Global Downscaling of Remotely-Sensed Soil Moisture using Neural Networks

Seyed Hamed Alemohammad[1,2], Jana Kolassa[3,4], Catherine Prigent[1,2,5], Filipe Aires[1,2,5], Pierre Gentine[1,2,6]

[1]Department of Earth and Environmental Engineering, Columbia University
[2]Columbia Water Center, Columbia University
[3]Universities Space Research Association, Columbia, MD
[4]Global Modelling and Assimilation Office, NASA Goddard Space Flight Center, Greenbelt, MD
[5]Observatoire de Paris
[6]Earth Institute, Columbia University

Correspondence to: Pierre Gentine (pg2328@columbia.edu)

Supplementary Materials

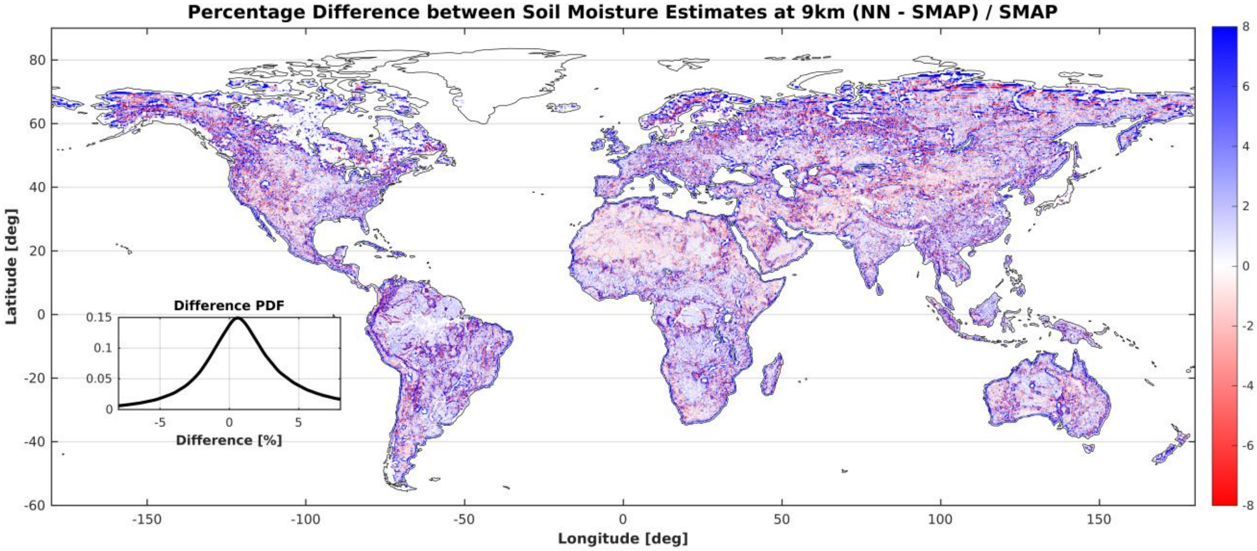

Figure S1- Percentage bias between the SMAP 9km soil mositure estimates and NN 9km estimates. White regions indicate no data.

