References and Bibliography

A

- Adams, D. K., and A. C. Comrie, 1997: The North American Monsoon. *Bull Amer. Meteor. Soc.*, **78**, 2197-2213.
- Albrecht, B. A., C. S. Bretherton, D. Johnson, W. H. Schubert and A. S. Frisch, 1995: The Atlantic Stratocumulus Transition Experiment -- ASTEX. *Bull. Amer. Meteor. Soc.*, **76**, 889-904.
- Alexander, M. A., and C. Deser, 1995: A mechanism for the recurrence of wintertime midlatitude SST anomalies. *J. Phys. Oceanogr.*, **25**, 122-137.
- Ambaum, M., 1997: Isentropic formation of the tropopause. J. Atmos. Sci., 54, 555-568.
- Anderson, D. L. T., and J. P. McCreary, 1985: Slowly propagating disturbances in a coupled ocean-atmosphere model. *J. Atmos. Sci.*, **42**, 615-629.
- Anderson, J.R., and D.E. Stevens, 1987: The presence of linear wavelike modes in a zonally symmetric model of the tropical atmosphere. *J. Atmos. Sci.*, **44**, 2115-2127.
- Andrews, D. G., 1983: Finite-amplitude Eliassen-Palm theorem in isentropic coordinates. *J. Atmos. Sci.*, **40**, 1877-1883.
- Andrews, D. G., J. R. Holton and C. B. Leovy, 1987: *Middle Atmosphere Dynamics*. International Geophysics Series, Vol. 40, Academic Press, 489 pp.
- Arakawa, A., 1969: Parameterization of cumulus convection. *Proc. WMO/IUGG Symp. Numerical Weather Prediction*, Tokyo, 26 November-4 December, 1968, Japan Meteor. Agency, IV, 8, 1-6.
- Arakawa, A and W. H. Schubert, 1974: Interaction of a cumulus cloud ensemble with the large-scale environment, Part I. *J. Atmos. Sci.*, **31**, 674-701.
- Arakawa, A and J.-M. Chen, 1987: Closure assumptions in the cumulus parameterization problem. WMO/IUGG Symposium on Short- and Medium- Range Numerical Weather Prediction, Tokyo, 107-130.
- Arakawa, A and K.-M. Xu, 1990: The macroscopic behavior of simulated cumulus convection and semiprognostic tests of the Arakawa-Schubert cumulus parameterization. *Proc. of the Indo-U.S. seminar on parameterization of sub-grid scale processes in dynamical models of medium-range prediction and global climate.* Pune, India.

- Arakawa, A., and M.-D. Cheng, 1993: The Arakawa-Schubert cumulus parameterization. *The Representation of Cumulus Convection in Numerical Models*, a Meteorological Monograph published by the American Meteorological Society, K. Emanuel and D. Raymond, Eds., 246 pp.
- Arpé, K., C. Brankovic, E. Oriol, and P. Seth, 1986: Variability in time and space of energetics from a long series of atmospheric data produced by ECMWF. *Beitr. Phys. Atmosph.*, **59**, 321-355.

B

- Bacon, S., 1997: Circulation and fluxes in the North Atlantic between Greenland and Ireland. *J. Phys. Oceanogr.*, **27**, 1420–1435.
- Baer, F., 1972: An alternate scale representation of atmospheric energy spectra. *J. Atmos. Sci.*, **29**, 649-664.
- Baer, F., 1974: Hemispheric spectral statistics of APE. J. Atmos. Sci., 31, 932-941.
- Baer, F., 1981: Three-dimensional scaling and structure of atmospheric energetics. *J. Atmos. Sci.*, **38**, 53-68.
- Ball, F. K., 1960: Control of inversion height by surface heating. *Quart. J. Roy. Meteor. Soc.*, **86**, 483-494.
- Barkstrom, B. R., 1984: The Earth Radiation Budget Experiment (ERBE). *Bull. Amer. Meteor. Soc.*, **65**, 1170-1185
- Barkstrom, B., E. F. Harrison, G. L. Smith, R. N. Green, J. Kibler, R. Cess, and the ERBE Science Team, 1989: Earth Radiation Budget Experiment (ERBE) archival and April 1985 results. *Bull. Amer. Meteor. Soc.*, **70**, 1254-1262.
- Barnett, J.J., 1974: Mean meridional temperature behavior of the stratosphere from November 1970 to November 1971 derived from mearsurements by the Selective Chopper Radiometer on Nimbus IV. *Quarterly J. Roy. Met. Soc.* **100**, 505-530.
- Barnett, T. P., 1991: On ENSO physics. *J. Climate*, **4**, 487-515.
- Barnett, T. P., L. Dümenil, U. Schlese, E. Roeckner, and M. Latif, 1989: The effect of Eurasian snow cover on regional and global climate variations. *J. Atmos. Sci.*, **46**, 661-685.
- Barnett, T. P., M. Latif, N. Graham, N., and M. Flugel, 1995: On the frequency-wavenumber structure of the tropical ocean/atmosphere system. *Tellus*, **47A**, 998-1012.

- Barnett, T. P. et al., 1996: Forecasting global ENSO-related climate anomalies. Tellus, **46A**, 367-380.
- Basdevant, C., B. Legras, R. Sadourny, and Me Béland, 1981: A study of barotropic model flows: Intermittency, waves, and predictability. *J. Atmos. Sci.*, **38**, 2305-2326.
- Battisti, D. S., 1988: The dynamics and thermodynamics of a warming event in a coupled tropical atmosphere/ocean model. *J. Atmos. Sci.*, **45**, 2889-2919.
- Battisti, D. S., and A. C. Hirst, 1989: Interannual variability in the tropical atmosphere/ocean system: Influence of the basic state, ocean geometry and nonlinearity. *J. Atmos. Sci.*, **46**, 1687-1712.
- Battisti, D. S., and D. D. Ovens, 1995: The dependence of the low-level equatorial jet on Hadley and Walker circulations. *J. Atmos. Sci.*, **52**, 3911-3931.
- Bengtsson, L., M. Kanamitsu, P. Kallberg, and S. Uppala, 1982: FGGE 4-dimensional data assimilation at ECMWF. *Bull. Amer. Meteor. Soc.*, **63**, 29-43.
- Bennett, A. F., 1978: Poleward heat fluxes in Southern Hemisphere Oceans. *J. Phys. Oceanogr.*, **8**, 785-798.
- Benzi, R., S. Patarnello, and P. Santangelo, 1988: Self-similar coherent structures in two-dimensinoal decaying turbulence. *J. Phys. A: Math Gen.*, **21**, 1221-1237.
- Betts, A. K., 1973: Nonprecipitating cumulus convection and its parameterization. *Quart. J. Roy. Met. Soc*, **99**,178-196.
- Betts, A. K., 1982: Saturation point analysis of moist convective overturning. *J. Atmos. Sci.*, **39**, 1484-1505.
- Betts, A. K., 1985: Mixing line analysis of clouds and cloudy boundary layers. *J. Atmos. Sci.*, **42**, 2751-2763.
- Betts, A. K., and W. Ridgway, 1989: Climatic equilibrium of the atmospheric convective boundary layer over a tropical ocean. *J. Atmos. Sci.*, **46**, 2621 2641.
- Beyers, N. J., B. T. Miers, and R. J. Reed, 1966: Diurnal tidal motions near the stratopause during 48 hours at White Sands Missile Range. *J. Atmos. Sci.*, **23**, 325-333.
- Bjerknes, J., 1938: Saturated-adiabatic ascent of air through dry-adiabatically descending environment. *Quart. J. Roy. Meteor. Soc.*, **64**, 325-330.
- Bjerknes, J., 1966: A possible response of the atmospheric Hadley circulation to equatorial anomalies of ocean temperature. *Tellus*, **18**, 820-829.

- Bjerknes, J., 1969: Atmospheric teleconnections from the equatorial Pacific. *Mon. Wea. Rev.*, **97**, 163-172.
- Blackmon, Maurice L., 1976: A Climatological Spectral Study of the 500 mb Geopotential Height of the Northern Hemisphere. *J. Atmos. Sci*, **33**, 1607–1623.
- Blackmon, M. L., and G. H. White, 1982: Zonal wavenumber characteristics of Northern Hemisphere transient eddies. *J. Atmos. Sci.*, **39**, 1985-1998.
- Blackmon, M. L., Y.-H. Lee and J. M. Wallace, 1984 a: Horizontal structure of 500 mb height fluctuations with long, intermediate and short time scales as deduced from lag-correlation statistics. *J. Atmos. Sci.*, **41**, 961-979.
- Blackmon, M. L., Y.-H. Lee, J. M. Wallace and H.-H. Hsu, 1984 b: Time variations of 500 mb height fluctuations with long, intermediate, and short time scales as deduced from lag-correlation statistics. *J. Atmos. Sci.*, **41**, 981-991.
- Blade, I. and D. L. Hartmann, 1993: Tropical intraseasonal oscillations in a simple nonlinear model. *J. Atmos. Sci.*, **50**, 2922-2939.
- Blazejewski, H., D. L. Cadet, and O. Marsal, 1986: Low-Frequency sea surface temperature and wind variations over the Indian and Pacific Oceans. *J. Geophys. Res.*, **91**, 5129-5132.
- Boer, G. J., and T. G. Shepherd, 1983: Large-scale two-dimensional turbulence in the atmosphere. *J. Atmos. Sci.*, **40**, 164-184.
- Bowman, K. P., and P. J. Cohen, 1997: Interhemispheric exchagne by seasonal modulation of the Hadley Circulation. *J. Atmos. Sci.*, **54**, 2045-2059.
- Bowman, K. P., and G. D. Carrie, 2002: The mean-meridional transport circulation of the troposphere in an idealized GCM. *J. Atmos. Sci.*, **59**, 1502-1514.
- Broecker, W. S., 1992: The Great Ocean Conveyor, in *Global Warming: Physics and Facts*. B. G. Levi, D. Hafemeister, and R. Scribner, Eds. American Physical Society. 129-161.
- Broecker, W. S., D. M. Peteet, and D. Rind, 1985: Does the ocean-atmosphere system have more than one stable mode of operation? *Nature*, **315**, 21-26.
- Brown, R. G., and C. Zhang, 1997: Variability of midtropospheric moisture and its effect on cloud-top height distribution during TOGA COARE. *J. Atmos. Sci.*, **54**, 2760-2774.
- Bryan, K., 1969: A numerical method for the study of the circulation of the world ocean. *J. Comput. Phys.*, **4**, 347-376.

- Bryan, K., and J. L. Sarmiento, 1985: Modeling ocean circulation. *Adv. in Geophys.*, **28A**, pp.433-459.
- Bryden, H. L., 1993: Ocean heat transport across 24°N latitude. Interactions between Global Climate Subsystems, *The Legacy of Hann, Geophys. Monogr., No. 75*, IUGG and Amer. Geophys. Union, 65–75.
- Bukowinksi, M. S. T., 1999: Taking the core temperature. *Nature*, **401**, 432-433.
- Bunker, A. F., 1971: Energy transfer and tropical cell structure over the central Pacific. *J. Atmos. Sci.*, **28**, 1101-1116.
- Burrows, W. R., 1976: A diagnostic study of atmospheric spectral kinetic energetics. *J. Atmos. Sci.*, **33**, 2308-2321.

C

- Cadet, D. L., 1986: Fluctuations of precipitable water over the Indian Ocean during the 1979 summer monsoon. *Tellus*, **38**A, 170-177.
- Cadet, D. L., and S. Greco, 1987: Water vapor transport over the Indian Ocean during the 1979 summer monsoon. Part I: Water vapor fluxes. *Mon Wea. Rev.*, **115**, 653-663.
- Cadet, D. L., and S. Greco, 1987: Water vapor transport over the Indian Ocean during the 1979 summer monsoon, Pt. 2, Water vapor budgets. *Mon Wea. Rev.*, **115**, 2358-2366.
- Cane, M. A., and S. E. Zebiak, 1985: A theory for El Niño and the Southern Oscillation. *Science*, **228**, 1085-1087.
- Clement, A., R. Seager, M. A. Cane, and S. E. Zebiak, 1996: An ocean thermostat. *J. Climate*, **9**, 2190-2196.
- Cariolle, D., M. Amodei, M. Deque, J.-F. Mahfouf, P. Simon, and H. Teyssedre, 1993: A quasi-biennial oscillation signal in general circulation model simulations. *Science*, **261**, 1313-1316.
- Carnevale, G. F., G. F., J. C. McWilliams, Y. Pomeau, J. B. Weiss, and W. R. Young, 1991: Evolution of vortex statistics in two-dimensional turbulence. *Phys. Rev. Lett.*, **66**, 2735-2737.
- Chang, C.P., 1977: Viscous internal gravity waves and low-frequency oscillations in the tropics. *J. Atmos. Sci.*, **34**, 901-910.
- Chang, C.P., and H. Lim, 1988: Kelvin wave-CISK: A possible mechanism for the 30-50

