

Bibliography

- Acheson, D.J., 1990. *Elementary Fluid Dynamics*. Oxford University Press, New York.
- Andrews, D.G., Holton, J.R., Leovy, C.B., 1987. *Middle Atmosphere Dynamics*. Academic Press, Orlando.
- Andrews, D.G., McIntyre, M.E., 1976. Planetary waves in horizontal and vertical shear: the generalized Eliassen–Palm relation and the mean zonal acceleration. *J. Atmos. Sci.* 33, 2031–2048.
- Arakawa, A., Schubert, W., 1974. Interaction of a cumulus cloud ensemble with the large-scale environment. Part I. *J. Atmos. Sci.* 31, 674–701.
- Arya, S.P., 2001. *Introduction to Micrometeorology*, second ed. Academic Press, Orlando.
- Baer, F., 1972. An alternate scale representation of atmospheric energy spectra. *J. Atmos. Sci.* 29, 649–664.
- Battisti, D.S., Sarachik, E.S., Hirst, A.C., 1992. A consistent model for the large-scale steady surface atmospheric circulation in the tropics. *J. Climate* 12, 2956–2964.
- Blackburn, M., 1985. Interpretation of ageostrophic winds and implications for jet stream maintenance. *J. Atmos. Sci.* 42, 2604–2620.
- Blackmon, M.L., Wallace, J.M., Lau, N.-C., Mullen, S.L., 1977. An observational study of the northern hemisphere wintertime circulation. *J. Atmos. Sci.* 34, 1040–1053.
- Bluestein, H., 1993. *Synoptic-Dynamic Meteorology in Midlatitudes*, Vol. II. Oxford University Press, New York.
- Bourne, D.E., Kendall, P.C., 1968. *Vector Analysis*. Allyn & Bacon, Boston.
- Brasseur, G., Solomon, S., 1986. *Aeronomy of the Middle Atmosphere: Chemistry and Physics of the Stratosphere and Mesosphere*, second ed. Reidel, Norwell, MA.
- Brown, R.A., 1970. A secondary flow model for the planetary boundary layer. *J. Atmos. Sci.* 27, 742–757.
- Brown, R.A., 1991. *Fluid Mechanics of the Atmosphere*. Academic Press, Orlando.
- Chang, C.P., 1970. Westward propagating cloud patterns in the Tropical Pacific as seen from time-composite satellite photographs. *J. Atmos. Sci.* 27, 133–138.
- Chang, E.K.M., 1993. Downstream development of baroclinic waves as inferred from regression analysis. *J. Atmos. Sci.* 50, 2038–2053.
- Chapman, S., Lindzen, R.S., 1970. *Atmospheric Tides: Thermal and Gravitational*. Reidel, Dordrecht, Holland.
- Charney, J.G., 1947. The dynamics of long waves in a baroclinic westerly current. *J. Meteor.* 4, 135–163.
- Charney, J.G., 1948. On the scale of atmospheric motions. *Geofys. Publ.* 17 (2), 1–17.
- Charney, J.G., DeVore, J.G., 1979. Multiple flow equilibria in the atmosphere and blocking. *J. Atmos. Sci.* 36, 1205–1216.
- Charney, J.G., Eliassen, A., 1949. A numerical method for predicting the perturbations of the middle latitude westerlies. *Tellus* 1 (2), 38–54.
- Cunningham, P., Keyser, D., 2006. Dynamics of jet streaks in a stratified quasi-geostrophic atmosphere: steady-state representations. *Quart. J. Roy. Meteor. Soc.* 130A, 1579–1609.

- Curry, J.A., Webster, P.J., 1999. *Thermodynamics of Atmospheres and Oceans*. Academic Press, San Diego.
- Dai, A., Wigley, T.M.L., Boville, B.A., Kiehl, J.T., Buja, L.E., 2001. Climates of the twentieth and twenty-first centuries simulated by the NCAR climate system model. *Climate* 14, 485–519.
- Dunkerton, T.J., 2003. Middle atmosphere: quasi-biennial oscillation. In: Holton, J.R., Curry, J.A., Pyle, J.A. (Eds.), *Encyclopedia of Atmospheric Sciences*. Academic Press, London.
