

EarthWorks

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Science Drivers

- Climate model predictions are fundamental in guiding adaptation
- Extreme weather & climate events are costly for societies and ecosystems
- High resolution is needed to resolve storms, mountains, and cities
- Kilometer-scale grids simulate extreme weather events directly
- A quantum leap is now possible

EarthWorks

- A global coupled model configuration of CESM:
- 3.75 km global grid for the atmosphere, ocean, and land (440 Million columns)
- Uses CESM components and infrastructure, including the CMEPS Coupler
- MPAS Atmosphere & MPAS Ocean
- Enables CESM community exploration of this new science.
- GPU-enabled
- 2025 Performance goal is ~0.5 SYPD

