

## ***Interactive comment on “Detection of low bottom water oxygen concentrations in the North Sea; implications for monitoring and assessment of ecosystem health” by N. Greenwood et al.***

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### **General comments**

The type of investigation carried out by Greenwood et al. is very welcome. We definitely need more of long-term high temporal resolution observations of ocean properties such as oxygen concentration. There is a general lack of such observations, which severely make our understanding of variations of ocean variables, and the cause of them, incomplete. Greenwood et al. have in this respect done quite a pioneering work in the North Sea.

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### **Specific comments**

The authors should better define what they mean with “low” oxygen concentration. In their case, neither of the sites showed particularly low oxygen levels compared to many other marine environments. Also, the duration of the “low” oxygen period was restricted to seasonal scales. There is no evidence of a longer scale (multi annual) depletion of oxygen at these sites. The authors should treat this aspect better in their ms.

What I also miss in this ms is a better, more thorough, discussion of reasons for the observed oxygen changes, and differences between sites causing these changes. The physical ventilation / advection processes are mentioned, but their importance appears underexplored. Greenwood et al. should improve the discussion of this mechanism.

### **Technical corrections**

None.

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