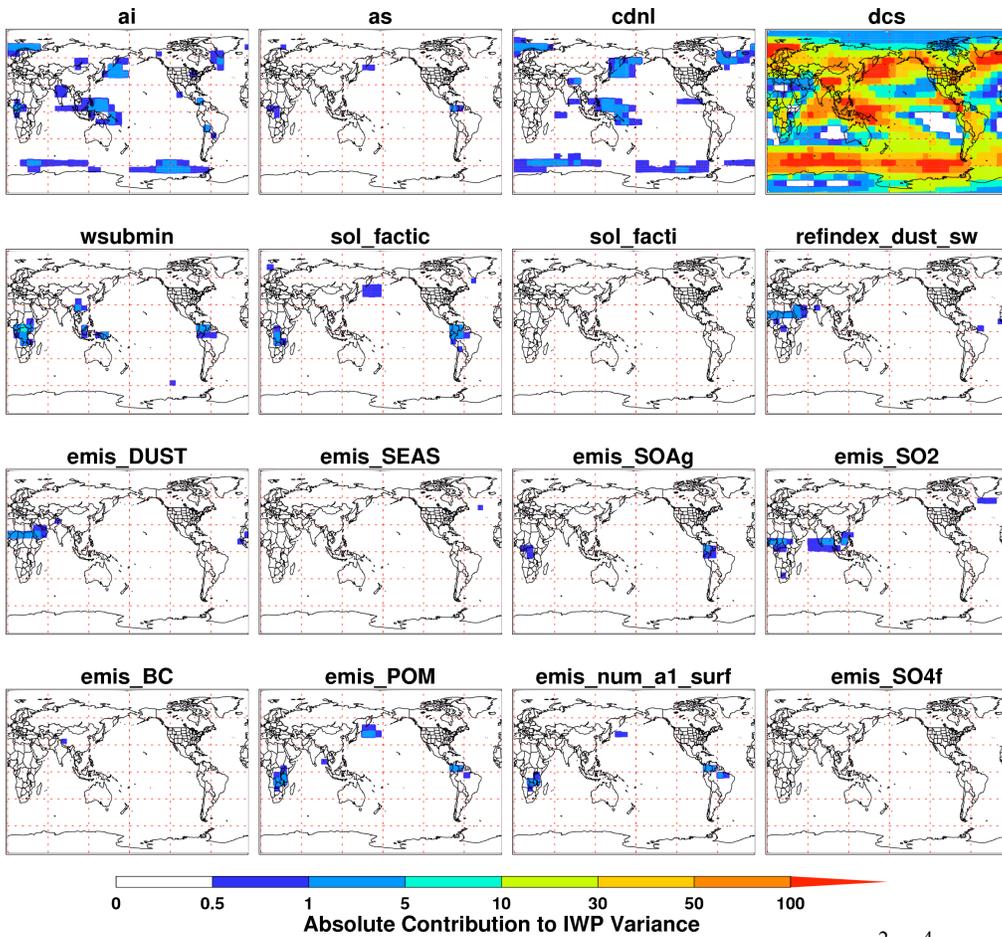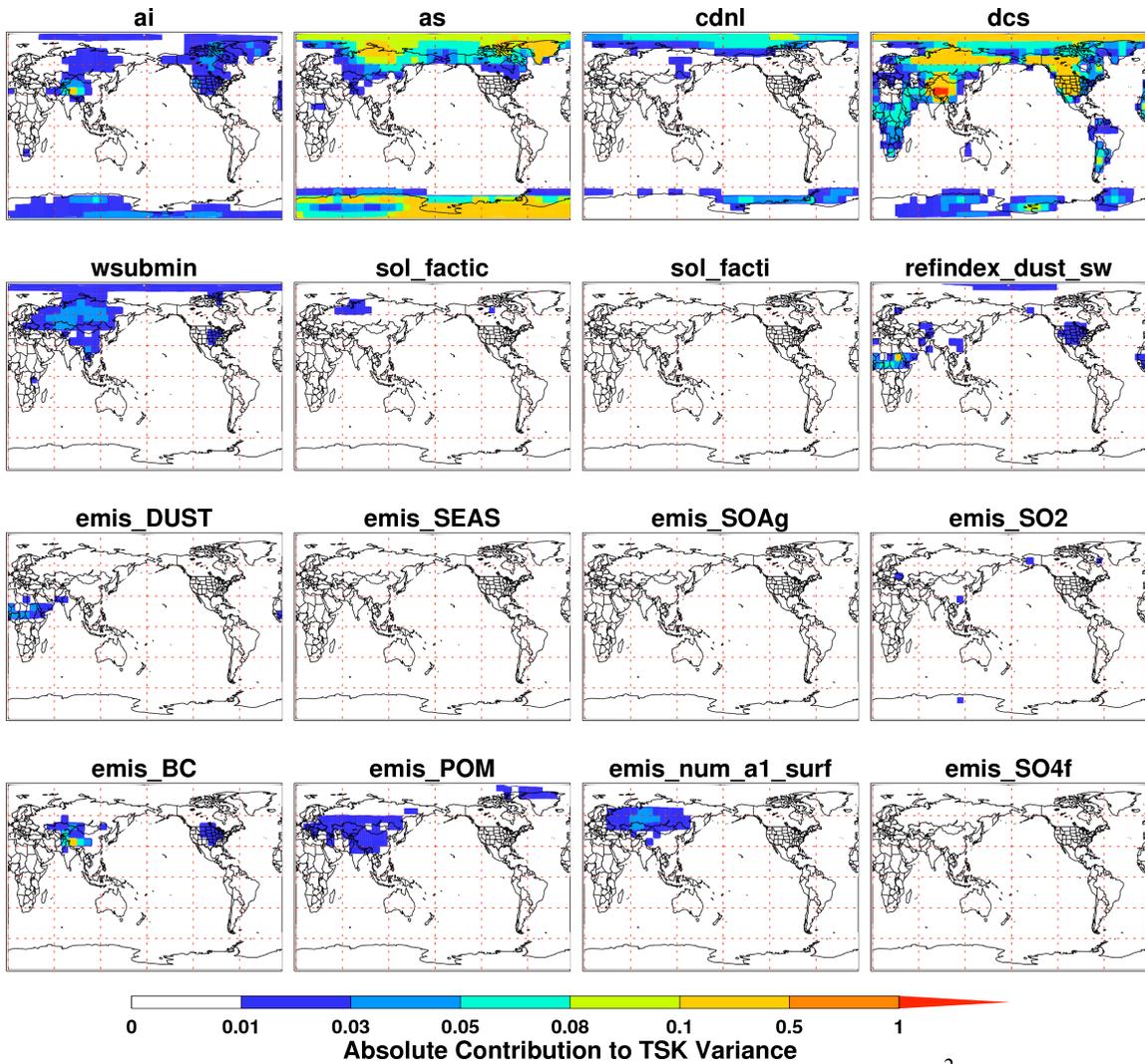**Figure S1** Global spatial distribution of absolute IWP variance (unit in g^2/m^4) in response to the perturbation of each of the 16 input parameters predicted by the GLM.
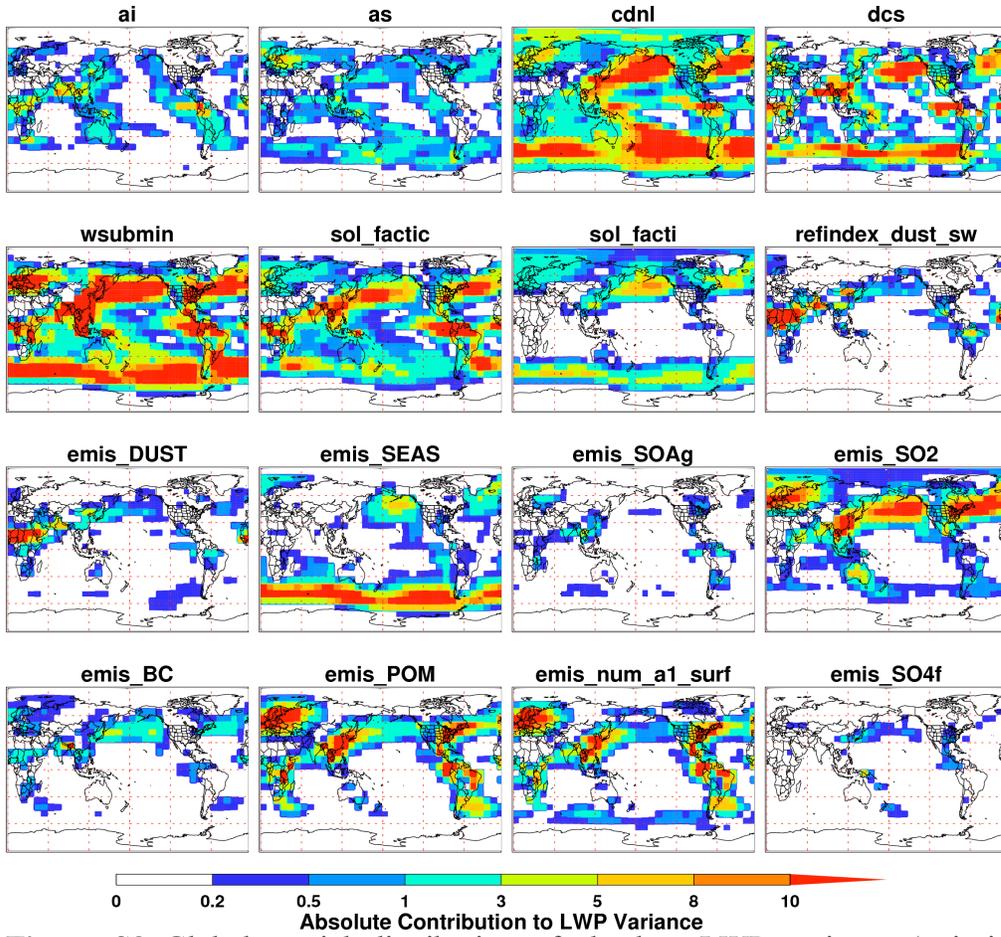
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Figure S2 Global spatial distribution of absolute TSK variance (unit in K^2) in response to
the perturbation of each of the 16 input parameters predicted by the GLM.
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Figure S3 Global spatial distribution of absolute LWP variance (unit in g^2/m^4) in response to the perturbation of each of the 16 input parameters predicted by the GLM.