Supporting Information for "The onset and cessation of seasonal rainfall over Africa"

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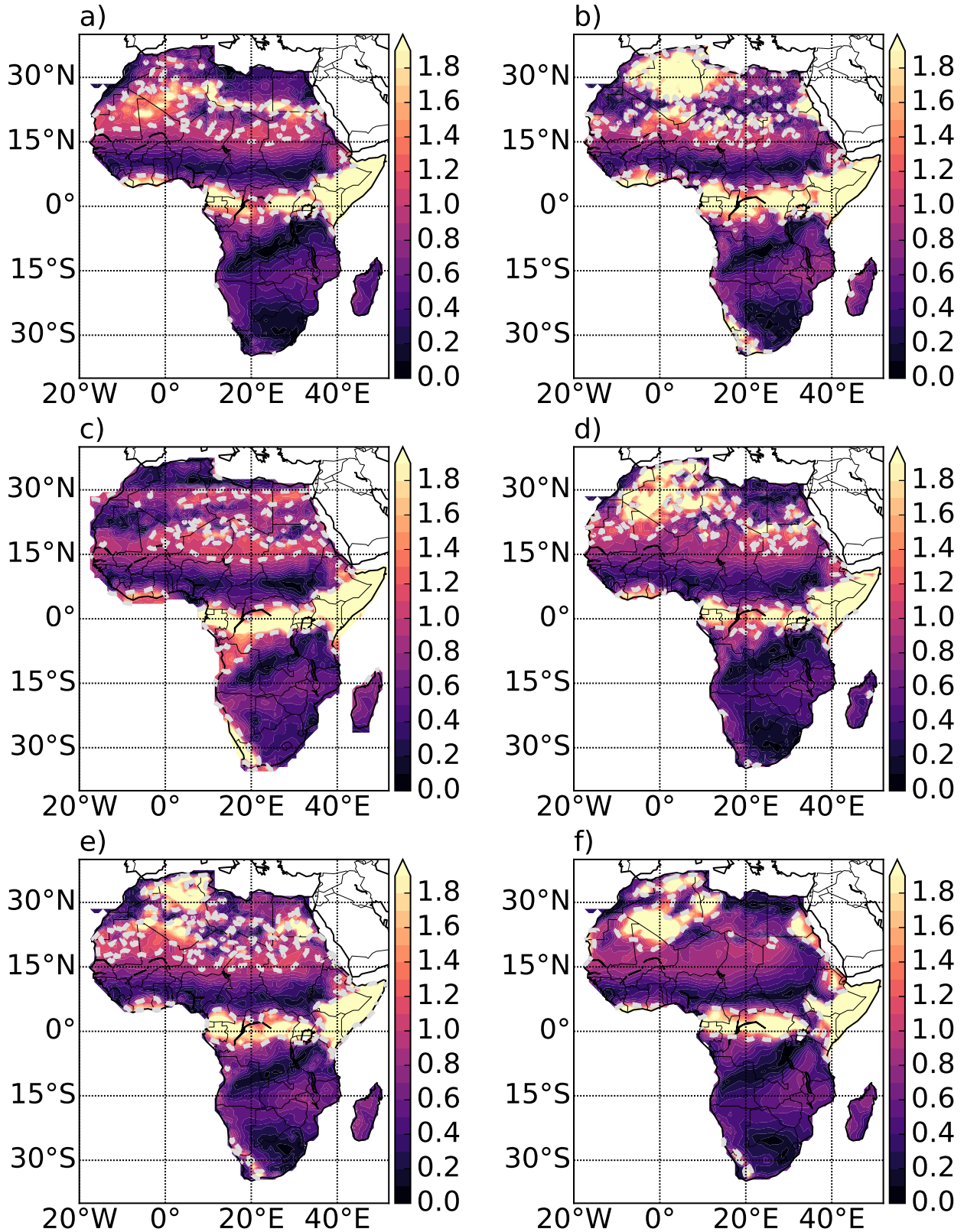
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Introduction This supporting information contains figures showing the results for all datasets and regions used in "The onset and cessation of seasonal rainfall over Africa". Figure S1 