**Natural Hazards
and Earth System
Sciences**

Open Access

Discussions

EGU

NHESSD

**Interactive
comment**

Interactive comment on "Variations in return value estimate of ocean surface waves – a study based on measured buoy data" *by* T. Muhammed Naseef and V. Sanil Kumar

T. Muhammed Naseef and V. Sanil Kumar

sanil@nio.org

Received and published: 24 August 2017

Thanks for the suggestions. We have now carried out a major revision of the manuscript considering all the suggestions.

Since the measured buoy data is for a period of 8 years only, the Hs data from the ERA-Interim (Dee et al. 2011), the global atmospheric reanalysis product of the European Centre for Medium Range Weather Forecast (ECMWF) for 38 years (from 1979 to 2016) is used to evaluate the wave height with 100 and 50-year return period in the shallow (water depth ∼20m) and the deep water. The shallow region is close to the buoy location and the deep water location is at a water depth of ∼4000 m (Table

1). ERA-Interim used in the study has a spatial resolution is 0.125 X 0.125ïĆř and a temporal resolution of 6 h.

Now we have added a Figure showing the inter-annual variations in the annual mean and annual maximum Hs based on the ERA-Interim data covering 38 years and discussed the inter-annual variations (see Figure attached).

Influence of water depth is studied based on the relative depth (ration of water depth to wave length).

Extra explanations about how Wind Sea and swell are considered, the influence of water depth, influence of wave direction and the inter-annual variability in the area are now included. A figure showing the inter-annual variability is also added.
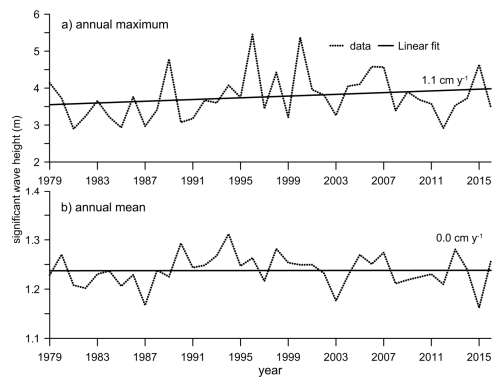

Figure 11. Variation of (a) annual maximum and (b) annual mean Hs at the shallow locations based on ERA-Interim data. The solid line indicates the trend in Hs during 1979 to 2016

29

Fig. 1. Variation of (a) annual maximum and (b) annual mean Hs at the shallow locations based on ERA-Interim data. The solid line indicates the trend in Hs during 1979 to 2016