

Interactive comment on “Combined use of

FORMOSAT-2 images with a crop model for biomass and water monitoring of permanent grassland in Mediterranean region” by D. Courault et al.

Anonymous Referee #2

Received and published: 12 August 2010

This paper presents a methodology to improve crop and water management in a agricultural region in the Mediterranean using high spatio-temporal satellite data. Overall, this is a well written manuscript with a solid scientific approach. It certainly should be of interest to colleagues working in water management, crop modelling and regional hydrology. Therefore I would recommend this paper for publication after minor revisions. Below are my comments that may be useful to the authors.

C1772

Page 3655 line 13 ‘Farmers use pumping to irrigate’ Is this regulated by the ASA or do farmers sometimes pump the water without any notification. This is a bit confusing now, please change.

Page 3656 Line 10 please change Anenometer in Anemometer and please indicate what kind of method you used to estimate the sensible heat flux

Equation 2 Did you consider to use the enhanced vegetation index (EVI)? Because the satellite does have a blue waveband and the EVI is considered to be more responsive to canopy structural variations, including LAI and the NDVI more to chlorophyll.

Page 3666 it is not clear what AET product you are showing. Is it the AET based on the crop evaporation equation of the method from Shuttleworth and Wallace. And if you use the crop coefficient approach (probably Priestley and Taylor) how do you deal with the conversion from potential ET to actual ET. This should be addressed in this paper. In addition, I guess the vertical blue lines in figure 7 d are precipitation events and the red dashed lines the cuts?. Please add this information in the figure caption.

Page 3668 You stated ‘It is the traditional method used for century, with a strict water round defined at the district level. If severe droughts increase in the next years, the frequency and duration of irrigations has to be revised. Tools such those proposed here would allow to analyze different scenarios and propose suitable strategies to maintain reasonable production in saving water.’ That’s true but farmers in the Mediterranean regions also flood their land to minimize salinization. Is this also an issue in this region?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 3649, 2010.

C1773