contains the ratio of amplitude of the harmonics at frequencies of one and two cycles per year for all six datasets. The mean onset and cessation patterns for all si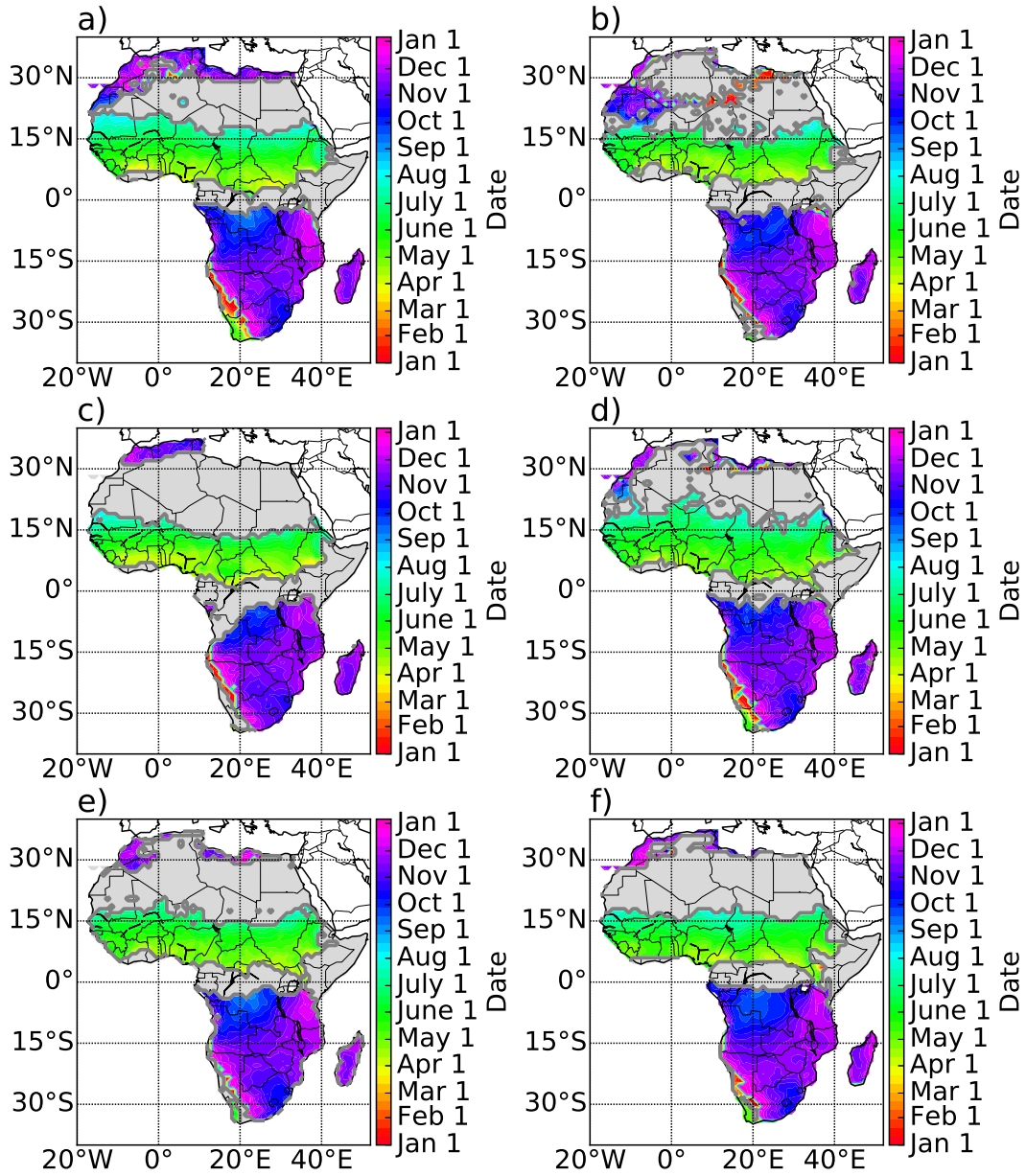x datasets are shown in Figures S2 - S5. The timeseries of onset and cessation over regions 1-17 for all six datasets are shown in Figure S6-S8.

[1] Department of Meteorology, University of Reading, Reading, UK.
