Additional figures:

Figure S1: SPI values from the ensemble mean of CHIRPS and ERA5 over Madagascar during the period 1981–2022. a) represents SPI at three months' timescale (SPI-3), b) at 6 months' timescale (SPI-6) and c) at 12 months' timescale (SPI-12). The areas within the shaded rectangles are selected to mark the beginning and the ending of continuous occurrences of drought events and are used for vegetation changes.
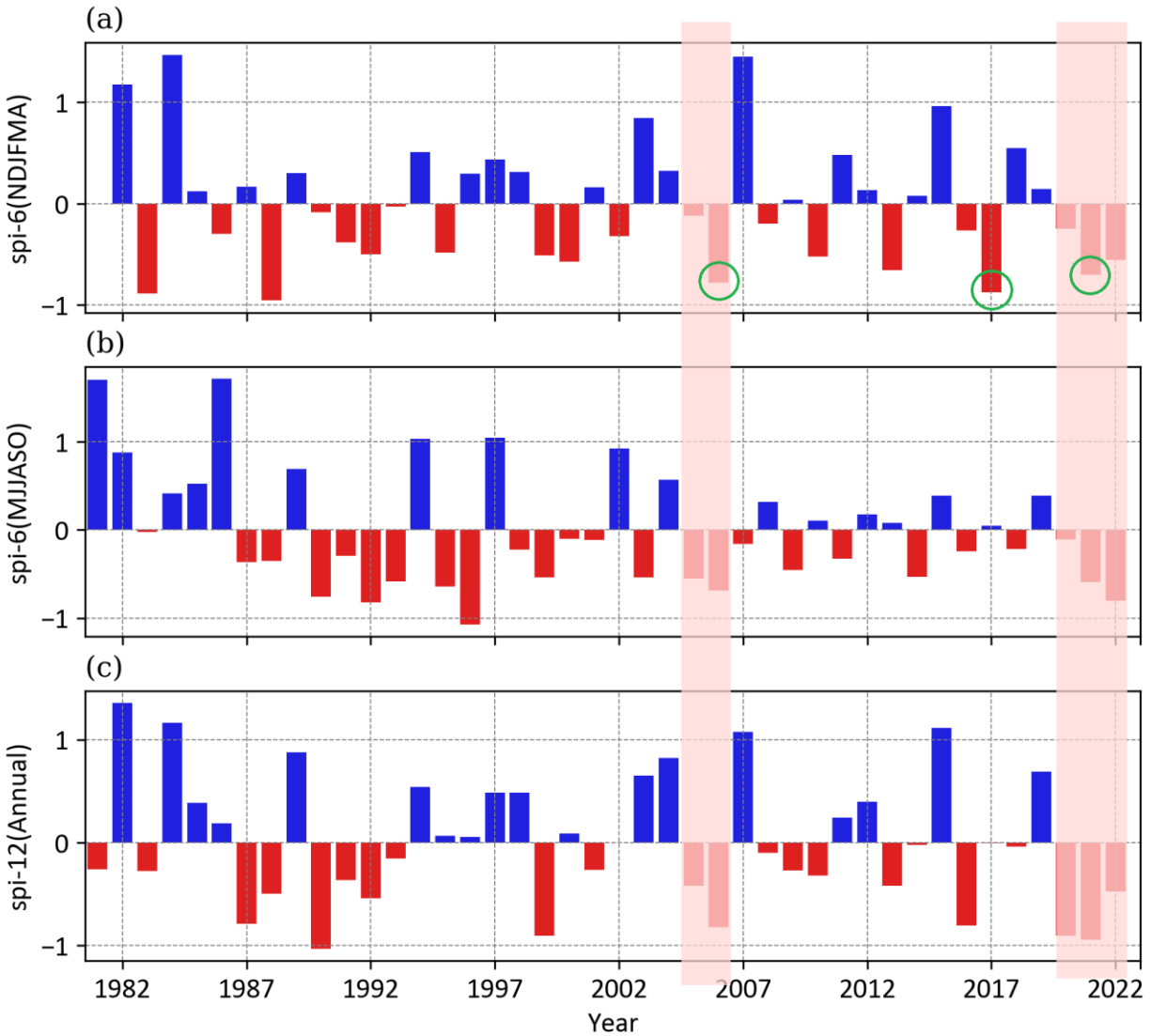
Figure S2: a) and b) represent seasonal SPI selected from SPI-6 to represent the wet season from November to April (NDJFMA) and the dry season from May to October (MJJASO), respectively of each year. c) represents annual SPI selected from SPI-12 to represent the annual timescale of January-December of each year (detailed clarification is found in the result section). The values marked with green circles are the lowest values and are used in the analysis of vegetation changes' section. The areas within the shaded rectangles are selected to mark the beginning and the ending of continuous occurrences of drought events and are used for vegetation changes as well.
