The attached netCDF file ***orgC_0.5deg_HWSDv1.21.nc*** contains soil organic carbon density (g C m^{-2}) data from the Harmonized World Soil Database regridded at a 0.5˚ × 0.5˚ spatial resolution used in the paper.

Table S1. CMIP5 models used in Figure S1.

	Model name	Institution
A	BCC-CSM1.1	Beijing Climate Center (China)
B	CanESM2	Canadian Centre for Climate Modelling and Analysis (Canada)
C	CCSM4	National Center for Atmospheric Research (USA)
D	GFDL-ESM2G	Geophysical Fluid Dynamics Laboratory (USA)
E	GISS-E2-H	NASA Goddard Institute for Space Studies (USA)
F	GISS-E2-R	
G	HadGEM2-CC	Met Office/Hadley Centre (UK)
H	HadGEM2-ES	
I	IPSL-CM5A-LR	Institut Pierre Simon Laplace (France)
J	IPSL-CM5B-LR	
K	MIROC-ESM	Japan Agency for Marine-Earth Science and Technology (Japan)
L	MIROC-ESM-CHEM	
M	MPI-ESM-LR	Max Planck Institute (Germany)
N	NorESM1-M	Bjerknes Centre for Climate Research (Norway)
O	NorESM1-ME	

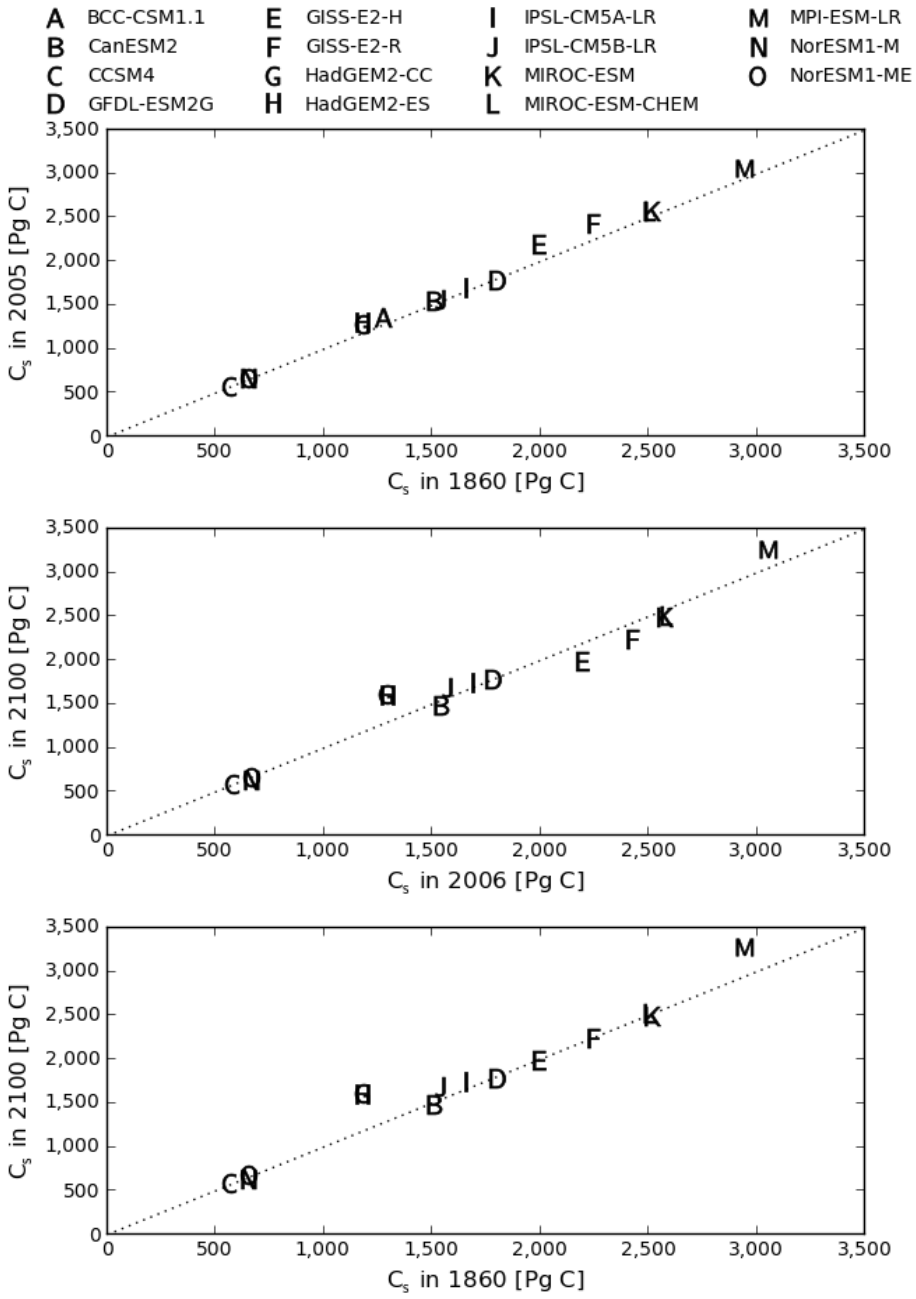

Figure S1. Relationship between total soil carbon at two different times in CMIP5 models: present as a function of the past (upper panel), future (RCP 8.5) as a function of the present (middle panel), future as a function of the past (lower panel). Letters correspond to different CMIP5 models as indicated. Values for 1860, 2005 and 2100 were averaged over 1860-1864; 2001-2005 and 2096-2100, respectively. When several realisations of the same model were available, we represent the average of them.