Global Energy Policy Research | GEPR

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IPCC?????59??????????????????

?? ?? · Saturday, May 7th, 2022

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isil terzioglu/iStock

??2022??

??40??????IPCC????????????CMIP6??????????(ERA5)???2m????????????

?1??????????ERA5-T2m????????38??????????????????????1980-1990??????????????????

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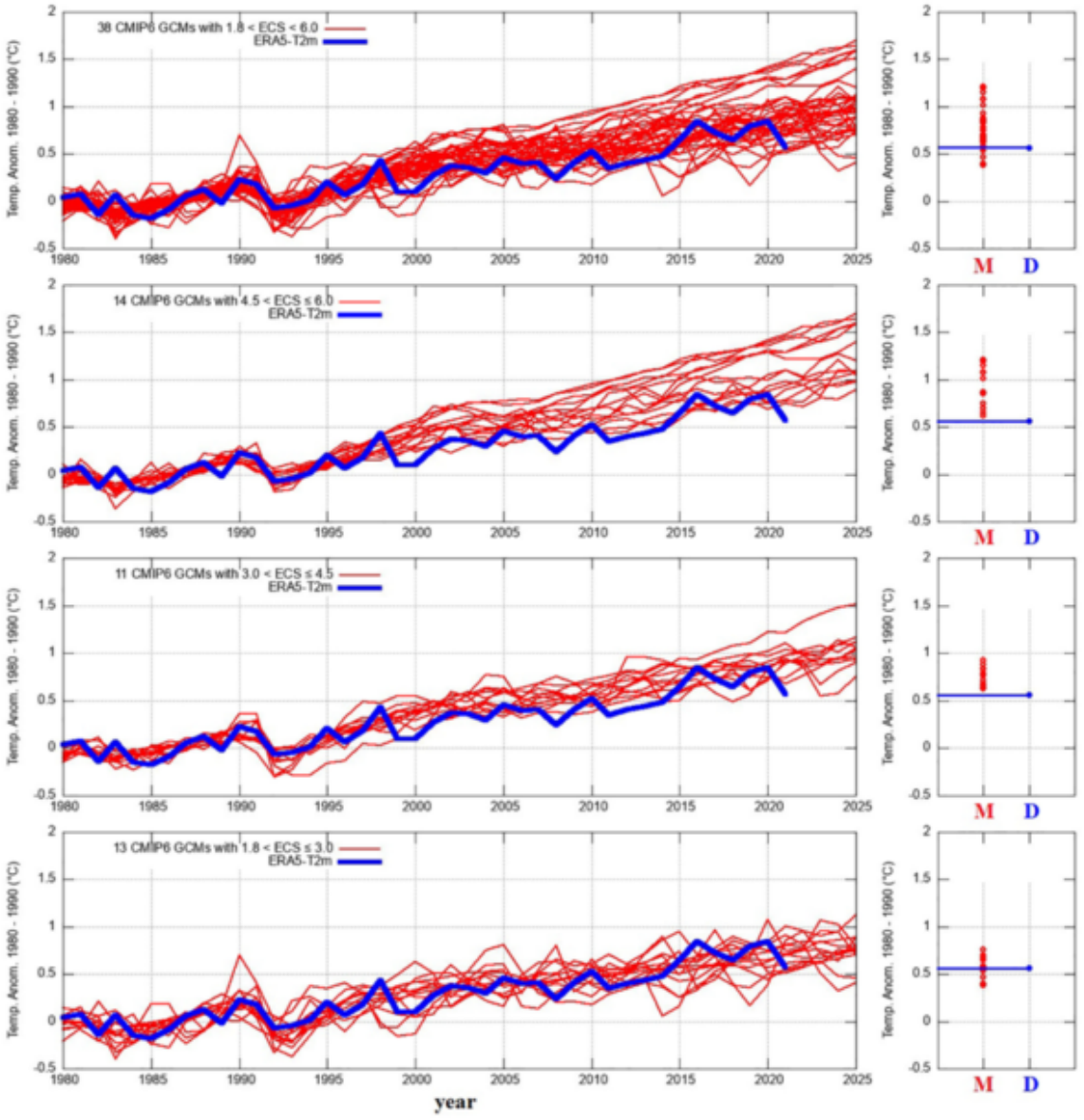


Figure 1. Left: Global surface temperature simulations (red) against ERA5-T2m (blue). Right: modeled (M, red) and observed (D, blue, $\Delta T \approx 0.56$°C) mean global surface warming 2011–2021 (1980–1990 anomalies).