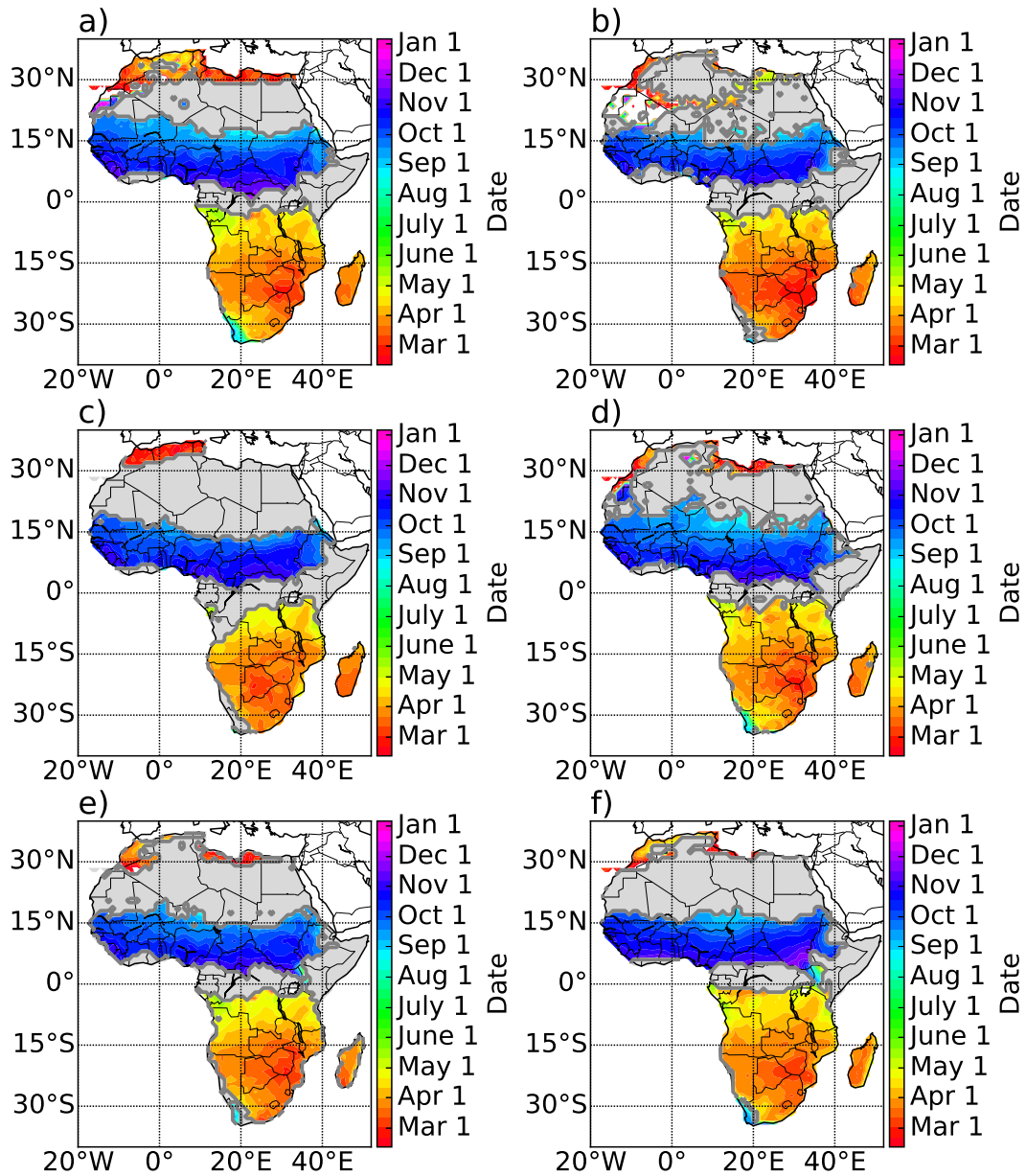
[2] NCAS-Climate, University of Reading, Reading, UK.

