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Education:

Ph.D 1980 Meteorologisches Institut der Universität Bonn, Germany.

Research Experience:

1996-present Director/Chief Scientist, Airborne Research Australia, Flinders University, Adelaide, Australia.
1993-1996 ARC Australian Research Fellow, Flinders Inst for Atm & Marine Sc, Adelaide, Australia.
1988-1992 Lecturer in Hydrology, School of Earth Sc., Flinders University, Adelaide.
1984-1988 Flinders Research Fellow, Flinders Inst for Atm & Marine Sc, Adelaide, Australia.
1983-1984 Research Associate, Meteorologisches Institut der Universität Bonn, Germany.
1982-1993 Flinders Research Fellow, Flinders Inst for Atm & Marine Sc, Adelaide, Australia.
1977-1981 Research Associate, Meteorologisches Institut der Universität Bonn, Germany.

Ten Most Significant Refereed Publications 2000 to 2010:

1. Carbone, R.E., T.D. Keenan, J.M. Hacker and J. Wilson, 2000: **Tropical Island Convection in the Absence of Significant Topography. Part I: Life cycle of Diurnally Forced Convection.** *Mon. Wea. Rev.*, **128**, No.10, 3459-3480.
2. Kraus, H., C.M. Ewenz, M. Kremer and J.M. Hacker, 2000: **The Multi-Scale Structure of the Australian Cool Changes.** *Meteorology and Atmospheric Physics* 73, 157-175.
3. T.J. Lyons, Li Fuqin, J.M. Hacker, Wan-Li Cheng, Huang Xinmei, 2001: **Regional turbulent statistics over contrasting natural surfaces.** *Meteorol Atmos Phys* 78 (2001) 3/4, 183-194.
4. Pavelin, E., J.A. Whiteway, R. Busen and J.M. Hacker, 2002: **Airborne observations of turbulence, mixing and gravity waves in the tropopause region.** *J. Geophys. Res.* – Atmospheres, 107, D10, 10.1029/2001JD000775, 2002.
5. Burrage, D.M., M.L. Heron, J.M. Hacker, T.C. Stieglitz, C.R. Steinberg and A. Prytz, 2002: **Evolution and dynamics of tropical river plumes in the Great Barrier Reef: An integrated remote sensing and in situ study.** *J. Geophys. Res.* 10.1029/2001JC001024, 30 November 2002 (Special Issue on Salinity).
6. Bradshaw, N.G., G. Vaughan, R. Busen, S. Garcelon, R. Jones, T. Gardiner and J.M. Hacker, 2002: **Tracer filamentation generated by small-scale Rossby wave breaking in the lower stratosphere.** *J. Geophys. Res.* Vol. 107, NO. D23, 4689, doi:10.1029/2002JD002086, 2002
7. Wroblewski, D.E., O.R. Cote, J.M. Hacker and R.J. Dobosy, 2007: **Cliff-Ramp Patterns and Kelvin-Helmholtz Billows in Stably-Stratified Shear Flow in the Upper Troposphere: Analysis of Aircraft Measurements.** *J Atmos. Sciences* Vol 64 No 7, 2521-2539, DOI: 10.1175/JAS3956.1
8. Wang, Y, M.L. Heron, A. Prytz, P.V. Ridd, C. Steinberg and J.M. Hacker, 2007: **Evaluation of a new airborne microwave remote sensing radiometer by measuring the salinity gradients across the shelf of the Great Barrier Reef Lagoon.** *IEEE Transactions on Geoscience and Remote Sensing*, Vol 45, No 11, 10.1109/TGRS.2007.903400.
9. Ryo Saito, J.M. Hacker, G. Inoue and T. Yokota, 2008: **Attempt to identify sources of atmospheric methane and carbon dioxide concentrations found in in situ aircraft measurements over Southern Australia.** *Journal of Geophysical Research*, Vol. 113, D14108, doi:10.1029/2007JD009392, 2008
10. Dickinson, C., L. Komguem, J.A. Whiteway, M. Illnicki, V. Popovici, W. Junkermann, P. Connolly, J.M. Hacker, 2010: **Lidar Atmospheric Measurements on Mars and Earth.** Accepted for publication in: *Planetary and Space Science*.

