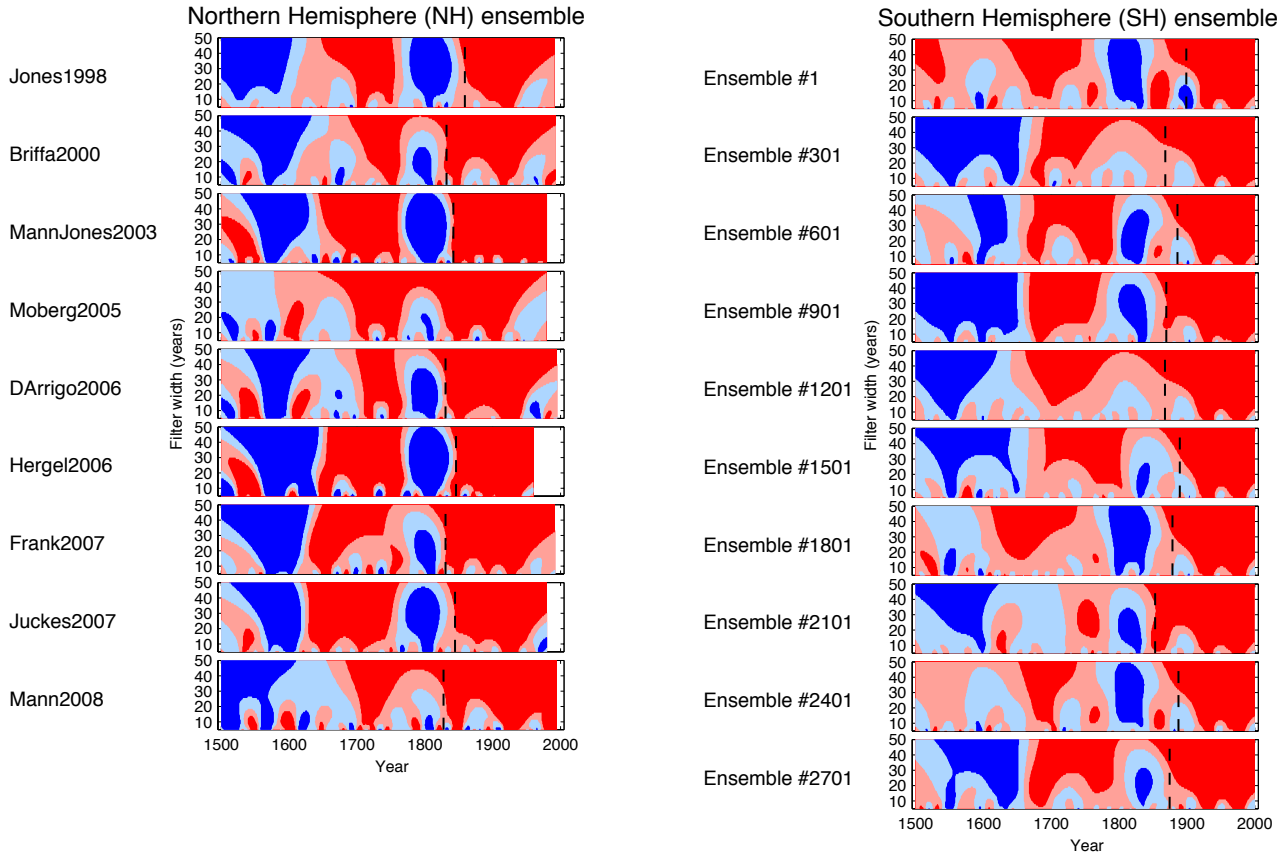
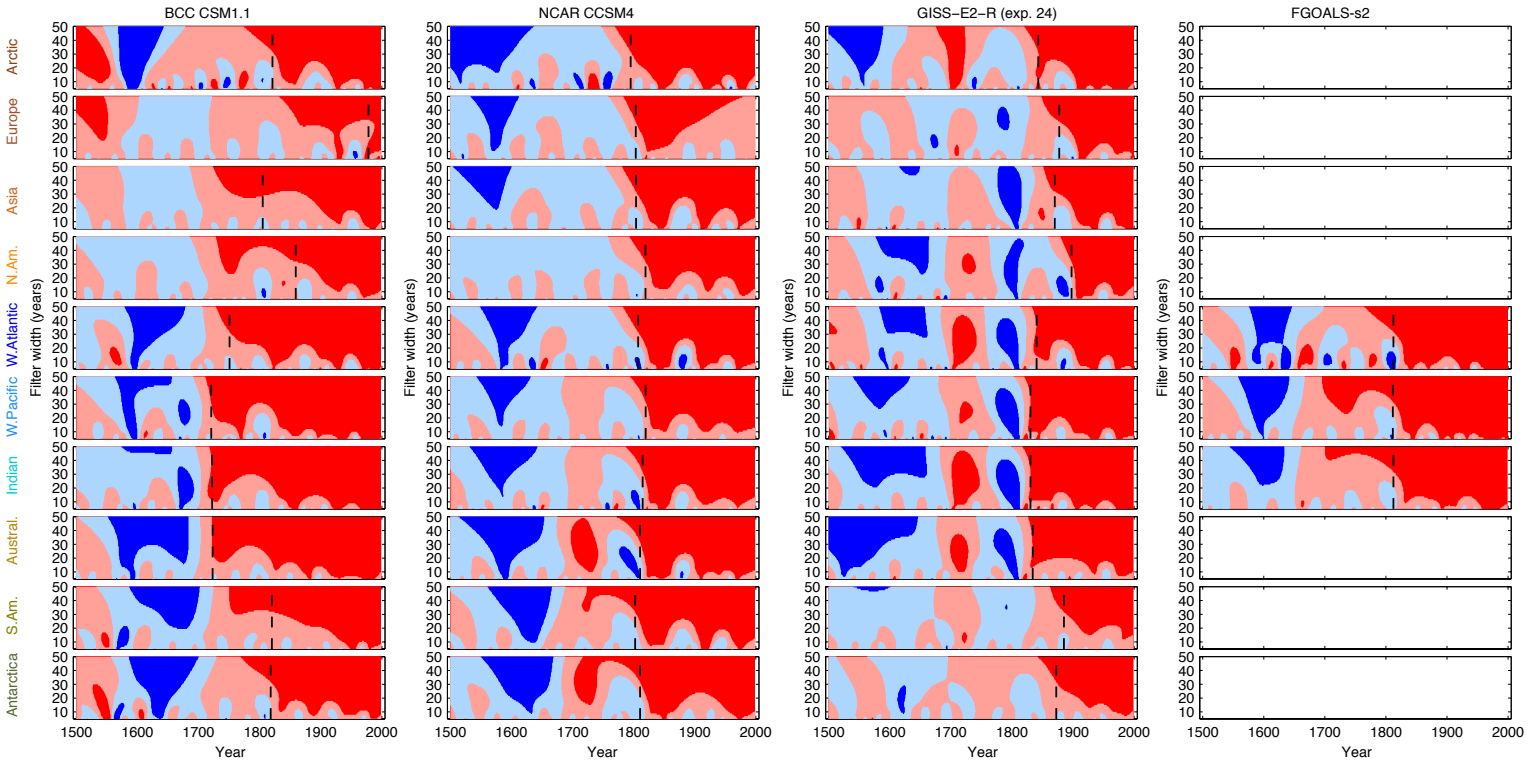
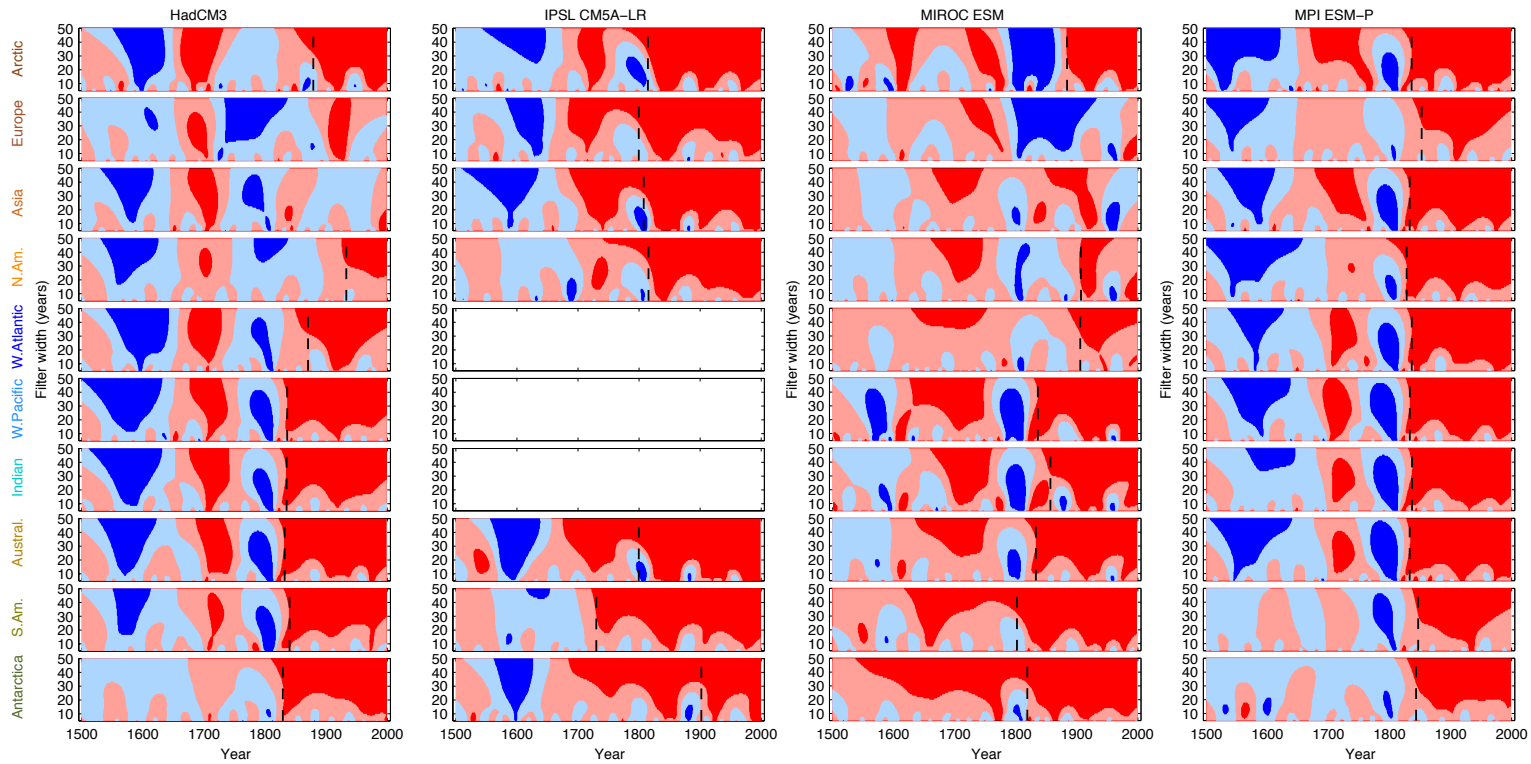
doi:10.1038/nature19082



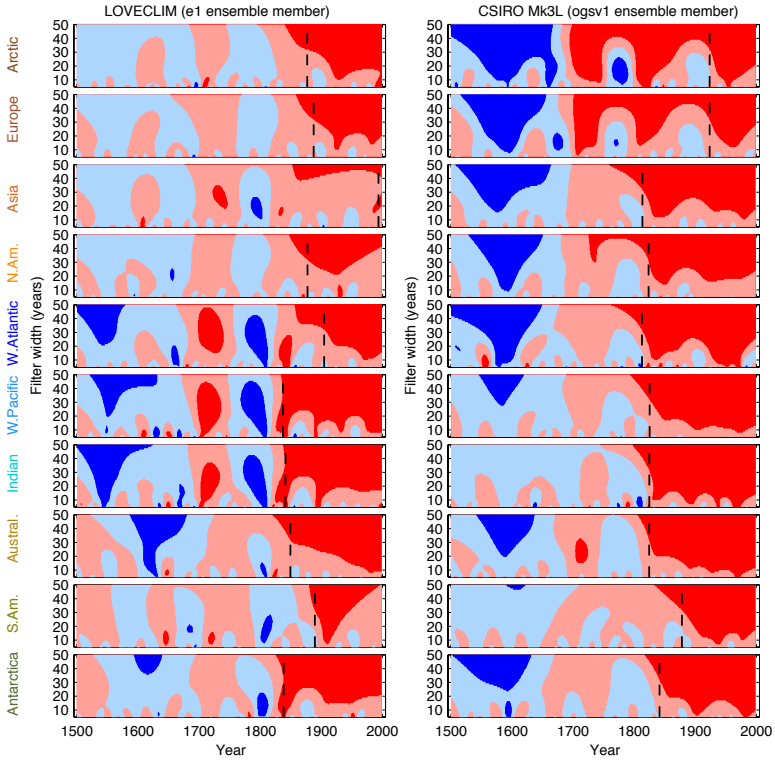
Supplementary Figure 1. SiZer trend maps for hemispheric mean temperature changes in example members of the NH and SH reconstructions (Extended Data Fig. 1a). Examples include each of the sub-member reconstructions that contribute to the NH ensemble (ref. 3), and every 300th member of the SH ensemble (ref. 5). The timing of warming (red) and cooling (blue) trends is calculated at different levels of smoothing. Significant ($p<0.1$) trends are shown by dark red and dark blue shading. Vertical lines indicate the median onset time for the most recent phase of sustained, significant warming calculated across 15-50 year filter widths.



