user account https://nda.nih.gov/nda/creating-an-nda-account.html
2. Data access permission https://nda.nih.gov/nda/access-data-info.html
3. Download the 'Download Manager Tool' https://nda.nih.gov/nda/nda-tools.html#download-manager (see FAQ for username and password)

Downloading data:

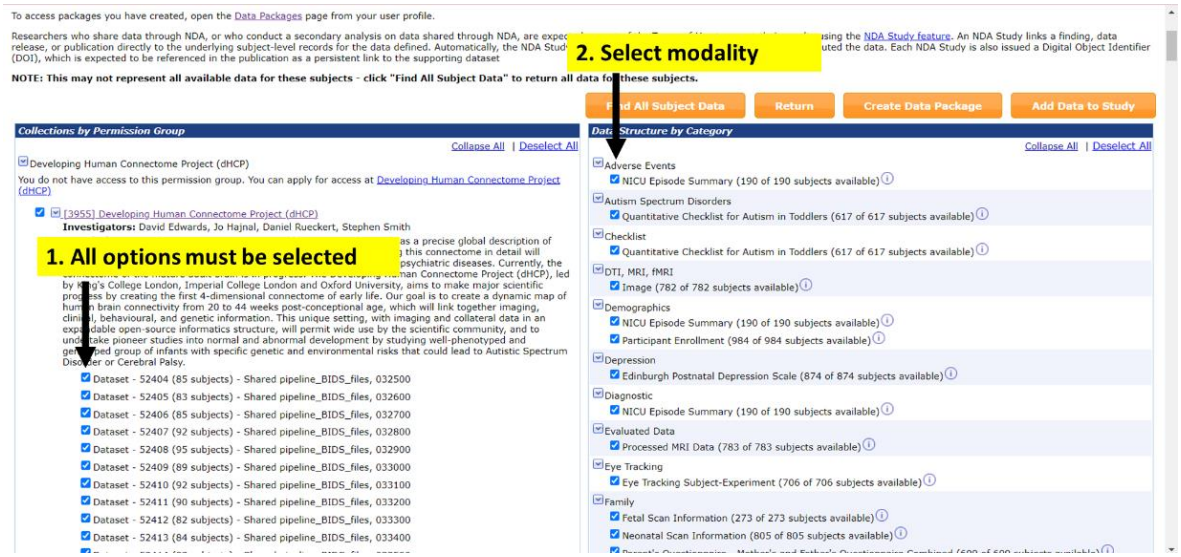
1. Clink on the link https://nda.nih.gov/edit_collection.html?id=3955
2. Click "Add to cart"



3. Click “Create Data package/Add data to study”



4. Check that all options are selected in the left table (collections by Permission Group). Select the modality in the right table (Data Structure by Category). The list below describes the neonatal data available in each modality.



Adverse Events

- **NICU Episode Summary:** Clinical information for babies that stayed in the NICU. Data in file nicu101.

Autism Spectrum Disorders

- **Quantitative Checklist for Autism in Toddlers:** Q-CHAT scores (18 month follow-up) Scores in file qucht01.

Checklist

- **Quantitative Checklist for Autism in Toddlers:** Q-CHAT scores (18 month follow-up) Scores in file qucht01.

DTI, MRI, fMRI

- **Image:** Native data and motion corrected images including anatomical, dMRI and fMRI and ancillary files related to the original examinations. The full cohort is arranged across 7 folders (DTIMRIFMRI/image03/rel3_derivatives/rel3_rawdata_vol1-7), each with multiple sub-folders for individual subjects. All data for each subject is collected together in these individual subject folders.

Demographics

- **NICU Episode Summary:** Clinical information for babies that stayed in the NICU. Data in file nicu101.
- **Participant Enrollment:** Parental clinical, demographic and socio-economic information. Data in file cpenr01.

Depression

- **Edinburgh Postnatal Depression Scale:** EPDS scores. Data in file epds01.

Diagnostic

- **NICU Episode Summary:** Clinical information for babies that stayed in the NICU. Data in file nicu101.

