

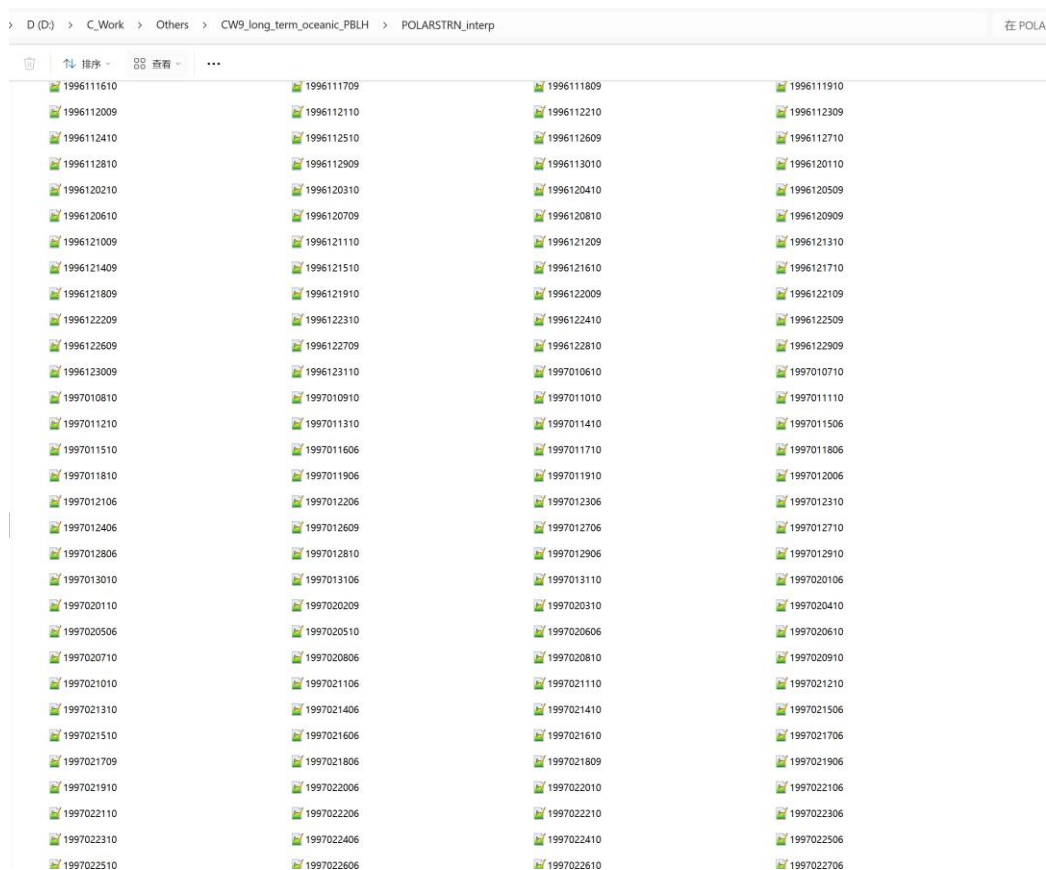
Review of "RAPSODI: Radiosonde Atmospheric Profiles from Ship and Island platforms during ORCESTRa, collected to Decipher the ITCZ" by Winkler et al. (2026).

This dataset, conducted by a collaborative team over ocean and island platforms, presents a potentially valuable resource for investigating fine-scale vertical atmospheric structures. The experiment itself appears both well-designed and scientifically engaging. Compared to other ocean-based sounding campaigns, the launch frequency in this study is notably higher in temporal density, which should offer more detailed perspectives for studying the Intertropical Convergence Zone (ITCZ). Overall, the paper is well-organized and provides thorough technical documentation. This research holds great potential, and the dataset itself possesses significant scientific value. I have benefited from the authors' academic rigor and would like to express my appreciation for their thoughtful work. I would recommend major revision to the manuscript prior to publication.

Comments:

1. As a data description paper, I found it quite difficult to access the data link provided in the Abstract. Many readers may not be familiar with the IPFS system. Providing an alternative HTTP address would be more appropriate. Since the author provides corresponding Python code later in the text, it might be better to include a brief explanation in the abstract.
2. To my knowledge, there have been many other Atlantic radiosonde launch campaigns, such as POLARSTERN, DBLK, HTXUH4H, among others. On an old hard drive, I discovered approximately 20,000 high-resolution radiosonde profiles launched over the ocean, most of which were conducted over the Atlantic. As an example, I have provided two screenshots of the data listing below. Although I have not systematically examined the spatial overlap between these data and the study area, it might be worthwhile to briefly introduce other oceanic radiosonde experiments in the introduction and provide a concise comparison. This would allow readers to gain a broader perspective on the full scope of Atlantic radiosonde campaigns.