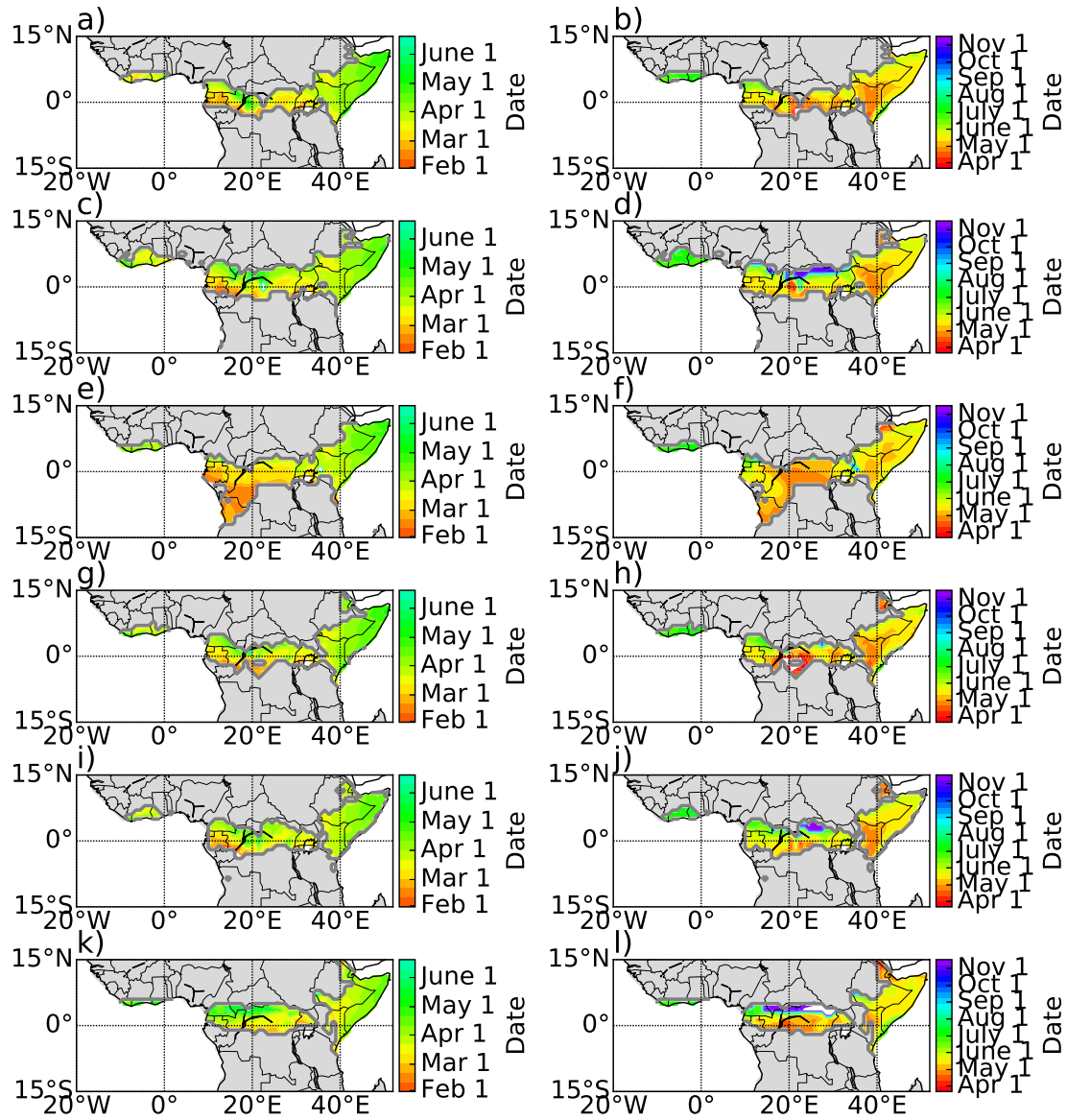[3] National Centre for Earth Observation (NCEO).

Figure S1. The ratio of the amplitude of the harmonics at two cycles per year to the amplitude at one cycle per year in a) GPCP, b) ARCv2, c) TARCATv2, d) TRMM, e) CHIRPS and f) ERA-I. The dashed contour marks where the ratio is equal to 1.0.

Figure S2. Mean onset for annual regime regions in a) GPCP, b) ARCv2, c) TARCATv2, d) TRMM, e) CHIRPS and f) ERA-I over 1998-2013, 1984-2012, 1985-2013, 1999-2013, 1982-2013 and 1984-2013 respectively.
