

## References

- Anthes, R. A., and T. T. Warner, 1978: Development of hydrodynamic models suitable for air pollution and other mesometeorological studies. *Mon. Wea. Rev.*, 106, 1045-1078.
- Ballard, S. P., B. W. Golding, and R. N. Smith, 1991: Mesoscale model experimental Forecasts of the Haar of Northeast Scotland. *Mon. Wea. Rev.*, 119, 2107-2123.
- Barker, D. M., W. Huang, Y.-R. Guo, and A. Bourgeois, 2003: A Three-Dimensional Variational (3DVAR) Data Assimilation System For Use With MM5. *NCAR Tech Note*, NCAR/TN-453+STR, 68 pp. [Available from UCAR Communications, P.O. Box 3000, Boulder, CO, 80307.]
- Betts, A. K., 1986: A new convective adjustment scheme. Part I: Observational and theoretical basis. *Quart. J. Roy. Meteor. Soc.*, 112, 677-692.
- Betts, A. K., and M. J. Miller, 1986: A new convective adjustment scheme. Part II: Single column tests using GATE wave, BOMEX, ATEX and Arctic air-mass data sets. *Quart. J. Roy. Meteor. Soc.*, 112, 693-709.
- Betts, A. K., and M. J. Miller, 1993: The Betts-Miller scheme. *The representation of cumulus convection in numerical models*, K. A. Emanuel and D. J. Raymond, Eds., *Amer. Meteor. Soc.*, 246 pp.
- Burk, S. D., and W. T. Thompson, 1989: A vertically nested regional numerical prediction model with second-order closure physics. *Mon. Wea. Rev.*, 117, 2305-2324.
- Chen, F., and J. Dudhia, 2001: Coupling an advanced land-surface/hydrology model with the Penn State/NCAR MM5 modeling system. Part I: Model implementation and sensitivity. *Mon. Wea. Rev.*, 129, 569-585.
- Chen, F., Z. Janjic, and K. Mitchell, 1997: Impact of atmospheric surface-layer parameterizations in the new land-surface scheme of the NCEP mesoscale Eta model. *Boundary-Layer Meteorology*, 85(3): 391-421.
- Dharssi, I., A. C. Lorenc, and N. B. Ingleby, 1992: Treatment of gross errors using maximum probability theory. *Quart. J. Roy. Meteor. Soc.*, 118, 1017-1036.
- Dudhia, J., 1989: Numerical study of convection observed during winter monsoon experiment using a mesoscale two-dimensional model. *J. Atmos. Sci.*, 46, 3077-3107.
- Dudhia, J. 1993: A nonhydrostatic version of the Penn State/NCAR mesoscale model: Validation tests and simulation of an Atlantic cyclone and cold front. *Mon. Wea. Rev.*, 121, 1493-1513.
- Dudhia, J., 1996: A multi-layer soil temperature model for MM5. *Preprints, The Sixth PSU/NCAR Mesoscale Model Users' Workshop*, 22-24 July 1996, Boulder, Colorado, 49-50. Available from <http://www.mmm.ucar.edu/mm5/mm5v2/whatisnewinv2.html>.
- Fritsch, J. M., and C. F. Chappell, 1980: Numerical prediction of convectively driven mesoscale pressure systems. Part I: Convective parameterization. *J. Atmos. Sci.*, 37, 1722-1733.