ASFR3_2018021710	ASFR3_2018021800	ASFR3_2018022800	ASFR3_2018020218	ASFR3_2018011200	ASFR3_2018012121	ASFR3_2018011218
ASFR3_2018011312	ASFR3_2018011318	ASFR3_2018011500	ASFR3_2018011512	ASFR3_2018011518	ASFR3_2018011518	ASFR3_2018011700
ASFR3_2018011712	ASFR3_2018011718	ASFR3_2018012718	ASFR3_2018012800	ASFR3_2018012818	ASFR3_2018012912	ASFR3_2018012912
ASFR3_2018012918	ASFR3_2018013000	ASFR3_2018013012	ASFR3_2018013018	ASFR3_2018013110	ASFR3_2018013118	ASFR3_2018013118
ASFR3_2018041000	ASFR3_2018041012	ASFR3_2018041018	ASFR3_2018041112	ASFR3_2018041112	ASFR3_2018041400	ASFR3_2018041500
ASFR3_2018042312	ASFR3_2018042318	ASFR3_2018042400	ASFR3_2018042418	ASFR3_2018042500	ASFR3_2018042518	ASFR3_2018042600
ASFR3_2018042612	ASFR3_2018042618	ASFR3_2018042700	ASFR3_2018042712	ASFR3_2018042800	ASFR3_2018042812	ASFR3_2018042900
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ASFR4_2018011300	ASFR4_2018011312	ASFR4_2018011318	ASFR4_2018011400	ASFR4_2018011218	ASFR4_2018012512	ASFR4_2018012518
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DBLK_2018011011	DBLK_2018011111	DBLK_2018011211	DBLK_2018011311	DBLK_2018012011	DBLK_2018012111	DBLK_2018012211
DBLK_2018012311	DBLK_2018012411	DBLK_2018012511	DBLK_2018012607	DBLK_2018012711	DBLK_2018012807	DBLK_2018012811
DBLK_2018012907	DBLK_2018012911	DBLK_2018013007	DBLK_2018020107	DBLK_2018020111	DBLK_2018020207	DBLK_2018020211
DBLK_2018020307	DBLK_2018020311	DBLK_2018020407	DBLK_2018020507	DBLK_2018020511	DBLK_2018020607	DBLK_2018020611
DBLK_2018020611	DBLK_2018020707	DBLK_2018020711	DBLK_2018020807	DBLK_2018020811	DBLK_2018020907	DBLK_2018020911
DBLK_2018021007	DBLK_2018021011	DBLK_2018021107	DBLK_2018021211	DBLK_2018021207	DBLK_2018021311	DBLK_2018021317
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DBLK_2018022711	DBLK_2018022811	DBLK_2018030111	DBLK_2018030211	DBLK_2018030311	DBLK_2018030411	DBLK_2018030511



3. The authors emphasize the ITCZ in their title, yet more detailed analysis of the ITCZ is not found in the main text. If feasible, providing a preliminary finding on the ITCZ could enhance the scientific contribution of this paper.
4. The abstract should include more details about the radiosonde dataset, such as the time range, release intervals, and balloon sampling frequency. Additionally, the R/V Meteor may be difficult to understand for readers unfamiliar with German scientific expeditions; for instance, I initially assumed it referred to a type of meteor radar.
5. The Introduction would benefit from a clearer explanation of the scientific motivation behind ORCESTRA. What were the key research questions or atmospheric processes that this campaign aimed to address?
6. It is recommended that the following content from page 2 be annotated within the main text. This citation format appears inconsistent with standard EGU citation style and caused some confusion. Additionally, page 3 contains similar phrasing such as “MAESTRO (mesoscale organization of tropical convection),” which duplicates the expression on page two.

¹<https://orcestra-campaign.org/orcestra.html>

²PERCUSION \equiv Persistent EarthCare underflight studies of the ITCZ and organized convection

³MAESTRO \equiv Mesoscale organisation of tropical convection

⁴BOWTIE \equiv Beobachtung von Ozean und Wolken – Das Trans ITCZ Experiment

⁵PICCOLO \equiv Process Investigation of Clouds and Convective Organization over the atLantic Ocean

⁶SCORE \equiv Sub-Cloud Observations of Rain Evaporation

7. Figure 1a: Why do some trajectory segments appear discontinuous in the lower-right part of the panel? This is unusual in my experience—could it be due to data loss? For panels (a) and (b), which represent land-based (“stationary”) platforms, adding launch coordinates to the figure would be helpful. Additionally, I made every effort to interpret Figure 1, as it is crucial for understanding the entire experiment. Unfortunately, despite over a decade of radiosonde experience, I find Figure 1 difficult to comprehend. The phrase “...both ascending and descending segments shown” is perplexing. Typically, descending balloons, as described in the main text, are called dropsondes, while ascending ones are radiosondes. I'm unclear on what exactly the “descending” values represent. Does “descending” refer to the period after balloon burst? A typical radiosonde profile (sampling rate = 1s) would produce a continuous curve rather than the scattered points shown in (b).
8. Given that Meteomodem and Vaisala radiosondes are well-established and widely documented technologies (e.g., in journals like AMT), the authors might consider reducing the technical details in favor of highlighting the unique scientific opportunities offered by the ORCESTRA campaign. What are the potential research themes enabled by this dataset? Which atmospheric processes could be better examined? Expanding the Summary to include such perspectives would increase the impact and value of the data.