Major Competitive Grant Funding 2000 to 2009:

- Siems, Hacker, Jensen and Huebert: Aerosol Particle Evolution in clouds and fronts: The ACE-Asia experiment.
- ARC Large Grant, 1999-2001: \$223k.
- Hacker: Capturing Incidences of Severe Refractive and Clear Air Turbulence above and below the Jet Stream Core over Southern Australia during Austral winters 2001 and 2002: US Air Force Office of Scientific Research / Asian Office of Aerospace R&D, 2001-2002: \$340k
- Hacker: Refractivity Studies: DSTO, 2001-2002: \$80k
- Heron, Burrage, Zaitzeff, Miller, Goodberlet, Brodie, Hacker, Tomczak: Microwave Sensing of Salinity in the Great Barrier Reef Lagoon. ARC Large Grant, 2001-2002: \$248k
- Hacker: CO2 Fluxes over Eucalypt Plantations, Sturt Meadows Station/Western Australia: JST/Japan, 2002-2003: \$180k.
- Hacker: Turbulence Measurements in the Lower Stratosphere. US Air Force Office of Scientific Research / Asian Office of Aerospace R&D, 1997-2000: \$400k
- Hacker: Waves and Turbulence. US Air Force Office of Scientific Research, 2002-2007: \$400k
- Hacker et al: The establishment of an airborne laser scanning capability. Australian Research Council, 2004/5, \$500k.
- Hacker et al: A new airborne facility for environmental, hydrological, atmospheric & oceanic research: high resolution measurement for soil moisture, temperature & salinity, Australian Research Council 2003/4, \$700k
- Hacker and Schneider: The establishment of the Centre for Aeronautical Research & Development. SRSKSF grant, 2004-2007, \$450k.
- Beringer, Hacker, Pa U, Neining: Patterns and processes of carbon, water and energy cycles across northern Australian landscapes: From point to region. ARC Discovery Grant, 2007-2009, \$650k
- Walker, Hacker et al: High resolution airborne radar for environmental research: soil moisture, vegetation, salinity and terrain mapping, Australian Research Council, 2008, \$800k
- Hacker et al: Airborne hyper-spectral scanning for advanced monitoring and assessment of vegetation and water properties, Australian Research Council, 2009, \$900k

RESEARCH (AND OTHER) ACTIVITIES

- Overall responsibility for the establishment of the Major National Research Facility ARA - Airborne Research Australia
- Selection, scientific evaluation and setting-up of ARA's research aircraft, a Cessna 404, a Beech B200T Super King Air, the Grob G520T Egrett and two Diamond Aircraft HK36TTC ECO-Dimonas
- Scientific, technical and organisational responsibility for the development and operation of all ARA research aircraft
- Principal Investigator in many meteorological field experiments within Australia and overseas using ground-based and airborne instrumentation

Research Fields:

- Planetary boundary layer
- Aircraft instrumentation
- Airborne laser scanning
- Airborne hyper-spectral scanning
- Evapo(transpira)tion from vegetated surfaces measured by airborne and ground-based techniques
- Structure of the convection in the PBL
- Sea-breeze circulations
- Inhomogeneous planetary boundary layer
- Airborne air quality monitoring
- Flight testing

Teaching, Student Supervision:

- Teaching and other related academic activities
- Supervision and Co-Supervision of Ph.D., Masters and Honours students (12 Ph.D., 1 Masters, 10 Honours during the past 10 years)
- Lectures in Boundary Layer Meteorology (Honours Topic)
- Lectures in Hydrology (2nd and 3rd year)
- Lectures in Tropical Meteorology and Synoptic Meteorology
- Tutorials in Dynamic Meteorology and Synoptic Meteorology