????????ECS?GCM?????????????ECS??ECS?GCM???????????????

?4??

?4(?)????????????????????????????????????81%??

?t < t0??????????????????t > t0???

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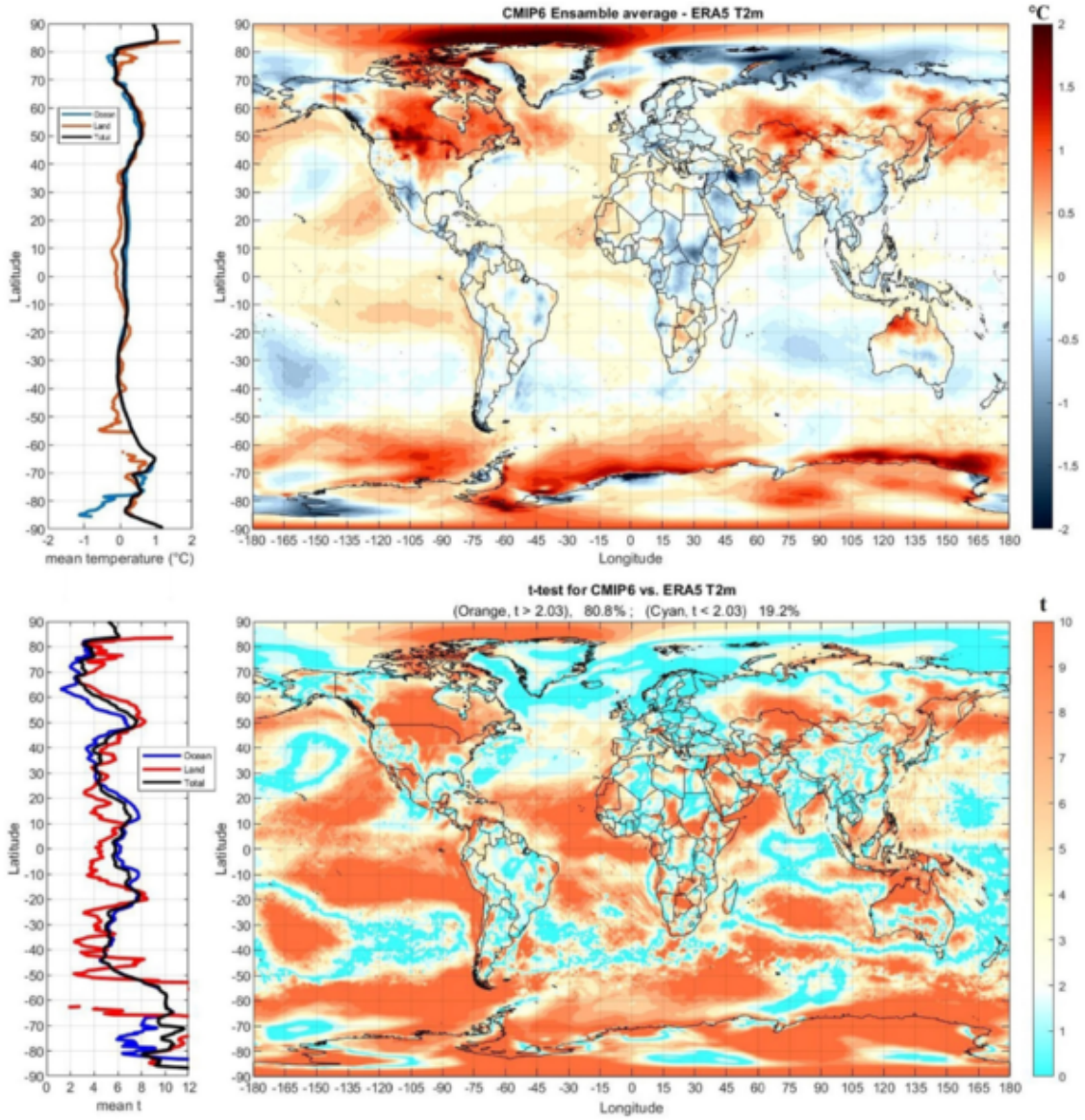


Figure 4. (Top) Differences between the global circulation models ensemble average tsa and ERA5-T2m (Equation 1). (Bottom) Spatial t-statistics between the 38 models and ERA5-T2m (Equation 2). Model-data compatibility (at the confidence level of 5%) occurs in the cyan color areas ($t < t_0 = 2.03$) while yellow-red areas indicate statistical incompatibility ($t > t_0 = 2.03$). Left-panels: relative latitudinal profiles.

