

## ***Interactive comment on “Seiche excitation in a highly stratified fjord of southern Chile: the Reloncaví fjord” by Manuel I. Castillo et al.***

### **Anonymous Referee #1**

Received and published: 20 September 2016

In their manuscript entitled “Seiche excitation in a highly stratified fjord of southern Chile: the Reloncaví fjord”, the authors present a detailed observational dataset spanning three months (August–November 2008) to study the variability in the Reloncaví fjord, Chile. Combining in-situ data (ADCP and temperature on three mooring lines, CTD casts) with meteorological and sea level monitoring data, the authors are able to analyze the variability of currents in the fjord. Their analysis demonstrates in particular the presence of internal seiches of period  $\sim 3$  days excited by the wind stress. They are able to infer a damping time of  $\sim 9$  days.

This study is interesting as it provides a thorough analysis of the flow variability in a fjord using detailed observations. The interpretation of the results is based on simple and robust theoretical frameworks, and the conclusions are convincingly drawn. I therefore recommend this manuscript for publication, pending some minor revisions that I list

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below.

Minor comments:

- 1) Lines should be numbered continuously throughout the entire document.
- 2) Line 9, p4: avoid repetition of the word “forcing”
- 3) Line 23, p8: You refer to a mean wave speed, but Equ. (1) defines a time. Can you clarify?
- 4) Line 11, p14: Change the sentence after the parenthesis.
- 5) Line 1-2, p15: I hardly understand this sentence.
- 6) Line 24, p15: remove fix this sentence.
- 7) Line 10-28, p17: Do you really mean Fig. 5, or rather Fig. 4 in this paragraph?
- 8) Line 1, p18: replace “perturb” with “perturbing”
- 9) Line 8, p19: “a way of estimating”
- 10) Line 29 and Fig. 9: it would be very helpful if you would add the time evolution of  $W$  in Fig. 9, e.g. in the upper panel superimposed on the wind stress.
- 11) Line 23, p20: What is the unit of  $k$ ?
- 12) Line 6-9, p22: Restate this sentence.

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