Evaluated Data

- **Processed MRI Data.** Analysed metadata for each modality (anatomical, diffusion, functional), including brain segmentations and cortical surfaces. The data are in folder fmriresults01/rel3_derivatives. They are split in anatomical (rel_dhcp_anat_pipeline), diffusion MRI (rel3_dhcp_dmri_eddy_pipeline and rel3_dhcp_dmri_shard_pipeline), functional MRI (rel3_dhcp_fmri_pipeline). Within each modality the data are organised in folders by participant.

Eye Tracking

- **Eye Tracking Subject-Experiment:** native and processed eye-tracking data. Data are in folder et_subject_experiment01. The data are organised in folders by participant. Documentation on eye-tracking task, acquisition and analysis are in folder et_subject_experiment01/experiments/experiment_2018/block_1/Block_Design_File/

Family

- **Fetal Scan Information:** Information about the fetal scan, including the gestational age on the day of the scan. Data are in file fsi01.
- **Neonatal Scan Information:** Information about the neonatal scan, including age at scan, age at birth and sex. Data are in file nnsi01.
- **Parent's Questionnaire - Mother's and Father's Questionnaire Combined:** 18 month time point. Parenting Scale scores and parental demographics. Data are in file pqmf01.

Health

- **Neonatal Scan Information:** Information about the neonatal scan, including the gestational age at birth, the baby's age on the day of the scan and the baby's sex. Data are in file nnsi01.

Med History

- **Fetal Scan Information:** Information about the fetal scan, including the gestational age on the day of the scan. Data are in file fsi01.

Omics

- **Genomics Sample:** Genomic data can be found in folder genomics_sample03/Users/nickharper/cdb/dhcp_plink_files. Methylation data can be found in folder genomics_sample03/Users/nickharper/cdb/Methylation.

Parenting

- **Late Pregnancy and Birth**: clinical information about later stages of pregnancy and birth. Data are in file lpb01.
- **Parent's Questionnaire - Mother's and Father's Questionnaire Combined**: 18 month timepoint. Parenting Scale scores and parental demographics. Data are in file pqmf01.

Phys Exam

- **Neonatal Scan Information:** Information about the neonatal scan, including the gestational age at birth, the baby's age on the day of the scan and the baby's sex. Data are in file nnsi01.