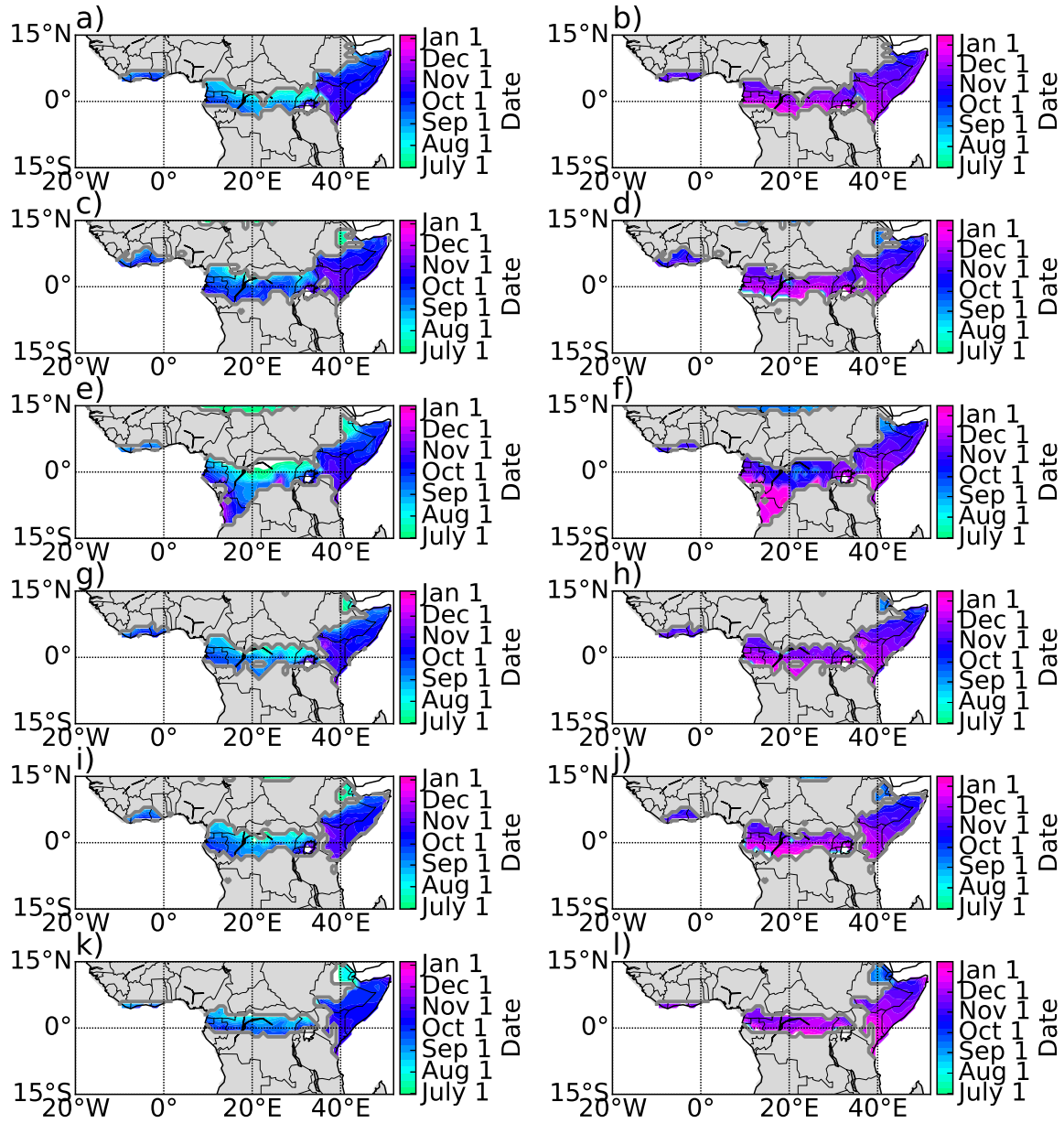
Figure S3. Mean cessation for annual regime regions in a) GPCP, b) ARC, c) TARCAT, d) TRMM, e) CHIRPS and f) ERA-Interim over 1998-2013, 1984-2012, 1985-2013, 1999-2013, 1982-2013 and 1984-2013 respectively.