- day oscillations. J. Atmos. Sci., 45, 1709-1720.
- Charney, J. G., and A. Eliassen, 1949: A numerical method for predicting the perturbations of the middle latitude westerlies. *Tellus*, **1**, 38-54.
- Charney, J. G. and P. G. Drazin, 1961: Propagation of planetary-scale disturbances from the lower into the upper atmosphere. *J. Geophys. Res.*, **66**, 83-109.
- Charney, J. G., 1963: A note on large-scale motions in the tropics. *J. Atmos. Sci.*, **20**, 607-609.
- Charney, J. G., et al., 1966: The feasibility of a global observation and analysis experiment. *Bull. Amer. Meteor. Soc.*, **47**, 200-220.
- Charney, J. G., 1971: Geostrophic turbulence. J. Atmos. Sci., 28, 1087-1095.
- Charney, J. G., 1973: Planetary Fluid Dynamics. In Dynamic meteorology. P. Morel, Ed., D. Reidel Publishing Co., Boston, pp. 97-352
- Charney, J. G., and DeVore, J. G., 1979: Multiple flow equilibria in the atmosphere and blocking. *J. Atmos. Sci.*, **36**, 1205-1216.
- Charney, J. G., and D. M. Straus, 1980: Form-drag instability, multiple equilibria and propagating planetary waves in baroclinic, orographically forced planetary wave systems. *J. Atmos. Sci.*, **37**, 1157-1176.
- Charney, J. G., and J. Shukla, 1981: Predictability of monsoons. In *Monsoon Dynamics*, J. Lighthill and R. P. Pearce, Eds., Cambridge University Press, pp. 99-109.
- Chang, P., L. Ji, and H. Li, 1997: A decadal climate variation in the tropical Atlantic Ocean from thermodynamic air-sea interactions. *Nature*, **385**, 516-518.
- Chen, T.-C., and A. Wiin-Nielsen, 1978: Nonlinear cascades of atmospheric energy and enstrophy in a two-dimensional spectral index. *Tellus*, **30**, 313-322.
- Cheng, M.-D., and A. Arakawa, 1990: *Inclusion of convective downdrafts in the Arakawa-Schubert cumulus parameterization*. Tech. Rep., Dept. of Atmospheric Sciences, UCLA, 69 pp.
- Cheng, M.-D., and A. Arakawa, 1997: Inclusion of rainwater budget and convective downdrafts in the Arakawa-Schubert cumulus parameterization. *J. Atmos. Sci.*, **54**, 1359-1378.
- Chervin, R. M., and L. M. Druyan, 1984: Influence of ocean surface temperature gradient and continentality on the Walker circulation, Pt. 1, Prescribed tropical changes. *Mon. Wea. Rev.*, **112**, 1510-1523.

- Compo, G. P., G. N. Kiladis, and P. J. Webster, 1999: The horizontal and vertical structure of east Asian winter monsoon pressure surges. *Quart. J. Roy. Meteor. Soc.*, **125**, 29-54.
- Cornejo-Garrido, A. G., and P. H. Stone, 1977: On the heat balance of the Walker circulation. *J. Atmos. Sci.*, **34**, 1155-1162.
- Cornedjo-Garrido and Stone, 1977: On the heat balance of the Walker circulation. *J. Atmos. Sci.*, **34**, 1155-1162.Deser, C., and J. M. Wallace,1987: El Nino events and their relation to the Southern Oscillation: 1925-1986. *J. Geophys. Res.*, **92**, 14189-14196.
- Craig, R. A., 1965: *The Upper Atmosphere. Meteorology and Physics*. Academic Press, 509.
- Cripe, D. G., and D. A. Randall, 2001: Joint variations of temperature and water vapor over the midlatitude continents. *Geophys. Res. Lett.*, **28**, 2613-2626
- Crowley, T. J., and G. R. North, 1991: *Paleoclimatology*. Oxford University Press, 339 pp.
- Cushman-Roisin, B., 1982: Motion of a free particle on a beta-plane. *Geophys. Astrophys. Fluid Dyn.*, 22, 85-102.

D

- Danabasoglu, G., J. C. McWilliams, and P. R. Gent, 1994: The role of mesoscale tracer transports in the global ocean circulation. *Science*, **264**, 1123-1126.
- Darnell, W. L., W. F. Staylor, S.K. Gupta, and F.M. Denn, 1988: Estimation of surface insolation using sun-synchronous satellite data. *J. Climate.*, **1**, 820-835.
- Darnell, W.L., W.F. Staylor, S.K. Gupta, N.A. Ritchey, an A.C. Wilber, 1992: Seasonal variation of surface radiation budget derived from International Satellite Cloud Climatology Project C1 data. *J. Geophys. Res.*, **97**, 15741-15760.
- Del Genio, A. D., and M. S. Yao, 1993: Efficient cumulus parameterization for long-term climate studies: The GISS scheme. *The Representation of Cumulus Convection in Numerical Models*, Meteor. Monogr., No. 46, Amer. Meteor. Soc., 181-184.
- Del Genio, A. D., M.-S. Yao, W. Kovari, and K. K.-W. Lo, 1996: A prognostic cloud water parameterization for global climate models. *J. Climate*, **9**, 270-304.
- Deser, C., and J. M. Wallace, 1990: Large-scale atmospheric circulation features of warm and cold episodes in the tropical Pacific. *J. Climate*, **3**, 1254-1281.

- Deser, C, and M. L. Blackmon, 1993: Surface climate variations over the north Atlantic Ocean during winter: 1900-1989. *J. Climate*, **6**, 1743-1753.
- Deser, C., 1993: Diagnosis of the surface momentum balance over the Tropical Pacific Ocean. *J. Climate*, **6**, 64-74.
- Deser, C., J. J. Bates, and S. Wahl, 1993: The influence of sea surface temperature gradients on stratiform cloudiness along the equatorial front in the Pacific Ocean. *J. Climate*, **6**, 1172-1180.
- Deser, C., and M. L. Blackmon, 1995: On the relationship between tropical and North Pacific sea surface temperature variations. *J. Climate*, **8**, 1677-1680.
- Deser, C., M. A. Alexander, and M. S. Timlin, 1996: Upper-ocean thermal variations in the North Pacific during 1970-1991. *J. Climate*, **9**, 1840-1855.
- Deser, C, and M. S. Timlin, 1997: Atmosphere-ocean interaction on weekly timescales in the North Atlantic and Pacific. *J. Climate*, **10**, 393-408.
- DeMott, C. A. and S. R. Rutledge, 1998: The vertical structure of TOGA COARE convection. Part II: Modulating influences and implications for diabatic heating. *J. Atmos. Sci.*, **55**, 2748-2762.
- Dickey, J. O., S. L. Marcus, J. A. Steppe, and R. Hide, 1992: The Earth's angular momentum budget on subseasonal time scales. *Science*, **255**, 321-324.
- Dijkstra, H. A. and D. J. Neelin, 1995: Ocean-atmosphere interaction and the tropical climatology. Part II: Why the Pacific cold tongue is in the East. *J. Climate*, **8**, 1343-1359.
- Ding, P., and D. A. Randall, 1998: A Cumulus Parameterization with Multiple Cloud Base Levels. *J. Geophys. Res.*, **103**, 11341-11354.
- Dole, R. M., and M. D. Gordon, 1983: Persistent anomalies of the extratropical Northern Hemisphere wintertime circulation: Geographical distribution and regional persistence characteristics. *Mon. Wea. Rev.*, **111**, 1567-1586.
- Dopplick, 1971: Global Radiative Heating of the Earth's Atmosphere. *Planetary Circulation Project, Dept. of Meteorology, MIT, Report #24*, 128 pp.
- Dopplick, 1971: The energetic of the lower stratosphere including radiative effects. Q. J. Roy. Meteor. Soc., 97, 209-237.
- Dong, D., R. S. Gross, and J. O. Dickey, 1996: Seasonal variations of the Earth's gravitational field: an analysis of atmospheric pressure, ocean tidal, and surface water excitation. *Geophys. Res. Lett.*, **23**, 725-728.

- Drazin, P. G., 1992: *Nonlinear systems*. Cambridge Univ. Press, 317 pp.
- Dutton, J. A., 1976: The Ceaseless Wind. McGraw-Hill, New York, 579 pp.

E

- ECMWF 1997: ERA Description. *ECMWF Re-analysis Project Report Series 1*. Available from ECMWF.4
- Edmon, H. J., B. J. Hoskins, and M. E. McIntyre, 1980: Eliassen-Palm cross sections for the troposphere. *J. Atmos. Sci.*, **37**, 2600-2616. (See also Corrigendum, *J. Atmos. Sci.*, **38**, 1115.)
- Edouard, S., R. Vautard, and G. Brunet, 1997: On the maintenance of potential vorticity in isentropic coordinates. *Quart. J. Roy. Meteor. Soc.*, **123**, 2069-2094.
- Ekman, V. W., 1905: On the influence of the earth's rotation on ocean currents. Ark. Mat. Astron. Fys., 11: 52. Stommel, H., 1961: Thermohaline convection with two stable regimes of flow. *Tellus*, **13**, 224-230.
- Eliassen, A., and E. Palm, 1961: On the transfer of energy in stationary mountain waves. *Geofys. Publ. Oslo*, **22**, 1-23.
- Eliassen, A., and E. Raustein, 1968: A numerical integration experiment with a model atmosphere based on isentropic coordinates. *Meteorologiske Annaler*, **5**, 45-63.
- Eliassen, E., and B. Machenhauer, 1965: A study of the fluctuations of the atmospheric planetary flow patterns represented by spherical harmonics. *Tellus*, **17**, 220-238.
- Eliassen, A., and E. Raustein, 1970: A numerical integration experiment with a six-level atmospheric model with isentropic information surface. *Meteorologiske Annaler*, **5**, 429-449.
- Emanuel, K.A., 1987: An air-sea interaction model of intraseasonal oscillations in the tropics. *J. Atmos. Sci.*, **44**, 2334-2340.
- Emanuel, K. A., 1991: A scheme for representing cumulus convection in large-scale models. *J. Atmos. Sci.*, **48**, 2313-2335.
- Emanuel, K. A., 1994: Atmospheric convection. Oxford University Press, 580 pp.
- Emanuel, K., and D. Raymond, Eds., 1993: *The Representation of Cumulus Convection in Numerical Models*, a Meteorological Monograph published by the American Meteorological Society, 246 pp.

- Emanuel, K. A., J. D. Neelin, and C. S. Bretherton, 1994: On large-scale circulations in convecting atmospheres. *Quart. J. Roy. Meteor. Soc.*, **120**, 1111-1143.
- Esbensen, S. K., and Y. Kushnir, 1981: The heat budget of the global ocean: An atlas based on estimates from surface marine observations. *Climatic Research Institute Report No. 29*, Oregon State University, Corvallis, Oregon 97331.
- Esbensen, S. K., and M. J. McPhaden, 1996: Enhancement of tropical ocean evaporation and sensible heat flux by mesoscale system. *J. Climate*, **9**, 2307-2325.

F

- Fels, S. B., 1985: Radiative-dynamical interactions in the middle atmosphere. *Adv. Geophys.*, **28A**, 277-300.
- Feynman, R. P., R. B. Leighton, and M. Sands, 1963: *The Feynman lectures on physics. Vol. 1: Mainly mechanics, radiation, and heat.* Addison-Wesley Pub. Co.,
- Firestone, J. K. and B. A. Albrecht, 1986: The structure of the atmospheric boundary layer in the central equatorial Pacific during January and February of FGGE. *Mon. Wea. Rev.*, **114**, 2219-2231.
- Fjortoft, R., 1953: On the changes in the spectral distribution of kinetic energy for a two-dimensional non-divergent flow. *Tellus*, **5**, 225-230.
- Flatau, M., P. J. Flatau, P. Phoebus, and P. P. Niiler, 1997: The feedback between equatorial convection and local radiative and evaporative processes: The implications for intraseasonal oscillations. *J. Atmos. Sci.*, **54**, 2373-2386.
- Flierl, G., 1978: Models of vertical structure and the calibration of two-layer models. *Dyn. Atmos. Oceans*, **2**, 341-382.
- Fovell, R., D. Durran, and J. R. Holton, 1992: Numerical simulations of convectively generated stratospheric gravity waves. *J. Atmos. Sci.*, **49**, 1427-1442.
- Fowler, L. D., and D. A. Randall, 1994: A global radiative-convective feedback. *Geophys. Res. Lett.*, **21**, 2035 2038.
- Fowler, L. D., and D. A. Randall, 1996: Liquid and Ice Cloud Microphysics in the CSU General Circulation Model. Part 3: Sensitivity tests. *J. Climate*, **9**, 561-586.
- Fowler, L. D., D. A. Randall and S. A. Rutledge, 1996: Liquid and ice cloud microphysics in the CSU general circulation model. Part I: Model description and results of a baseline simulation. *J. Climate*, **9**, 489-529.

- Fu, C., and J. O. Fletcher, 1985: The relationship between Tibet-tropical ocean thermal contrast and interannual variability of Indian monsoon rainfall. *J. Climate Appl. Meteor.*, **24**, 841-847.
- Fu, R., A. D. Del Genio, W. B. Rossow, and W. T. Liu, 1992: Cirrus-cloud thermostat for tropical sea surface temperatures tested using satellite data. *Nature*, **358**, 394-397.