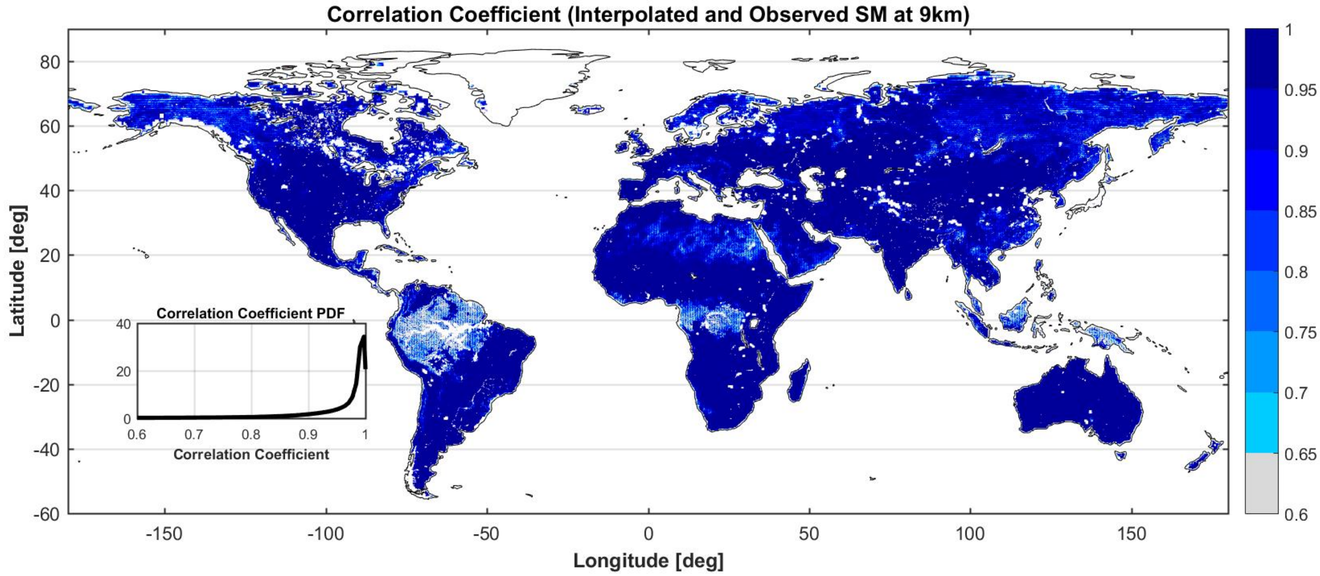

Figure S2- Correlation coefficient (R^2) between SMAP observed soil moisture at 9km and Interpolated soil moisture at 9km. White regions indicate no data.

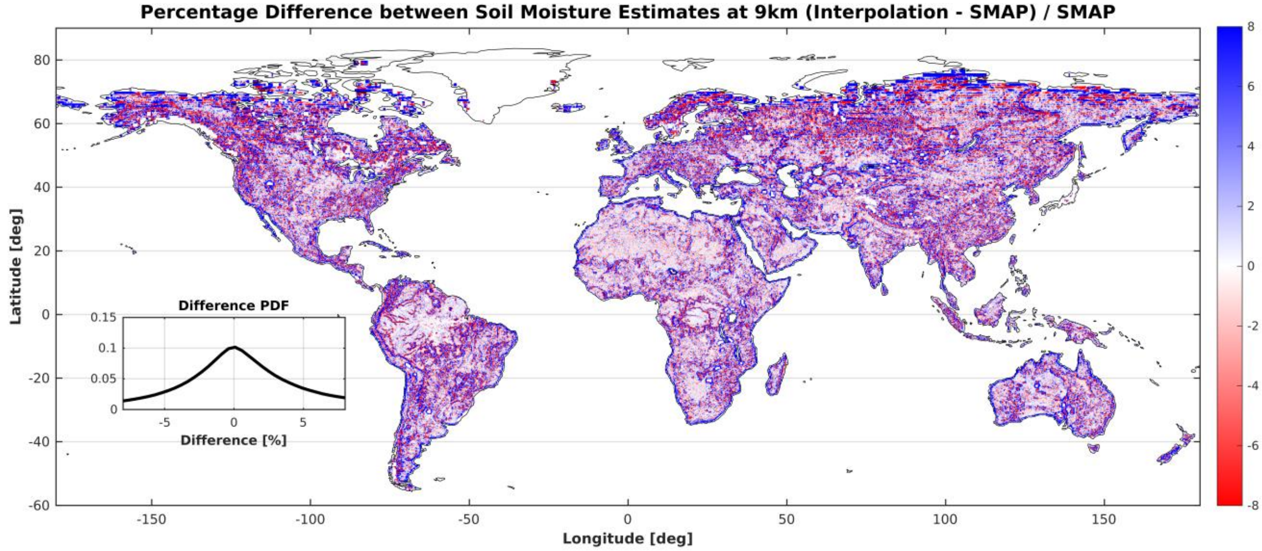

Figure S3- Percentage bias between the SMAP 9km soil mositure estimates and Interpolated 9km estimates. White regions indicate no data.