NATIONAL COMMITTEE MEMBERSHIP:

- National Committee for Climate and Atmospheric Sciences
Australian Academy of Science (1990-96)
- National Committee for Atmospheric and Oceanic Sciences
Australian Academy of Sciences (1996 - 2005)

MEMBERSHIP IN PROFESSIONAL ORGANISATIONS

- AMOS (Australian Meteorological and Oceanographic Society)
- AMS (American Meteorological Society)
- AGU (American Geophysical Union)
- DMG (Deutsche Meteorologische Gesellschaft)
- AOPA Australia and USA (Aircraft Owners and Pilots Association)
- FTSA (Flight Test Society of Australia)
- OSTIV (Organisation Scientifique et Technique de Vol à Voile)
- Royal Society of South Australia

PRIZES, AWARDS AND SPECIAL ACHIEVEMENTS

- **Max-Planck-Research-Prize** of the German Alexander-von-Humboldt-Stiftung and Max-Planck-Gesellschaft for international collaboration in airborne atmospheric research; including a research grant of DM200,000 (A\$170,000); together with Prof. H. Kraus/Bonn University and Prof. P. Schwerdtfeger/FUSA
- **Two OSTIV-Diplomas** for a paper presented at: (1) XVII. OSTIV Congress June 1981, Paderborn/FRG; (2) XXI. OSTIV Congress, June 1991, Wiener Neustadt/Austria (together with Dr. A.G. Williams/FUSA)
- **World speed record in gliding** around 500km triangle (together with H.W. Grosse)

OTHER QUALIFICATIONS

- Private Pilots Licence including special ratings for research flight operations
- Multi-engine Command Instrument Rating
- Qualified gliding instructor and competition pilot
- CAA Maintenance Authority for scientific equipment on ARA research aircraft



PUBLICATIONS

Dr. Jörg M. Hacker

(last updated 12 Aug 2010)

PAPERS in refereed journals:

Submitted:

11. *Nair, S., Yuling Wu, Jatin Kala, Lyons, T., Pielke Sr., R.A., Hacker, J.M., 2010: The role of land cover differences in the preferential formation of convective clouds and precipitation over native vegetation in southwest Australia.* Submitted to J of Geophysical Research.
12. *D. A. Waddicor, G. Vaughan, T. W. Choullarton, K. N. Bower, H. Coe, M. Gallagher, P. Williams, M. Flynn I, A, Volz-Thomas, W. Patz, and P. Isaac, J.M. Hacker, 2010: Aerosol observations and growth rates in the Tropical Tropopause Layer.* Submitted to J of Atmos. Chem. Phys.
13. *J. Beringer, J.M. Hacker, L.B. Hutley, S.K. Arndt, R. Amiri, L. Bannehr, L. Cernusak, S. Grover, C. Hensley, D. Hocking, P. Isaac, H. Jamali, K. Kanniah1, S. Livesley, B. Neininger, Kyaw Tha Paw U, W. Sea, D. Straten, N. Tapper, R. Weinmann, S. Wood, S. Zegelin, R. Leuning, 2010: SPECIAL – The Savanna Patterns of Energy and Carbon Integrated Across the Landscape campaign.* Submitted to Bulletin of American Meteorological Society.
14. *L.B. Hutley, J. Beringer, J.M. Hacker, P. Isaac, 2010: A continental-scale living laboratory: spatial patterns of savanna vegetation across northern Australia.* Submitted to J of Agriculture and Forest Meteorology.
15. *J. Beringer, L.B. Hutley, J.M. Hacker, B. Neininger, Kaw Tha Paw U, 2010: Patterns and processes of carbon, water and energy cycles across northern Australian landscapes: From point to region.* Submitted to J of Agriculture and Forest Meteorology.
16. *A.G. Williams, W. Zahorowski, S. Chambers, A. Griffith, J.M. Hacker, A. Element, S. Werczynski, 2010: The vertical distribution of radon in clear and cloudy daytime terrestrial boundary layers.* Submitted to J. Atmospheric Sciences.
17. *Cook, C.R., J.A. Whiteway, R. Busen, P. Connolly, T.W. Choullarton, M.W. Gallagher, K. Bower, M. Flynn and J.M. Hacker, 200x: Interaction of turbulence, ice microphysics, and water vapour in cirrus clouds.* Submitted to Geophys. Res. Letters.
18. *Garcelon, S., A. Hauchecorne, D.E.M. Ross, G.M. Hansford, T.D. Gardiner, I.H. Howieson, N.R. Swann, E. Normand, P.T. Woods, R. Busen, J. Hacker, G.P. Ellrod, R.L. Jones, 200x: Observation of anomalous small scale structure in high-spatial in-situ tracer measurements during the Egrett Campaign: a case study of the effect of turbulence on O₃/CH₄ relationships in the lower stratosphere.* Submitted.
19. *Dickinson, C., L. Komguem, J. A. Whiteway, M. Illnicki, V. Popovici, W. Junkermann, P. Connolly, J. Hacker, 2010: Lidar Atmospheric Measurements on Mars and Earth.* Accepted for publication in Planetary and Space Science.
20. *Tanaka, T., R. Saito, Y. Yoshida, I. Morino, H. Oguma, H. Suto, H. Hara, J.M. Hacker, T. Fukuyama, G. Inoue and T. Yokota, 2009: Testing the GOSAT retrieval algorithm: First observations of CO₂ absorption spectra with the airborne SWIR FTS near Adelaide, South Australia.* Submitted to Atmospheric Optics.