G

- Ganachaud, A., and C. Wunsch, 2000: Improved estimates of global ocean circulation, heat transport and mixing from hydrological data. *Nature*, **408**, 453–457.
- Garcia, R. R., and M. L. Salby, 1987: Transient response to localized episodic heating in the tropics. Part II. Far-field behavior. *J. Atmos. Sci.*, **44**, 499-530.
- Garcia, R. R., and M. L. Salby, 1987: Transient response to localized episodic heating in the tropics. Part II. Far-field behavior. J. Atmos. Sci., 44, 499-530.
- Geisler, J. E., and E. B. Kraus, 1969: The well-mixed Ekman boundary layer. *Deep Sea Res.*, Suppl. to Vol. **16**, 73-84.
- Geisler, J. E., 1981: A linear model of the Walker circulation, *J. Atmos. Sci.*, **38**, 1390-1400.
- Gent, P. R., and J. C. McWilliams, 1990: Isopycnal mixing in ocean circulation models. *J. Phys. Ocean.*, **20**, 150-155.
- Gent, P. R., and J. C. McWilliams, 1996: Eliassen-Palm fluxes and the momentum equation in non-eddy-resolving ocean circulation models. *J. Phys. Oceanogr.*, **26**, 2539-2546.
- Gill, A. E., 1980: Some simple solutions for heat-induced tropical circulation, Q. J. Roy. *Met. Soc.*, **106**, 447-462.
- Gill, A. E., 1982: Atmosphere-ocean dynamics. Academic Press, New York, 662 pp.
- Gill, A. E., 1982: Studies of moisture effects in simple atmospheric models: The stable case. *Geophys. Astrophys. Fluid Dyn.*, **19**, 119-152.
- Gleckler, P. J., D. A. Randall, G. Boer, R. Colman, M. Dix, V. Galin, M. Helfand, J. Kiehl, A. Kitoh, W. Lau, X.-Z. Liang, V. Lykossov, McAvaney, K. Miyakoda, S. Planton, and W. Stern, 1995: Interpretation of ocean energy transports implied by atmospheric general circulation models. *Geophys. Res. Lett.*, 22, 791-794.
- Gleick, J., 1987: Chaos: Making a new science. Viking Press, 352 pp.

- Goody, R. M., and Y. L. Yung, 1989: *Atmospheric Radiation Theoretical Basis*, 2nd Ed., New York: Oxford Univ. Press, 519 pp.
- Graham, N. E., and W. B. White, 1990: The role of the western boundary in the ENSO cycle: Experiments with coupled models. *J. Phys. Oceanogr.*, **20**, 1935-1948.
- Grassl, H., 1990.: The climate at maximum entropy production by meridional and atmospheric heat fluxes. *Quart. J. Roy. Meteor. Soc.*, **107**, 153-166.
- Gray, W.M., 1979: Hurricanes: their formation, structure and likely role in the tropical circulation. 156-218, *Meteorology over the Tropical Oceans*,. D.B. Shaw, Ed. Bracknell, Berkshire: Royal Meteorology Society.
- Green, J. S. A., 1970: Transfer properties of the large-scale eddies and the general circulation of the atmosphere. *Quart. J. Roy. Meteor. Soc.*, **96**, 157-185.
- Green, J. S. A., 1977: The weather during July 1976: Some dynamical considerations of the drought. *Weather*, **32**, 120-126.
- Gregory, D., and P. R. Rowntree, 1990: A mass flux convection scheme with representation of cloud ensemble characteristics and stability-dependent closure. *Mon. Wea. Rev.*, **118**, 1483-1506.
- Grell, G. A., Y.-H. Kuo and R. J. Pasch, 1991: Semiprognostic tests of cumulus parameterization schemes in the middle latitudes. *Mon. Wea. Rev.*, **119**, 5-31.
- Grose, W. L., and B. J. Hoskins, 1979: On the influence of orography on large-scale atmospheric flow. *J. Atmos. Sci.*, **36**, 223-234.
- Gu, D., and S. G. H. Philander, 1997: Interdecadal climate fluctuations that depend on exchanges between the tropics and extratropics. *Science*, **275**, 805-807.
- Gupta, S.K., 1989: A parameterization of longwave surface radiation from sunsynchronous satellite data. *J. Climate*, **2**,305-320.
- Gupta, S. K., Darnell, W. L., and Wilber, A. C., 1992: A parameterization for longwave surface radiation from satellite data: recent improvements. *J. Appl. Meteor.*, **31**, 1361-1367.
- Gupta, S. K., W. F. Staylor, W. L. Darnell, A. C. Wilber, and N. A. Ritchey, 1993: Seasonal variation of surface and atmospheric cloud radiative forcing over the globe derived from satellite data. *J. Geophys. Res.*, **98**. 20,761-20,778.

Η

- Hack, J. J., 1994: Parameterization of moist convection in the National Center for Atmospheric Research Community Climate Model (CCM2). *J. Geophys. Res.*, **99**, 5551-5568.
- Hack, J. J., W. H. Schubert, and P. L. Silva Dias, 1984: A spectral cumulus parameterization for use in numerical models of the tropical atmosphere. *Mon. Wea. Rev.*, **112**, 704-716.
- Hack, J. J., W. H. Schubert, D. E. Stevens, and H.-C. Kuo, 1989: Response of the Hadley circulation to convective forcing in the ITCZ. *J. Atmos. Sci.*, **46**, 2957-2973.
- Haertel, P. T. and R. H. Johnson, 1998: Two-day disturbances in the equatorial western Pacific. *Quart. J. Roy. Meteor. Soc.*, **124**, 615-636.
- Han, Y.-J., and S.-W. Lee, 1983: An analysis of monthly mean wind stress over the global ocean. *Mon. Wea. Rev.*, **111**, 1554-1566.
- Hart, J. E., 1979: Barotropic quasi-geostrophic flow over anisotropic mountains. *J. Atmos. Sci.*, **36**, 1736-1746.
- Haraguchi, P. Y., 1968: Inversions over the tropical eastern Pacific ocean. *Mon. Wea. Rev.*, **96**, 177-185.
- Harshvardhan, D.A. Randall, T.G. Corsetti and D.A. Dazlich, 1989: Earth radiation budget and cloudiness simulations with a general circulation model. *J. Atmos. Sci.*, **46**, 1922-1942.
- Hartmann, D. L., and J. R. Gross, 1988: Seasonal variability of the 40-50 day oscillation in wind and rainfall in the tropics. *J. Atmos. Sci.*, **45**, 2680-2702.
- Hartmann, D. L., and M. L. Michelsen, 1989: Intraseasonal periodicities in Indian rainfall. *J. Atmos. Sci.*, **46**, 2838-2862.
- Hartmann, D. L., and M. L. Michelsen, 1993: Large-scale effects on the regulation of tropical sea surface temperature. *J. Climate*, **6**, 2049-2062.
- Hartmann, D. L., M. E. Ockert-Bell, and M. L. Michelson, 1992: The effect of cloud type on the Earth's energy balance: Global analysis, *J. Climate*, **5**, 1281-1304.
- Harman, P. M., 1998: *The natural philosophy of James Clerk Maxwell*. Cambridge Univ. Press, 2323 pp.
- Hastenrath, S., 1971: On meridional circulation and heat budget of the troposphere over the equatorial central Pacific, *Tellus*, **23**, 60-73.
- Hastenrath, S., 1998: Contribution to the circulation climatology of the eastern equatorial

- Pacific: Lower atmospheric jets, J. Geophys. Res., **D16**, 19433-19451.
- Haurwitz, B., 1937: The oscillations of the atmosphere. *Gerlands Beitrage zur Geophysik*, **51**, 195-233.
- Haurwitz, B., 1956: The geographical distribution of the solar semidiumal pressure oscillation. *Meteor. Papers*, New York Univ., 2, No. 5, 36 pp.
- Haurwitz, B., and S. Chapman, 1967: Lunar air tide. *Nature*, 213, 9-13.
- Hayashi, Y., 1970: A theory of large-scale equatorial waves generated by condensation heat and accelerating the zonal wind. *J. Meteor. Soc. Japan*, **48**, 140-160.
- Hayashi, Y.-Y. and A. Sumi, 1986: 30-40-day oscillations simulated in an "aqua planet" model. *J. Meteor. Soc. Japan*, **64**, 451-467.
- Hayashi, Y., and S. Miyahara, 1987: A three-dimensional linear response model of the tropical intraseasonal oscillation. *J. Met. Soc. Japan*, **65**, 843 852.
- Heckley, W. A., 1985: Systematic errors of the ECMWF operational forecasting model in tropical regions. *Quart. J. Roy. Meteor. Soc.*, **111**, 709-738.
- Held, I. M. and A. Y. Hou, 1980: Nonlinear axially symmetric circulations in a nearly inviscid atmosphere. *J. Atmos. Sci.*, **37**, 515-533.
- Held, I. M., 1983: Stationary and quasi-stationary eddies in the extratropical troposphere: Theory. In *Large-scale dynamical processes in the atmosphere*, Hoskins, B. J., and R. P. Pearce Eds., Academic Press, New York, 397 pp.
- Hendon, H. H. and J. Glick, 1997: Intraseasonal air-sea interaction in the tropical Indian and Pacific Oceans. *J. Climate*, **10**, 647-661.
- Hendon, H. H., and B. Liebmann, 1990: The intraseasonal (30 50 day) oscillation of the Australian summer monsoon. *J. Atmos. Sci.*, **47**, 2909 2923.
- Hide, R, and J. O. Dickey, 1991: Earth's variable rotation. Science, 253, 629-637.
- Hirst, A. C., 1986: Unstable and damped equatorial modes in simple coupled ocean-atmosphere models. *J. Atmos. Sci.*, **43**, 606-630.
- Holton, J.R., 1972: Waves in the equatorial stratosphere generated by tropical heat sources. *J. Atmos. Sci.*, **29**, 368-375.
- Holton, J. R., 1992: An introduction to dynamic meteorology, Third Edition, Academic Press, Inc., *International Geophysics Series*, **48**, 511 pp.

- Holton, J. R., 1975: The Dynamic Meteorology of the Stratosphere and Mesosphere. *Meteorological Monographs*, **15**, American Meteorological Society, 218 pp.
- Holton, J. R., and R. S. Lindzen, 1972: An updated theory for the quasi-biennial cycle of the tropical stratosphere. *J. Atmos. Sci.*, **29**, 1076-1080.
- Holton, J. R., and T. Matsuno, 1984: *Dynamics of the Middle Atmosphere*. Advances in Earth and Planetary Sciences, Terra Scientific Publishing Company, Tokyo, Japan, 543 pp.
- Hoskins, B. J., 1991: Towards a PV-theta view of the general circulation. Tellus, 43, 27-35.
- Hoskins, B. J., 1996: On the existence and strength of the summer subtropical anticyclones. *Bull. Amer. Meteor. Soc.*, **77**, 1287-1292.
- Hoskins, B. J. and D. J. Karoly, 1981: The steady linear response of a spherical atmosphere to thermal and orographic forcing. *J. Atmos. Sci.*, **38**, 1179-1196.
- Hoskins, B. J., M. E. McIntyre, and A. W. Robertson, 1985: On the use and significance of isentropic potential vorticity maps. *Quart. J. Roy. Meteor. Soc.*, **111**, 877-946.
- Hough, S. S., 1898: On the application of harmonic analysis to the dynamical theory of the tides. Part II. On the general integration of Laplace's dynamical equations. *Phil. Trans. Roy. Soc. London*, **A191**, 139-185.
- Hsu, Y.-J., and A. Arakawa, 1990: Numerical modeling of the atmosphere with an isentropic vertical coordinate. *Mon. Wea. Rev.*, **118**, 1933-1959.
- Hsu, H.-H., and B. J. Hoskins, 1989: Tidal fluctuations as seen in ECMWF data. *Q. J. R. Meteorol. Soc.*, **115**, 247-264.
- Hsu, H. H., B. J. Hoskins, and F. F. Jin, 1990: The 1985/86 intraseasonal oscillation and the role of the extratropics. *J. Atmos. Sci.*, **47**, 823-839.
- Hu, Q., 1992: Low-frequency oscillations in radiative-convective models. *Ph.D. thesis, Colorado State University*, 196 pp.
- Hu, Q. and D. A. Randall, 1994: Low-frequency oscillations in radiative-convective systems. *J. Atmos. Sci.*, **51**, 1089-1099.
- Hu, Q., and D. A. Randall, 1995: Low-frequency oscillations in radiative-convective systems. Part II: An idealized model. *J. Atmos. Sci.*, **52**, 478-490.
- Hurrell, J. W., 1995: Decadal trends in the North Atlantic Oscillation regional temperatures and precipitation. *Science*, **269**, 676-679.

- Hurrell, J. W., and H. Van Loon, 1997: Decadal variations in climate associated with the North Atlantic Oscillation. *Climatic Change*, **36**, 301-326.
- Huang, H.-P., and W. A. Robinson, 1998: Two-dimensional turbulence and persistent zonal jets in a global barotropic model. *J. Atmos. Sci.*, **55**, 611-632.Huffman. G. J., R. F. Adler, P. Arkin, A. Chang, R. Ferraro, A. Gruber, J. Janowiak, A. McNab, B. Rudolf, and U. Schneider, 1997: The Global Precipitation Climatology Project (GPCP) Combined Precipitation Dataset. *Bull. Amer. Meteor. Soc.*, **78**, 5-20.