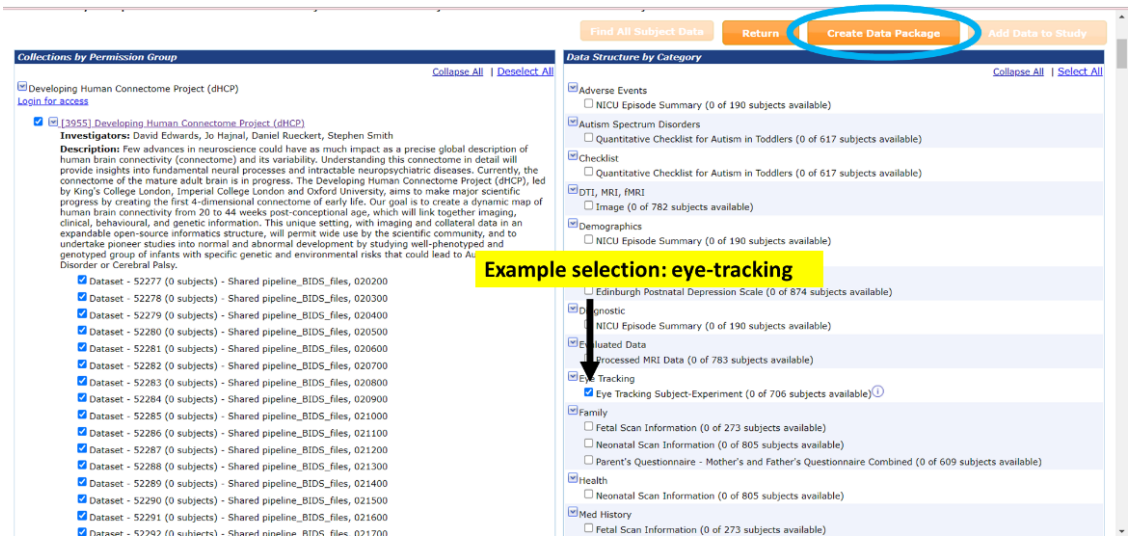
Questionnaire

- **Bayley-III Scales of Infant Development:** 18 month timepoint, Bayley-III scores. Data are in file bsid_iii01.
- **Child Behavior Checklist (CBCL) 1-5:** 18 month timepoint, CBCL scores. Data are in file cbcl1_501.
- **Early Childhood Behavior Questionnaire:** 18 month timepoint, ECBQ scores. Data are in file ecbq01.
- **Parent's Questionnaire - Mother's and Father's Questionnaire Combined:** 18 month timepoint. Parenting Scale scores and parental demographics. Data are in file pqmf01.
- **Stimulating Parent Scale:** 18 month timepoint, SPS scores. Data are in file stps01.

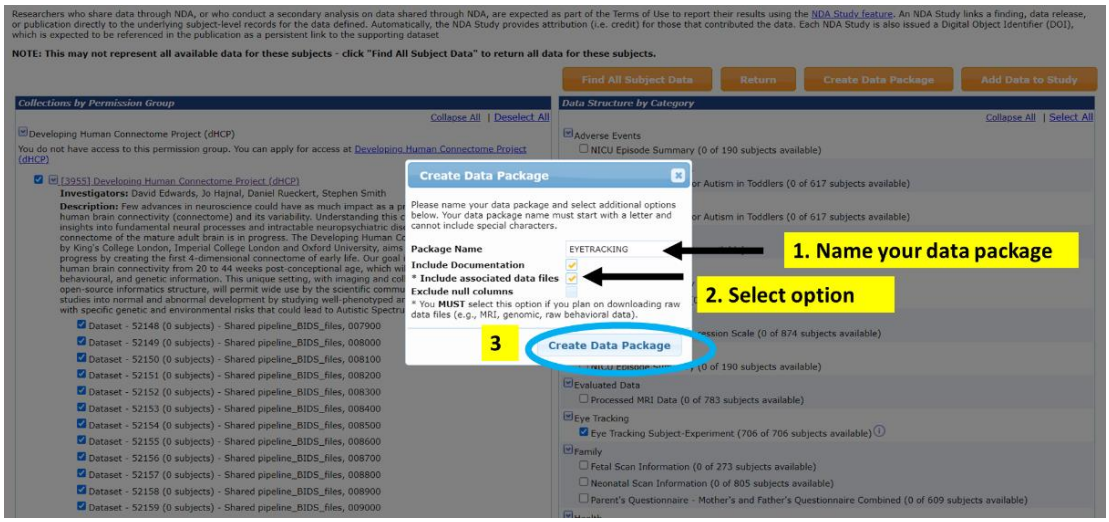
Resolve Identifiers

- **Genomics Subject:** NICK description. Data are in file genomics_subject02.
- **Research Subject:** List of every participant in study. Data are in file ndar_subject01

