

1 Supporting Information for

2 **Understanding the Australian Monsoon change during the**  
3 **Last Glacial Maximum with multi-model ensemble**

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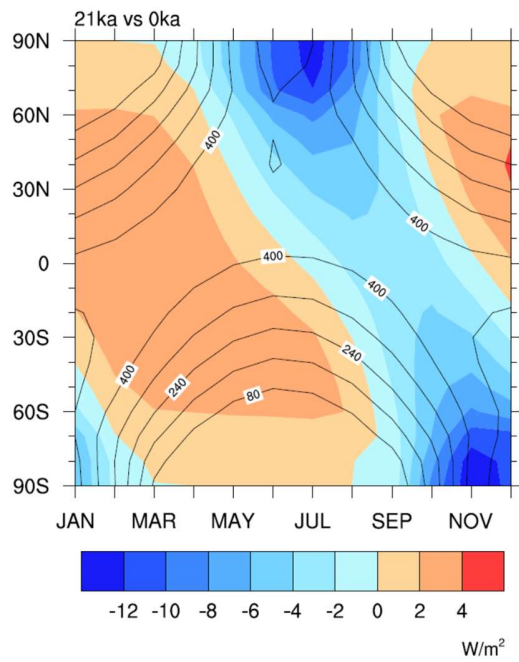
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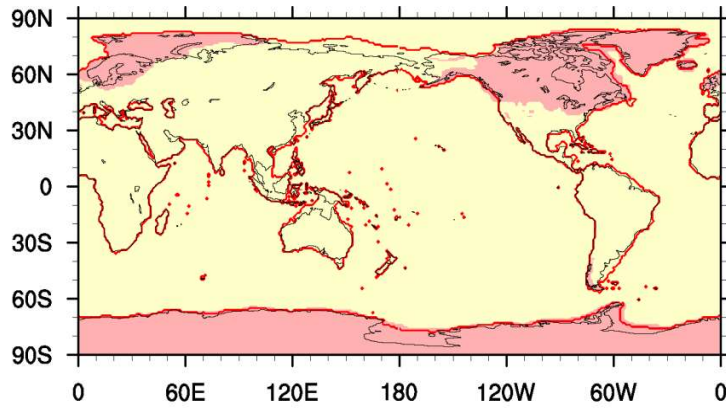
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**Figure S1** Change of the insolation during the LGM. The insolation during PI is plotted in contours, and the difference between the LGM and the PI is color-shaded (units in  $W\ m^{-2}$ ).

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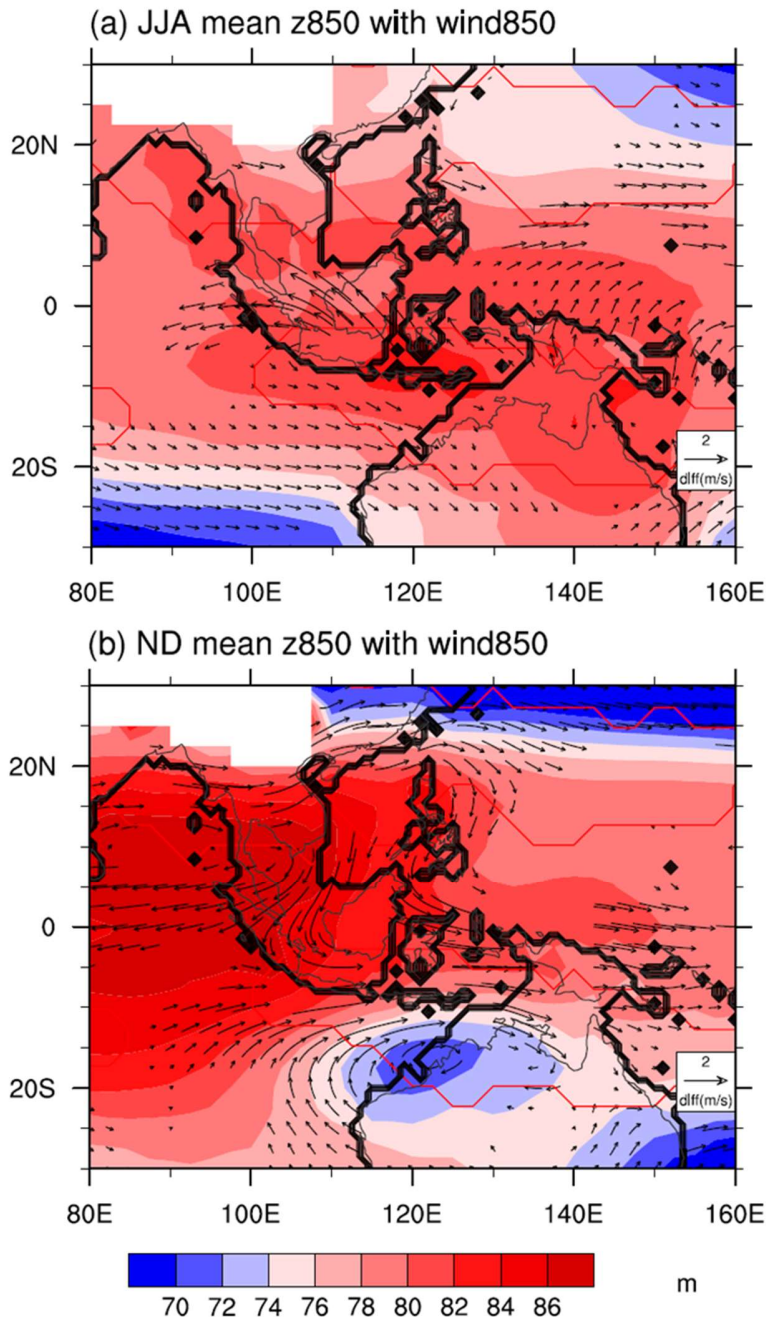
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34 **Figure S2** Distributions of the land–sea mask and land-ice during the LGM. The land–sea mask