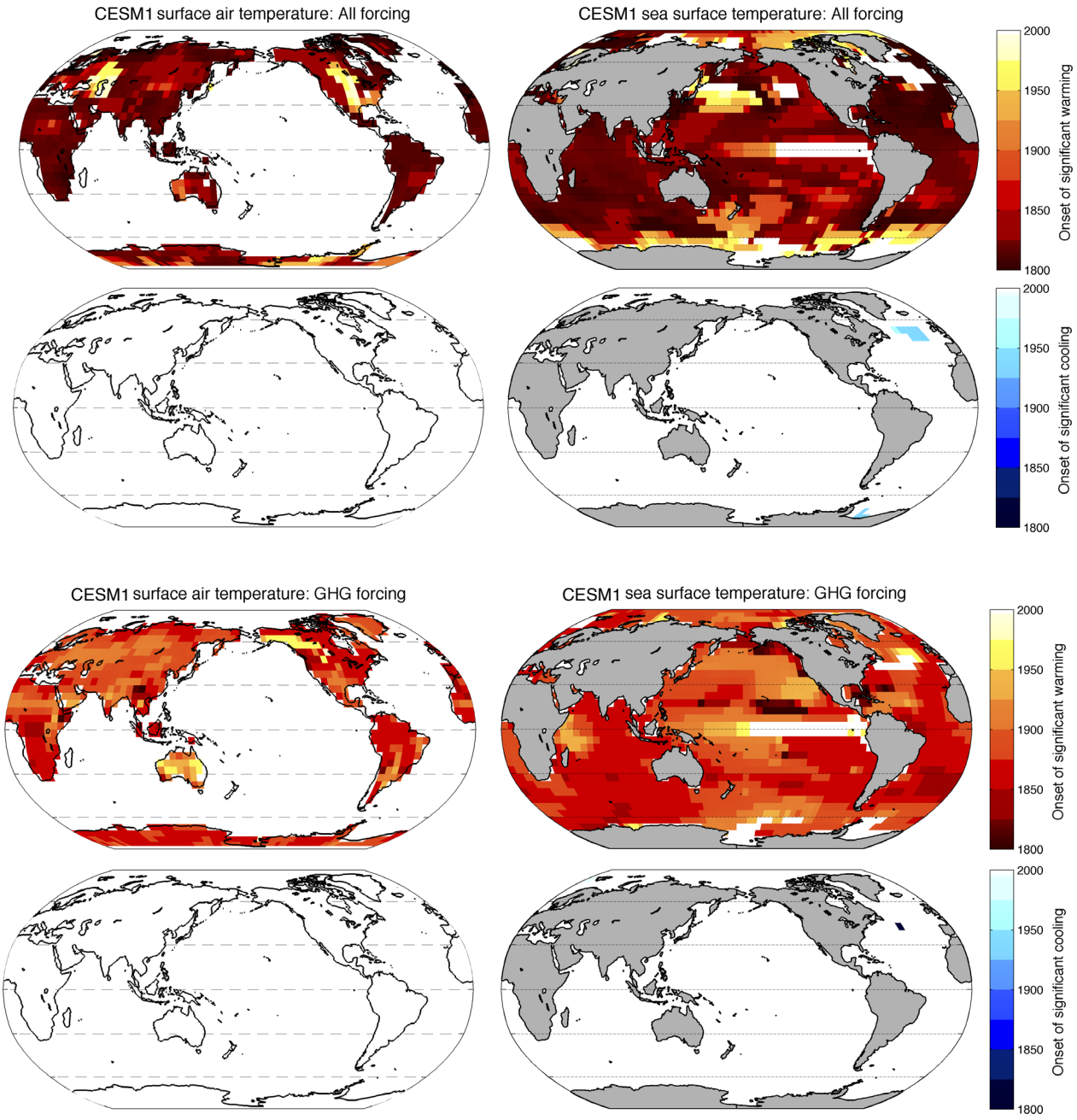
Supplementary Figure 2. SiZer trend maps for regional temperature changes in the multi-model simulations of last millennium and historical climate used in this study (methods). The timing of warming (red) and cooling (blue) trends is calculated at different levels of smoothing. Significant ($p<0.1$) trends are shown by dark red and dark blue shading. Vertical lines indicate the median onset time for the most recent phase of sustained, significant warming calculated across 15-50 year filter widths (as used in Fig. 3a). Model details in Extended Data Table 2.



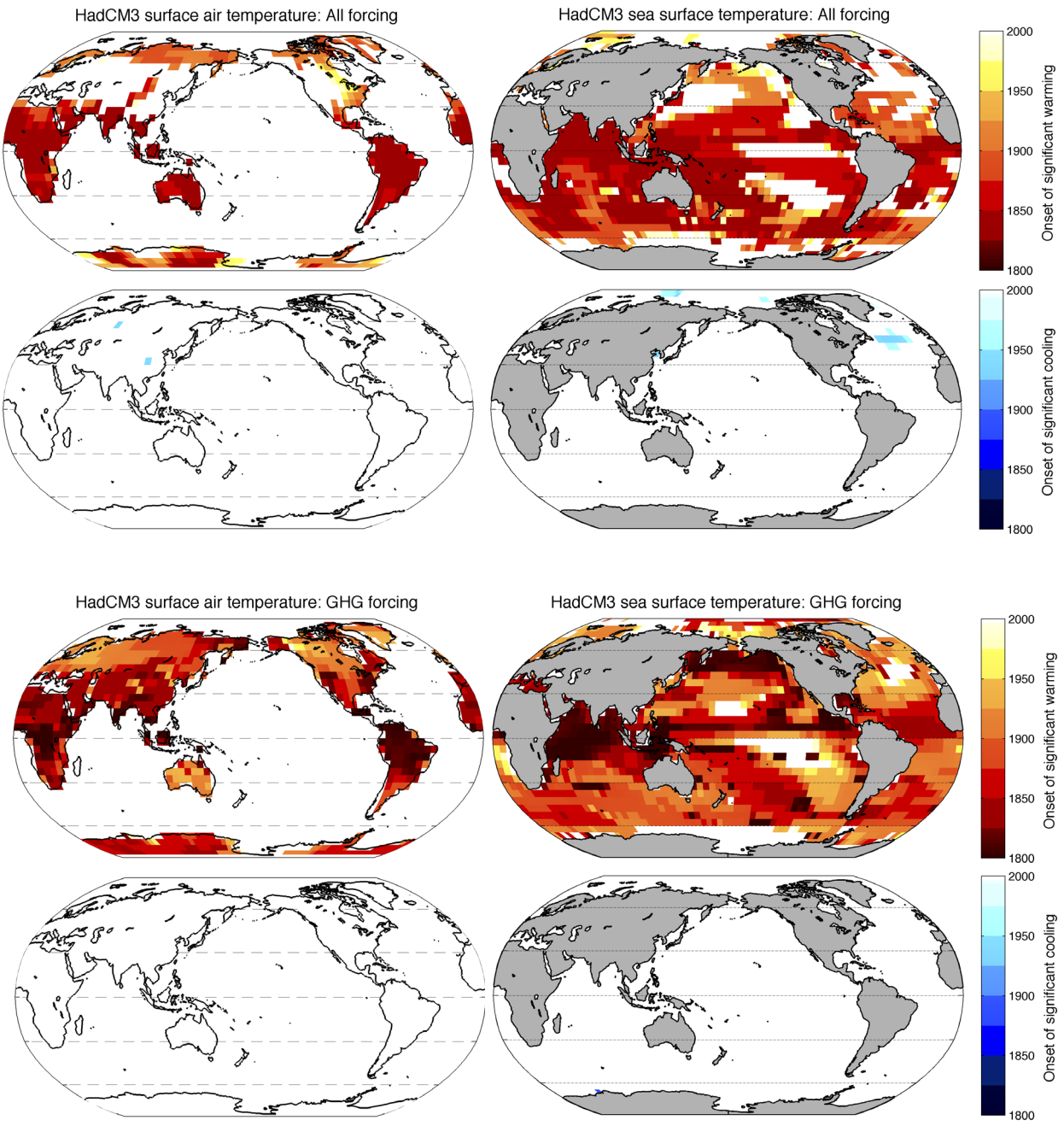
Supplementary Figure 2 (continued). SiZer trend maps for regional temperature changes in the multi-model simulations of last millennium and historical climate used in this study (methods). The timing of warming (red) and cooling (blue) trends is calculated at different levels of smoothing. Significant ($p<0.1$) trends are shown by dark red and dark blue shading. Vertical lines indicate the median