- Illari, L., 1982: Diagnostic study of the potential vorticity in a warm blocking anticyclone. *J. Atmos. Sci.*, **41**, 3518-3526. Imbrie, J., and K. P. Imbrie, 1979: *Ice Ages: Solving the Mystery*. Harvard University Press, 224 pp.
- Ingersoll, A. P., 1990: Atmospheric dynamics of the outer planets. *Science*, **248**, 308-315.
- Inness, P. M., J. M. Slingo, S. J. Woolnough, and R. B. Neale, 2001: Organization of tropical convection in a GCM with varying vertical resolution: Implications for the simulation of the Madden-Julian oscillation. *J. Climate*. in press

J

- Jacchia, L. G., and Z. Kopal, 1951: Atmospheric oscillations and the temperature of the upper atmosphere. *J. Meteorol.*, **9**, 13-23.
- Jackson, D. L., and G. L. Stephens, 1995: A study of SSM/I derived precipitable water over the global oceans. *J. Climate*, **8**, 2025-2038.
- James, I. N., 1994: *Introduction to Circulating Atmospheres*. Cambridge University Press, 422 pp.
- Jin, F.-F., J. D. Neelin, and M. Ghil, 1994: El Niño on the devil's staircase: Annual subharmonic steps to chaos. *Science*, **264**, 70-72.
- Johnson, R. H., 1976: The role of convective-scale precipitation downdrafts in cumulus and synoptic-scale interaction. *J. Atmos. Sci.*, **33**, 1890-1910.
- Johnson, R. H., T. M. Rickenbach, S. A. Rutledge, P. E. Ciesielski, and W. H. Schubert. Trimodal characteristics of tropical convection. *J. Climate*, **12**, 2397-2418.
- Johnson, R. H., and R. A. Houze, Jr., 1987: Precipitating cloud systems of the Asian monsoon. In *Monsoon Meteorology*, ed. by C.-P. Chang and T. N. Krishnamurti. Oxford University Press, New York City, 298-353.

Julian, P. R., and R. M. Chervin, 1978: Study of the Southern Oscillation and Walker Circulation phenomenon. *Mon. Wea. Rev.*, **106**, 1433-1451.

K

- Kao, C.-Y. J. and Y. Ogura, 1987: Response of cumulus clouds to large-scale forcing using the Arakawa-Schubert cumulus parameterization. *J. Atmos. Sci.*, **44**, 2437-2458.
- Kato, S., 1966: Diurnal atmospheric oscillation, 1. Eigenvalues and Hough functions. *J. Geophys. Res.*, **71**, 3201-3209.Kasahara, A., 1974: Various vertical coordinate systems used for numerical weather prediction. *Mon. Wea. Rev.*, **102**, 509-522.
- Kelly, M. A., 1998: A Simple Model of Ocean-Atmosphere Interactions in the Tropical Climate System. Ph.D. thesis, Colorado State University.
- Kelly, M. A., D. A. Randall, and G. L. Stephens, 1999: A simple radiative-convective model with a hydrologic cycle and interactive clouds. *Quart. J. Roy. Met. Soc.*, **125**, 837-869.
- Kelly, M. A., and D. A. Randall, 2000: The effects of the vertical distribution of water vapor on the strength of the Walker Circulation. *J. Climate* (in press).
- Kiehl, J. T., 1994: On the observed near cancellation between longwave and shortwave cloud forcing in tropical regions. *J. Climate*, **7**, 559-565.Killworth, P. D., 1983: Deep convection in the world oceans. *Rev. Geophys. Space Phys.*, **21**, 1-26.
- Klein, S. A. and D. L. Hartmann, 1993: The seasonal cycle of low stratiform clouds. *J. Climate*, **6**, 1587-1606.
- Kraus, E. B., and J. S. Turner, 1967: A one-dimensional model of the seasonal thermocline. II. The general theory and its consequences. *Tellus*, **19**, 98-105.
- Kraus, E. B., and L. D. Leslie, 1982: The interactive evolution of the oceanic and atmospheric boundary layers in the source regions of the trades. *J.Atmos. Sci.*, **39**, 2760-2772.
- Kemball-Cook, S. R. and B. C. Weare, 2000: The onset of convection in the Madden-Julian oscillation. Submitted, *J. Climate*.
- Kiehl, J. T., and K. E. Trenberth, 1997: Earth's annual global mean energy budget. *Bull. Amer. Meteor. Soc.*, **78**, 197-208.
- Knutson, T. R., and K. N. Weickmann, 1987: 30 60 day atmospheric oscillations: Composite life cycles of convection and circulation anomalies. *Mon. Wea. Rev.*, **115**, 1407-1436.

- Kolmogorov, A. N., 1941: The local structure of turbulence in incompressible viscous fluid for very large Reynolds numbers. *Dok. Akad. Mauk SSSR*, **30**, 301-305.
- Konor, C. S., and A. Arakawa, 1997: Design of an atmospheric model based on a generalized vertical coordinate. *Mon Wea. Rev.*, **125**, 1649-1673.
- Kraus, E. B., and J. S. Turner, 1967: A one-dimensional model of the seasonal thermocline. II. The general theory and its consequences. *Tellus*, **19**, 98-105.
- Krishnamurti, T.N., and D. Subrahmanyam, 1982: The 30-50 day mode at 850 mb during MONEX.*J. Atmos. Sci.*, **39**, 2088-2095
- Krishnamurti, T. N., H. S. Bedi, and M Subramaniam, 1989: The summer monsoon of 1987. *J. Climate*, **2**, 321-340.
- Krishnamurti, T. N., H. S. Bedi, and M Subramaniam, 1990: The summer monsoon of 1988. *Meteorol. Amos. Phys.*, **42**, 19-37.
- Krueger, S. K., 1988: Numerical simulation of tropical cumulus clouds and their interaction with the subcloud layer. *J. Atmos. Sci.*, **45**, 2221-2250.
- Kuo, H. L., 1965: On formation and intensification of tropical cyclones throughout latent heat release by cumulus convection. *J. Atmos. Sci.*, **22**, 40-63.

L

- Laplace, P. S., 1832: *Méchanique Céleste*, 4 vols, (Translated by N. Bowditch), Boston. The relevant section is Part I, Book IV, Section 3, p. 543.
- Larson, K., D. L. Hartmann, and S. A. Klein, 1999: Climate sensitivity in a two box model of the tropics. Accepted by the *J. Climate*, In press.
- Latif, M., and T. P. Barnett, 1994: Causes of decadal climate variability over the North Pacific and North America. *Science*, **266**, 634-637.
- Latif, M., and T. P. Barnett, 1996: Decadal climate variability over the North Pacific and North America: dynamics and predictability. *J. Climate*, **9**, 2407-2423.
- Latif, M., R. Kleeman, R., and C. Eckert, 1997: Greenhouse warming, decadal variability, or El Niño? An attempt to understand the anomalous 1990s. *J. Climate*, **10**, 2221-2239.
- Lau, K.-M., and H. Lim, 1982: Thermally driven motions in an equatorial b-plane: Hadley and Walker circulations during the winter monsoon. *Mon. Wea. Rev.*, **110**, 336-353.

- Lau, K.-M., C.-H. Sui, M.-D. Chou, and W.-K. Tao, 1994: An inquiry into the cirrus cloud thermostat effect for tropical sea surface temperatures. *Geophys. Res. Let.*, **21**, 1157-1160.
- Lau, K.-M., H.-T. Wu, and Bony, S., 1997: The role of large-scale circulation in the relationship between tropical convection and sea surface temperature. *J. Climate*, **10**, 381-392.
- Lau, K.-M., and H. Lim, 1982: Thermally driven motions in an equatorial b-plane: Hadley and Walker circulations during the winter monsoon, *Mon. Wea. Rev.*, **110**, 336-353.
- Lau, K.M., and P.H. Chan, 1985: Aspects of the 40 50 day oscillation during northern winter as inferred from outgoing long wave radiation. *Mon. Wea. Rev.*,. **113**, 1889-1909.
- Lau, K.M., and L. Peng, 1987: Origin of the low-frequency (intraseasonal) oscillations in the tropical atmosphere. Part I: Basic theory. *J. Atmos. Sci.*, **44**, 950-972.
- Lau, K.-M. and C.-H. Sui, 1997: Mechanisms of short-term sea surface temperature regulation: Observations during TOGA COARE. *J. Climate*, **10**, 465-472.
- Lau, N -C., 1985: Modeling the seasonal dependence of the atmospheric response to observed El Niños in 1962-76. *Mon. Wea. Rev.*, **113**, 1970-1996.
- Lau, N.-C., 1997: Interactions between global SST anomalies and the midlatitude atmospheric circulation. *Bull. Amer. Meteor. Soc.*, **78**, 21-33.
- Lavin, A., H. L. Bryden, and G. Parrilla, 1998: Meridional transport and heat flux variations in the subtropical North Atlantic. *Global Atmos. Ocean Syst.*, **6**, 269–293.
- Legates, D.R. and C.J. Willmott. 1990: Mean seasonal and spatial variability in gauge-corrected global precipitation. *Int. J. Climatology* **10**, 111-127.
- Leith, C. E., 1968: Diffusion approximation for two-dimensinoal turbulence. *Phys. Fluids*, **11**, 671-673.
- Lewis, J. S., and R. G. Prinn, 1984: Planets and their atmospheres. Academic Press, 470 pp.
- Li, T., and S. G. H. Philander, 1996: On the annual cycle of the eastern equatorial Pacific. *J. Climate*, **9**, 2986-2998.
- Li, T., and S. G. H. Philander, 1997: On the seasonal cycle of the equatorial Atlantic Ocean. *J. Climate*, **10**, 813-817.
- Lilly, D. K., 1968: Models of cloud-topped mixed layers under a strong inversion. Quart.

- J. Roy. Meteor. Soc., 94, 292-309.
- Lilly, D. K., 1972: Numerical simulation studies of two-dimensional turbulence. *Geophys. Fluid Mech.*, **3**, 289-319; **4**, 1-28.
- Lilly, D. K., 1983: Stratified turbulence and the mesoscale variability of the atmosphere. *J. Atmos. Sci.*, **40**, 749-761.
- Lilly, D. K., 1998: Stratified turbulence in the atmospheric mesoscales. *Theoret. Comput. Fluid Dyn.*, **11**, 139-153.
- Lilly, D. K. and B. F. Jewett, 1990: Momentum and kinetic energy budgets of simulated supercell thunderstorms. *J. Atmos. Sci.*, **47**, 707-726.
- Lim, H., and C. P. Chang, 1983: Dynamics of teleconnections and Walker circulations forced by equatorial heating. *J. Atmos. Sci.*, **40**, 1897-1915.
- Lin, C., and A. Arakawa, 1997 a: The macroscopic entrainment processes of simulated cumulus ensemble. Part I: Entrainment sources. *J. Atmos. Sci.*, **54**, 1027-1043.
- Lin, X. and R. H. Johnson, 1996: Kinematic and thermodynamic characteristics of the flow over the western Pacific warm pool during TOGA COARE. *J. Atmos. Sci.*, **53**, 695-715.
- Lindzen, R. S., and S. Nigam, 1987: On the role of sea surface temperature gradients in forcing low-level winds and convergence in the tropics. *J. Atmos. Sci.*, **44**, 2418-2436.
- Liu, W. T., 1986: Statistical relation between monthly mean precipitable water and surface-level humidity over global oceans. *Mon. Wea. Rev.*, **114**, 1591 1602.
- Liu, Z., 1997: Oceanic regulation of the atmospheric Walker circulation. *Bull. Amer. Meteor. Soc.*, **78**, 407-412.
- Liu, Z., and B. Huang, 1997: A coupled theory of tropical climatology: Warm pool, cold tongue, and Walker circulation. *J. Climate*, **10**, 1662-1679, 1997.
- Lindzen, R. S., 1966: On the theory of the diurnal tide. Mon. Wea. Rev., 94, 295-301.
- Lindzen, R.S., 1974: Wave-CISK in the tropics. *J. Atmos. Sci.*, **31**, 156-179.
- Lindzen, R. S., 1990: *Dynamics in Atmospheric Physics*, Cambridge University Press, 310 pp.
- Lindzen, R. S., and A. Y. Hou, 1988: Hadley circulations for zonally averaged heating centered off the equator. *J. Atmos. Sci.*, **45**, 2416-2427.

- Longuet-Higgins, M. S., 1968: The eigenfunctions of Laplace's tidal equations over a sphere. *Phil. Trans. Roy. Soc. London*, **A262**, 511-607.
- Lord, S. J., 1982: Interaction of a cumulus cloud ensemble with the large-scale environment, Part III: Semi-prognostic test of the Arakawa-Schubert cumulus parameterization. *J. Atmos. Sci.*, **39**, 88-103.
- Lord, S. J. and A. Arakawa, 1980: Interaction of a cumulus cloud ensemble with the large-scale environment, Part II. *J. Atmos. Sci.*, **37**, 2677-2692.
- Lord, S. J. and W. C. Chao and A. Arakawa, 1982: Interaction of a cumulus cloud ensemble with the large-scale environment, Part IV: The discrete model. *J. Atmos. Sci.*, **39**, 104-113.
- Lorenz, E. N., 1960: Energy and numerical weather prediction. *Tellus*, **12**, 364-373.
- Lorenz, E. N., 1960: Generation of available potential energy and the intensity of the general circulation. In *Dynamics of Climate*, R. L. Pfeffer, Ed., Pergamon, Oxford, pp. 86-92.
- Lorenz, E. N., 1955: Available potential energy and the maintenance of the general circulation. *Tellus*, **7**, 157-167.
- Lorenz, E. N., 1963: Deterministic nonperiodic flow. J. Atmos. Sci., 20, 130-141.
- Lorenz, E. N., 1967: *The nature and theory of the general circulation of the atmosphere*. World Meteorological Organization, Geneva, No. 218, TP115, 161 pp.
- Lorenz, E. N., 1969: Three approaches to atmospheric predictability. *Bull. Amer. Meteor. Soc.*, **50**, 345-349.
- Lorenz, E. N., 1975: Nondeterministic theories of climatic change. *Quaternary Research*, **6**, 495-506.
- Lorenz, E. N., 1978: Available energy and the maintenance of a moist circulation. *Tellus*, **30**, 15-31.
- Lorenz, E. N., 1979: Numerical evaluation of moist available energy. *Tellus*, 31, 230-235.
- Lorenz, E. N., 1982: Atmospheric predictability experiments with a large numerical model. *Tellus*, **34**, 505-513.
- Lorenz, E. N., 1984: Irregularity: A fundamental property of the atmosphere. *Tellus*, **36A**, 98-110.
- Lorenz, E. N., 1990: Can chaos and intransitivity lead to interannual variability? *Tellus*,

- **42A**, 378-389.
- Lorenz, E. N., 1993: *The essence of chaos*. Univ. Washington Press, 227 pp.
- Lorenz, R.D., 2001: Driven to extremes. New Scientist, 172, 38-42.
- Lorenz, R. D., J. I. Lunine, P. G. Withers, and C. P. McKay, 2001: Titan, Mars and Earth: Entropy production by latitudinal heat transport. *Geophys. Res. Lett.*, **28**, 415-418.