- Durran, D.R., 1990. Mountain waves and downslope winds. In: Blumen, W. (Ed.), *Atmospheric Processes over Complex Terrain*. American Meteorological Society, pp. 59–82.
- Durran, D.R., 1993. Is the Coriolis force really responsible for the inertial oscillation? *Bull. Am. Meteorol. Soc.* 74 (11), 2179–2184.
- Durran, D.R., 1999. *Numerical Methods for Wave Equations in Geophysical Fluid Dynamics*. Springer, New York.
- Durran, D.R., Snellman, L.W., 1987. The diagnosis of synoptic-scale vertical motion in an operational environment. *Weather Forecasting* 1, 17–31.
- Eady, E.T., 1949. Long waves and cyclone waves. *Tellus* 1 (3), 33–52.
- Eliassen, A., 1990. Transverse circulations in frontal zones. In: Newton, C.W., Holopainen, E.O. (Eds.), *Extratropical Cyclones, The Erik Palmén Memorial Volume*. American Meteorological Society, Boston, pp. 155–164.
- Emanuel, K.A., 1988. Toward a general theory of hurricanes. *Am. Sci.* 76, 370–379.
- Emanuel, K.A., 1994. *Atmospheric Convection*. Oxford University Press, New York.
- Emanuel, K.A., 2000. Quasi-equilibrium thinking. In: Randall, D.A. (Ed.), *General Circulation Model Development*. Academic Press, New York, pp. 225–255.
- Fleming, E.L., Chandra, S., Barnett, J.J., Corey, M., 1990. Zonal mean temperature, pressure, zonal wind and geopotential height as functions of latitude. *Adv. Space Res.* 10 (12), 11–59.
- Garratt, J.R., 1992. *The Atmospheric Boundary Layer*. Cambridge University Press, Cambridge.
- Gill, A.E., 1982. *Atmosphere-Ocean Dynamics*. Academic Press, New York.
- Hakim, G.J., 2000. Role of nonmodal growth and nonlinearity in cyclogenesis initial-value problems. *J. Atmos. Sci.* 57, 2951–2967.
- Hakim, G.J., 2002. Cyclogenesis. In: *Encyclopedia of the Atmospheric Sciences*. Elsevier, Boston.
- Hamill, T.M., 2006. Ensemble-based atmospheric data assimilation. In: Palmer, T., Hagedorn, R. (Eds.), *Predictability of Weather and Climate*. Cambridge University, Cambridge, UK, pp. 124–156.
- Held, I.M., 1983. Stationary and quasi-stationary eddies in the extratropical troposphere: theory. In: Hoskins, B.J., Pearce, R. (Eds.), *Large-Scale Dynamical Processes in the Atmosphere*. Academic Press, New York, pp. 127–168.
- Hess, S.L., 1959. *Introduction to Theoretical Meteorology*. Holt, New York.
- Hide, R., 1966. On the dynamics of rotating fluids and related topics in geophysical fluid mechanics. *Bull. Am. Meteorol. Soc.* 47, 873–885.
- Hildebrand, F.B., 1976. *Advanced Calculus for Applications*, second ed. Prentice Hall, New York.
- Holton, J.R., 1986. Meridional distribution of stratospheric trace constituents. *J. Atmos. Sci.* 43, 1238–1242.
- Holton, J.R., Haynes, P.H., McIntyre, M.E., Douglass, A.R., Rood, R.B., Pfister, L., 1995. Stratosphere-troposphere exchange. *Rev. Geophys.* 33, 403–439.
- Horel, J.D., Wallace, J.M., 1981. Planetary scale atmospheric phenomena associated with the southern oscillation. *Mon. Wea. Rev.* 109, 813–829.
- Hoskins, B.J., 1975. The geostrophic momentum approximation and the semi-geostrophic equations. *J. Atmos. Sci.* 32, 233–242.

- Hoskins, B.J., 1982. The mathematical theory of frontogenesis. *Annu. Rev. Fluid Mech.* 14, 131–151.
- Hoskins, B.J., 1983. Dynamical processes in the atmosphere and the use of models. *Quart. J. Roy. Meteor. Soc.* 109, 1–21.