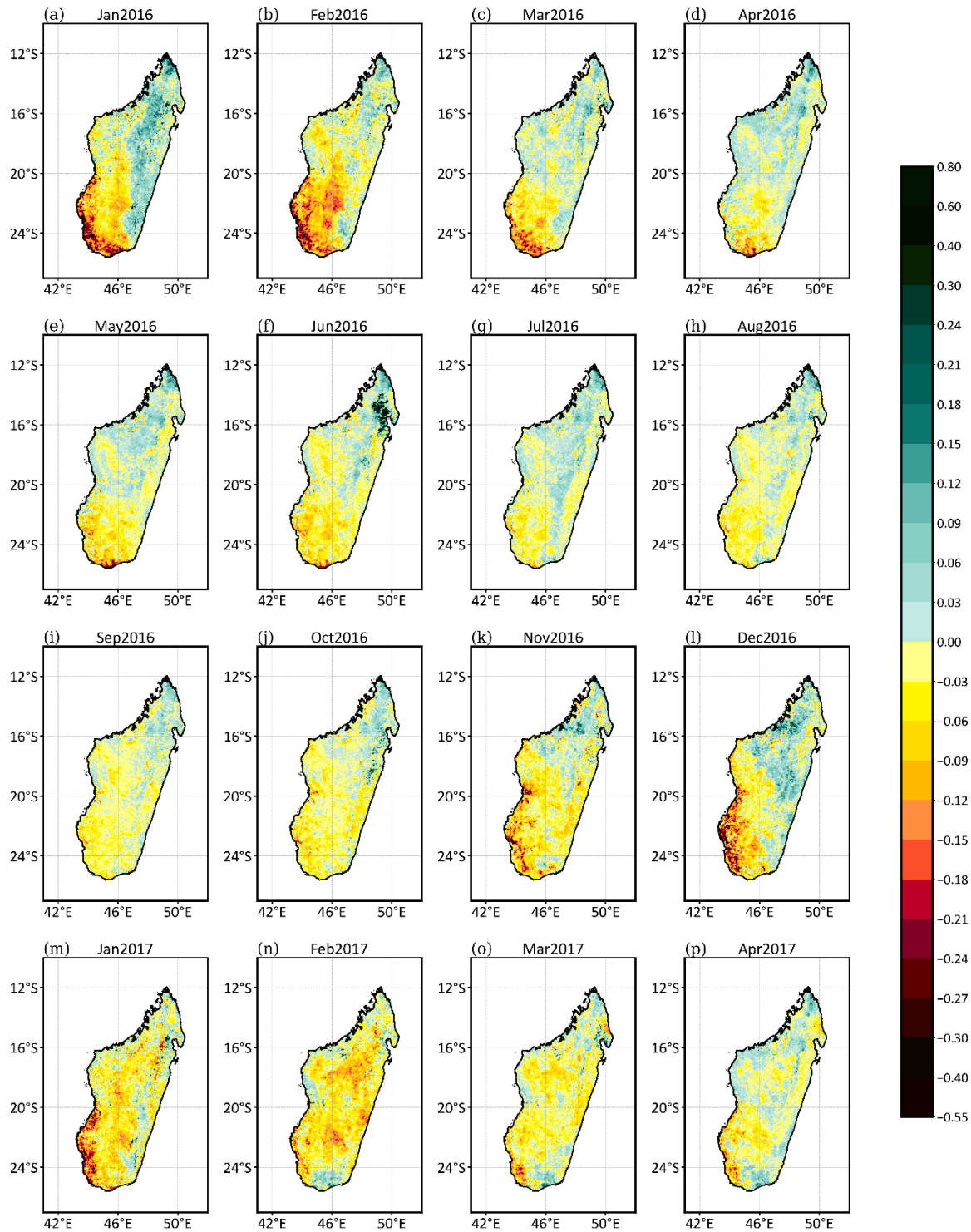
Figure S3: NDVI differences between each month from January 2016 to April 2017 and their corresponding month of the year-reference 2001. (This time period was selected