M

- Ma, C.-C., C. R. Mechoso, A. Arakawa, and J. D. Farrara, 1994: Sensitivity of a coupled ocean-atmosphere model to physical parameterizations. *J. Climate*, **7**, 11883-1896.
- Ma, C.-C., C. R. Mechoso, A. W. Robertson, A. Arakawa, 1996: Peruvian stratus clouds and the tropical Pacific circulation: a coupled ocean-atmosphere GCM study, *J. Climate*, **9**, 1635-1645.
- MacDonald, A. M., and C. Wunsch, 1996: An estimate of global ocean circulation and heat fluxes. *Nature*, **382**, 436–439.
- Maloney, E. E. and D. L. Hartmann, 1998: Frictional moisture convergence in a composite life cycle of the Madden-Julian oscillation. *J. Climate*, **11**, 2387-2403.
- Madden, R., and P.R. Julian, 1971: Detection of a 40-50 day oscillation in the zonal wind in the tropical Pacific. *J. Atmos. Sci.*, **28**, 1109-1123.
- Madden, R. A., and P. R. Julian, 1972 a: Description of global scale circulation cells in the tropics with a 40-50 day period. *J. Atmos. Sci.*, **29**, 1109-1123.
- Madden, R. A., and P. R. Julian, 1972 b: Further evidence of global-scale 5-day pressure waves. *J. Atmos. Sci.*, **29**, 1464-1469.
- Madden, R. A., and P. R. Julian, 1994: Observations of the 40-50-day tropical oscillation -- A review. *Mon. Wea. Rev.*, **122**, 814-837.
- Manabe, S., and K. Bryan, 1969: Climate calculation with a combined ocean-atmosphere model. *J. Atmos. Sci.*, **26**, 786-789.
- Manabe, S., and F. Möller, 1961: On the radiative equilibrium and heat balance of the atmosphere. *Mon. Wea. Rev.*, **89**, 503-532.
- Manabe, S., and R. J. Stouffer, 1988: Two stable equilibria of a coupled ocean-atmosphere

- model. J. Climate, 1, 841-866.
- Manabe, S., and R. F. Strickler, 1964: Thermal equilibrium of the atmosphere with a convective adjustment. *J. Atmos. Sci.*, **21** 361-385.
- Manabe, S., and T. Terpstra, 1974: The effects of mountains on the general circulation of the atmosphere as identified by numerical experiments. *J. Atmos. Sci.*, **31**, 3-42.
- Manabe, S., J. Smagorinsky and R. F. Strickler, 1965: Simulated climatology of a general circulation model with a hydrologic cycle. *Mon. Wea. Rev.*, **93**, 769-797.
- Manabe, S., and R. T. Wetherald, 1967: Thermal equilibrium of the atmosphere with a given distribution of relative humidity. *J. Atmos. Sci.*, **24**, 241-259.
- Margules, M., 1893: *Luftbewegungen in einer Rotierended Spharoidschale* (II. Teil). Sitzungsber. Kais. Akad. Wiss. Wien, Math.-Nat. Cl. **102**, Abt. IIA, 11-56. [English translation: "Air motion in a rotating spherical shell, by Max Margules" (B. Haurwitz, transl.). NCAR Tech. Note NCAR.TN-156+STR.]
- Maruyama, T., and M. Yanai, 1967: Evidence of large-scale wave disturbances in the equatorial lower stratosphere. *J. Meteor. Soc. Japan*, **45**, 196-199.
- Masuda, K., 1988: Meridional heat transport by the atmosphere and the ocean: Analysis of FGGE data. *Tellus*, **40A**, 285-302.
- Matsuno, T., 1966: Quasigeostrophic motions in the equatorial area. *J. Meteor. Soc. Japan*, **44**, 25-43.
- Matsuno, T., 1971: A dynamical model of the stratospheric warming. *J. Atmos. Sci.*, **28**, 1479-1494.
- McCreary, J., 1981: Linear, stratified ocean model of the equatorial undercurrent. *Roy. Soc. London, Philosophical Transactions, Ser. A*, **298**, 603-635.
- McCreary, J. P., 1981: A linear stratified ocean model of the equatorial undercurrent. *Philos. Trans. R. Soc. London*, **298**, 603-635.
- McFarlane, N. A., 1987: Effect of orographically excited gravity wave drag on the general circulation of the lower stratosphere and troposphere. *J. Atmos. Sci.*, **44**, 1775-1800.
- McWilliams, J. C., 1980: An application of equivalent modons to atmospheric blocking. *Dyn. Atmos. Oceans.*, **5**, 43-66.
- McWilliams, J. C., 1984: The emergence of isolated coherent vortices in turbulent flow. *J. Fluid Mech.*, **146**, 21-43.

- McWilliams, J. C., G. R. Flierl, V. D. Larichev, and G. M. Reznik, 1981: Numerical studies of barotropic modons. *Dyn. Atmos. Oceans*, **5**, 219-238.
- McWilliams, J. C., J. B. Weiss, and I. Yavneh, 1994: Anisotropy and coherent vortex structures in planetary turbulence. *Science*, **264**, 410-413.
- Mechoso, C. R., A. W. Robertson, N. Barth, M. K. Davey, P. Delecluse, P. R. Gent, S. Ineson, S. B. Kirtman, M. Latif, H. Le Treut, T. Nagal, J. D. Neelin, S. G. H. Philander, J. Polcher, P. S. Schopf, T. Stockdale, M. J. Suarez, L. Terray, O. Thual, and J. J. Tribbia, 1995: The seasonal cycle over the tropical Pacific in coupled ocean-atmosphere general circulation models. *Mon. Wea. Rev.*, **123**, 2825-2838.
- Meehl, G. A., G. N. Kiladis, K. M. Weickmann, M. Wheeler, D. S. Gutzler, and G. P. Compo, 1996: Modulation of equatorial subseasonal convective episodes by tropical-extratropical interaction in the Indian and Pacific Ocean regions. *J. Geophys. Res.*, **101**, 15033-15049.
- Merilees, P. E., and T. Warn, 1972: The resolution implications of geostrophic turbulence. *J. Atmos. Sci.*, **29**, 990-991.
- Merilees, P. E., and T. Warn, 1975: On energy and enstrophy exchanges in two-dimensional non-divergent flow. *J. Fluid Dyn.*, **69**, 625-630.
- Miller, R. L., and X. Jiang, 1996: Surface energy fluxes and coupled variability in the tropics of a coupled general circulation model. *J. Climate*, **9**, 1599-1620.
- Miller, R. L., 1997: Tropical thermostats and low cloud cover. *J. Climate*, **10**, 409-440. Miller, R. L., 1997: Tropical thermostats and low cloud cover. *J. Climate*, **10**, 409-440.
- Mitchell, H. L., and J. Derome, 1983: Blocking-like solutions of the potential vorticity equation: Their stability at equilibrium and growth at resonance. *J. Atmos. Sci.*, **40**, 2522-2536.
- Mo, K., J. O. Dickey, and S. L. Marcus, 1997: Interannual fluctuations in atmospheric angular momentum simulated by the National Centers for Environmental Prediction medium range forecast model. *J. Geophys. Res.*, **102**, 6703-6713.
- Moorthi, S., and M. J. Suarez, 1992: Relaxed Arakawa-Schubert: A parameterization of moist convection for general circulation models. *Mon. Wea. Rev.*, **120**, 978-76.
- Mooley, D. A., and J. Shukla, 1987: Variability and forecasting of the summer monsoon rainfall over India. In *Monsoon Meteorology*, ed. by C.-P. Chang and T. N. Krishnamurti. Oxford University Press, New York City, 26-59.

- Morel, P., Ed., 1973: Dynamic meteorology. D. Reidel Publishing Co., Boston, 622 pp.
- Moura, A. D., and J. Shukla, 1981: On the dynamics of droughts in northeast Brazil: Observations, theory, and numerical experiments with a general circulation model. *J. Atmos. Sci.*, **38**, 2653-2675.
- Murakami, T., L. X. Chen, A. Xie, and M. L. Shrestha, 1986: Eastward propagation of 30-60 day perturbations as revealed from outgoing longwave radiation data. *J. Atmos. Sci.*, **43**, 961-971.
- Murakami, T., 1987: Intraseasonal atmospheric teleconnection patterns during the Northern Hemisphere summer. *Mon. Wea. Rev.*, **115**, 2133-2154.
- Murakami, T., 1987: Effects of the Tibetan Plateau. In *Monsoon Meteorology*, ed. by C. P. Chang and T. N. Krishnamurti. Oxford University Press, New York City, 235-270.

N

- Nakazawa, T., 1988: Tropical super clusters within intraseasonal variations over the western Pacific. *J. Meteor. Soc. Japan*, **66**, 823-839.
- Nakazawa, T., 1986: Intraseasonal variations in OLR in the tropics during the FGGE year. *J. Meteor. Soc. Japan*, **64**, 17-34.
- Nastrom, G. D., and K. S. Gage, 1985: A climatology of aircraft wavenumber spectra observed by commercial aircraft. *J. Atmos. Sci.*, **42**, 950-960.
- Nakajima, K., and T. Matsuno, 1988: Numerical experiments concerning the origin of cloud clusters in the tropical atmosphere. *J. Meteor. Soc. Japan*, **66**, 309-329.
- Neelin, J. D., Battisti, D. S., Hirst, A. G., Jin, F.-F., Wakata, Y., Yamagata, T., Zebiak, S. E., 1998: ENSO theory, *J. Geophys. Res.*, **103**, 14261-14,290.
- Neelin, J. D., and H. A. Dijkstra, 1995: Ocean-atmosphere interaction and the tropical climatology. Part I: The dangers of flux correction. *J. Climate*, **8**, 1325-1342.
- Neelin, J. D., and I. M. Held, 1987: Modeling tropical convergence based on the moist static energy budget. *Mon. Wea. Rev.*, **115**, 3-12.
- Neelin, J.D., I.M. Held and K.H. Cook, 1987: Evaporation-wind feedback and low-frequency variability in the tropical atmosphere. *J. Atmos. Sci.*, **44**, 2241-2248.
- Neelin, J. D., and F.-F. Jin, 1993: Modes of interannual tropical ocean-atmosphere interaction-a unified view, II, Analytical results in the weak coupling limit, *J. Atmos. Sci.*, **50**, 3504-3533.

- Neelin, J. D., F.-F. Jin, and M. Latif, 1994: Dynamics of coupled ocean-atmosphere models: The tropical problem. *Ann. Rev. Fluid Mech.*, **26**, 617-659.
- Neelin, J. D., M. Latif, M. A. F. Allaart, M. A. Cane, U. Cubasch, W. L. Gates, P. R. Gent, M. Ghil, C. Gordon, N. C. Lau, C. R. Mechoso, G. A. Meehl, J. M. Oberhuber, S. G. H. Philander, P. S. Schopf, K. R. Sperber, A. Sterl, T. Tokioka, J. Tribbia, and S. E. Zebiak, 1992: Tropical air-sea interaction in general circulation models. *Climate Dynamics*, 7, 73-104.
- Neelin, J. D. and J.-Y. Yu, 1994: Modes of tropical variability under convective adjustment and the Madden-Julian oscillation. Part I: Analytical theory. *J. Atmos. Sci.*, **51**, 1876-1894.
- Newell, R. E., J. W. Kidson, D. G. Vincent and G. J. Boer, 1974: *The General Circulation of the Tropical Atmosphere*, Vol. 2, The MIT Press, 371 pp.
- Newell, R. E., Y. Zhu, E. V. Browell, W. G. Read, J. W. Waters, 1996: Walker circulation and tropical upper tropospheric water vapor. *J. Geophys. Res.*, **101**, D1, 1961-1974.
- Newton, C. W., 1971: Mountain torques in the global angular momentum balance. *J. Atmos. Sci.*, **28**, 623-628.
- Newton, C. W., 1972: Southern hemisphere general circulation in relation to global energy ad momentum balance requirements. *Meteor. Monogr.*, **35**, 215-246.
- Nieto Ferreira, R. 1994: On the dynamics of the formation of multiple tropical disturbances. *Atmospheric Science Paper No. 559*, Dept. of Atmos. Sci., CSU.
- Niiler, P. P., 1975: Deepening of the wind-mixed layer. J. Marine Res., 33, 405-422.
- Niiler, P. P., and E. B. Kraus, 1977: One-dimensional models of the upper ocean. In *Modelling and prediction of the upper layers of the ocean*, E. B. Kraus, ed., Pergamon Press, New York, pp. 143-172.
- Nitta, T., 1975: Observational determination of cloud mass flux distributions. *J. Atmos. Sci.*, **32**, 73-91.

