

I have revised manuscript entitled “Earliest meteorological readings in San Fernando (Cadiz, Spain)”

This paper recovered daily meteorological observation recorded at the Royal Observatory of the Spanish Navy during the period 1799-1813. The authors carried out important work of quality control and convert of units for the original data. Moreover, authors study meteorological condition during the Battle of Trafalgar and local effects of unknown volcanic eruption in 1809. Reviewer think that authors describe scientific results and conclusions presented in a clear, concise, and enough structured way. This work can contribute for understanding climate conditions during the 18th to the 19th centuries. However following minor revisions are needed before acceptance.

1. Title: It is better to add analyze period of this study in title. (ex. “ during the period 1799-1813”). It would be more attractive for the readers who are interested in climate in this period.
2. P4, 177: Authors mentions difference in observation time during the observation period. Although, authors carefully conducted quality control and convert of units, they did not mention to possible bias caused by changes in observation time in sub-daily observations. If there are possibility of bias, reviewer think it is better to mention it. Bias caused by changes in observation time during a day is documented in following paper in detail.

Zaiki M, Kimura K, Mikami T. 2002. A statistical estimate of daily mean temperature derived from a limited number of daily observations. *Geophysical Research Letters* 29(18): 39.1-39.4.

3. Fig4: Authors compares pressure observations SF 1799-1813 series and monthly pressure average cycle of SF 1997-2021 series in the same figure. Reviewer think it is confusing to draw pressure data for the different period (SF1799-1813) and (SF 1997-2021) within the same figure, because horizontal axis of this figure has only information for the period from 1799-1813.
4. Fig4. Author used EMKF400v2 dataset for the comparison. Reviewer think it is better to describe quality of this dataset around Iberian Peninsula.
5. Fig5. Authors display mean monthly air temperature series in this figure. Reviewer think it is better to add plots of each monthly values in this figure.

6. Figure 6: Label of wind direction is too small to distinguish.

7. P13, L287: Authors claim that “higher-than usual winter temperatures did occurred throughout Europe and possible even at the global scale”. However, authors cited only studies for Switzerland and Spain. If authors claim “higher-than usual winter temperatures at the global scale”, reviewer think it is better to cite more examples of high temperature anomaly in this period within and outside Europe.

8. P15 Fig9: If possible, reviewer think it is better to represent unit of precipitation by mm, because precipitation unit in Fig 8 is mm.

9. P16, L367: Authors mention that “temperature for the year 1809 of the SF1799-1813 dataset shows a decrease with higher(lower)than average during winter(summer) months (can be seen in Fig5). However, it is difficult to distinguish difference between summer and winter in Fig5. Moreover, if authors claim this seasonal difference in temperature anomalies caused by volcanic eruption., reviewer think more detailed explanations on mechanism are needed.