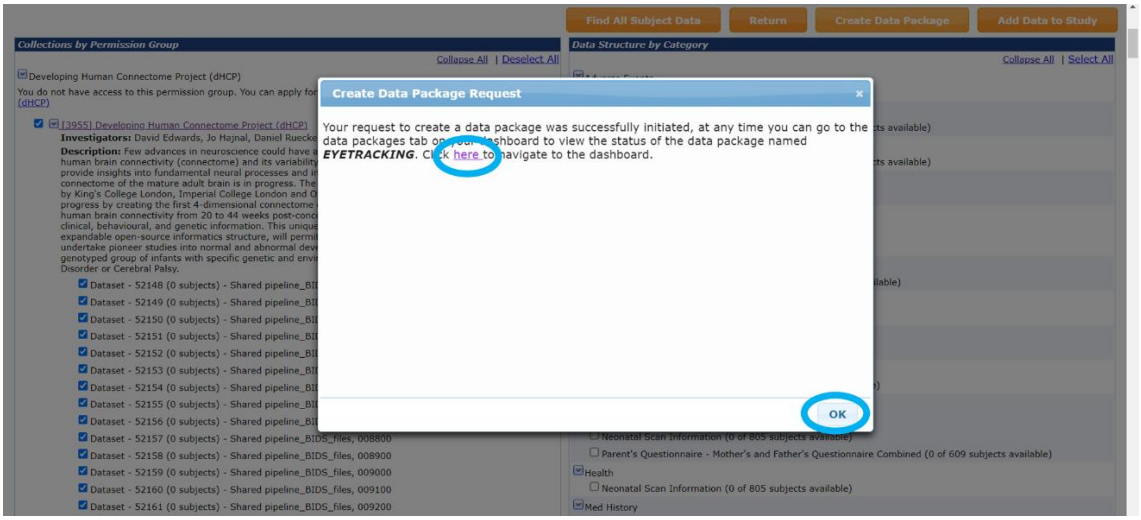
5. After selecting the modality (e.g. eye-tracking), click "Create Data Package".



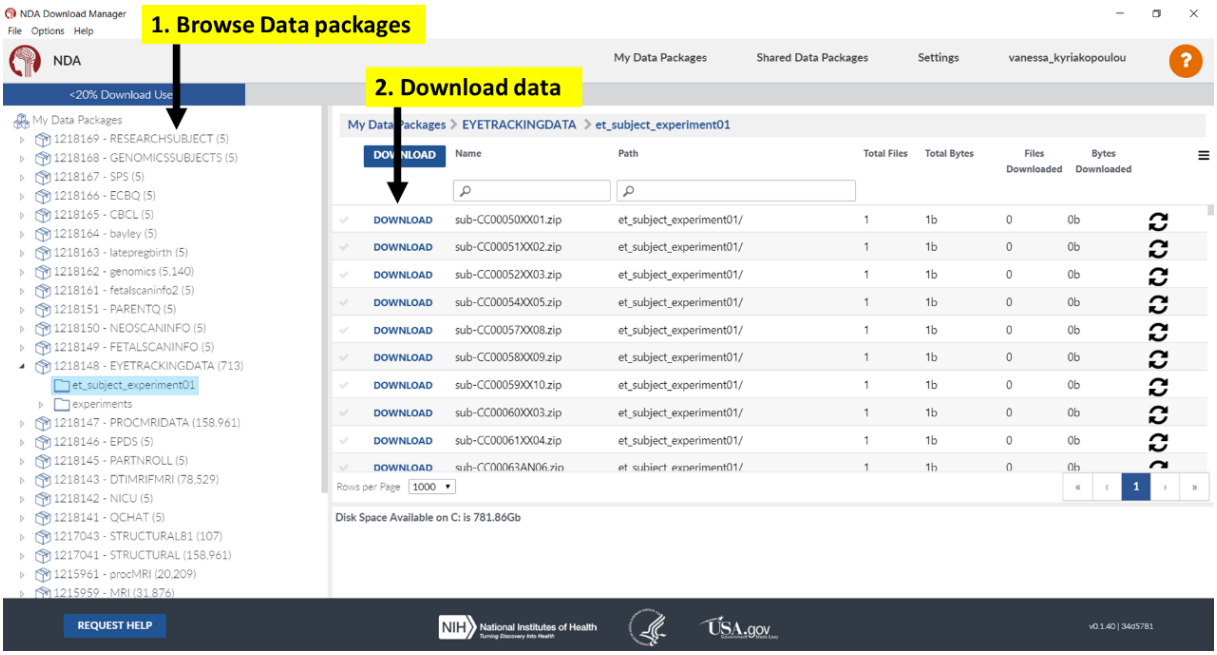
6. Create a name for your selected data package and select option “include associated files”. Click “Create Data Package”.