?5??????4???GCM?ERA5-T2m?????????????ECS???????????????

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?5?????????t?????????????????????ECS GCM ???????81%?????????????????ECS GCM??60%???????

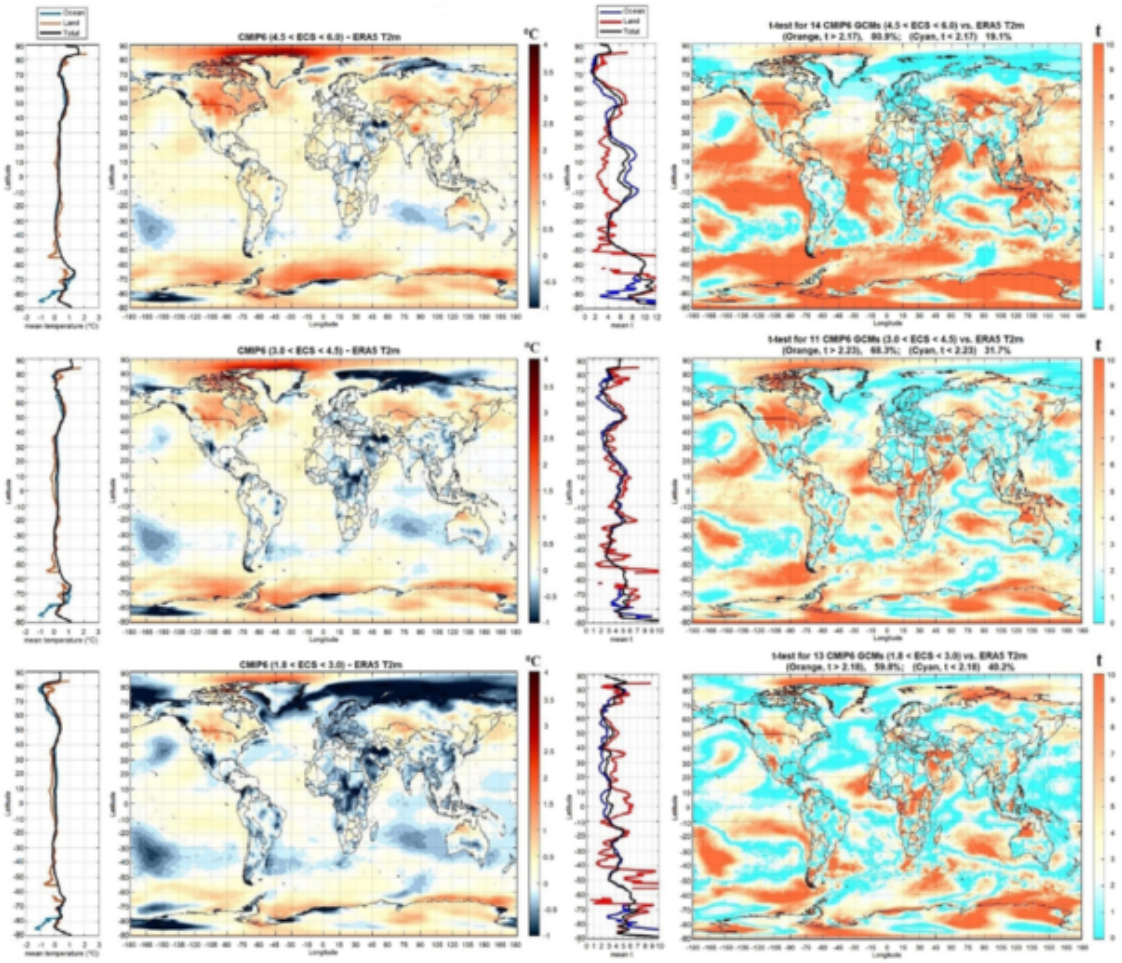


Figure 5. (Left) Differences between the high, medium and low-equilibrium climate sensitivity (ECS) global circulation models (GCM) ensemble average tsa and ERA5-T2m (Equation 1). (Right) Spatial t-statistics between high, medium and low-ECS GCMs and ERA5-T2m (Equation 2). Left-panels: relative latitudinal profiles. Model-data compatibility (at the confidence level of 5%) occurs in the cyan color areas ($t < t_0$) while yellow-red areas indicate statistical incompatibility ($t > t_0$).

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1. ????????????ECS??ECS??????????????????????????ECS????????????????????????RCP8.5???????2050???????????2????????
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