35 during the LGM is in red contour. The land-sea mask during the PI is in black contour. The land

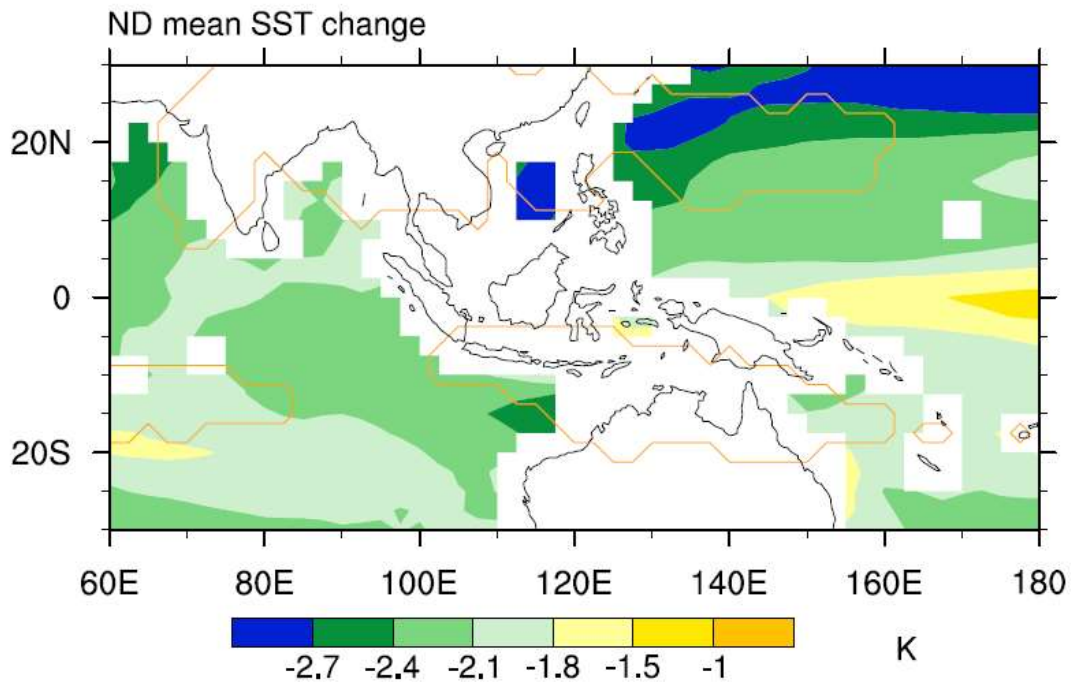
36 ice-sheet is color-shaded.

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 40 **Figure S3** The (a) JJA mean, and (b) ND mean 850 hPa geopotential height (shading) with 850  
 41 hPa wind (vector) difference between LGME and piControl. The red lines enclose the monsoon  
 42 domains. The thick black lines denote the coastal lines in LGME, and the thin black lines denote  
 43 the coastal lines in piControl. Only those areas where signal-to-noise ratio exceeds one are  
 44 plotted.  
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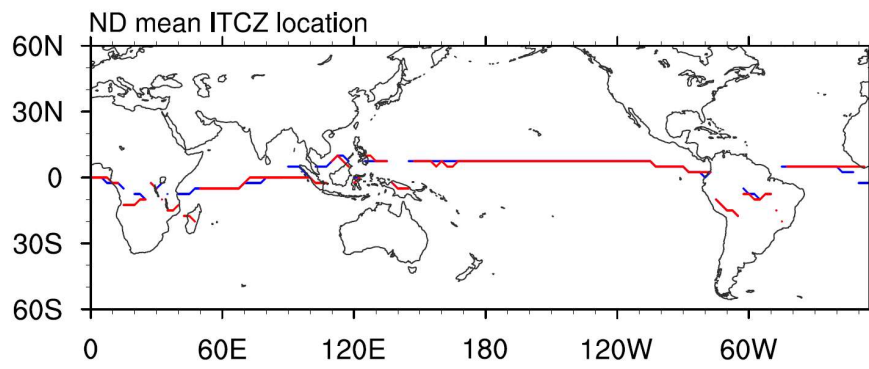


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48 **Figure S4** The ND mean SST difference between the LGME and piControl. The orange lines  
49 enclose the monsoon domains. Only those areas where signal-to-noise ratio exceeds one are  
50 plotted.

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54 **Figure S5** The ND mean ITCZ location defined by the meridional maximum precipitation  
55 between 20°S and 20°N. The red line indicates the position during the LGM and the blue line  
56 indicates the position during the PI.