onset time for the most recent phase of sustained, significant warming calculated across 15-50 year filter widths (as used in Fig. 3a). Model details in Extended Data Table 2.



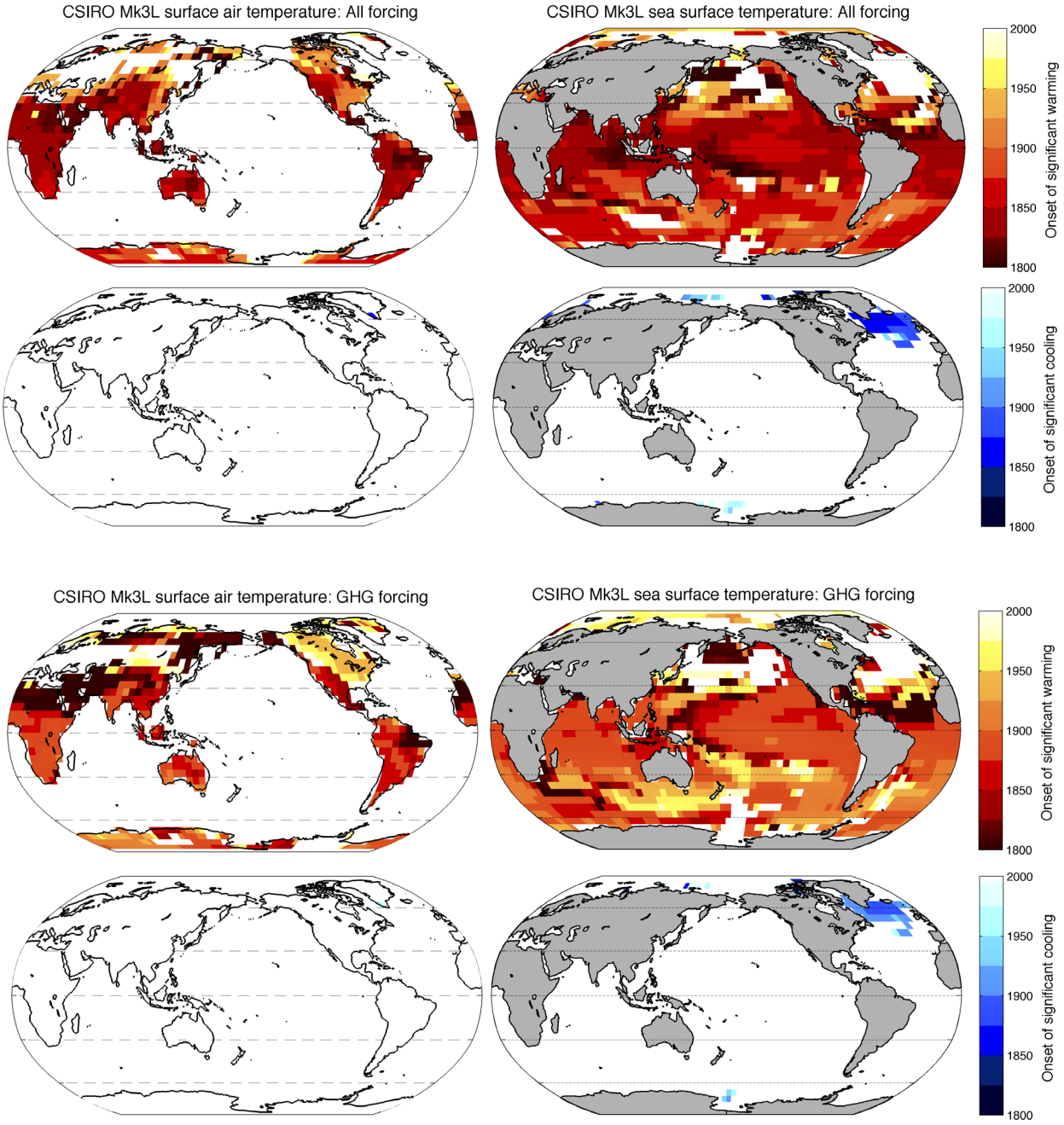
Supplementary Figure 2 (continued). SiZer trend maps for regional temperature changes in the multi-model simulations of last millennium and historical climate used in this study (methods). The timing of warming (red) and cooling (blue) trends is calculated at different levels of smoothing. Significant ($p<0.1$) trends are shown by dark red and dark blue shading. Vertical lines indicate the median onset time for the most recent phase of sustained, significant warming calculated across 15-50 year filter widths (as used in Fig. 3a). Model details in Extended Data Table 2.



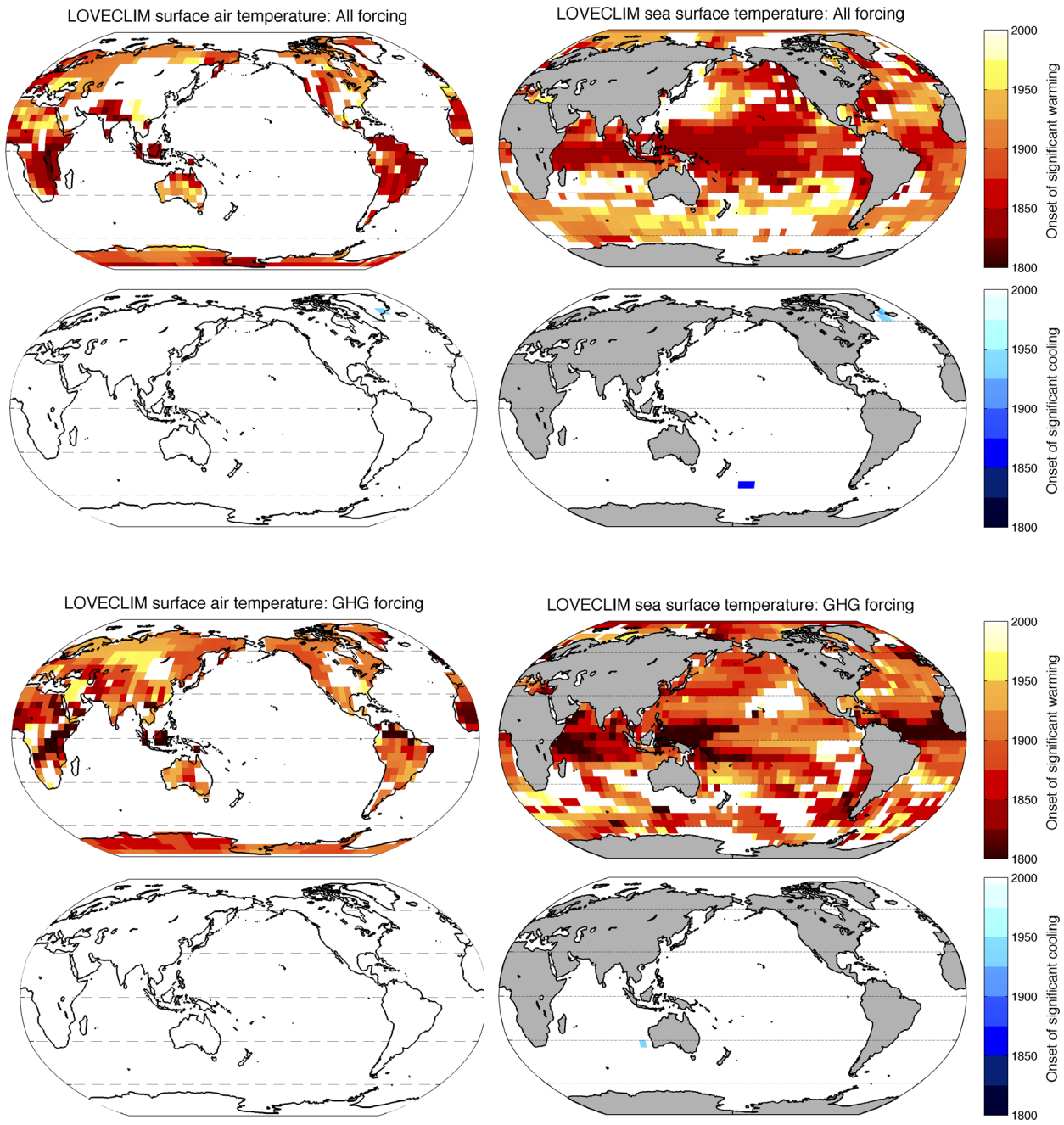
Supplementary Figure 3. Onset of sustained, significant warming (red) or cooling (blue) trends in climate simulations. Figures show the median onset of sustained recent trends (Methods) calculated at 5^{o}x5^{o} grid