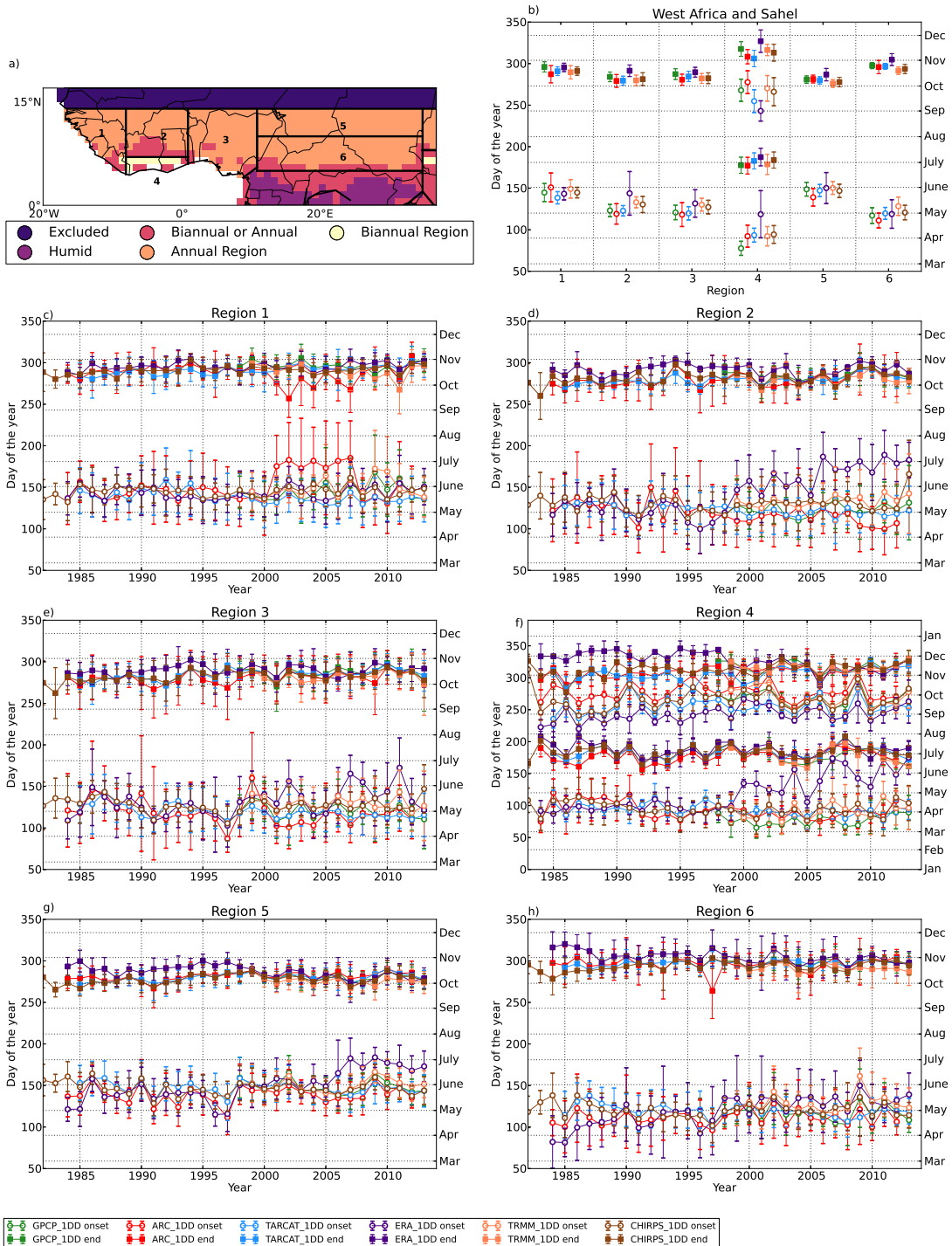
Figure S4. Mean onset (left) and cessation (right) for the first/long rains over biannual regions in a-b) GPCP, c-d) ARCv2, e-f) TARCATv2, g-h) TRMM, i-j) CHIRPS and k-l) ERA-I over 1998-2013, 1984-2012, 1985-2013, 1999-2013, 1982-2013 and 1984-2013 respectively.