0

- Ohmura, H. and Ozuma, A., 1997: Thermodynamics of a global-mean state of the atmosphere: A state of maximum entropy increase. *J. Climate*, **10**, 441-445.
- Oort, A. H., 1983: Global atmospheric circulation statistics, 1958-1973. *NOAA Prof. Paper 14*, 180 pp.

- Oort, A. H., 1985: Balance conditions in the Earth's climate system. *Adv. in Geophys.*, **28A**, 75-98.
- Oort, A. H., 1989: Angular momentum cycle in the atmosphere-ocean-solid earth system. *Bull. Amer. Meteor. Soc.*, **70**, 1231-1242.
- Oort, A. H., and E. M. Rasmusson, 1971: *Atmospheric circulation statistics*. NOAA Prof. Pap. No. 5, U. S. Dept. of Commerce, Washington D. C., 323 pp.
- Oort, A. H., and T. H. VonderHaar, 1976: On the observed annual cycle in the ocean-atmosphere heat balance over the Northern Hemisphere. *J. Phys. Oceanogr.*, **6**, 781-800.
- Oort, A. H., and J. J. Yienger, 1996: Observed interannual variability in the Hadley circulation and its connection to ENSO. *J. Climate*, **9**, 2751-2767.
- Ooyama, K., 1971: A theory on parameterization of cumulus convection. *J. Meteor. Soc. Japan*, **49**, (Special Issue), 744-756.
- Orton, G. S., A. J. Friedson, P. A. Yanamandra-Fisher, J. Caldwell, H. B. Hammel, K. H. Baines, J. T. Bergstrahl, T. Z. Martin, R. A. West, G. J. Veeder Jr., D K. Lynch, R. Russell, M. E. Malcom, W. F. Golisch, D. M. Griep, C. D. Kaminski, A. T. Tokunaga, T. Herbst, and M. Shure, 1994: Spatial organization and time dependence of Jupiter's tropospheric temperatures, 1980-1993. *Science*, **265**, 625-631.

P

- Paldor, N., and P. D. Killworth, 1988: Inertial trajectories on a rotating earth. *J. Atmos. Sci.*, **45**, 4013-4019.
- Palmén, E., and C. W. Newton, 1969: *Atmospheric circulation systems*. Academic Press, Inc., New York, 603 pp.
- Palmer, T. N., and D. L. T. Anderson, 1994: The prospects for seasonal forecasting: a review paper. *Quart. J. Roy. Meteor. Soc.*, **120**, 755-7934.Pan, D.-M., and D. A. Randall, 1998: A Cumulus Parameterization with a Prognostic Closure. *Quart. J. Roy. Met. Soc.*, **124**, 949-981.
- Palmer, T. N., 1993: Extended range atmospheric prediction and the Lorenz model. *Bull. Amer. Meteor. Soc.*, **74**, 49-65.
- Palmer, T. N., and D. L. T. Anderson, 1995: The prospects for seasonal forecasting: A review. *Quart. J. Roy. Metoro. Soc.*, **120**, 755-793.

- Palmer, T. N., 1999: A nonlinear dynamical perspective on climate prediction. *J. Climate*, **12**, 575-591.
- Paltridge, G. W., 1975: Global dynamics and climate change: A system of minimum entropy exchange. *Quart. J. Roy. Meteor. Soc.*, **101**, 475-484. Pan, D.-M., and D. A. Randall, 1998: A Cumulus Parameterization with a Prognostic Closure. *Quart. J. Roy. Met. Soc.*, **124**, 949-981.
- Pan, H.-L. and W.-S. Wu, 1995: Implementing a Mass Flux Convection Parameterization Package for the NMC Medium-Range Forecast Model. *NMC Office Note, No. 409*, 40 pp. (Available from the U.S. National Center for Environmental Prediction, 5200 Auth Road, Washington, DC 20233).
- Peixóto, J. P., 1965: On the role of water vapor in the energetics of the general circulation of the atmosphere. *Portugalie Physica*, **4**, 135-170.
- Peixóto, J. P., 1970: Water vapor balance of the atmosphere from five years of hemispheric data. *Nordic Hydrology*, **2**, 120-138.
- Peixóto, J. P., and A. H. Oort, 1983: The atmospheric branch of the hydrological cycle and climate. In *Variations in the global water budget*, A. Street-Perrott et al. (eds.), D. Reidel Publ. Co., pp. 5-65.
- Peixóto, J. P., and A. H. Oort, 1992: *Physics of Climate*. Amer. Inst. Physics, New York, 520 pp.
- Pennell, S. A., and K. L. Seitter, 1990: On inertial motion on a rotating sphere. *J. Atmos. Sci.*, **47**, 2032-2034.
- Philander, S. G., 1990: *El Niño, La Niña, and the Southern Oscillation*. Academic Press, New York, 293 pp.
- Philander, S. G. H., D. Gu, D. Halpern, G. Lambert, N.-C. Lau, T. Li, and R. Pacanowski, 1996: Why the ITCZ is mostly north of the equator. *J. Climate*, **9**, 2958-2972.
- Philander, S. G. H., W. Hurlin, A. D. Siegal, 1987: A model of the seasonal cycle in the tropical Pacific ocean. *J. Phys. Oceanogr.*, **17**, 1986-2002.
- Philander, S. G., H., R. C. Pacanowski, M.-C. Lau, and M. J. Nath, 1992: Simulation of ENSO with a global atmospheric GCM coupled to a high-resolution tropical Pacific Ocean GCM. *J. Climate*, **5**, 308-329.
- Philander, S. G. H., T. Yamagata, and R. C. Pacanowski, 1984: Unstable air-sea interactions in the tropics. *J. Atmos. Sci.*, **41**, 604-613.

- Phillips, N. A., 1966: The equations of motion for a shallow rotating atmosphere and the "traditional approximation." *J. Atmos. Sci.*, **23**, 626-628.
- Pierrehumbert, R. T., 1995: Thermostats, radiator fins, and the local runaway greenhouse. *J. Atmos. Sci.*, **52**, 1784-1806.
- Pierrehumbert, R. T., and P. Malguzzi, 1984: Forced coherent structures and local multiple equilibria in a barotropic atmosphere. *J. Atmos. Sci.*, **41**, 246-257.
- Platzman, G. W., 1960: The spectral form of the vorticity equation. J. Meteor., 17, 635-644.
- Plumb, R. A., 1984: The Quasi-Biennial Oscillation. *Dynamics of the Middle Atmosphere*, edited by J. R. Holton and T. Matsuno, D. Reidel Publishing Company, 217-251.
- Poincaré, H., 1912: *Science et Méthode*. Paris: Flammarioin. English translation: *Science and Method*. St. Augustine Press, Inc., 288 pp.
- Ponte, R. M., D. Stammer, and J. Marshall, 1998: Oceanic signals in observed motions of the Earth's pole of rotation. *Nature*, **391**, 476-479.

Q - R

- Quiroz, R. S., 1986: The association of stratospheric warmings with tropospheric blocking. *J. Geophys. Res.*, **91**, 1723-1736.
- Ramanathan, V., R. D. Cess, E. F. Harrison, P. Minnis, B. R. Barkstrom, E. Ahmad, and D. Hartmann, 1989: Cloud-radiative forcing and climate: Results from the Earth Radiation Budget Experiment. *Science*, **243**, 57-63.
- Ramanathan, V., and J. A. Coakley, Jr., 1978: Climate modeling through radiative-convective models. *Rev. Geophys. Space Phys.*, **6**, 465-489.
- Ramanathan, V. and W. Collins, 1991: Thermodynamic regulation of ocean warming by cirrus clouds deduced from observations of the 1987 El Niño. *Nature*, **351**, 27-32.
- Randall, D. A., J. A. Abeles, and T. G. Corsetti, 1985: Seasonal simulations of the planetary boundary layer and boundary-layer stratocumulus clouds with a general circulation model. *J. Atmos. Sci.*, **42**, 641-676.
- Randall, D. A., Curry, D. Battisti, G. Flato, R. Grumbine, S. Hakkinen, D. Martinson, R. Preller, J. Walsh, and J. Weatherly, 1998: Status of and outlook for large-scale modeling of atmosphere-ice-ocean interactions in the Arctic. *Bull. Amer. Meteor. Soc.*, **79**, 197-219.
- Randall, D. A., Harshvardhan, D. A. Dazlich and T. G. Corsetti, 1989: Interactions among

- radiation, convection, and large scale dynamics in a general circulation model. *J. Atmos. Sci.*, **46**, 1943-1970.
- Randall, D. A., Harshvardhan, and D. A. Dazlich, 1991: Diurnal variability of the hydrologic cycle in a general circulation model. *J. Atmos. Sci.*, **48**, 40-62.
- Randall, D. A., and D. M. Pan, 1993: Implementation of the Arakawa-Schubert parameterization with a prognostic closure. *The Representation of Cumulus Convection in Numerical Models*, a Meteorological Monograph published by the American Meteorological Society, K. Emanuel and D. Raymond, Eds., 246 pp.
- Randall, D. A., P. Ding, and D.-M. Pan, 1997: The Arakawa-Schubert Parameterization. In *The Physics and Parameterization of Moist Atmospheric Convection*, R. K. Smith (ed.), Kluwer Academic Publishers, printed in The Netherlands, pp. 281-296.
- Randall, D. A., D.-M. Pan, and P. Ding, 1997: Quasiequilibrium. In *The Physics and Parameterization of Moist Atmospheric Convection*, R. K. Smith (ed.), Kluwer Academic Publishers, printed in The Netherlands, pp. 359-385.
- Randall, and N. Renno, 1996: Intraseasonal oscillations in 15 atmospheric general circulation models: results from an AMIP diagnostic subproject. *Clim. Dyn.*, **12**, 325-357.
- Randall, D. A., and M. J. Suarez, 1984: On the dynamics of stratocumulus formation and dissipation. *J. Atmos. Sci.*, **41**, 3052-3057.
- Randall, D. A., and J. Wang, 1992: The moist available energy of a conditionally unstable atmosphere. *J. Atmos. Sci.*, **49**, 240-255.
- Randall, D. A., K.-M. Xu, R. J. C. Somerville, and S. Iacobellis, 1996: Single-Column Models and Cloud Ensemble Models As Links Between Observations and Climate Models. *J. Climate*, **9**, 1683-1697.
- Rao, Y. P., 1976: *Southwest monsoon*. Meteorological Monograph, Synoptic Meteorology, No. 1/1976, India Meteorological Department.
- Rasmusson, E. M., and T. H. Carpenter, 1983: The relationship between eastern Equatorial Pacific sea surface temperatures and rainfall over India and Sri Lanka. *Mon. Wea. Rev.*, **111**, 517-528.
- Rasmussen, E. M., and J. M. Hall, 1983: El Nino, the great Equatorial Pacific Ocean warming event of 1982-1983. *Weatherwise*, **36**, 166-175.
- Rasmusson, E. M., 1987: Tropical Pacific variations. *Nature*, **327**, 192.

- Raval, A. and V. Ramanathan, 1989: Observational determination of the greenhouse effect. *Nature*, **342**, 758-761.
- Raymond, D. J., 2000: The Hadley circulation as a radiative-convective instability. *J. Atmos. Sci.*, **57**, 1286-1297.
- Raymond, D. J., and A. M. Blyth, 1986: A stochastic mixing model for non-precipitating cumulus clouds. *J. Atmos. Sci.*, **43**, 2708-2718.
- Reynolds, R. W. and T. M. Smith, 1994: Improved global sea surface temperature analyses using optimum interpolation. *J. Climate*, **7**, 929-948.
- Reed, R. J., 1966: The present status of the 26-month oscillation. *Bull. Amer. Meteor. Soc.*, **46**, 374--387.
- Reed, R. J., and M. J. Oard, 1969: A comparison of observed and theoretical diurnal tidal motions between 30 and 60 kilometers. *Mon. Wea. Rev.*, **97**, 456-459.
- Rennó, N. O., K. A. Emanuel, and P. H. Stone, 1994 a: Radiative-convective model with an explicit hydrologic cycle, 1, Formulation and sensitivity to model parameters. *J. Geophys. Res.*, **99**, 14429-14442.
- Rex, D. F., 1950 a: Blocking action in the middle troposphere and its effect upon regional climate. Part I: An aerological study of blocking action. *Tellus*, **2**, 196-211.
- Rex, D. F., 1950 b: The effect of Atlantic blocking action upon European climate. *Tellus*, **3**, 199-212.
- Rhines, P., 1975: Waves and turbulence on a b-plane. J. Fluid Mech., 69, 417-443.
- Riehl, H., and J. S. Malkus, 1958: On the heat balance in the equatorial trough zone. *Geophysica*, **6**, 503-537.
- Rosen, R. D., D. A. Salstein, T. M. Eubanks, J. O. Dickey, and J. A. Steppe, 1984: An El Niño Signal in Atmospheric Angular Momentum and Earth Rotation. *Science*, **225**, 411-414.
- Rosenlof, K. H., 1986: Walker Circulation with observed zonal winds, a mean Hadley cell, and cumulus friction. *J. Atmos. Sci.*, **43**, 449-467. Randall, D. A., 1984: Buoyant production and consumption of turbulence kinetic energy in cloud-topped mixed layers. *J. Atmos. Sci.*, **41**, 402-413.
- Rueda, V. O. M., 1991: Tropical-extratropical atmospheric interactions. *Ph.D. thesis*, *UCLA*, 194 pp.
- Rutledge, S. A. and R. A. Houze, Jr., 1987: A diagnostic modeling study of the trailing

stratiform region of a midlatitude squall line. J. Atmos. Sci., 44, 2640-2656.

