

## ***Interactive comment on “Observing The Mediterranean Sea from space: 21 years of Pathfinder-AVHRR Sea Surface Temperatures (1985 to 2005). Re-analysis and validation” by S. Marullo et al.***

**S. Marullo et al.**

Received and published: 26 April 2007

We first would like to thank the reviewer because his comments helped to improve the manuscript and also to avoid several typo mistakes. The following is a detailed description of the corrections we made to answer to the reviewer comments.

REF: Some seasonality in the mean bias errors is found, which is not surprising, even though the Pathfinder SST uses temporally varying coefficients in the atmospheric correction algorithm; but the application of these globally optimized coefficients in a regionally-constrained study will likely lead to non-zero bias errors (Minnett, 1990).

ANSWER: We agree with this comment and consequently we added this point in the

article including the suggested reference.

REF: An interesting result is that the actual statistics of the satellite SST errors varies to some degree on the data set being used to validate the satellite retrievals. This may be caused by the way the different validating data sets sample the oceanic and atmospheric variability, but it could be that the contribution of the error statistics from uncertainties in the validating data is non-negligible. This means that the satellite data are more accurate than these, and other, results indicate. ANSWER: We found this comment very interesting and then we decided to include this observation in the conclusions of the paper.

Specific Comments:

REF: P 1194 - should 'diurnal mixing layer' be 'diurnal heating layer' ? ANSWER: We changed "diurnal mixing layer" in 'diurnal heating layer'

REF: P 1195 - give the wavelengths of the different AVHRR channels ANSWER: We have provided the wavelengths

REF: P 1198 - 'XBT were launched from ships of opportunities' should be 'XBTs were launched from ships of opportunity' ANSWER: We corrected the error

REF: P 1202 - how does the interpolation scheme deal with large islands? ANSWER: We have includes some explanation at the beginning of paragraph 3.2

REF: P 1203 - Marullo et al is not in the reference list ANSWER: actually Marullo et al (1998) was Marullo et al. (1999). We corrected the citation and the reference list.

REF: P 1205 - 'observation originate' should be 'observations originate' ANSWER: We corrected the error

REF: P 1206 - MBE is usually expressed as 'satellite - in situ' which is an 'error', whereas 'in situ-satellite' as used here, is a 'correction' ANSWER: in paragraph 4 we pointed out that "in situ - satellite" is a correction rather than a bias

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

REF: P 1208 - 'more o less' should be 'more or less' ANSWER: ok corrected

REF: P 1213 - the term 'Julian Day' is misused ANSWER: The reviewer is right. We substituted julian day with day in table 1.

REF: P 1217 - Figure 2 is on its side? ANSWER: we rotated the figure by 90 degree

REF: P 1217 - Figure 6 caption 'behaviours' should be 'behaviour' ANSWER: ok corrected

REF: P 1222 - Figure 7 is on its side? ANSWER: we rotated the figure by 90 degree

REF: I prefer to use K to indicate a temperature interval, such as errors, and not degree C, as this indicates a temperature related to the freezing point of water. Please check the spelling of names in citations and references. Kearns, E. J., J. A. Hanafin, R. H. Evans, P. J. Minnett, and O. B. Brown, 2000: An independent assessment of Pathfinder AVHRR sea surface temperature accuracy using the Marine-Atmosphere Emitted Radiance Interferometer (M-AERI). *Bulletin of the American Meteorological Society*, 81, 1525-1536. Kumar, A., P. J. Minnett, G. Podesta, and R. H. Evans, 2003: Error characteristics of the atmospheric correction algorithms used in retrieval of sea surface temperatures from infrared satellite measurements; global and regional aspects. *Journal of the Atmospheric Sciences*, 60, 575-585. ANSWER: We substituted °C with K where requested and we also includes the suggested references.

REF: Minnett, P. J., 1990: The regional optimization of infrared measurements of sea-surface temperature from space. *J. Geophys. Res*, 95, 13,497-13,510. ANSWER: we added the suggested reference near the end of paragraph 4.

---

Interactive comment on *Ocean Sci. Discuss.*, 3, 1191, 2006.

[Full Screen / Esc](#)[Printer-friendly Version](#)[Interactive Discussion](#)[Discussion Paper](#)