based on the anomaly found in Fig. 8b and 8e)
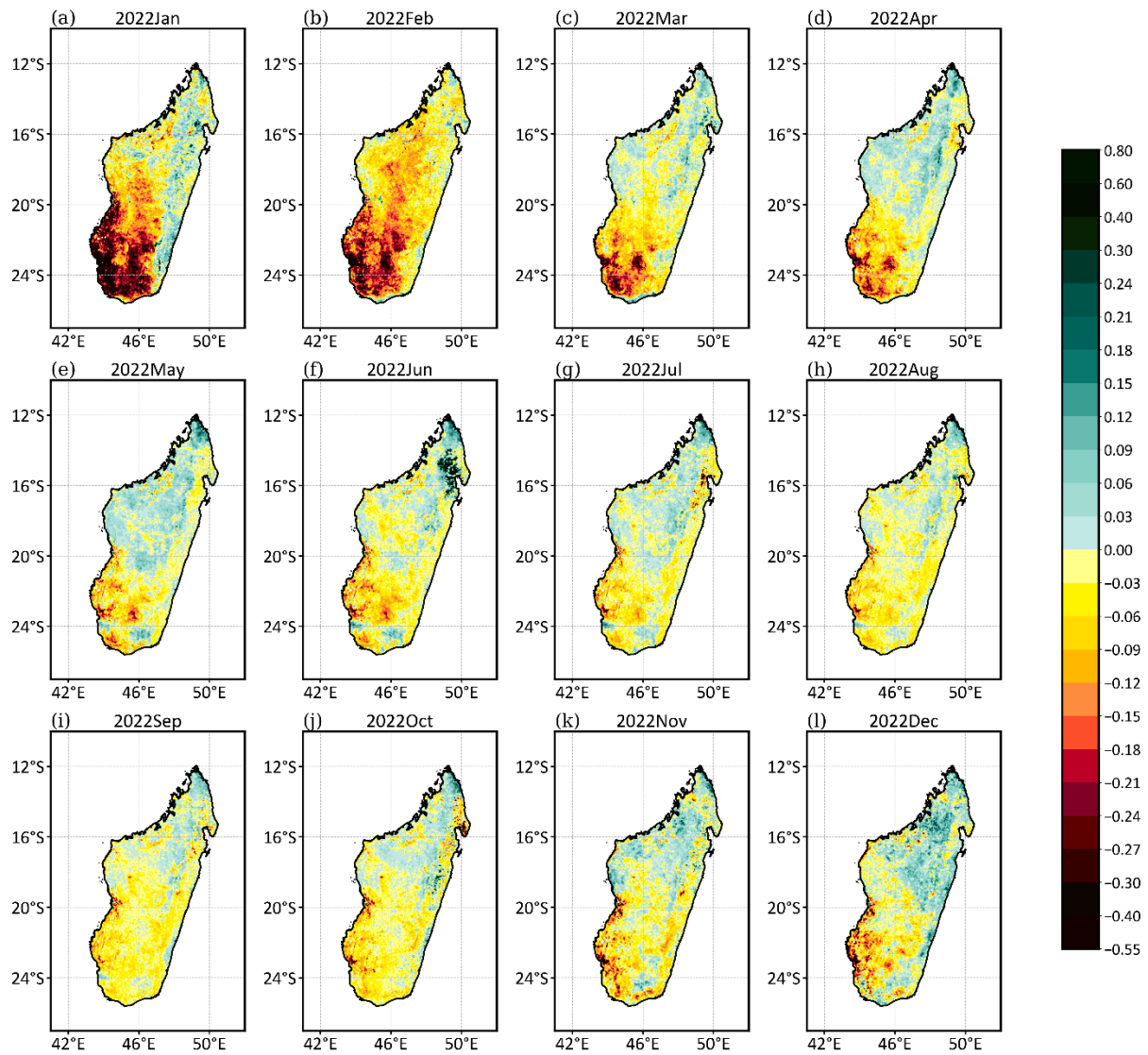
Figure S4: NDVI differences between each month of the year 2022 and the corresponding month of the year-reference 2001.
