



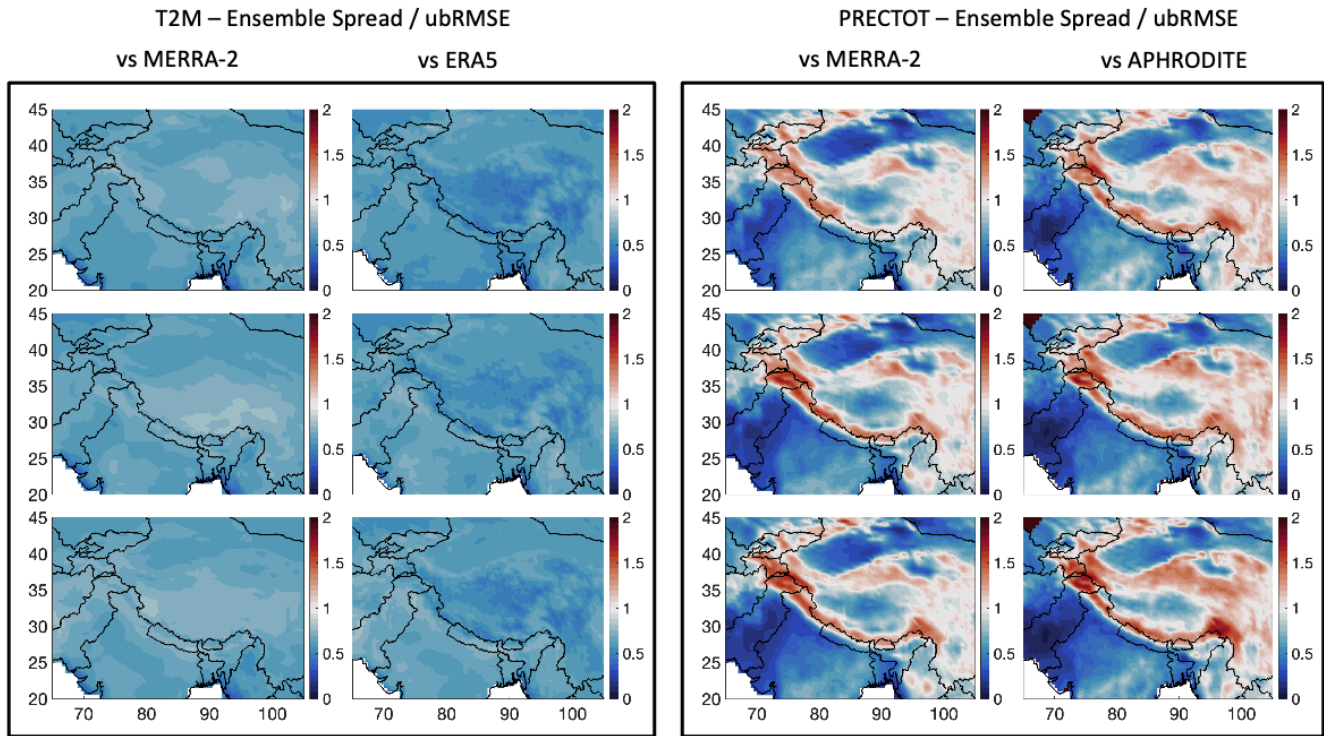
Supplement of

Seasonal forecasting skill for the High Mountain Asia region in the Goddard Earth Observing System

