

## ***Interactive comment on “Nitrous oxide emissions from the Arabian Sea: A synthesis” by “H. W. Bange et al.”***

**Anonymous Referee #3**

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### **General comments**

Although presenting no new data, this is a useful reappraisal of existing measurements to produce a much more carefully considered set of N<sub>2</sub>O flux estimates for the Arabian Sea, with some wider applicability of the techniques used and detailed investigations of seasonal and geographic differences.

### **Specific comments**

The authors need to state explicitly for readers not familiar with parameterisations of air-sea gas transfer whether those they used were based on short-term (or steady) winds, or long-term (averaged) wind speeds, or a mixture of both. What was the grid spacing for the mean wind speed values? Please specify in Table 4 what the two values represent in the 'Flux' column when given in some cases for historical flux estimates.

As written, the assumption would be that they are for LM86 and W92, which I suspect is incorrect. My main concern, however, is that it is not easy to see how the longitudinal distributions shown in Fig. 4 are reconciled with the contour plots shown in Fig. 3. From Fig. 3 it seems that on an annual basis the highest N<sub>2</sub>O concentrations are in the coastal regions of the eastern Arabian Sea, yet Fig. 4 gives the impression that (at least at 18.5 and 15.5 °N) the highest concentrations are in the western Arabian Sea. Possibly the contour plotting gives a somewhat misleading impression of concentrations throughout the Arabian Sea, exacerbated by the fact that large areas that have been contoured do not have any data coverage (see Fig. 2).

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Interactive comment on Atmos. Chem. Phys. Discuss., 1, 167, 2001.

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