

Interactive comment on “Recent advances in land surface climate observations on the Tibetan Plateau” by Y. Ma et al.

Anonymous Referee #3

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The presence of the Tibetan Plateau has large consequences for the climate, global air circulation and hydrology of the whole region of East Asia. This paper describes the results of a large number of experiments that are relevant hydrologists, and weather and climate modelers. The size of the data set is impressive.

The paper summarizes published (and new?) results. The results are simply listed, but no general conclusion is distilled, no future directions for research are suggested, and a critical comparison of the different results is not presented. Moreover, it is unclear which result is from which paper, because the references are listed at the beginning of each section, but not after each individual result separately. The results for each topic are all summarized in one paragraph, separated by numbers (1), (2) etc. The legibility would be improved if the results were separated into paragraphs, each containing a

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reference to the corresponding study, if it is a result from the literature. If it is a new result, then more explanation about the procedures is required.

Page 6, middle: ‘diurnal variations... are obvious’ and ‘Net radiation fluxes are obviously larger than in other areas’ - What is meant by ‘obvious’? - What is meant by ‘other areas’?

Page 10: ‘... turbulence statistics ... show similar results to those reported in the literature from other normal sites’ - Which literature? - Which normal sites? - What is meant by similar?

‘The normalized covariance of the vertical wind was in better agreement with the law of similarity theory than the horizontal wind’ I do not understand this sentence. There is no covariance between one variable, and what does ‘in agreement with the law of similarity theory’ mean?

Page 10/11: ‘the normalized covariance of 3D wind speed obeys the power law of $1/3$ ’. What does this sentence mean?

Page 11, ‘a) height-dependent turbulence statistics..’ Which statistics? It is not $w'T$, because the fluxes are constant with height (page 7, top)

Page 12, top: ‘agree with the literature over the Mt. Everest area’. Which literature?

Figs. 3-5. Tibetan plateau is quite large. For which site were those data? Land cover? Is this an average of half-hourly data over seasons? For which years?

Minor comments:

Page 2, bottom: ‘Therefore, it has increased...’ -> ‘Therefore, the number ... has increased’ Page 3, bottom: towers -> tower Page 6, bottom: During the dry period Page 7: Middle: ‘the weak’ -> ‘a weak’ (2x) Middle: ‘and it reach the minimum value’ -> ‘and they reach their minimum values’ Bottom: ‘a weak net downward CO₂ flux’

Page 8: Top: season -> seasons Bottom: in different depths -> at different depths

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Page 9 Middle: and radiations play -> and radiation plays

Page 10: Top: take -> takes

Page 12, bottom: gotten -> acquired

Fig. 1. Scale bar and north arrow are missing Fig. 2. Caption: some spaces are missing

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 943, 2009.