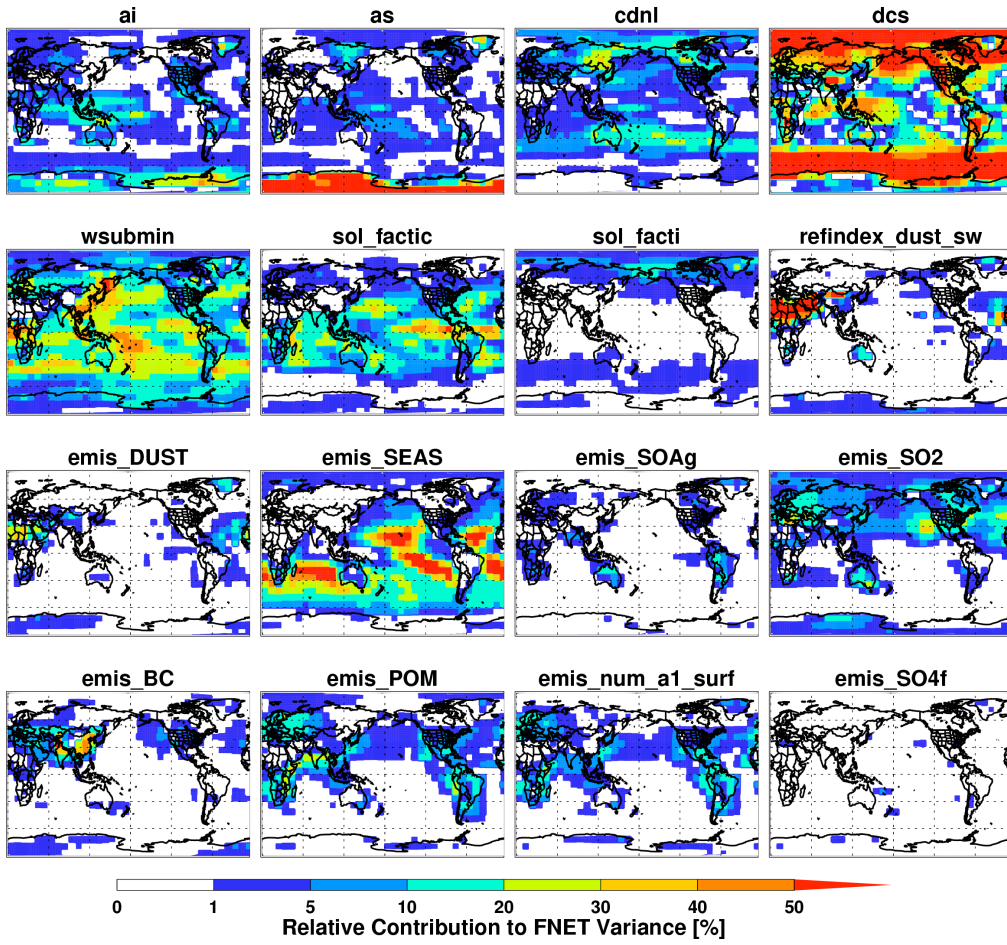


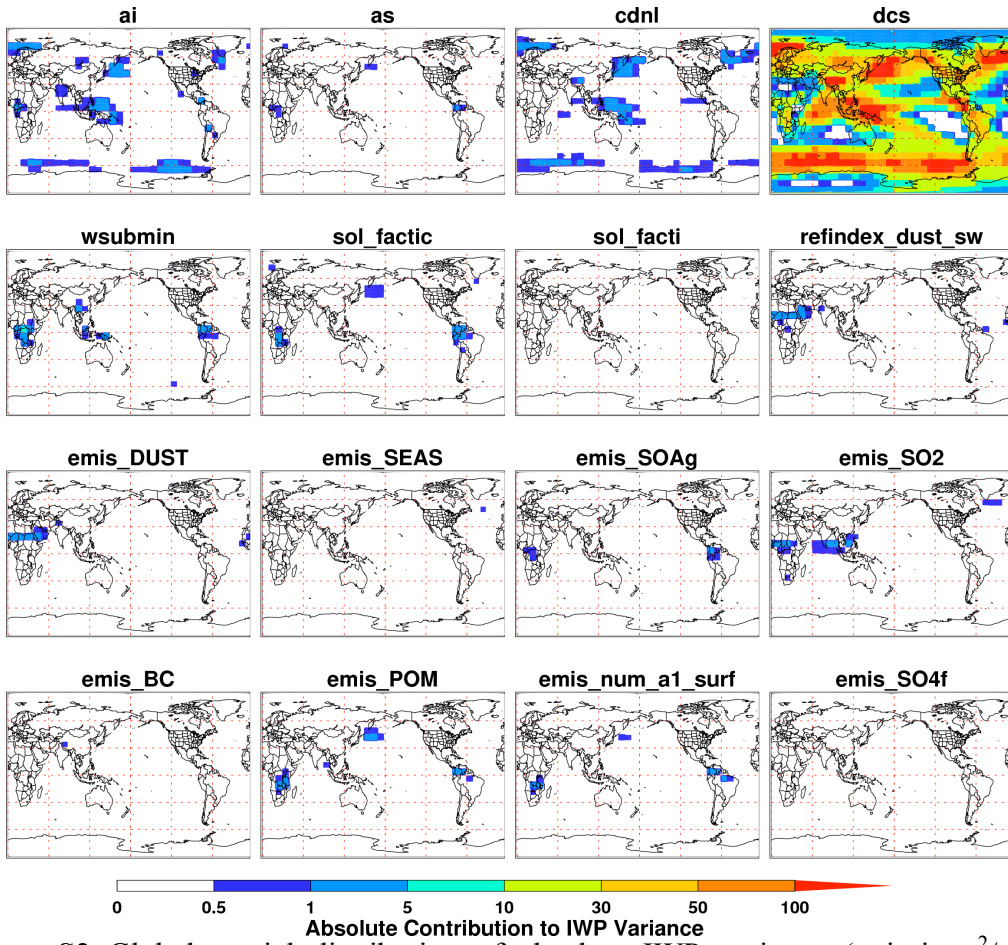
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5 **Figure S1** Global spatial distribution of percentage of FNET variance in response to the  
6 perturbation of each of the 16 input parameters predicted by the GLM.

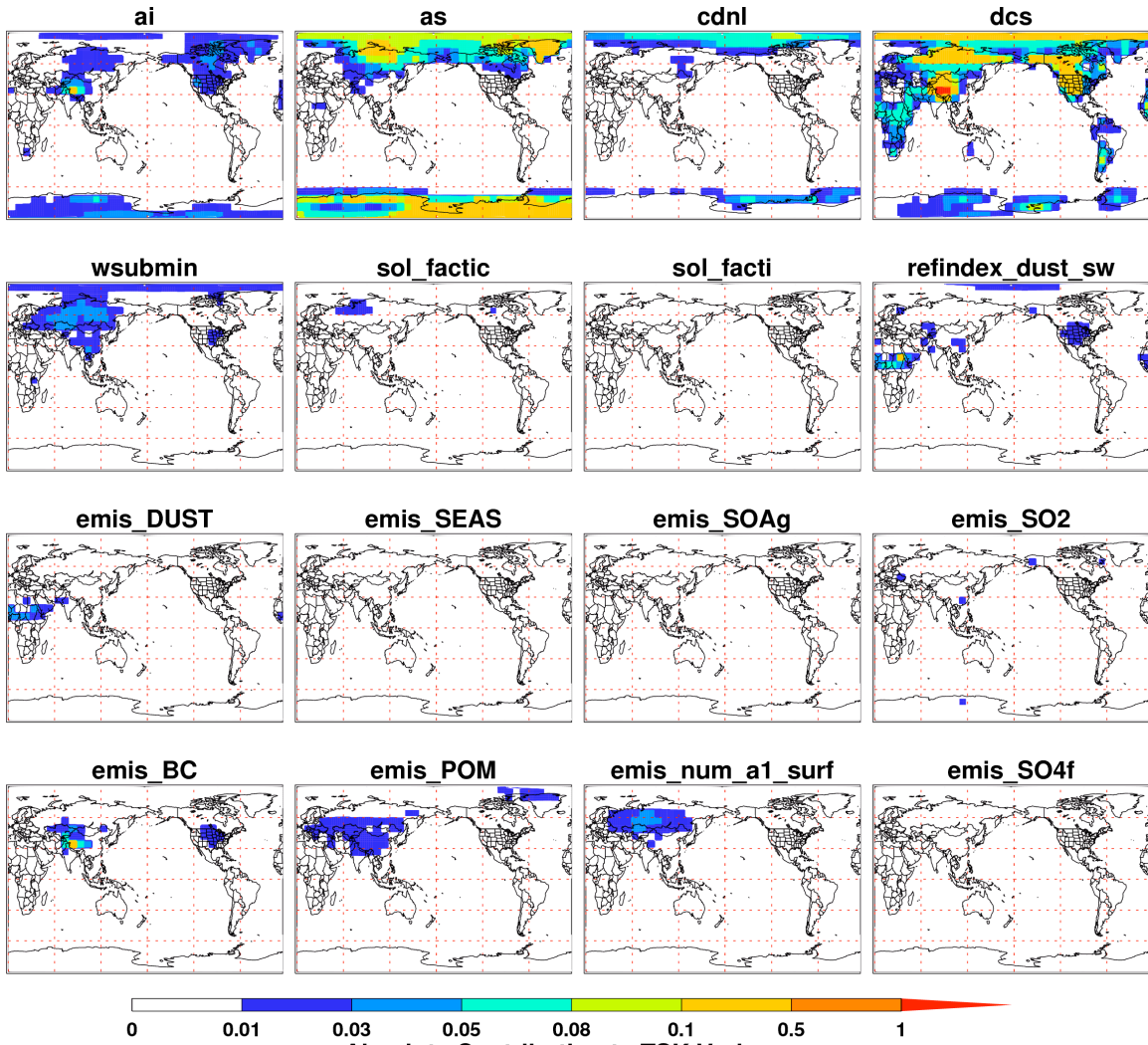