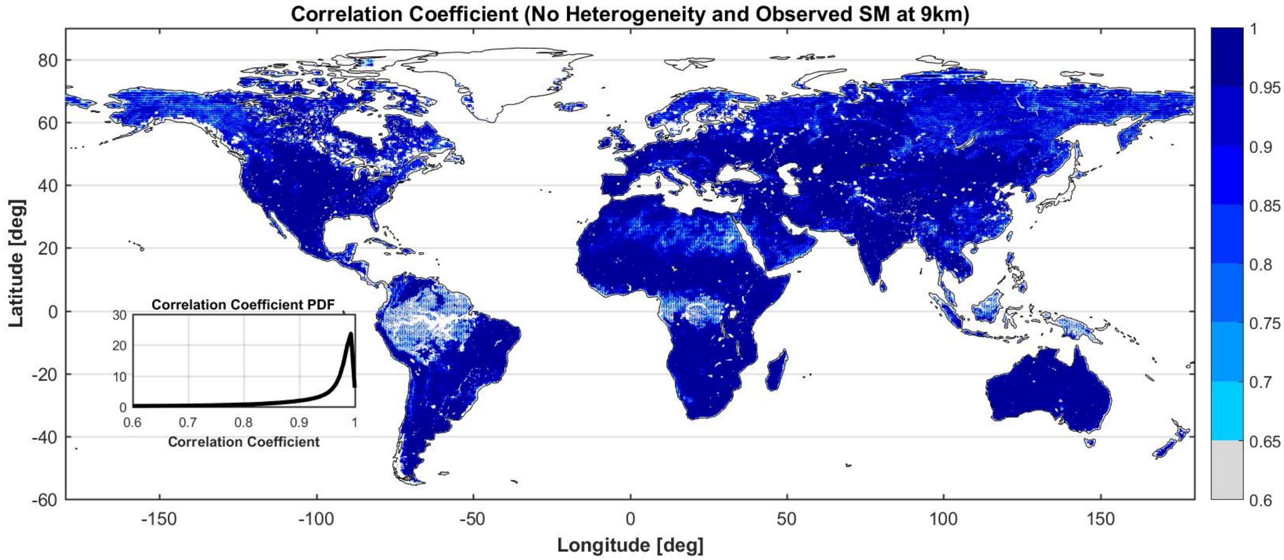

Figure S4- Correlation coefficient (R^2) between SMAP observed soil moisture at 9km and No Heterogeneity soil moisture estimates at 9km. White regions indicate no data.

