

General comments:

In this manuscript, the authors present a near real-time dataset covering a series of atmospheric and oceanic products generated from Himawari-8/9 geostationary satellite observations over South China Sea. Descriptions are provided succinctly for each of the algorithms used to generate the products, and validations against MODIS and ERA5 products are also carried out. This dataset is comprehensive and useful for numerical weather forecasting, marine environmental monitoring, as well as academic research, making it of good value to be published. The writing of this manuscript, however, needs improvement as there are numerous grammatical errors and misused words. It is strongly recommended that the authors send the manuscript to a native speaker for thorough proofreading to enhance its quality. Apart from this, this work is of good quality and significance, and I recommend it to be published in ESSD after minor revisions.

Specific comments:

1. Line 87 on Page 3, 'used for examine' should be 'used to examine', also maybe 'identify' instead of 'examine'?
2. Line 98 on Page 4, 'Expect to GEO imager', do you mean 'In additional to'?
3. Line 99-100 on Page 4, 'hyperspectral sounder detection sensors' should be 'hyperspectral sounding detection sensors'.
4. Line 100-101 on Page 4, plural forms should be used as 'thunderstorms, lightning activities, atmospheric temperature and humidity profiles, and even wind fields'.
5. Line 129-130 on page 5, should be 'Section 3 shows some sample results and verification of key science products in terms of accuracy and reliability'.
6. Line 163 on Page 6, 'to product data' should be 'to produce data'.
7. Line 173 on Page 6, should be '(NWP) data from GFS as ancillary data'.
8. Line 173 on Page 6, 'boasts' doesn't fit well here as it seems like an excessive pride talking about it. Words like 'has' might be better.
9. Line 183 on Page 6, should be 'four months of Climate Data Records'.
10. Line 194 on Page 7, does ERA5 assimilate observations from AHI on Himawari satellites? Authors should clarify. If data already assimilated, then it's not an independent source of validation, although it may still function as a verification on calculation accuracy of algorithm.
11. Figure 1. Recommend 'Plotting Module' instead of "Drawing Module", and 'Filter-out' instead of 'Pick-up'.
12. Line 337-338 on Page 11. 'consider' should be 'considers', and 'provide' should be 'provides'.

13. Line 356 on Page 11, 'POD)' should be 'POD'.
14. Line 373 on Page 12, Eq.2 is for cloud type and phase (CLP) retrieval according to Section 3.2.
15. Line 499-502 on Page 16, the quantitative applications of LI should have some citations.
16. Line 578 on Page 18. 'It mainly providing' should be 'It mainly provides'.
17. Line 580 on Page 18, 'within a temporal resolution' should be 'with a resolution'.
18. Line 576-577 on Page 18, it is confusing since the Himawari-8/9 satellites were launched and in operation long before Nov. 3, 2022.
19. Line 591 on Page 18, 'NANO system' should be 'NANO_SCS system' for consistency.