

Observation-driven model for calculating water harvesting potential from advective fog in (semi-)arid coastal regions. By Felipe Lobos-Roco, Jordi Vilà-Guerau de Arellano, and Camilo del Río.

General comments.

Most of my concerns with the initial version have been addressed and the AMARU model appears to be useful for practical estimation of water harvesting. There are some places in the revised manuscript where minor changes could be made to improve clarity and some suggestions are given below. One concern would be Equation 12. Once cloud or fog has formed I would expect 100% relative humidity and, with  $r_v = r_s$ , Eq (12) would give zero liquid water mixing ratio. I think we are to assume that  $r_v$  is the surface level ( $z_1$ ) mixing ratio and represents the mixing ratio of the air before the stratus cloud had formed.

Detailed comments

- line 8 "is  $\leq 50 \text{ cm}^{-3}$   $50 \text{ cm}^{-3}$  " repetition.
- line 56 "how well-mixed ( $< 3.1 \times 10^{-3} \text{ K}^{-1}$ ) the MBL.." Make it clear that this is  $\partial\theta/\partial z$ , and introduce "potential temperature".
- line 59 "As **the latter** increases, the liquid water content progressively..." The LCL or just height?
- line 90 If  $F_{in}$  is a flux it should be per unit area"
- line 97 Why add in std?
- line 119 "through"
- line 124 "devices"
- line 140 maybe ".. the potential temperature gradient ( $\partial\theta/\partial z$ )" ...
- line 142/3 Is  $q$  the (water vapor) mixing ratio or specific humidity? Virtually the same but best to be consistent. Also well mixed **potential** temperature.
- Figure 3 Units for  $\partial\theta/\partial z$  and  $\partial q/\partial z$  thresholds.
- line 150 Case 4 is a dewpoint depression of 1.15K, not 1.5 K?
- line 159/160 If there is no fog  $\partial q/\partial z$  could have any value and once fog is formed  $q = q_s$  (saturation mixing ratio), but  $T$  dependent and not well mixed. I am nor sure what to read into +not contingent"
- line 179 I suspect a typographical error in Equation (8), One of the "1-" expressioins should probably be removed!
- line 189/190 the "uplifting" in Fig 2C will depend in part on the topography - airflow over the mountain or through gaps? Is the 3D terrain structure taken into account?
- p10,11 CB estimates seem better than CT. CT will depend on many factors, such as the initial humidity profile when the stratus clouds were forming.
- line 242 Need more explanation of the basis for Equation(12).

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My apologies for taking so long to get to this - the past few months have been busy, and this was all I had time for. Still Oct 7 EDT, just!