

Dear Editor,

We appreciate the valuable feedback and constructive comments on our manuscript. Below, we summarize the revisions we have made in response to each of your recommendations:

1. Expanded Literature Review

In order to provide a more thorough foundation for our work, we have reorganized the latter part of the Introduction—where several key equations and references to Figure 1 appeared—into a new section titled “Background and Related Work.” In this section, we have broadened the literature review on atmospheric temporal downscaling, explaining the limitations of existing dynamical and statistical methods and emphasizing the emerging field of self-supervised learning. We have also included additional references from both the computer science and meteorological domains to position our work within the broader research landscape.

2. Improved Structure and Sub-sections

As requested, we created a sub-section on Self-Supervised Learning within “Related Work.” This new sub-section synthesizes current advances in self-supervised frameworks, referencing recent developments in computer vision and time-series analysis.

3. Equation Formatting

We have standardized the font sizes and alignment for all equations. Each equation now follows a consistent style to ensure clarity and uniformity throughout the manuscript.

4. Enhancements to Figure 4

We have redesigned Figure 4 to include clearly labeled subfigures, denoted as (a), (b), (c), (d), with each sub-caption beginning with a capital letter. The text labels and symbols within the figure have also been resized for consistency with other figures.

5. New Discussion Section

Following the Case Study section, we have added a dedicated Discussion section that more explicitly highlights our contributions in relation to previous studies.

6. More Descriptive Figure Captions

We have revised the captions for all figures to be more detailed and informative,

explaining what each sub-figure represents and clarifying key takeaways.