- Grell, G. A., J. Dudhia and D. R. Stauffer, 1994: A description of the fifth-generation Penn State/NCAR mesoscale model (MM5). *NCAR Technical Note*, NCAR/TN-398+STR, 117 pp.
- Guo, Y.-R., and S. Chen, 1994: Terrain and land use for the fifth-generation Penn State/NCAR mesoscale modeling system (MM5). *NCAR Technical Note*, NCAR/TN-397+IA, 114 pp.
- Haagenson, P. L., J. Dudhia, G. A. Grell and D. R. Stauffer, 1994: The Penn State/NCAR mesoscale model (MM5) source code documentation. *NCAR Technical Note*, NCAR/TN-392+STR, 200 pp.
- Hack, J. J., B. A. Boville, B. P. Briegleb, J. T. Kiehl, P. J. Rasch, and D. L. Williamson, 1993: Description of the NCAR Community Climate Model (CCM2). *NCAR Technical Note*, NCAR/TN-382+STR, 120 pp.
- Hong, S.-Y., and H.-L. Pan, 1996: Nonlocal boundary layer vertical diffusion in a medium-range forecast model. *Mon. Wea. Rev.*, 124, 2322-2339.
- Ide, K., P. Courtier, M. Ghil, and A. C. Lorenc, 1997: Unified notation for data assimilation: Operational, sequential and variational. *J. Met. Soc. Japan*, 75, 181-189.
- Janjic, Zavisa I., 1990: The step-mountain coordinate: Physical package. *Mon. Wea. Rev.*, 118, 1429-1443.
- Janjic, Zavisa I., 1994: The step-mountain eta coordinate model: Further development of the convection, viscous sublayer, and turbulent closure schemes. *Mon. Wea. Rev.*, 122, 927-945.
- Kain, J. S., and J. M. Fritsch, 1993: Convective parameterization for mesoscale models: The Kain-Fritsch scheme. *The representation of cumulus convection in numerical models*, K. A. Emanuel and D. J. Raymond, Eds., Amer. Meteor. Soc., 246 pp.
- Kain, J. S., 2002: The Kain-Fritsch convective parameterization: An update. <http://www.mmm.ucar.edu/mm5/mm5-papers.html>, to be submitted to J. Appl. Meteor..
- Lin, Y.-L., R. D. Farley, and H. D. Orville, 1983: Bulk parameterization of the snow field in a cloud model. *J. Clim. Appl. Meteor.*, 22, 1065-1092.
- Lorenc, A. C., 1986: Analysis methods for numerical weather prediction. *Quart. J. Roy. Meteor. Soc.*, 112, 1177-1194.
- Lorenc, A. C., S. P. Ballard, R. S. Bell, N. B. Ingleby, P. L. F. Andrews, D. M. Barker, J. R. Bray, A. M. Clayton, T. Dalby, D. Li, T. J. Payne, and F. W. Saunders, 2000: The Met. Office global three-dimensional variational data assimilation scheme. *Quart. J. Roy. Meteor. Soc.*, 126, 2991-3012.
- Manning, K. W., and P. L. Haagenson, 1992: Data ingest and objective analysis for the PSU/NCAR modeling system: Program DATAGRID and RAWINS. *NCAR Technical Note*, NCAR/TN-376+IA, 209 pp.

- Mlawer, E. J., S. J. Taubman, P. D. Brown, M. J. Iacono, and S. A. Clough, 1997: Radiative transfer for inhomogeneous atmosphere: RRTM, a validated correlated-k model for the longwave. *J. Geophys. Res.*, 102 (D14), 16663-16682.
- Nuss, W. A., and D. W. Titley, 1994: Use of multiquadric interpolation for meteorological objective analysis. *Mon. Wea. Rev.*, 122, 1611-1631.
- Parrish, D. F., and J. C. Derber, 1992: The National Meteorological Center's Spectral Statistical Interpolation analysis system. *Mon. Wea. Rev.*, 120, 1747-1763.
- Pleim, J. E., and J.S. Chang, 1992: A non-local closure model for vertical mixing in the convective boundary layer. *Atm. Env.*, 26A, 965-981.
- Reisner, J., R. J. Rasmussen, and R. T. Bruintjes, 1998: Explicit forecasting of supercooled liquid water in winter storms using the MM5 mesoscale model. *Quart. J. Roy. Meteor. Soc.*, 124B, 1071-1107.
- Schultz, P., 1995: An explicit cloud physics parameterization for operational numerical weather prediction. *Mon. Wea. Rev.*, 123, 3331-3343.
- Shafran, P. C., N. L. Seaman, and G. A. Gayno, 2000: Evaluation of numerical predictions of boundary layer structure during the Lake-Michigan Ozone Study. *J. Appl. Meteor.*, 39, 412-426.
- Tao, W.-K., J. Simpson, and M. McCumber, 1989: Ice-water saturation adjustment. *Mon. Wea. Rev.*, 117, 231-235.
- Tao, W.-K. and J. Simpson, 1993: Goddard Cumulus Ensemble Model. Part I: Model Description. *Terrestrial, Atmospheric and Oceanic Sciences*, 4, 35-72.
- Xiu, A. and J. E. Pleim, 2000: Development of a land surface model part I: Application in a mesoscale meteorology model. *J. Appl. Meteor.*, 40, 192-209.
- Zängl, G., 2002: An Improved Method for Computing Horizontal Diffusion in a Sigma-Coordinate Model and Its Application to Simulations over Mountainous Topography. *Mon. Wea. Rev.*, 130, 1423-1432.

