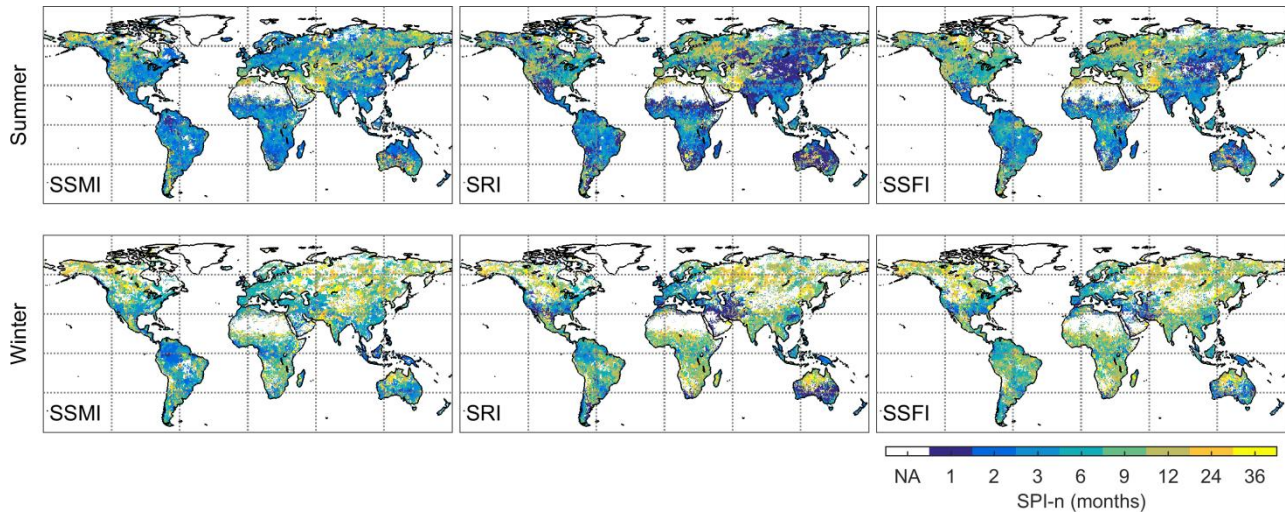
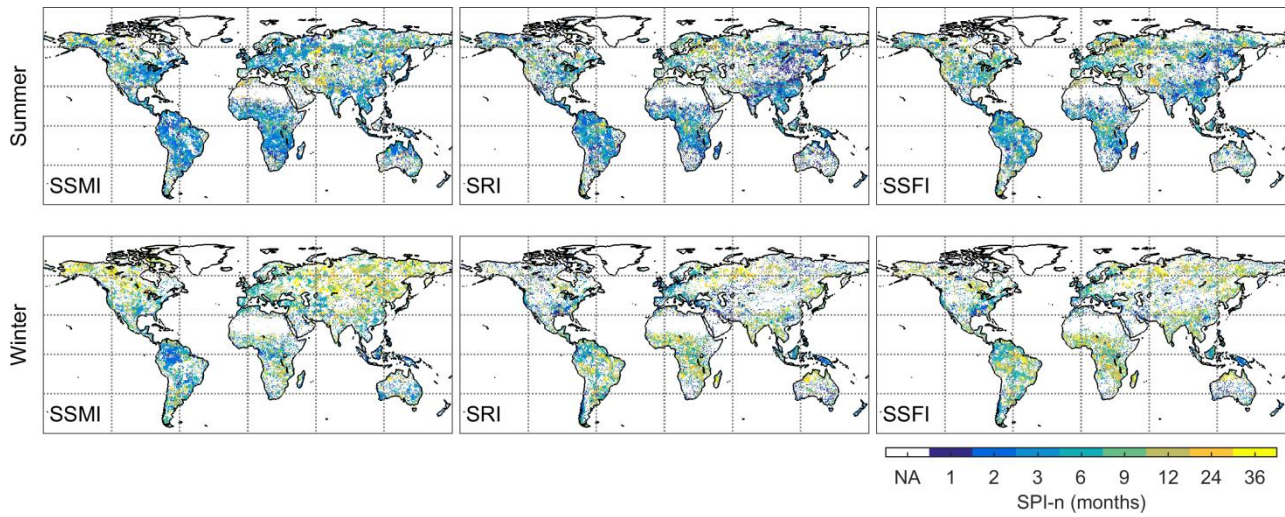


**Figure S1: Maps of the highest correlations between SPI and model ensemble mean SSMI, SRI, and SSFI, for summer and winter droughts. Pixels where those correlations are not statistically significant ( $p < 0.05$ ) are masked.**



**Figure S2: The SPI accumulation period (SPI-n) resulting in the highest correlations with model ensemble mean SSMI, SRI, and SSFI, for summer and winter droughts. Droughts in SSMI, SRI, and SSFI were identified by  $SI \leq -0.5$ . Pixels where those correlations are not statistically significant ( $p < 0.05$ ) are masked.**

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**Figure S3: The SPI accumulation period (SPI-n) resulting in the highest correlations with model ensemble mean SSMI, SRI, and SSFI, for summer and winter droughts. Droughts in SSMI, SRI, and SSFI were identified by  $SI \leq -1$ . Pixels where those correlations are not statistically significant ( $p < 0.05$ ) are masked.**