S

- Sadourny, R., and C. Basdevant, 1985: Parameterization of subgrid scale barotropic and baroclinic eddies in quasi-geostrophic models: Anticipated potential vorticity method. *J. Atmos. Sci.*, **42**, 1353-1363.
- Sakai, K., and W. R. Peltier, 1997: Dansgaard-Oeschger oscillations in a coupled atmosphere-ocean climate model. *J. Climate*, **10**, 949-970.
- Salathé Jr., E. P.and D. L. Hartmann, 1997: A trajectory analysis of tropical upper-tropospheric moisture and convection. *J. Climate*, **10**, 2533-2547.
- Salby, M. L., and R. R. Garcia, 1987: Transient response to localized episodic heating in the tropics. Part I: Excitation and short-time near-field behavior. *J. Atm. Sci.*, **44**, 458-498.
- Salby, M. L., R. R. Garcia, and H. Hendon, 1994: Planetary-scale circulations in the presence of climatological and wave-induced heating. *J. Atmos. Sci.*, **51**, 2344-2367.
- Sasamori, T., 1982: Stability of the Walker circulation. J. Atmos. Sci., 39, 518-527.
- Satoh, M., and Y.-Y. Hayashi, 1992: Simple cumulus models in one-dimensional radiative convective equilibrium problems. *J. Atmos. Sci.*, **49**, 1202 1220
- Saltzman, B., 1970: Large-scale atmospheric energetics in the wavenumber domain. *Rev. Geophys. Space Phys.*, **8**, 289-302.
- Sarachik, E. S., 1978: Tropical sea surface temperature: An interactive one-dimensional atmosphere-ocean model. *Dyn. Atmos. Oceans*, **2**, 455-469.
- Sarachik, E. S., 1985: A simple theory for the vertical structure of the tropical atmosphere. *Pure Appl. Geophys.*, **123**, 261-271.
- Saunders, P. M., and B. A. King, 1995: Oceanic fluxes on the WOCE A11 section. *J. Phys. Oceanogr.*, **25**, 1942–1958.
- Sawyer, J. S., 1965: The dynamical problems of the lower stratosphere. *Q. J. Roy. Meteor. Soc.*, **91**, 407-416.
- Schneider, E. K., 1977: Axially symmetric steady-state models of the basic state for instability and climate studies. Part II. Nonlinear calculations. *J. Atmos. Sci.*, **34**, 280-296.

- Schneider, E. K., and R. S. Lindzen, 1977: Axially symmetric steady-state models of the basic state for instability and climate studies. Part I. Linearized calculations. *J. Atmos. Sci.*, **34**, 263-279.
- Schubert, W. H., 1976: Experiments with Lilly's cloud-topped mixed layer model. *J. Atmos. Sci.*, **33**, 436-446.
- Schubert, W. H., J. S. Wakefield, E. J. Steiner, and S. K. Cox, 1979: Marine stratocumulus convection, Part I: Governing equations and horizontally homogeneous solutions. *J. Atmos. Sci.*, **36**, 1286-1307.
- Schubert, W. H., J. S. Wakefield, E. J. Steiner, and S. K. Cox, 1979: Marine stratocumulus convection. Part II: Horizontally inhomogeneous solutions. *J. Atmos. Sci.*, **36**, 1308-1324.
- Schubert, W. H., Paul E. Ciesielski, C. Lu, and R. H. Johnson, 1995: Dynamical adjustment of the trade wind inversion layer. *J. Atmos. Sci.*, **52**, 2941-2952. Sclater, J. G., C. Jaupart, and D. Galson, 1980: *Rev. Geophys. Space Phys.*, **18**, 269-311.
- Schneider, E., 1977: Axially symmetric steady state models of the basic state of instability and climate studies. Part II: Nonlinear calculations. *J. Atmos. Sci.*, **34**, 280-296.
- Schneider, E., and R. S. Lindzen, 1977: Axially symmetric steady state models of the basic state of instability and climate studies. Part I: Linearized calculations. *J. Atmos. Sci.*, **34**, 253-279.
- Schopf, P. S., and M. J. Suarez, 1988: Vacillations in a coupled ocean-atmosphere model. *J. Atmos. Sci.*, **45**, 549-566.
- Schubert, W. H., P. E. Ciesielski, C. Lu, and R. H. Johnson, 1995: Dynamical adjustment of the trade wind inversion layer. *J. Atmos. Sci*, **52**, 2941-2952.
- Seager, R., and R. Murtugude, 1997: Ocean dynamics, thermocline adjustment and regulation of tropical SST. *J. Climate*, **10**, 521-534.
- Seitter, K. L. and H.-L. Kuo, 1983: The dynamical structure of squall-line type thunderstorms. *J. Atmos. Sci.*, **40**, 2831-2854.
- Sellers, P. J., R. E. Dickinson, D. A. Randall, A. K. Betts, F. G. Hall, J. A. Berry, C. J. Collatz, A. S. Denning, H. A. Mooney, C. A. Nobre, and N. Sato, 1997: Modeling the exchanges of energy, water, and carbon between the continents and the atmosphere. *Science*, **275**, 502-509.
- Sherwood, S. C., 1996: Maintenance of the free-tropospheric tropical water vapor distribution. Part I: Clear regime budget. *J. Climate*, **9**, 2903-2918.

- Shinoda, T., H. H. Hendon, and J. Glick, 1998: Intraseasonal variability of surface fluxes and sea surface temperature in the tropical western Pacific and Indian Oceans. *J. Climate*, **11**, 1685-1702.
- Shukla, J., 1981: Dynamical predictability of monthly means. *J. Atmos. Sci.*, **38**, 2547-2572.
- Shukla, J., 1985: Predictability. Advances in Geophysics, 28B, 87-122.
- Shukla, J., and D. A. Paolino, 1983: The Southern Oscillation and long-range forecasting of the summer monsoon rainfall over India. *Mon. Wea. Rev.*, **111**, 1830-1837.
- Shutts, G. J., 1986: A case study of eddy forcing during an Atlantic blocking episode. *Adv. in Geophys.*, **29**, 135-162.
- Sikka, D. R., and S. Gadgil, 1980: On the maximum cloud zone and the ITCZ over Indian longitudes during the south-west monsoon. *Mon. Wea. Rev.*, **108**, 1840-1853.
- Slingo, J. M., K. R. Sperber, J. S. Boyle, J.-P. Ceron, M. Dix, B. Dugas, W. Ebisuzaki, J. Fyfe, D. Gregory, J.-F. Gueremy, H. Hack, A. Harzallah, P. Inness, A. Kitoh, W. K.-M. Lau, B. McAvaney, R. Madden, A. Matthews, T. N. Palmer, C.-K. Park, D.
- Smith, R. K., Ed., 1998: *The Physics and Parameterization of Moist Atmospheric Convection*. Kluwer Academic Publishers, printed in The Netherlands.
- Speranza, A., 1986: Deterministic and statistic properties of Northern Hemisphere, middle latitude circulation: Minimal theoretical models. *Adv. in Geophys.*, **29**, 199-225
- Soong, S.-T., and W.-K. Tao, 1980: Response of deep tropical cumulus clouds to mesoscale processes. *J. Atmos. Sci.*, **37**, 2016-2034.
- Sohn, B.-J., 1994: Temperature-moisture biases in ECMWF analyses based on clear sky longwave simulations constrained by SSMI and MSU measurements and comparisons to ERBE estimates. *J. Climate*, **7**, 1707-1718.
- Stephens, G.L., 1978: Radiative properties of extended water cloud. II: Parameterization. *J. Atmos. Sci.*, **35**, 2123-2132.
- Stephens, G. L., and Webster, P. J., 1979: Sensitivity of radiative forcing to variable cloud and moisture. *J. Atmos. Sci.*, **36**, 1542-1556.
- Stephens, G. L., and P. J. Webster, 1981: Clouds and climate: Sensitivity of simple systems. *J. Atmos. Sci.*, **38**, 235-247.
- Stephens, G. L., and P. J. Webster, 1984: Cloud decoupling of the surface and planetary radiative budgets. *J. Atmos. Sci.*, **41**, 681-686.

- Stephens, G. L. and T. J. Greenwald, 1991: Observations of the earth's radiation budget in relation to atmospheric hydrology. 2: Observations of cloud effects. *J. Geophys. Res.*, **96**, 15325-15340.
- Stephens, G. L., A. Slingo, M. J. Webb, P. J. Minnett, P H. Daum, L. Kleinman, I. Wittmeyer, and D. A. Randall, 1994: Observations of the Earth's radiation budget in relation to atmospheric hydrology. Part IV: Atmospheric column radiative cooling over the world's oceans. *J. Geophys. Res.*, **99**, 18585 18604.
- Stern, W., and K. Miyakoda, 1995: Feasibility of seasonal forecasts inferred from multiple GCM simulations. *J. Climate*, **8**, 1071-1085.
- Stockdale, T. N., D. L. T. Anderson, J. O. S. Alves, and M. A. Balmaseda, 1998: Global seasonal rainfall forecasts using a coupled ocean-atmosphere model. *Nature*, **392**, 370-373.
- Stommel, H., 1961: Thermohaline convection with two stable regimes of flow. *Tellus*, **13**, 224-230.
- Stone, P. H., 1972: A simplified radiative-dynamical model for the static stability of rotating atmospheres. *J. Atmos. Sci.*, **29**, 405-418.
- Stone, P. H., 1973: The effects of large-scale eddies on climatic change. *J. Atmos. Sci.*, **30**, 521-529.
- Stone, P. H., 1978: Constraints on dynamical transports of energy on a spherical planet. *Dyn. Atmos. Oceans*, **2**, 123-139.
- Stone, P. H., and Chervin, R. M., 1984: Influence of ocean surface temperature gradient and continentality on the Walker circulation, Pt. 2, Prescribed global changes. *Mon. Wea. Rev.*, **112**, 1524-1534.
- Stull, R. B., 1988: *An introduction to boundary layer meteorology*. Kluwer Academic Publ., Dordrecht, 666 pp.
- Suarez, M., A. Arakawa, and D. A. Randall, 1983: Parameterization of the planetary boundary layer in the UCLA general circulation model: Formulation and results. *Mon. Wea. Rev.*, **111**, 2224-2243.
- Suarez, M. J., and P. S. Schopf, 1988: A delayed action oscillator for ENSO. *J. Atmos. Sci.*, **45**, 3283-3287.
- Sui, C.-H. and K.-M. Lau, 1992: Multiscale phenomena in the tropical atmosphere over the Western Pacific. *Mon. Wea. Rev.*, **120**, 407-430.
- Sun, D. Z., 1997: El Nino: A coupled response to radiative heating? Geophys. Res. Lett.,

- **24**, 2031-2034.
- Sun, D.-Z., and R. S. Lindzen, 1994: A PV view of the zonal mean distribution of temperature and wind in the extratropical troposphere. *J. Atmos. Sci.*, **51**, 757-772.
- Sun, D.-Z., and Z. Liu, 1996: Dynamic ocean-atmosphere coupling: A thermostat for the tropics. *Science*, **272**, 1148-1150.
- Sun, D.-Z., and K. E. Trenberth, 1998: The relative importance of dynamics and clouds in regulating the tropical SST. Preprint.