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5 **Figure S2** Global spatial distribution of absolute IWP variance (unit in  $\text{g}^2/\text{m}^4$ ) in  
6 response to the perturbation of each of the 16 input parameters predicted by the GLM.  
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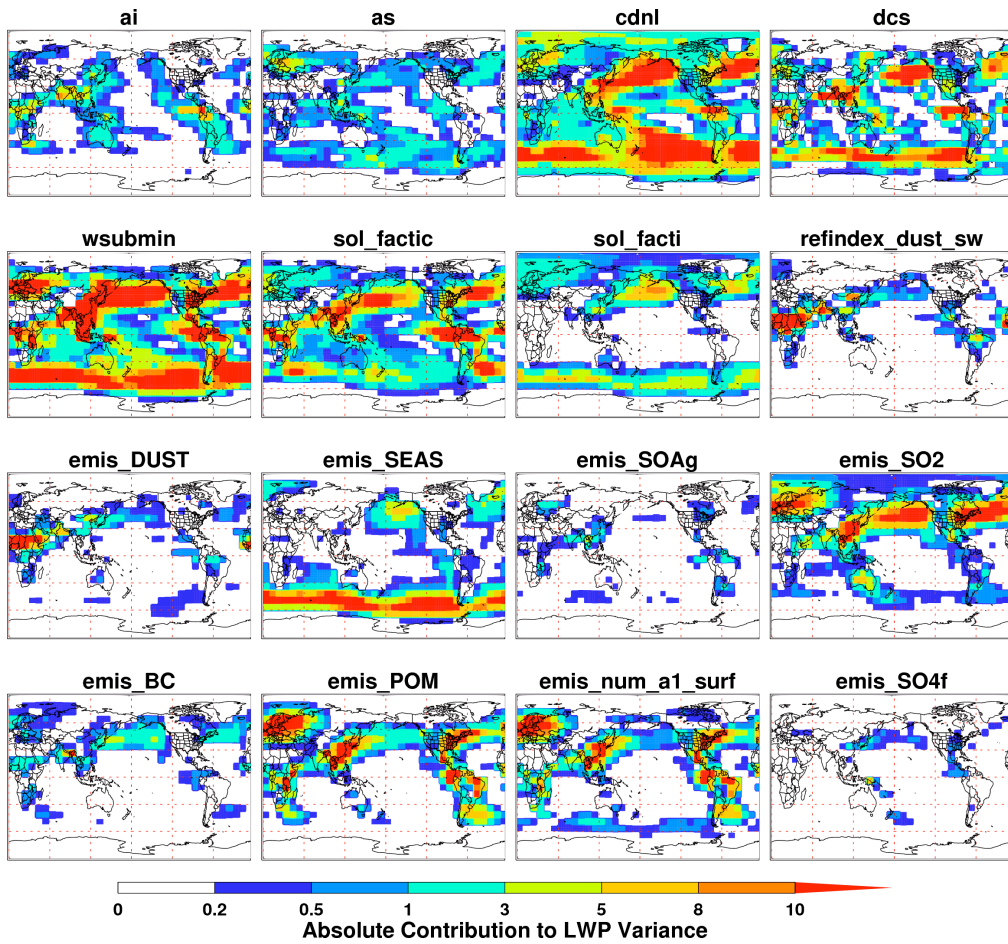
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4 **Absolute Contribution to TSK Variance**  