- Hoskins, B.J., Bretherton, F.P., 1972. Atmospheric frontogenesis models: mathematical formulation and solution. *J. Atmos. Sci.* 29, 11–37.
- Hoskins, B.J., McIntyre, M.E., Robertson, A.W., 1985. On the use and significance of isentropic potential vorticity maps. *Quart. J. Roy. Meteorol. Soc.* 111, 877–946.
- Houze Jr., R.A., 1993. *Cloud Dynamics*. Academic Press, San Diego.
- James, I.N., 1994. *Introduction to Circulating Atmospheres*. Cambridge University Press, Cambridge, UK.
- Kalnay, E., 2003. *Atmospheric Modeling, Data Assimilation and Predictability*. Cambridge University Press, Cambridge, UK.
- Keptert, J.D., Wang, Y., 2001. The dynamics of boundary layer jets within the tropical cyclone core. Part II: Nonlinear enhancement. *J. Atmos. Sci.* 58, 2485–2501.
- Klemp, J.B., 1987. Dynamics of tornadic thunderstorms. *Annu. Rev. Fluid Mech.* 19, 369–402.
- Lackmann, G., 2012. *Midlatitude Synoptic Meteorology: Dynamics, Analysis, and Forecasting*. American Meteorological Society, Boston.
- Lim, G.H., Holton, J.R., Wallace, J.M., 1991. The structure of the ageostrophic wind field in baroclinic waves. *J. Atmos. Sci.* 48, 1733–1745.
- Lindzen, R.S., Batten, E.S., Kim, J.W., 1968. Oscillations in atmospheres with tops. *Mon. Wea. Rev.* 96, 133–140.
- Lorenz, E.N., 1960. Energy and numerical weather prediction. *Tellus* 12, 364–373.
- Lorenz, E.N., 1967. *The Nature and Theory of the General Circulation of the Atmosphere*. World Meteorological Organization, Geneva.
- Lorenz, E.N., 1984. Some aspects of atmospheric predictability. In: Burridge, D.M., Källén, E. (Eds.), *Problems and Prospects in Long and Medium Range Weather Forecasting*. Springer-Verlag, New York, pp. 1–20.
- Madden, R.A., 2003. Intraseasonal oscillation (Madden–Julian oscillation). In: Holton, J.R., Curry, J.A., Pyle, J.A. (Eds.), *Encyclopedia of Atmospheric Sciences*. Academic Press, London, pp. 2334–2338.
- Madden, R.A., Julian, P.R., 1972. Description of global-scale circulation cells in the tropics with a 40–50 day period. *Atmos. Sci.* 29, 1109–1123.
- Martin, J.E., 2006. *Mid-Latitude Atmospheric Dynamics*. John Wiley & Sons, New York.
- Matsuno, T., 1966. Quasi-geostrophic motions in the equatorial area. *J. Meteorol. Soc. Japan* 44, 25–43.
- Nappo, C.J., 2002. *An Introduction to Atmospheric Gravity Waves*. Academic Press, San Diego.
- Naujokat, B., 1986. An update of the observed quasi-biennial oscillation of the stratospheric winds over the tropics. *J. Atmos. Sci.* 43, 1873–1877.
- Norton, W.A., 2003. Middle atmosphere: transport circulation. In: Holton, J.R., Curry, J.A., Pyle, J.A. (Eds.), *Encyclopedia of Atmospheric Sciences*. Academic Press, London, pp. 1353–1358.
- Oort, A.H., 1983. Global atmospheric circulation statistics, 1958–1973. *NOAA Professional Paper 14*, U. S. Government Printing Office, Washington, DC.
- Oort, A.H., Peixoto, J.P., 1974. The annual cycle of the of the atmosphere on a planetary scale. *J. Geophys. Res.* 79, 2705–2719.
- Oort, A.H., Peixoto, J.P., 1983. Global angular momentum and energy balance requirements from observations. *Adv. Geophys.* 25, 355–490.

- Ooyama, K., 1969. Numerical simulation of the life cycle of tropical cyclones. *J. Atmos. Sci.* 26, 3–40.