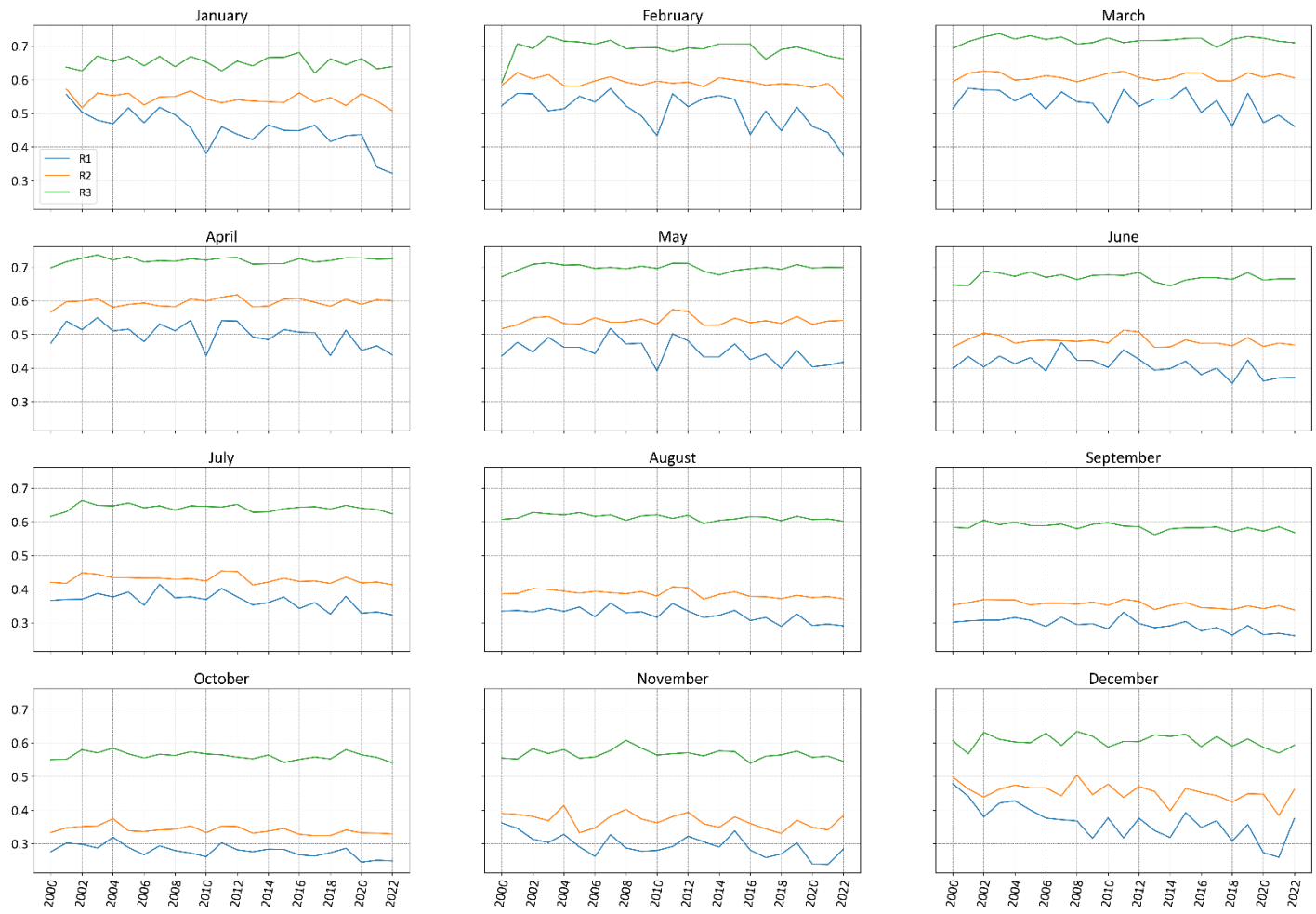
Figure S5: Temporal development of monthly NDVI values over the three studied regions of Madagascar. R1: South, R2: West and R3: East
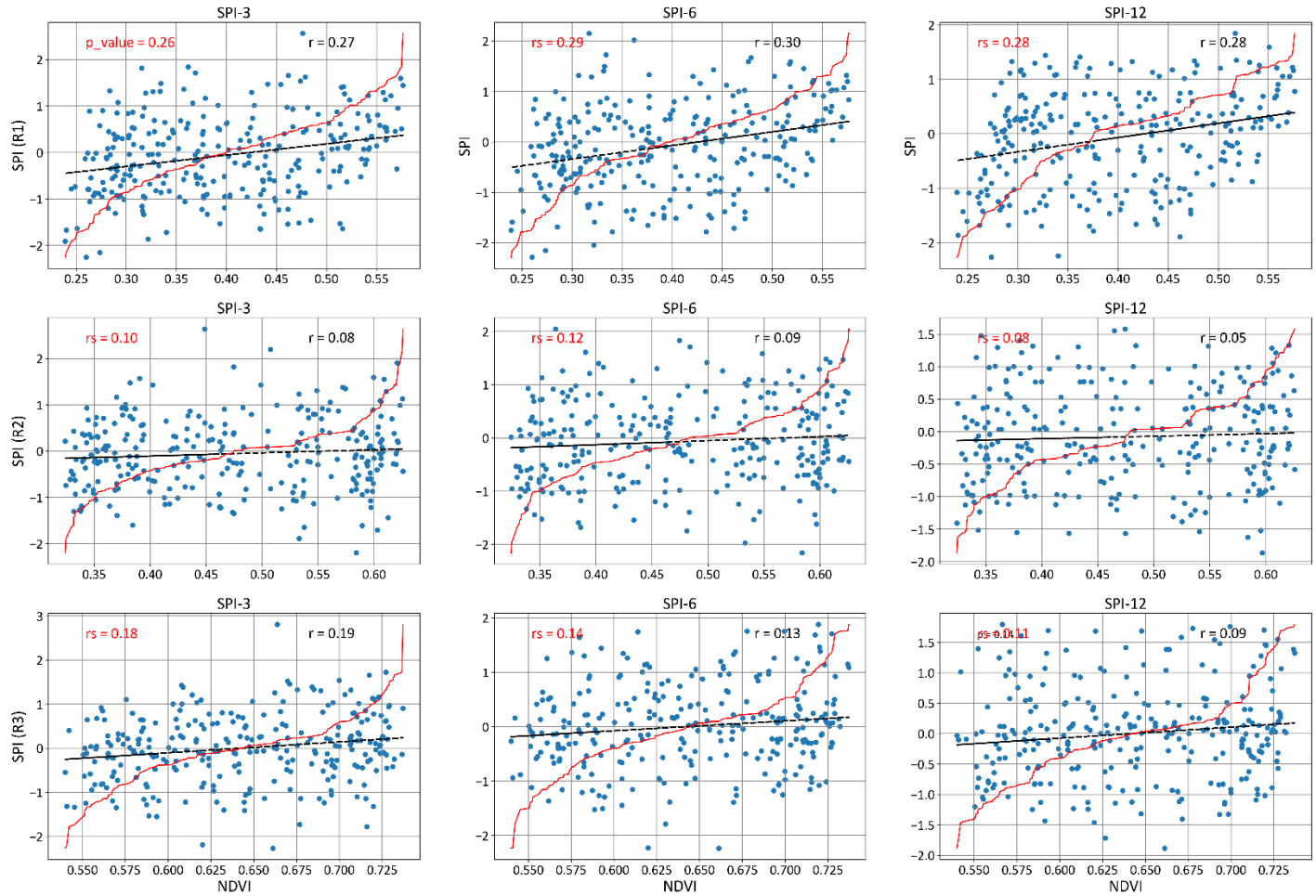
Figure S6: Scatterplots of NDVI and SPI values for SPI3 (first column), SPI6 (second column) and SPI12 (third column) over R1 region (first row), R2 (second row) and R3 (third row). The values of Pearson (black) and Spearman (red) correlations between the NDVI and SPIs for each region are also shown. The black is the linear fit and the red line is the Spearman correlation line.