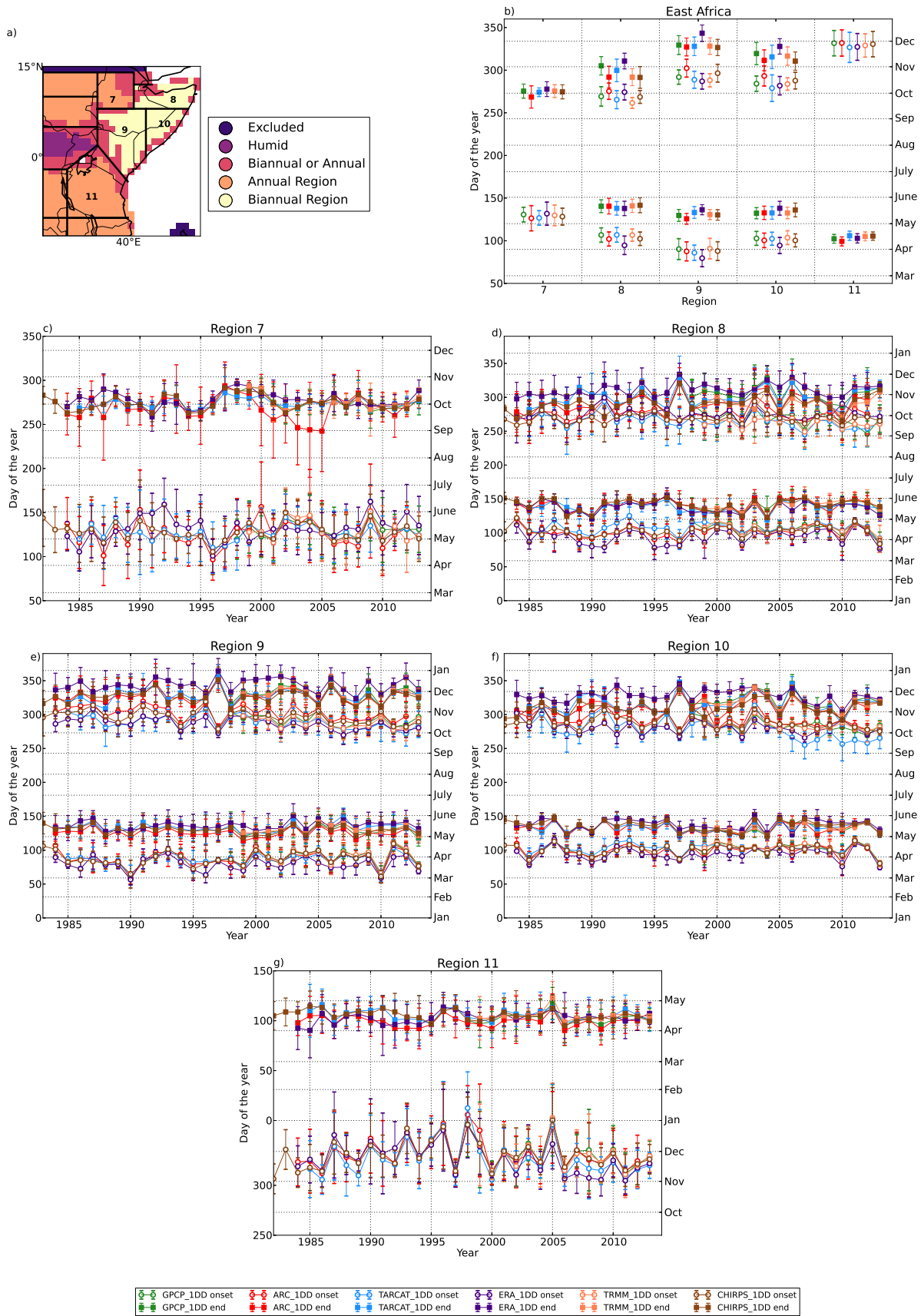
Figure S5. Mean onset and cessation for the second/short rains over biannual regions in a-b) GPCP, c-d) ARCv2, e-f) TARCATv2, g-h) TRMM, i-j) CHIRPS and k-l) ERA-I over 1998-2013, 1984-2012, 1985-2013, 1999-2013, 1982-2013 and 1984-2013 respectively.
