## Supplementary material to: Impact of global atmospheric reanalyses on statistical precipitation downscaling

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## S1 Selection of the analogue dates for different precipitation thresholds

The selection of the analogue dates were compared between reanalyses for all stations and all AMs for different precipitation thresholds. Figure S1 shows the percentage of similar analogue dates selected when using the reanalyses in columns that were also found when using the reanalyses in rows for the different AMs and for the target dates with non null precipitation. Figure S2 and Fig. S3 show the same information but for days with precipitation above the  $95^{th}$  or  $99^{th}$  percentiles of non null precipitation. For days with higher precipitation, the percentage of common analogue dates tend to increase, but not to substantial extent. Overall, the patterns remains similar.

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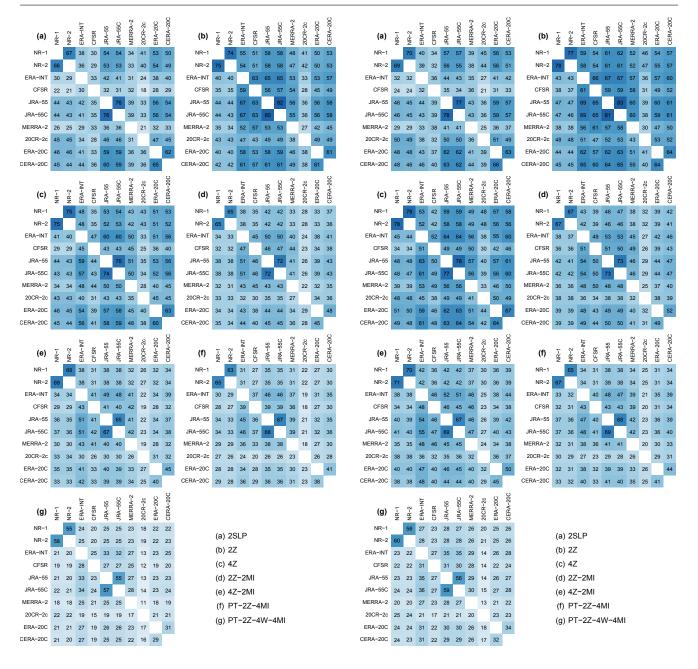


Fig. S1 Percentage of similar analogue dates selected when using the reanalysis datasets in columns that are also found when using the datasets in rows for different AMs. The values are averaged for all stations on the VP, but only for target dates with a non null precipitation.

Fig. S2 Same as S1 but for target dates with precipitation above the  $95^{th}$  percentile of non null precipitation.

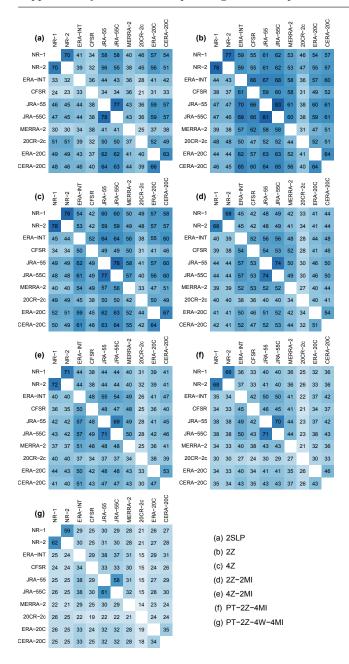


Fig. S3 Same as S1 but for target dates with precipitation above the  $99^{th}$  percentile of non null precipitation.