T

- Takahashi, M., and M. Shiobara, 1995: A note on a QBO-like oscillation in a 1/5 sector three-dimensional model derived from a GCM. *J. Meteor. Soc. Japan*, **73**, 131-137.
- Takahashi, M., 1996: Simulation of the stratospheric quasi-biennial oscillation using a general circulation model. Submitted to *Geophys. Res. Letters*.
- Thual, O., and J. C. McWilliams, 1992: The catastrophe structure of thermohaline convection in a two-dimensional fluid model and a comparison with low-order box models. *Geophys. Astrophys. Fluid Dyn.*, **64**, 67-95.
- Tiedtke, M., 1989: A comprehensive mass flux scheme for cumulus parameterization in large-scale models. *Mon. Wea. Rev.*, **117**, 1779-1800.
- Tiedtke, M., 1993: Representation of clouds in large-scale models. *Mon. Wea. Rev.*, **121**, 3040-3061.
- Townsend, R. D., and D. R. Johnson, 1985: A diagnostic study of the isentropic zonally averaged mass circulation during the first GARP global experiment. *J. Atmos. Sci.*, **42**, 1565-1579.
- Trenberth, Kevin E., 1990: Recent observed interdecadal climate changes in the Northern Hemisphere. *Bull. Amer. Meteor. Soc.*, **71**, 988-993.
- Trenberth, K. E., and J. M. Caron, 2001: Estimates of meridional atmosphere and ocean heat transports. *J. Climate*, **14**, 3433-3443.
- Trenberth, K. E., J. M. Caron, and De. P. Stepaniak, 2001: The atmospheric energy budget and implications for surface fluxes and ocean heat transports. *Climate Dyn.*, **17**, 259-276.
- Trenberth, K. E., and C. J. Guillemot, 1995: Evaluation of the global atmospheric moisture

- budget as seen from analyses, J. Climate, 8, 2255 -2272.
- Trenberth, K. E., and J. G. Olson, 1988: An evaluation and intercomparison of global analyses from the National Meteorological Center and the European Centre for Medium Range Weather Forecasts. *Bull. Amer. Meteor. Soc.*, **69**, 1047-1057.
- Trenberth, K. E., and A. Solomon, 1994: The global heat balance: Heat transports in the atmosphere and ocean. *Climate Dyn.*, **10**, 107-134.
- Trenberth, K. E., D. P. Stepaniak, and J. M. Caron, 2000: The global monsoon as seen through the divergent atmospheric circulation. *J. Climate*, **13**, 3969, 399.
- Trenberth, K. E., D. P. Stepaniak, and J. M. Caron, 2002: Accuracy of atmospheric energy budgets. *J. Climate* (in press). Tung, K.-K., and A. J. Rosenthal, 1985: The nonexistence of multiple equilibria in the atmosphere: Theoretical and observational considerations. *J. Atmos. Sci.*, **42**, 2804-2819.
- Troup, A. J., 1965: The "Southern Oscillation." Q. J. R. Meteorol. Soc., **91**, 490-506.
- Tselioudis, G., W. B. Rossow, and D. Rind, 1992: Global patterns of cloud optical thickness variation with temperature. *J. Climate*, **5**, 1484-1495.

U-V

- Valdes, P. J., and B. J. Hoskins, 1989: Linear stationary wave simulations of the time-mean climatological flow. *J. Atmos. Sci.*, **46**, 2509-2527.
- Veronis, G., 1969: On theoretical models of the thermohaline circulation. *Deep-Sea Res.*, **16**, 301-323.
- Vonder Haar, T. H., and A. H. Oort, 1973: A new estimate of annual poleward energy transport by Northern Hemisphere oceans. *J. Phys. Oceanogr.*, **2**, 169-172.

W

- Wahr, J. M., and A. H. Oort, 1984: Friction- and mountain-torque estimates from global atmospheric data. *J. Atmos. Sci.*, **41**, 190-204.
- Waliser, D. E., and N. E. Graham, 1993: Convective cloud systems and warm-pool sea surface temperatures: Coupled interactions and self-regulation. *J. Geophys. Res.*, **98**, 12881-12893.
- Waliser, D. E, K. M. Lau, and J. H. Kim, 1999: The influence of coupled sea surface temperatures on the Madden-Julian oscillation: A model perturbation experiment.

- J. Atmos. Sci., 56, 333-358.
- Waliser, D. E., and R. C. J. Somerville, 1994: Preferred latitudes of the Intertropical Convergence Zone. *J. Atmos. Sci.*, **51**, 1619-1639.
- Wallace, J. M., 1971: Spectral studies of tropospheric wave disturbances in the tropical Western Pacific. *Rev. Geophys.*, **9**, 557-612.
- Wallace, J. M., 1992: Effect of deep convection on the regulation of tropical sea surface temperature. *Nature*, **357**, 230-231.
- Wallace, J. M., 1983: The climatological mean stationary waves: Observational evidence. In *Large-scale dynamical processes in the atmosphere*, Hoskins, B. J., and R. P. Pearce Eds., Academic Press, New York, 397 pp.
- Wallace, J. M., and D. S. Gutzler, 1981: Teleconnections in geopotential height field during the Northern Hemisphere winter. *Mon. Wea. Rev.*, **109**, 784-812.
- Wallace, J. M., T. P. Mitchell, and C. Deser, 1989: The influence of sea-surface temperature on surface wind in the eastern equatorial Pacific: seasonal and interannual variability. *J. Climate*, **2**, 1492-1499.
- Wallace, J. M., and V. E. Kousky, 1968: Observational evidence of Kelvin waves in the tropical stratosphere. *J. Atmos. Sci.*, **25**, 900-907.
- Wallace, J. M., and F. R. Hartranft, 1969: Diurnal wind variations, surface to 30 kilometers. *Mon. Wea. Rev.*, **97**, 446-455.
- Wang, B., 1988: Dynamics of tropical low-frequency waves: An analysis of the moist Kelvin wave. *J. Atmos. Sci.*, **45**, 2051-2064.
- Wang, B., and J. Chen, 1989: On the zonal-scale selection and vertical structure of equatorial intraseasonal waves. *Q. J. Roy. Meteor. Soc.*, **115**, 1301-1323.
- Wang, J., and D. A. Randall, 1994: The moist available energy of a conditionally unstable atmosphere, II: Further analysis of the GATE data. *J. Atmos. Sci.*, **51**, 703-710.
- Wang, B. and X. Xie, 1998: Coupled modes of the warm pool climate system. Part I: The role of air-sea interaction in maintaining Madden-Julian Oscillation. *J. Climate*, **11**, 2116-2135.
- Warren, B. A., 1983: Why is no deep water formed in the North Pacific? *J. Marine Res.*, **41**, 327-347.
- Washington, W. M., and C. L. Parkinson, 1986: *An introduction to three-dimensional climate modeling*. University Science Books, Mill Valley, New York, 422 pp.

- Washington, W. M., and G. A. Meehl, 1989: Climate sensitivity due to increased CO₂: Experiments with a coupled atmosphere and ocean general circulation model. *Climate Dynamics*, **4**, 1-38.
- Weaver, A. J., and E. S. Sarachik, 1991: The role of mixed boundary conditions in numerical models of the ocean's climate. *J. Phys. Oceanogr.*, **21**, 1470-1493.
- Webster, P. J., 1972: Response of the tropical atmosphere to steady local forcing. *Mon. Wea. Rev.*, **100**, 518-541.
- Webster, P. J., 1981: Monsoons. Scientific American, 245(2), 108-118.
- Webster, P. J., 1983: Mechanisms of monsoon low-frequency variability: Surface hydrological effects. *J. Atmos. Sci.*, **40**, 2110-2124.
- Webster, P. J., 1987: The variable and interactive monsoon. In *Monsoons*, ed. by J. S. Fein and P. L. Stephens. Wiley, New York, 269-330.
- Webster, P. J., 1994: The role of hydrological processes in ocean-atmosphere interactions. *Reviews of Geophysics*, **32**, 427-476.
- Webster, P. J., and S. Yang, 1992: Monsoon and ENSO: Selectively interactive systems. *Quart. J. Roy. Met. Soc.*, **118**, 877-926.
- Weickmann, K.M., and S. J. S. Khalsa, 1990: The shift of convection from the Indian Ocean to the western Pacific Ocean during a 30 60 day oscillation. *Mon. Wea. Rev.*, **118**, 964-978.
- Weller, R. A., and S. P. Anderson: 1996: Surface meteorology and air-sea fluxes in the western equatorial Pacific warm pool during the TOGA coupled ocean-atmosphere response experiment. *J. Climate*, **9**, 1959-1990.
- White, A. A., and R. A. Bromley, 1995: Dynamically consistent, quasi-hydrostatic equations for global models with a complete representation of the Coriolis force. *Quart. J. Roy. Meteor. Soc.*, **121**, 399-418.
- Whitehead, J. A., 1995: Thermohaline ocean processes and models. *Ann. Rev. Fluid Mech.*, **27**, 89-113.
- Whitlock, C. H., T. P. Charlock, W. F. Staylor, R. T. Pinker, I. Laszlo, R. C. DiPasquale, and N. A. Ritchey, 1993: WCRP surface radiation budget shortwave data product description version 1.1. *NASA Technical Memorandum* 107747.
- Wiin-Nielsen, A., 1967: On the annual variation and spectral distribution of atmospheric energy. *Tellus*, **19**, 540-559.

- Wiin-Nielsen, A., 1972: A study of power laws in the atmospheric kinetic energy spectrum using spherical harmonic functions. *Meteor. Ann.*, **6**, 107-124. Williams, G. P., 1988: The dynamical range of global circulations -- I. *Climate Dyn.*, **2**, 205-260.
- Wiin-Nielsen, A., J. A. Brown, and M. Drake, 1963: On atmospheric energy conversions between the zonal flow and the eddies. *Tellus*, **15**, 261-279.
- Wheeler, M. and G. N. Kiladis, 1999: Convectively coupled equatorial waves: analysis of clouds and temperature in the wavenumber-frequency domain. *J. Atmos. Sci.*, **56**, 374-399.
- Wong, T., G. L. Stephens, and P. W. Stackhouse, Jr., and F. P. J. Valero, 1993: The Radiative Budgets of a Tropical Mesoscale Convective System During the EMEX-STEP-AMEX Experiment. 1. Observations. *J. Geophys. Res.*, 98, 8683-8693.
- Woolnough, S., J. Slingo, and B. Hoskins, 2000: The relationship between convection and surface fluxes on intraseasonal timescales. *J. Climate*, **13**, 2086-2104.
- Wyant, P. H., A. Mongroo, and S. Hammed, 1988: Determination of the heat-transport coefficient in energy-balance climate models by extremization of entropy production., *J. Atmos. Sci.*, **45**, 189-193.

X

- Xie, P., and P. A. Arkin, 1996: Analyses of Global Monthly Precipitation Using Gauge Observations, Satellite Estimates, and Numerical Model Predictions. *J. Climate*, **9**, 840-858.
- Xie, S.-P., and S. G. H. Philander, 1994: A coupled ocean-atmosphere model of relevance to the ITCZ in the eastern Pacific. *Tellus*, **46A**, 340-350.
- Xu, K.-M. and A. Arakawa, 1992: Semiprognostic tests of the Arakawa-Schubert cumulus parameterization using simulated data. *J. Atmos. Sci.*, **49**, 2421-2436.
- Xu, K.-M., and K. A. Emanuel, 1989: Is the tropical atmosphere conditionally unstable? *Mon. Wea. Rev.*, **117**, 1471-1479.
- Xu, K.-M., and D. A. Randall, 1996: Explicit simulation of cumulus ensembles with the GATE Phase III data. Comparison with observations. *J. Atmos. Sci.*, **53**, 3710-3736.

Y

Yamagata, T., and Y. Hayashi, 1984: A simple diagnostic model for the 30-50 day

- oscillation in the tropics. J. Met. Soc. Japan, 62, 709-717.
- Yamagata, T., and Y. Masumoto, 1989: A simple ocean-atmosphere coupled model for the origin of warm El Niño Southern Oscillation event, *Philos. Trans. R. Soc. London A*, **329**, 225-236.
- Yanai, M., and T. Maruyama, 1966: Stratospheric wave disturbance propagating over the equatorial Pacific. *J. Meteorol. Soc. Japan*, **44**, 227-243.
- Yanai, M., C. Li, and Z. Song, 1992: Seasonal heating of the Tibetan Plateau and its effects on the Asian summer monsoon. *J. Meteor. Soc. Japan*, **70**, 319-351.
- Yanai, M., and C. Li, 1993: Mechanism of heating and the boundary layer over the Tibetan Plateau. *Mon. Wea. Rev.*, **122**, 305-323.
- Yanai, M., and C. Li, 1994: Interannual variability of the Asian summer monsoon and its relationship with ENSO, Eurasian snow cover and heating. *Proceedings of the International Conference on Monsoon Variability and Prediction*, International Centre for Theoretical Physics, Trieste, Italy, 9-13. May 1994.
- Yang, J., and J. D. Neelin, 1993: Sea-ice interaction with the thermohaline circulation. *Geophys. Res. Lett.*, **20**, 217-220.
- Yasunari, T., 1979: Cloudiness fluctuations associated with the Northern Hemisphere summer monsoon. *J. Met. Soc. Japan*, **57**, 227-242.
- Yeh, T.-C., and Y.-X. Gao, 1979: *The Meteorology of the Qinghai-Xizang (Tibet) Plateau*. Science Press. Beijing. 278 pp. Blackmon, M. L., 1976: A climatological spectral study of the 500 mb geopotential height of the Northern Hemisphere. *J. Atmos. Sci.*, 33, 1607-1623.
- Yu, J.-Y. and J. D. Neelin, 1994: Modes of tropical variability under convective adjustment and the Madden-Julian oscillation. Part II: Numerical results. *J. Atmos. Sci.*, **51**, 1895-1914.
- Yu, J.-H., and D. J. Neelin, 1994: Modes of tropical variability under convective adjustment and the Madden-Julian oscillation. Part II: Numerical results *J. Atmos. Sci.*, **51**, 1895-1914.

Z

Zebiak, S. E., and M. A. Cane, 1987: A model of El Niño Southern Oscillation, *Mon. Wea. Rev.*, **115**, 2262-2278.

- Zent, A. P., 1996: The evolution of the Martian climate. *American Scientist*, **84**, 442-451.
- Zhang, G. J., and N. A. McFarlane, 1995: Sensitivity of climate simulations to the parameterization of cumulus convection in the Canadian Climate Centre general circulation model. *Atmos.-Ocean*, **33**, 407-446.
- Zhang, G. J., and M. J. McPhaden, 1995: The relationship between sea surface temperature and latent heat flux in the equatorial Pacific. *J. Climate*, **8**, 589-605