Resource Summary Report

Generated by NIF on Aug 28, 2026

MINC/Atlases

RRID:SCR_005281
Type: Tool

Proper Citation

MINC/Atlases (RRID:SCR_005281)

Resource Information

URL: http://en.wikibooks.org/wiki/MINC/Atlases

Proper Citation: MINC/Atlases (RRID:SCR_005281)

Description: A linear average model atlas produced by the International Consortium for Brain Mapping (ICBM) project. A set of full- brain volumetric images from a normative population specifically for the purposes of generating a model were collected by the Montreal Neurological Institute (MNI), UCLA, and University of Texas Health Science Center at San Antonio Research Imaging Center (RIC). 152 new subjects were scanned using T1, T2 and PD sequences using a specific protocol. These images were acquired at a higher resolution than the original average 305 data and exhibit improved contrast due predominately to advances in imaging technology. Each individual was linearly registered to the average 305 and a new model was formed. In total, three models were created at the MNI, the ICBM152_T1, ICBM152_T2 and ICBM152_PD from 152 normal subjects. This resulting model is now known as the ICBM152 (although the model itself has not been published). One advantage of this model is that it exhibits better contrast and better definition of the top of the brain and the bottom of the cerebellum due to the increased coverage during acquisition. The entirely automatic analysis pipeline of this data also included grey/white matter segmentation via spatial priors. The averaged results of these segmentations formed the first MNI parametric maps of grey and white matter. The maps were never made publicly available in isolation but have formed parts of other packages for some time including SPM, FSL AIR and as models of grey matter for EEG source location in VARETTA and BRAINWAVE. Again, as these models are an approximation of Talairach space, there are differences in varying areas, to continue our use of origin shift as an example, the ICBM models are approximately 152: +3.5mm in Z and +-co-ordinate -3.5mm and 2.0mm in Y as compared to the original Talairach origin. In addition to the standard analysis performed on the ICBM data, 64 of the subjects data were segmented using model based segmentation. 64 of the original 305 were manually outlined and a resulting parametric VOI atlas built. The native data from these acquisitions was 256x256 with 1mm slices. The final image resolution of this data was 181x217x181 with 1mm isotropic voxels. Refer to the ICBM152 NonLinear if you are fitting an individual to model and do not care about left/right comparisons. A short history of the various atlases that

have been produced at the BIC (McConnell Brain Imaging Center, Montreal Neurological Institute) is provided.

Abbreviations: MINC/Atlases

Synonyms: MINC / Atlases

Resource Type: atlas, data or information resource, narrative resource, reference atlas, wiki

Keywords: atlas, brain, template, human, magnetic resonance imaging

Related Condition: Normal

Resource Name: MINC/Atlases

Resource ID: SCR_005281

Alternate IDs: nlx_144315

Record Creation Time: 20220129T080229+0000

Record Last Update: 20260821T193742+0000

Ratings and Alerts

No rating or validation information has been found for MINC/Atlases.

No alerts have been found for MINC/Atlases.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 3 mentions in open access literature.

Listed below are recent publications. The full list is available at NIF .

Siste K, et al. (2022) Altered Resting-State Network in Adolescents with Problematic Internet Use. Journal of clinical medicine, 11(19).

Fesharaki NJ, et al. (2021) Effects of Thresholding on Voxel-Wise Correspondence of Breath-Hold and Resting-State Maps of Cerebrovascular Reactivity. Frontiers in neuroscience, 15, 654957.

Bramati IE, et al. (2019) Lower limb amputees undergo long-distance plasticity in sensorimotor functional connectivity. Scientific reports, 9(1), 2518.