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Preface

Program TERRAIN is the first component of the fifth-generation Pennsylvania State University/National Center for Atmospheric Research (Penn State/NCAR) mesoscale modeling system, (MM5). TERRAIN is used to access archived terrain height and land-use characteristics data at regular latitude-longitude intervals and interpolate these data to the mesoscale grid for a specified map projection by using the overlapping parabolic interpolation or Cressman-type analysis methods. If more than one domain is desired, an adjustment procedure is performed to provide consistent terrain heights and land-use categories between the domains. The new TERRAIN program described in this document is different from the earlier program documented by Larkin (1985). Because the earlier TERRAIN program did not have the adjustment procedure suitable to MM5 in creating terrain data-set. The old MM4 terrain data-set, which included a nest, can not be used with MM5 even if user wants only to complete a two-domain nested run. The new TERRAIN program is written specifically for the MM5. The output data from TERRAIN are used as input to three components of the modeling system: DATAGRID, GRIN, and MM5. The preparation of this documentation is partially supported by the DOE/ARM, under Grant DOE A105-90ER61070 ARM.

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