

Interactive comment on “Decadal regime shift linkage between global marine fish landings and atmospheric planetary wave forcing” by A. M. Powell Jr. and J. Xu

Anonymous Referee #2

Received and published: 26 January 2015

This paper addresses a complex subject the multilevel effects of a global forcing mechanism. Stratospheric planetary wave changes are related to fishery landings through changes in surface wind stress leading to changes fishery productivity. It is certainly valuable to show that these connections can be made. This paper does a good job of establishing the necessary connections. The paper fits within the scope of this journal and should be published with consideration of a few minor revisions.

Overall:

The paper is well written, but is still likely to remain challenging to some multidisciplinary audiences. To some extent this is unavoidable given the breadth topic.

C700

The paper would benefit from more explicit discussion of the variations in the fishery responses to the changes in atmospheric forcing regimes. Two questions to consider could be: First, should the fisheries response lag the atmospheric regime shift? (P955 and figure 4) The linking mechanism is through habitat and food availability changes that would affect growth and reproduction in the fish species, which takes time. Secondly, is there variation in species group responses to the forcing? For example it might be expected that the forage fish groupings (HAS(3)) may have a stronger response.

Minor comments:

Page 950 line 20. The FAO database includes landings of freshwater fish, marine fish, diadromous fish, shellfish, and mammals. However, it appears that this analysis includes only marine fish. It should be clarified that the groupings used here do not represent all aquatic species.

Table A2: I find this table confusing because the formatting changes between pages 975 and 976 this makes it appear to be two separate tables.

Interactive comment on Earth Syst. Dynam. Discuss., 5, 945, 2014.

C701