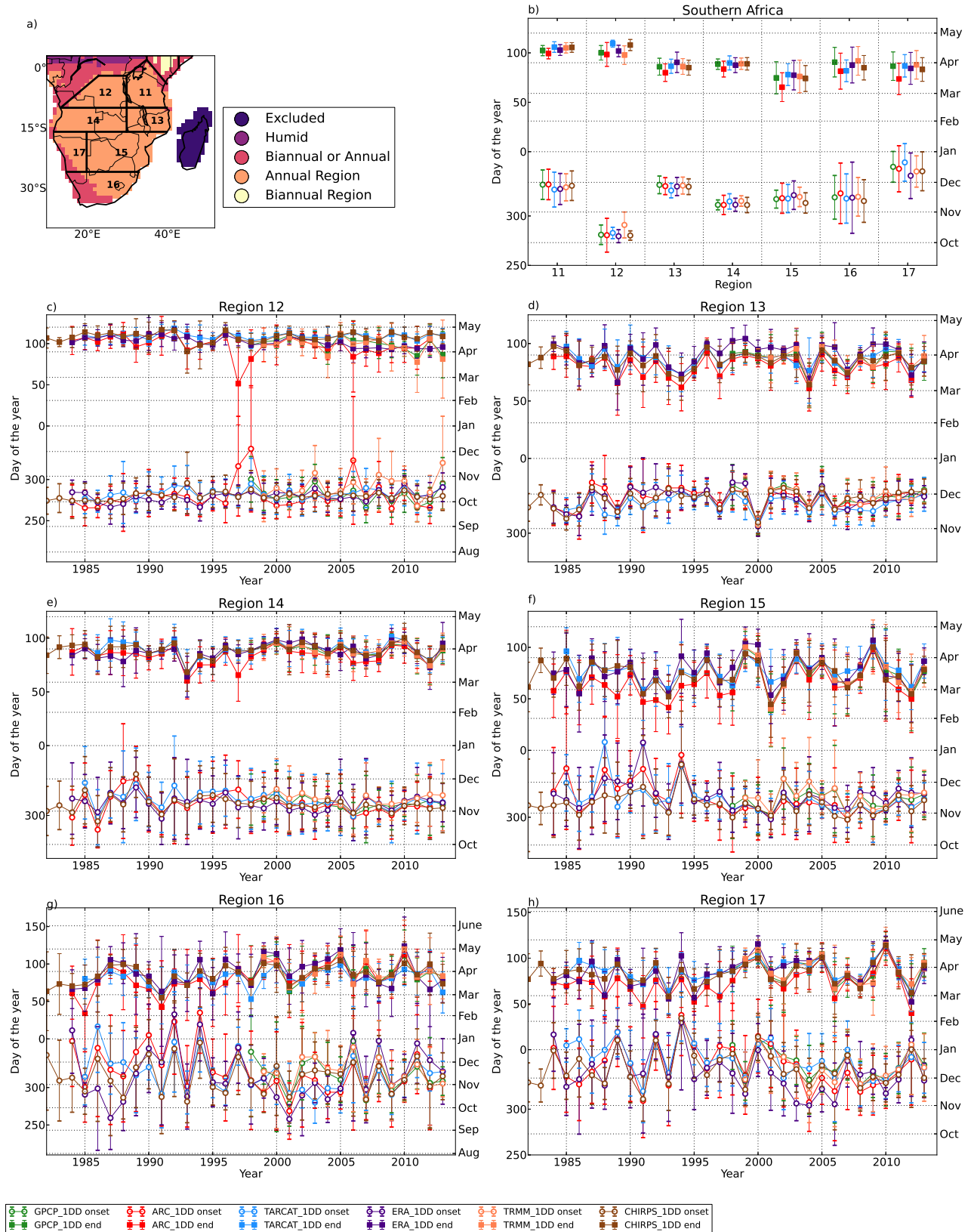
Figure S6. a) Region map of Western Africa, b) mean (and standard deviation) of the mean onset and cessation date for each dataset over regions 1-6, c-h) timeseries of onset and cessation date for each dataset for regions 1-6 respectively.

Figure S7. a) Region map of Eastern Africa, b) mean (and standard deviation) of the mean onset and cessation date for each dataset over regions 7-11, c-g) timeseries of onset and cessation date for each dataset for regions 7-11 respectively.

Figure S8. a) Region map of Southern Africa, b) mean (and standard deviation) of the mean onset and cessation date for each dataset over regions 11-17, c-h) timeseries of onset and cessation date for each dataset for regions 12-17 respectively (11 is included in the previous plot).