**Supplementary Information - Figure SI.1.**

Figure 1: Scatter-plots of the zonally-averaged DMS values from Figure 1 along with their corresponding (Spearman) correlation coefficient. For a quick visual inspection the panels were labelled on the bottom-right corner: letter refers to the diagnostic model used ('A' for MLD-model and 'B' for SRD-model); single letter refers to model results using current-day climatological data (MLD from [45] and CHL from a SeaWiFS 2002-2004 climatology) while double letter refers to the control run simulation; number refers to which data are being used to evaluate model results ('1' for GSS database and '2' for Kettle & Andrae [2000] climatology).