Nonlin. Processes Geophys. Discuss., 2, C432–C433, 2015
www.nonlin-processes-geophys-discuss.net/2/C432/2015/

Nonlinear Processes in Geophysics
Discussions
Open Access

Interactive comment on "A dynamical systems perspective on the absence of debris associated with the disappearance of flight MH370" *by* V. J. García-Garrido et al.

Anonymous Referee #2

Received and published: 18 September 2015

The paper shows interesting results on the Lagrangian dynamics on a region of the Pacific ocean, the one were MH370 was supposed to crash in 2014. The authors use different sources to estimate the oceanic velocity flow-satellite, drifter, and simulation data- obtaining a rather consistent picture which is analyzed and interpreted with a powerful Lagrangian descriptor, the M function, which has already show to be useful in other context. I find these results interesting and worth publishing, as they show the robustness of recent Lagrangian tools based on dynamical systems theory to describe in a realistic way the state of the ocean. More questionable is the accuracy of the results of the paper to the real fate of the debris from the crashed plane MH370: different parts of the plane would have follow different fates, most of them sinking immediately.

Full Screen / Esc
Printer-friendly Version
Interactive Discussion
Discussion Paper

For the floating debris, I expect a strong influence of waves and wind, not included in the authors modelling. It is difficult to think on the nature of floating debris '... not surpassing the water line and thus no subjected to wind sailing effects' (section 3) . Anyway the authors clearly state that they restrict to the consideration of such objects, which are assumed to follow the currents as passive fluid elements. And thus, despite the limitations of the approach, I think the paper contains sufficient interesting material and I recommend publication. There is something however that should be thoroughly revised: The paper was probably written earlier, but after the discovery of some plane parts in Reunion Island last July, the text should be carefully checked. Statements such as '... not a single piece of debris from the aircraft has been found' (3rd line of the abstract) are now simply false. I recommend the authors to reword some of the sentences to make clear that their scope is the dynamics on the 'few-months' time scale. Afterwards (for example the time scales relevant to the newly found objects), some statistical approach would be more appropriate because of the large accumulated errors in long-time particle integration.

Interactive comment on Nonlin. Processes Geophys. Discuss., 2, 1197, 2015.