

EAM QuickView 1.0.0 Facilitates Atmosphere Model Development Using Advanced Visualization Techniques

Objective

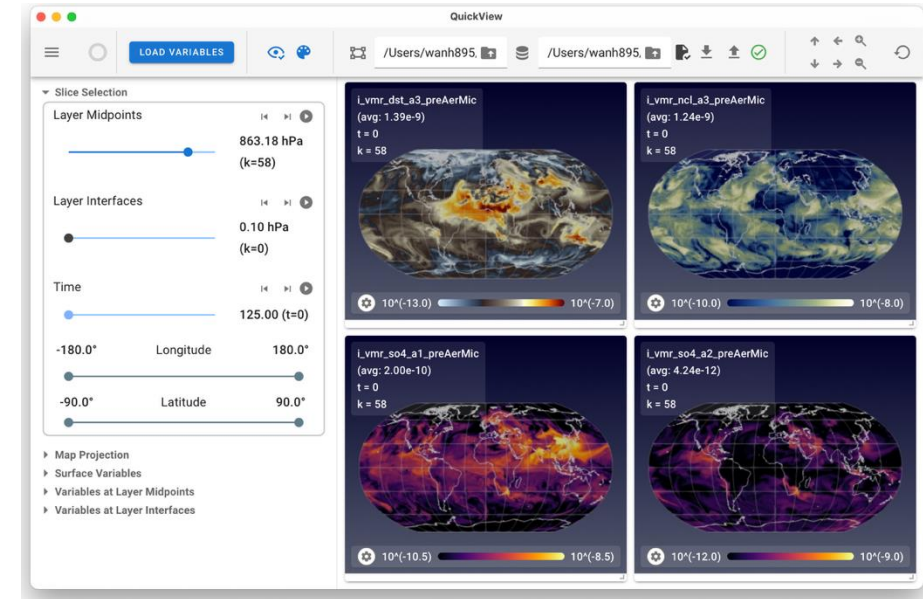
- Leverage advanced visualization techniques to simplify data analysis on unstructured grids in the development of global atmosphere models.

Approach

- Use the advanced tool ParaView on the backend but develop a highly customized, simple, and intuitive Graphical User Interface (GUI) for quick analysis of simulation output.
- Enable simultaneous inspection of multiple variables.
- Allow users to restore prior work for continued analysis, achieving provenance and facilitating collaboration.

Impact

- Advanced interactive visualization tools are not yet widely used by atmospheric scientists due to their steep learning curves. EAM QuickView provides a bridge to address this obstacle and thereby speeds up model development and shortens the time to discovery.
- The strategy and software framework underlying EAM QuickView provides a foundation for creating additional GUIs to address more needs in atmosphere and Earth system development.



The new visualization tool, EAM QuickView, offers atmospheric scientists a lightweight, highly customized, and intuitive interface to a powerful analysis and visualization system named ParaView to help speed up model development and shorten time to discovery.

Yenpure, A., Wan, H., Geveci, B., & Zhang, K. (2025). EAM QuickView v1.0.0 release. Zenodo. <https://doi.org/10.5281/zenodo.16968719>