2010:

21. *Wroblewski DE, Coté OR, Hacker JM, Dobosy RJ, 2009: Velocity and Temperature Structure Functions in the Upper Troposphere and Lower Stratosphere from High Resolution Aircraft Measurements.* J. Atmos. Sci., 67(4), pp. 1157-1170
22. *Peter, J., S. Siems, J. Jensen, J. Gras, I. Yutaka, J.M. Hacker, 2010: Airborne observations of the effect of a cold front on the aerosol particle size distribution and new particle formation.* Quart. J. Royal Met. Soc., Vol 136, Issue 649, April 2010 Part B, 944–961.

2009:

23. *Junkermann, W., Hacker, J., Lyons, T., and Nair, U., 2009: Land use change suppresses precipitation,* Atmos. Chem. Phys. Discuss., 9, 11481-11500, 2009.

2008:

24. *Merlin, O., J. Walker, J. Kalma, E. Kim, J. Hacker, R. Panciera, R. Young, G. Summerell, J. Hornbuckle, M. Hafeez and T. Jackson, 2008: The NAFE'06 data set: Towards soil moisture retrieval at intermediate resolution.* Advances in Water Resources, Volume 31, Issue 11, November 2008, Pages 1444-1455.
25. *Panciera, R., J. P. Walker, J. D. Kalma, E. J. Kim, J. Hacker, O. Merlin, M. Berge and N Skour, 2008: The NAFE'05/CoSMOS data set: Towards SMOS soil moisture retrieval, downscaling and assimilation.* Geoscience and Remote Sensing, IEEE Transactions on Volume 46, Issue 3, March 2008, 736 – 745. DOI 10.1109/TGRS.2007.915403
26. *Ryo Saito, J.M. Hacker, G. Inoue and T. Yokota, 2008: Attempt to identify sources of atmospheric methane and carbon dioxide concentrations found in in situ aircraft measurements over Southern Australia.* Journal of Geophysical Research, Vol. 113, D14108, doi:10.1029/2007JD009392, 2008

2007:

27. *Matthews, S., J.M. Hacker, J. Cole, J. Hare, C.N. Long and R.M. Reynolds, 2007, Modification of the Atmospheric Boundary Layer by a Small Island: Observations from Nauru.* Monthly Weather Review Vol 135, No 3, 891-905.
28. *Wang, Y, M.L. Heron, A. Prytz, P.V. Ridd, C. Steinberg and J.M. Hacker, 2007: Evaluation of a new airborne microwave remote sensing radiometer by measuring the salinity gradients across the shelf of the Great Barrier Reef Lagoon.* IEEE Transactions on Geoscience and Remote Sensing, Vol 45, No 11, 10.1109/TGRS.2007.903400.
29. *Wroblewski, D.E., O.R. Cote, J.M. Hacker and R.J. Dobosy, 2007: Cliff-Ramp Patterns and Kelvin-Helmholtz Billows in Stably-Stratified Shear Flow in the Upper Troposphere: Analysis of Aircraft Measurements.* J Atmos. Sciences Vol 64 No 7, 2521-2539, DOI: 10.1175/JAS3956.1

2006:

30. *Goler, R., M.J. Reeder, R.K. Smith, H. Richter, S. Arnup, T. Keenan, P. May and J.M. Hacker, 2006, Low level convergence lines over Northeastern Australia. I. Northeasterly disturbances.* Monthly Weather Review, Vol 134, Issue 11, 3092-3108..
31. *Peter, J.R., S.T. Siems, B. Jensen, J.L. Gras, Y. Ishizaka and J.M. Hacker, 2006: Prediction and observation of cloud processing of the aerosol size distribution by a band of cumulus.* Q.J.R. Meteor. Soc. 132, doi: 10.1256/qj.05.106.

2005:

32. *Gallagher, M.W., P.J. Connolly, J. Whiteway, D. Figueras-Nieto, M. Flynn, T.W. Choularton, K.N. Bower, C. Cook, R. Busen and J.M.Hacker, 2005: An Overview of the Microphysical Structure of Cirrus Clouds Observed During EMERALD-1.* Quarterly Journal of the Royal Meteorological Society, 131, 1143-1169.

2004:

33. *Isaac, P., J. McAneney, R. Leuning and J.M. Hacker, 2004: Comparison of Aircraft and Ground Based Flux Measurements during OASIS95.* Boundary Layer Meteorology 110(1), 39-67.
34. *Isaac, P., R. Leuning J.M. Hacker, H.A. Cleugh, P.A. Coppin, O.T. Denmead and M.R. Raupach, 2004: Estimation of Regional Evapo-Transpiration by Combining Aircraft and Ground Based Measurements.* Boundary Layer Meteorology 110(1), 69-98.
35. *Leuning, R., M.R. Raupach, P.A. Coppin, H.A. Cleugh, P. Isaac, O.T. Denmead, F.X. Dunin, S. Zegelin and J.M. Hacker, 2004: Spatial and Temporal Variations in Fluxes of Energy, Water Vapour and Carbon Dioxide During OASIS 1994 and 1995.* Boundary Layer Meteorology 110(1) 3-38.
36. *Peter, J.R., S.T. Siems, J.B. Jensen, J.L. Gras, Y.Ishizaka and J.M. Hacker, 2004: Prediction and observations of aerosol processing by a cumulus: Evidence for particle nucleation in clouds.* Submitted in March 2004 to: J.Geophys. Res.
37. *Whiteway J. A., G. P. Klaassen, N. G. Bradshaw, J. M. Hacker 2004: Transition to Turbulence in Shear above the Tropopause.* Geophys. Res. Lett., 31, L02118, doi:10.1029/2003GL018509.

38. Whiteway, J.A., C. Cook, M. Gallagher, T. Choularton, J. Harries, P. Connolly, R. Busen, K. Bower, M. Flynn, P. May, R. Aspay and J.M. Hacker, 2004: **Anatomy of Cirrus Clouds: Results from the Emerald Airborne Campaigns**. *Geophys. Res. Lett.* 31, L24102, doi:10.1029/2004GL021201.

