

# ***Interactive comment on “Climatic controls on watershed reference evapotranspiration vary dramatically during the past 50 years in southern China” by Mengsheng Qin et al.***

**Anonymous Referee #2**

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In this manuscript, the authors present an analysis of daily meteorological data for 6 weather stations in (the near surroundings of) the Qinhuai river basin in China. They derive evaporation data using the Penman-Monteith model and look for annual and seasonal trends. Subsequently, they analyse relations with various meteorological variables to identify their potential contributions to changes in evaporation values. One of the motivations for this study is that few such studies have been done for the humid region of southern China. This at the same time is an important limitation of the work: it's not clear what new insights are derived from analysis of data from only 6 weather stations within a limited geographical scope. In its present form and given the limited scope, I consider the manuscript unsuitable for publication in HESS. Following

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are some general recommendations to improve the manuscript: - Dataset description: add information on instrumentation of the meteorological stations: what variables are measured, at what resolution, what sensors are used, what is the mean distance between stations, report data control procedures and data gaps, if any. - Equation (1): equal sign seems to be missing - On p12, l 199 it is stated that "spatially average wind speeds" were derived. Wind speeds are typically highly variable in space, so they cannot be simply interpolated across 10-20km distances. This needs more explanation or rather, stick to analysis of the individual data series per station. - Reporting both relative humidity and water vapour deficit seems superfluous, since 1 directly depends on the other - Conclusion: explain better what this study contributes to the general body of knowledge. Most of what is currently in the conclusions chapter are interpretations of the findings towards practical application. Consider moving this to the discussions chapter. - English language needs improvement throughout the manuscript

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