Data belonging to:

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FIG2\_DATA.mat

global mean thermal expansion

Model data (in m):

Steric\_benoit; 0-700 and full depth, with and without volcanic correction

Steric\_zostoga: full depth, with and without volcanic correction

Observations (in mm):

LEV=Levitus

DOM=domingues

ISH=Ishii

FIG3\_DATA.mat

Glaciers

Model data (in mm):

mgic: CMIP5-driven model data for glaciers

glac\_corr: correction for glaciers (green dash in figure)

Observations (in mm):

obs\_glac\_cog\_UPD: Cogley observations

obs\_glac\_lec\_UPD: Leclercq observations

mgic\_cru\_new2: CRU-driven model data

FIG4\_5\_DATA.mat

Ice sheet Surface Mass Balance

Model data (in mm):

Gre\_smb: Greenland SMB

Gris\_corr: correction for Greenland SMB

Ant\_pme\_smb: Precipitation – evaporation approach for Antarctic SMB

Ant\_tas\_smb: Temperature approach for Antarctica SMB

Renalyses (in mm) – all Greenland SMB

greobs20CRv2; greobs20CRv2c; greobsERA

FIG6\_DATA.mat

Ice sheet dynamics

Icedyn: ice sheet dynamics for 4 regions: West Antarctica (WAIS), East Antarctica (EAIS), Antarctic Peninsula (AP) and Greenland (GRIS).

Corr\_lin\_new: non-equilibrium constant

FIG7\_DATA.mat

Landwater (mm)

Land\_dam: contribution of reservoir impoundment, Chao et al

Land\_grw: contribution of groundwater extraction, from Doll et al and Wada et al

FIG8\_DATA.mat

Ensemble contributions; mean and 1 standard deviation (mm)

ANTSMB, GRESMB, GRESMB\_corr, ICEDYN, ICEDYN\_corr, LAND, MGIC, MGIC\_corr, TE

FIG9\_11\_DATA

Total sea-level change per climate model (mm)

Models:

SUM\_mod: without corrections

SUM\_mod\_corr: with corrections

Observations:

CW11, HM15, J14, RD11: tide gauge-based reconstructions

AVISO, CSIRO, WATSON: satellite-based observations