Supplement of

## Concurrent wet and dry hydrological extremes at the global scale

## Paolo De Luca et al.

Correspondence to: Paolo De Luca (p.deluca@vu.nl)

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## Supplementary Figures



Figure S1. Extreme transition (ET) means between (a) wet to dry and (b) dry to wet hydrological extremes. The colour gradient shows the ET natural logarithm (ln). The higher (lower) $\ln (E T)$, the longer (shorter) the time of ET.


Figure S2. As Figure S1 but ET are not in natural logarithm (ln) scale.


Figure S3. As Figure 4 bur for wet to wet and dry to dry ET. Only ET < 200 months are shown.


Figure S4. As in Figure 5 but for three other modes of climate variability: (a) NAO; (b) PNA; and (c) QBO.


Figure S5. As in Figure 5 but correlations are lagged by 1 month, i.e. sc_PDSI_pm at to and the modes of climate variability are at $\mathrm{t}-\mathrm{l}$.


Figure S6. As in Figure S3 but lagged by 2 months, i.e. sc_PDSI_pm at to and modes of climate variability at t-2.


Figure S7. Wet and dry hydrological extremes occurring during similar ( $\pm 0.3$ ) climate modes of variability phases as the event in December 2010 (Figure 2a).


Figure S8. Wet and dry hydrological extremes occurring during similar ( $\pm 0.3$ ) climate modes of variability phases as the event in January 2003 (Figure 2b).