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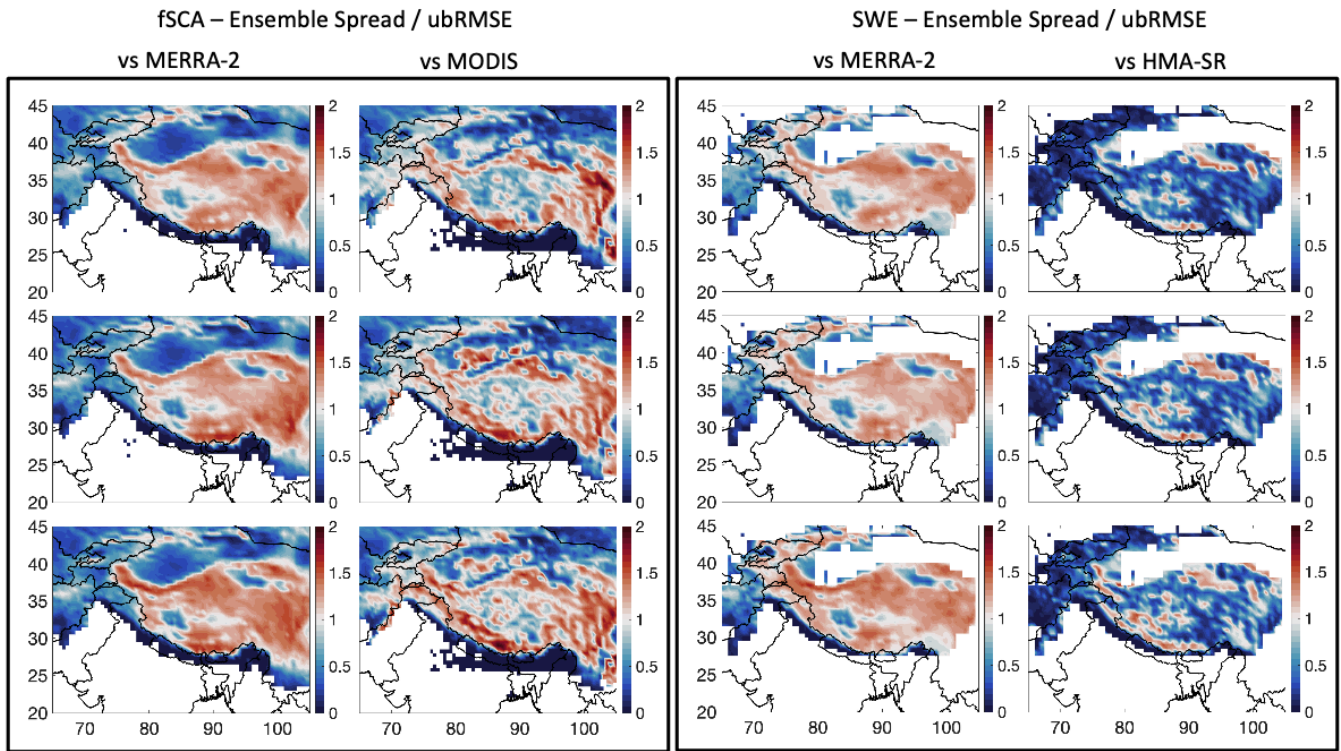
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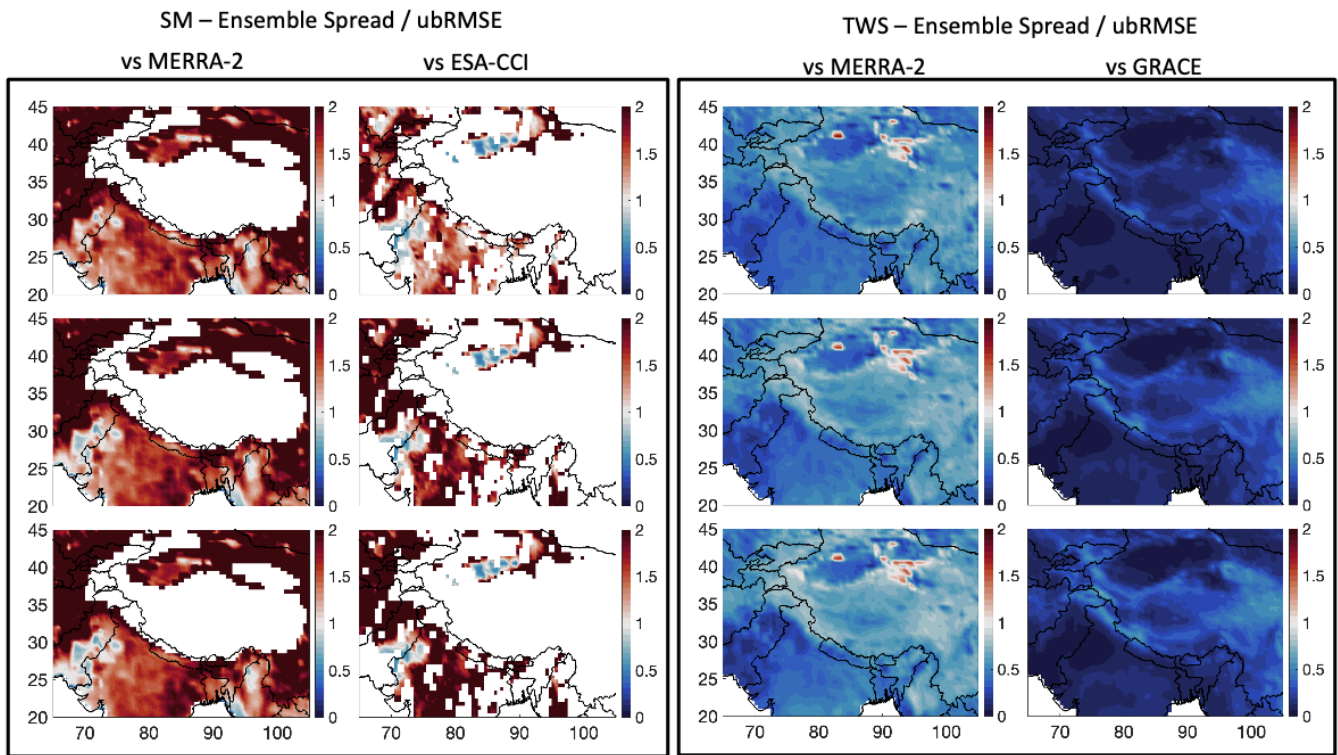
Figure S1: These plots show the reliability of the S2S forecasts for T2M and PRECTOT, calculated as the ensemble spread divided by the ubRMSE, information that can be found in Figures 7-8. For these plots, blue indicates the forecasts are overconfident for that region, meaning there is a smaller spread compared to what the error is. Red shows the opposite, indicating that the forecasts are underconfident for that region, which means there is a larger spread compared to what the error is. The rows of plots show the 1-month (top), 2-month (center), and 3-month (bottom) forecasts.

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25 **Figure S2:** These plots show the reliability of the S2S forecasts for fSCA and SWE, calculated as the ensemble spread divided by the ubRMSE, information that can be found in Figures 9-10. For these plots, blue indicates the forecasts are overconfident for that region, meaning there is a smaller spread compared to what the error is. Red shows the opposite, indicating that the forecasts are underconfident for that region, which means there is a larger spread compared to what the error is. The rows of plots show the 1-month (top), 2-month (center), and 3-month (bottom) forecasts.

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Figure S3: These plots show the reliability of the S2S forecasts for SM and TWS, calculated as the ensemble spread divided by the ubRMSE, information that can be found in Figures 11-12. For these plots, blue indicates the forecasts are overconfident for that region, meaning there is a smaller spread compared to what the error is. Red shows the opposite, indicating that the forecasts are underconfident for that region, which means there is a larger spread compared to what the error is. The rows of plots show the 1-month (top), 2-month (center), and 3-month (bottom) forecasts.