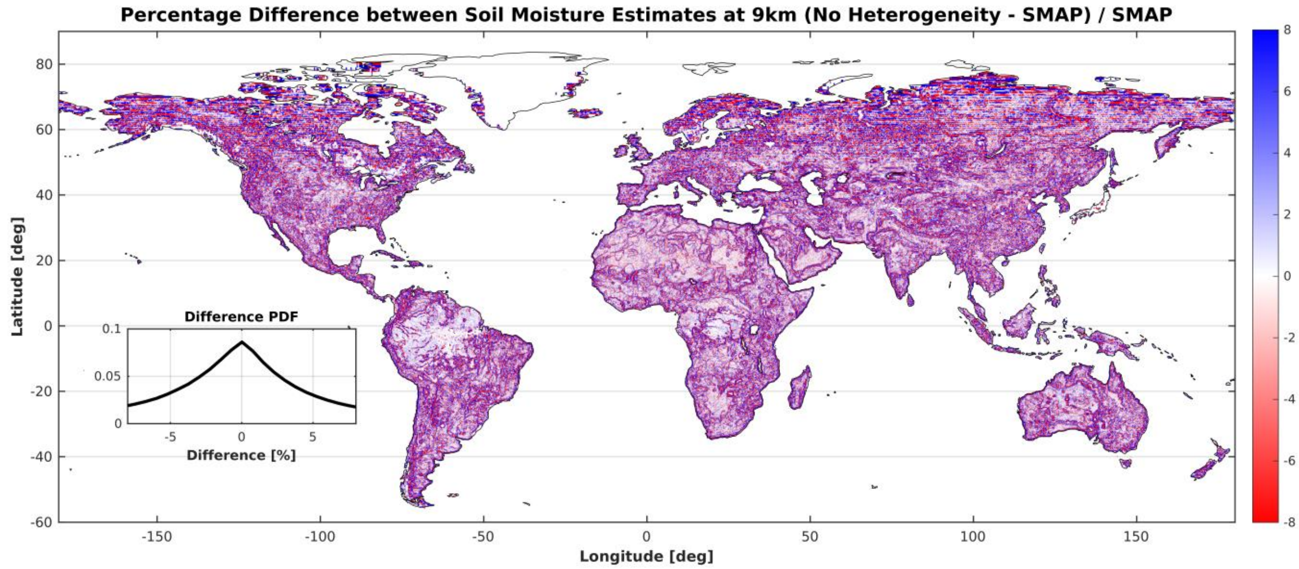

Figure S5- Percentage bias between the SMAP 9km soil mositure estimates and No Heterogeneity 9km estimates. White regions indicate no data.

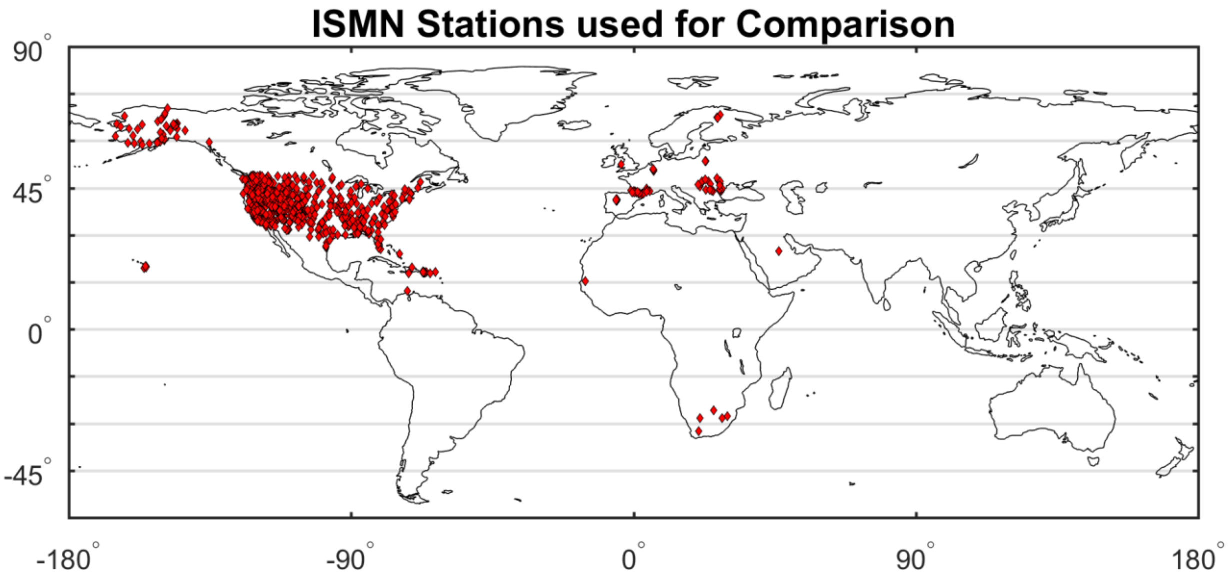

Figure S6- Location of each ISMN station used for comparison against downscaled soil moisture estimates