resolution for individual models using fields of surface air temperature over land (left) and sea surface temperature (right). The models used here are Last Millennium/Historical simulations where both full-forcing (upper) and GHG-only (lower) forcing experiments were available (Extended Data Table 2). Extended Data Figure 8 shows the multi-model mean of the individual model results given here. The high variability in the gridded assessment of the onset of significant temperature trends reflects lower signal-to-noise (or trend-to-variability) ratios at the local scale compared with regional average climate.



Supplementary Figure 3 (continued). Onset of sustained, significant warming (red) or cooling (blue) trends in climate simulations. Figures show the median onset of sustained recent trends (Methods) calculated at 5^{o}x5^{o} grid resolution for individual models using fields of surface air temperature over land (left) and sea surface temperature (right). The models used here are Last Millennium/Historical simulations where both full-forcing (upper) and GHG-only (lower) forcing experiments were available (Extended Data Table 2). Extended Data Figure 8 shows the multi-model mean of the individual model results given here. The high variability in the gridded assessment of the onset of significant temperature trends reflects the lower signal-to-noise (or trend-to-variability) ratios at the local scale compared with regional average climate.



Supplementary Figure 3 (continued). Onset of sustained, significant warming (red) or cooling (blue) trends in climate simulations. Figures show the median onset of sustained recent trends (Methods) calculated at 5°x5° grid resolution for individual models using fields of surface air temperature over land (left) and sea surface temperature (right). The models used here are Last Millennium/Historical simulations where both full-forcing (upper) and GHG-only (lower) forcing experiments were available (Extended Data Table 2). Extended Data Figure 8 shows the multi-model mean of the individual model results given here. The high variability in the gridded assessment of the onset of significant temperature trends reflects the lower signal-to-noise (or trend-to-variability) ratios at the local scale compared with regional average climate.



Supplementary Figure 3 (continued). Onset of sustained, significant warming (red) or cooling (blue) trends in climate simulations. Figures show the median onset of sustained recent trends (Methods) calculated at 5^{o}x5^{o} grid resolution for individual models using fields of surface air temperature over land (left) and sea surface temperature (right). The models used here are Last Millennium/Historical simulations where both full-forcing (upper) and GHG-only (lower) forcing experiments were available (Extended Data Table 2). Extended Data Figure 8 shows the multi-model mean of the individual model results given here. The high variability in the gridded assessment of the onset of significant temperature trends reflects the lower signal-to-noise (or trend-to-variability) ratios at the local scale compared with regional average climate.