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The Level 1B GRACE/FO data stacking technique, first developed for evaluating terrestrial water storage (TWS) trends at high resolution, can be applied to improve estimation of the mean seasonal cycle of TWS. Standard GRACE/FO based approaches for estimating the seasonal cycle are (1) taking the average over all Januarys, all Februarys, etc., and (2) computing the annual and semiannual sinusoids from the full monthly time series. In both cases, the amplitude of the seasonal cycle is typically damped by spherical harmonic and mascon processing. Here we compare results of these standard approaches with those from the L1B stacking technique over several regions of interest. For the L1B technique, we test a sinusoidal (symmetrical) fit to the seasonal cycle and a monthly means approach. We evaluate both the amplitude and phase of the resulting mean seasonal cycles, using independent data as available.
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