Supplementary Materials: Comparing and Combining Remotely Sensed Land Surface Temperature Products for Improved Hydrological Applications

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**Figure S1.** The high agreement between the raw timeseries of the Land Surface Temperature products from MODIS and AMSR2 expressed in R2 (**a**) for day time observations; SE (**b**) for day time observations; R2 (**c**) for night time observations and SE (**d**) for night time observations.



**Figure S2.** Histograms that show the agreement between the raw timeseries of the Land Surface Temperature products from MODIS and AMSR2 expressed in R2 (**a**) for day time observations; SE (**b**) for day time observations; R2 (**c**) for night time observations and SE (**d**) for night time observations.



**Figure S3.** R2 between the raw timeseries from MERRA and (**a**) MODIS, (**b**) the merged MODIS-AMSR2 Land Surface Temperature product and (**c**) AMSR2, as well as the percentage of gained samples through the addition of AMSR2 observations (**d**). Note the wider range of the colorbar compared to Figure 5 that presents the results of the anomalies.



**Figure S4.** Histograms that show the agreement between the raw timeseries from MERRA Land Surface Temperature and the remotely sensed Land Surface Temperature products from MODIS (**a**); AMSR2 (**b**) and through the presented combination approach (**c**) expressed in R2.

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