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Title: Impact of Resolution on Forecast Spread in Project Minerva

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Abstract:

As part of the suite of experiments performed for Project Minerva, large ensembles of integrations were performed at multiple resolutions. While some aspects of the simulations were generally insensitive to increasing resolution, such as ensemble mean SST bias, we found significant increases in intra-ensemble variance in the increase from T319 to T639 in multiple fields. However, we found relatively little change in variance when resolution was further increased to T1279. This suggests the existence of a critical threshold in resolution between T319 and T639, consistent with similar results from previous, uncoupled runs made as part of Project Athena.

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