- Palmén, E., Newton, C.W., 1969. *Atmospheric Circulation Systems*. Academic Press, London.
- Palmer, T.N., 1993. Extended-range atmospheric prediction and the Lorenz model. *Bull. Am. Meteor. Soc.* 74, 49–65.
- Panofsky, H.A., Dutton, J.A., 1984. *Atmospheric Turbulence*. Wiley, New York.
- Pedlosky, J., 1987. *Geophysical Fluid Dynamics*, second ed. Springer-Verlag, New York.
- Philander, S. G., 1990. El Niño, La Niña, and the Southern Oscillation. Academic Press, New York.
- Phillips, N.A., 1956. The general circulation of the atmosphere: a numerical experiment. *Quart. J. Roy. Meteorol. Soc.* 82, 123–164.
- Phillips, N.A., 1963. Geostrophic motion. *Rev. Geophys.* 1, 123–176.
- Pierrehumbert, R.T., Swanson, K.L., 1995. Baroclinic instability. *Annu. Rev. Fluid Mech.* 27, 419–467.
- Plumb, R.A., 1982. The circulation of the middle atmosphere. *Aust. Meteorol. Mag.* 30, 107–121.
- Randall, D.A., 2000. *General Circulation Model Development*. Academic Press, San Diego.
- Reed, R.J., Norquist, D.C., Recker, E.E., 1977. The structure and properties of African wave disturbances as observed during Phase III of GATE. *Mon. Wea. Rev.* 105, 317–333.
- Richardson, L.F., 1922. *Weather Prediction by Numerical Process*. Cambridge University Press (reprinted by Dover, 1965).
- Richtmyer, R.D., Morton, K.W., 1967. *Difference Methods for Initial Value Problems*, second ed. Wiley (Interscience), New York.
- Riehl, H., Malkus, J.S., 1958. On the heat balance of the equatorial trough zone. *Geophysica* 6, 503–538.
- Roe, G.H., Baker, M.B., 2007. Why is climate sensitivity so unpredictable? *Science* 318, 629–632.
- Salby, M.L., 1996. *Fundamentals of Atmospheric Physics*. Academic Press, San Diego.
- Salby, M.L., Hendon, H.H., Woodberry, K., Tanaka, K., 1991. Analysis of global cloud imagery from multiple satellites. *Bull. Am. Meteorol. Soc.* 72, 467–480.
- Sanders, F., Hoskins, B.J., 1990. An easy method for estimation of Q-vectors from weather maps. *Wea. Forecasting* 5, 346–353.
- Sawyer, J.S., 1956. The vertical circulation at meteorological fronts and its relation to frontogenesis. *Proc. Roy. Soc. A* 234, 346–362.
- Schneider, T., 2006. The general circulation of the atmosphere. *Annu. Rev. Earth Planet. Sci.* 34, 655–688.
- Schubert, S., Park, C.-K., Higgins, W., Moorthi, S., Suarez, M., 1990. An atlas of ECMWF analyses (1980–1987) Part I — First moment quantities. NASA Technical Memorandum 100747.
- Scorer, R.S., 1958. *Natural Aerodynamics*. Pergamon Press, New York.
- Shine, K.P., 1987. The middle atmosphere in the absence of dynamical heat fluxes. *Quart. J. Roy. Meteor. Soc.* 113, 603–633.
- Simmons, A.J., Bengtsson, L., 1984. Atmospheric general circulation models: their design and use for climate studies. In: Houghton, J.T. (Ed.), *The Global Climate*. Cambridge University Press, Cambridge, UK, pp. 37–62.
- Simmons, A.J., Burridge, D.M., Jarraud, M., Girard, C., Wergen, W., 1989. The ECMWF medium-range prediction models: Development of the numerical formulations and the impact of increased resolution. *Meteorol. Atmos. Phys.* 40, 28–60.
- Simmons, A.J., Hollingsworth, A., 2002. Some aspects of the improvement in skill of numerical weather prediction. *Quart. J. Roy. Meteorol. Soc.* 128, 647–678.
- Sinclair, P.C., 1965. On the rotation of dust devils. *Bull. Am. Meteorol. Soc.* 46, 388–391.
