

### **3.3 Dissipative heating in the WRF Model**

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Dissipative heating is a warming tendency associated with kinetic-energy dissipation, and it is required for conservation of total energy. In this presentation, some methods to incorporate dissipative heating in NWP models are reviewed to clarify why different modeling groups seem to use very different methodologies. Two specific examples from WRF are evaluated critically (one from ARW and one from HWRF) and changes to these two schemes are proposed based on fundamental principles. Then, using a new scheme to implement dissipative heating in WRF, examples of its effect on hurricane intensity will be shown using the idealized tropical cyclone test case.