5 **Figure S3** Global spatial distribution of absolute TSK variance (unit in  $K^2$ ) in response to  
6 the perturbation of each of the 16 input parameters predicted by the GLM.  
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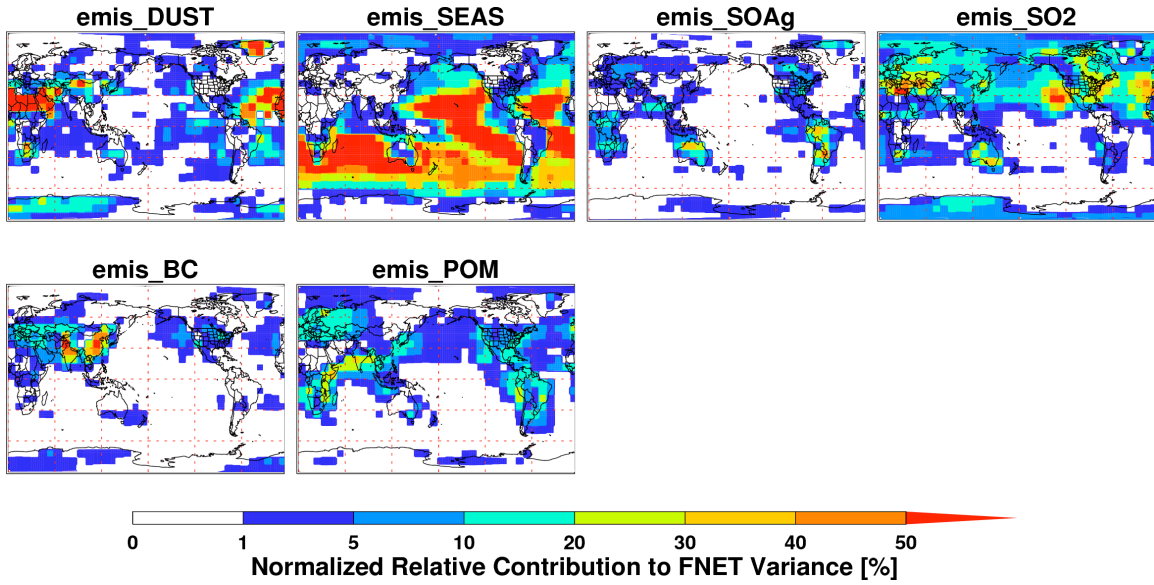
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6 **Figure S4** Global spatial distribution of absolute LWP variance (unit in  $\text{g}^2/\text{m}^4$ ) in  
7 response to the perturbation of each of the 16 input parameters predicted by the GLM.

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**Figure S5** Global spatial distribution of normalized percentage of FNET variance in response to the perturbation of 6 emission parameters predicted by the GLM.