- Smagorinsky, J., 1967. The role of numerical modeling. *Bull. Am. Meteorol. Soc.* 46, 89–93.

- Smith, R.B., 1979. The influence of mountains on the atmosphere. *Adv. Geophys.* 21, 87–230.
- Stevens, D.E., Lindzen, R.S., 1978. Tropical wave–CISK with a moisture budget and cumulus friction. *J. Atmos. Sci.* 35, 940–961.
- Stull, R.B., 1988. *An Introduction to Boundary Layer Meteorology*. Kluwer Academic Publishers, Boston.
- Thompson, D.W.J., Wallace, J. M., Hegerl, G.C., 2000. Annular modes in the extratropical circulation. Part II: Trends. *J. Climate*. 13, 1018–1036.
- Thorpe, A.J., Bishop, C.H., 1995. Potential vorticity and the electrostatics analogy: Ertel-Rossby formulation. *Quart. J. Ref. Meteorol. Soc.* 121, 1477–1495.
- Trenberth, K.E., 1991. General characteristics of El Niño–Southern Oscillation. In: Glantz, M., Katz, R., Nichols, N. (Eds.), *ENSO Teleconnections Linking Worldwide Climate Anomalies: Scientific Basis and Societal Impact*. Cambridge University Press, Cambridge, UK, pp. 13–42.
- Turner, J.S., 1973. *Buoyancy Effects in Fluids*. Cambridge University Press, Cambridge.
- U.S. Government Printing Office, 1976. *U. S. Standard Atmosphere, 1976*. U. S. Government Printing Office, Washington, DC.
- Vallis, G.K., 2006. *Atmospheric and Oceanic Fluid Dynamics: Fundamentals and Large-Scale Circulation*. Cambridge University Press, Cambridge, UK.
- Wallace, J.M., 1971. Spectral studies of tropospheric wave disturbances in the tropical Western Pacific. *Rev. Geophys.* 9, 557–612.
- Wallace, J.M., 2003. General circulation: overview. In: Holton, J.R., Curry, J.A., Pyle, J.A. (Eds.), *Encyclopedia of Atmospheric Sciences*. Academic Press, London, pp. 821–829.
- Wallace, J.M., Hobbs, P.V., 2006. *Atmospheric Science: An Introductory Survey*, second ed. Academic Press, New York.
- Wallace, J.M., Kousky, V.E., 1968. Observational evidence of Kelvin waves in the tropical stratosphere. *J. Atmos. Sci.* 25, 900–907.
- Warsh, K.L., Echternacht, K.L., Garstang, M., 1971. Structure of near-surface currents east of Barbados. *J. Phys. Oceanog.* 1, 123–129.
- Washington, W.M., Parkinson, C.L., 1986. *An Introduction to Three-Dimensional Climate Modeling*. University Science Books, Mill Valley, CA.
- Webster P.J., 1983. The large-scale structure of the tropical atmosphere. In: Hoskins, B.J., Pearc, R. (Eds.), *Large-Scale Dynamical Processes in the Atmosphere*. Academic Press, New York, pp. 235–275.
- Webster, P.J., Chang, H.R., 1988, Equatorial energy accumulation and emanation regions: impacts of a zonally varying basic state. *J. Atmos. Sci.* 45, 803–829.
- Webster, P.J., Fasullo, J., 2003. Monsoon: dynamical theory. In: Holton J.R., Curry, J.A., Pyle, J.A. (Eds.), *Encyclopedia of Atmospheric Sciences*. Academic Press, London, pp. 1370–1386.
- Williams, J., Elder, S.A., 1989. *Fluid Physics for Oceanographers and Physicists*. Pergamon Press, New York.
- Williams, K.T., 1971: A statistical analysis of satellite-observed trade wind cloud clusters in the western North Pacific. *Atmospheric Science Paper No. 161*, Dept. of Atmospheric Science, Colorado State University, Fort Collins, CO.
- Yanai, M., Maruyama, T., 1966. Stratospheric wave disturbances propagating over the equatorial Pacific. *J. Meteor. Soc. Jpn.* 44, 291–294.