

Discussion of the GTWS Reference Atmospheres and Their Use

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The GTWS Target Reference Atmospheres are intended to stimulate discussion and facilitate rough calculations, but NOT to be taken as absolute truth. For example, the thinking behind the reference jet stream is not to accurately reflect the strongest or most typical jet, but simply to enable someone to examine how a system might deal with a particular shear.

Considerable caution should be exercised with respect to the scaling of values based on measurements taken at one wavelength to approximate what might be found at a different one when making calculations based on this or any reference atmosphere.

Notes

Bruce Gentry asked whether nature runs for OSSEs are being updated in accordance with refinements being made to the reference atmospheres. Dave confirmed that they are, and mentioned that Sid Wood would at least touch on this in a later presentation. He elaborated that OSSEs have a problem with clouds (adjustment needed) and aerosols (simply absent) in the nature run. Hence, the bracketing in the background and enhanced modes. Real systems will need real aerosol distributions, even though water vapor may be conveniently used as a proxy. Rod Frehlich urged that an improved sub-grid turbulence factor (other than sigma) be incorporated in the reference atmosphere.