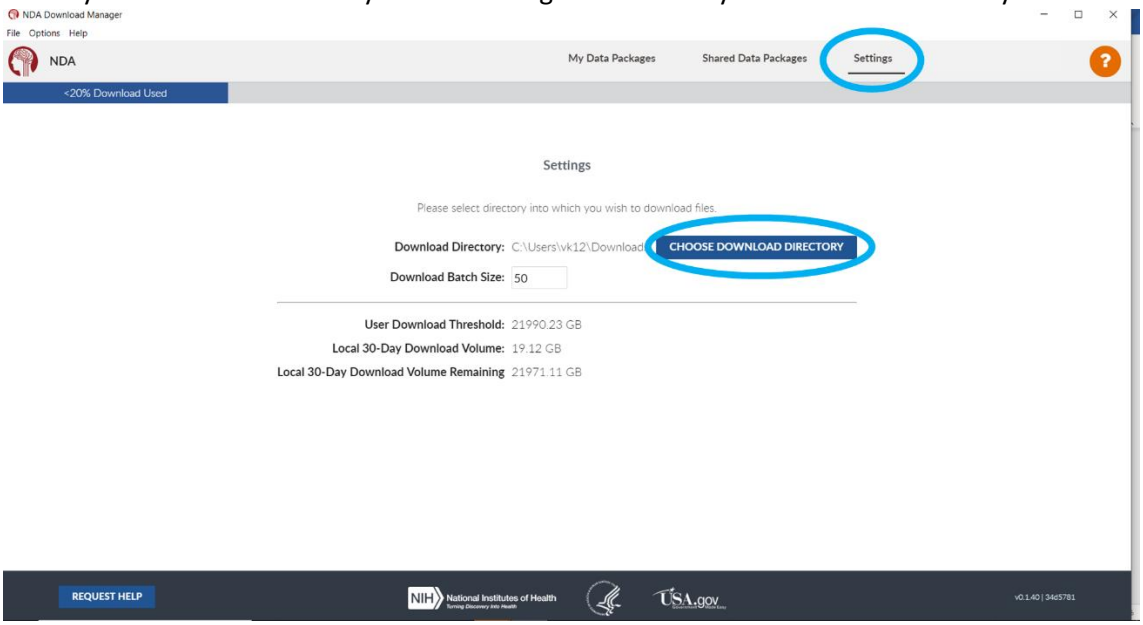
7. Popup window: Click ‘here’ to view the progress of the data package creation or ‘ok’ to stay on the package creation page.



8. Open the ‘Download Manager tool’ and log in. The data packages are shown on the left. Navigate through the folders. The tool allows you to visualise the data available for download. Individual files can then be downloaded locally.



9. Check your download directory. Go to ‘Setting’ and ‘choose your download directory’.



Brain Imaging Data Structure (BIDS)

Data naming has followed the BIDS convention. Details can be found here https://bids-standard.github.io/bids-starter-kit/

Frequently asked questions

1. **Where can I find information about the study and the data available?**
   You can visit the study website http://www.developingconnectome.org/project/. The neonatal data publication can be found https://pubmed.ncbi.nlm.nih.gov/35677357/.

2. **Where can I find the age at scan for my analysis?**
   For neonatal data analysis, age at scan and age at birth can be found in 'Neonatal scan information' (file nnsi01). Look at variables 'NSCAN_GA_AT_BIRTH_WEEKS' and 'NSCAN_GA_AT_SCAN_WEEKS'. For fetal data analysis, gestational age at scan can be found in 'Fetal scan information (file fsi01). Look at variable 'FSCAN_GA_AT_SCAN'.

3. **Where can I find information about the parents?**
   Parental clinical, demographic and socio-economic information can be found in 'Participant enrollment' (file cpenr01).

4. **Where can I find the BIDS naming descriptions?** Details can be found here https://bids-standard.github.io/bids-starter-kit/

5. **Where can I find my username and password for the Download Manager?**
   Log into your NDA account and go to your profile page https://nda.nih.gov/user/dashboard/profile.html

https://nda.nih.gov/user/dashboard/profile.html