2003:

39. Burrage, D.M., M.L. Heron, J.M. Hacker, J.L. Miller, T.C. Stieglitz, C.R. Steinberg and A. Prytz, 2003: **Structure and influence of tropical river plumes in the Great Barrier Reef: Application and performance of an airborne sea surface salinity mapper**. *Remote Sensing of Environment* 85(2), 204-220.
40. Reeder, M.J., R.K. Smith, R. Goler, J. Beringer, N.J. Tapper, T. Keenan, P. May, H. Richter, G. Jackson, B. Seymour, J.M. Hacker, 2003: **Gulf Lines Experiment 2002**. *Bulletin of the Australian Met. and Oceanogr. Soc.*, 16, 74-79.
41. Whiteway, J.A., E.G. Pavelin, R. Busen, J.M. Hacker and S. Vosper, 2003: **Airborne Measurements of Gravity Wave Breaking at the Tropopause**. *Geophys. Res. Lett.*, 30 (20), 207010.1029/2003GL018207

2002:

42. Bradshaw, N.G., G. Vaughan, R. Busen, S. Garcelon, R. Jones, T. Gardiner and J.M. Hacker, 2002: **Tracer filamentation generated by small-scale Rossby wave breaking in the lower stratosphere**. *J. Geophys. Res.* Vol. 107, NO. D23, 4689, doi:10.1029/2002JD002086, 2002
43. Burrage, D.M., M.L. Heron, J.M. Hacker, T.C. Stieglitz, C.R. Steinberg and A. Prytz, 2002: **Evolution and dynamics of tropical river plumes in the Great Barrier Reef: An integrated remote sensing and in situ study**. *J. Geophys. Res.* 10.1029/2001JC001024,30 November 2002 (Special Issue on Salinity).
44. Matthews, S., P. Schwerdtfeger and J.M. Hacker, 2002: **Use of albedo modelling and aircraft measurements to examine the albedo of Nauru**. *Aust. Met. Mag.* 51, 229-236.
45. Pavelin, E., J.A. Whiteway, R. Busen and J.M. Hacker, 2002: **Airborne observations of turbulence, mixing and gravity waves in the tropopause region**. *J. Geophys. Res. – Atmospheres*, 107, D10, 10.1029/2001JD000775,2002.

2001:

46. T.J. Lyons, Li Fuqin, J.M. Hacker, Wan-Li Cheng, Huang Xinmei, 2001: **Regional turbulent statistics over contrasting natural surfaces**. *Meteorol Atmos Phys* 78 (2001) 3/4, 183-194 .

2000:

47. Burns, S.P., D. Khelif, C.A. Friehe, A.G. Williams, P. Hignett, A.L.M. Grant, J.M. Hacker, D.P. Rogers, E.F. Bradley, R.A. Weller, M.F. Cronin, S.P. Anderson, C.W. Fairall and C.A. Paulson, 2000: **Comparisons of aircraft, ship and buoy meteorological measurements from TOGA COARE**. *J Geophys. Res.* Vol 104, No D24, 30,853-30,883.
48. Burns, S.P., D. Khelif, C.A. Friehe, P. Hignett, A.G. Williams, A.L.M. Grant, J.M. Hacker, D. Hagan, Y.L. Serra, D.P. Rogers, E.F. Bradley, R.A. Weller, C.W. Fairall, S.P. Anderson, C.A. Paulson and P.A. Coppin 2000: **Comparisons of aircraft, ship and buoy radiation measurements from TOGA COARE**. *J Geophys. Res.* Vol 105, No D12, 15,627-15,652.
49. Carbone, R.E., T.D. Keenan, J.M. Hacker and J. Wilson, 2000: **Tropical Island Convection in the Absence of Significant Topography. Part I: Life cycle of Diurnally Forced Convection**. *Mon. Wea. Rev.*, 128, No.10, 3459-3480..
50. Keenan, T., S. Rutledge, R. Carbone, J. Wilson, T. Takahashi, P. May, N. Tapper, M. Platt, J.M. Hacker, S. Sekelsky, M. Moncrieff, K. Saito, G. Holland, A. Crook and K. Gage, 2000: **The Maritime Continent Thunderstorm Experiment (MCTEX): Overview and Some Results**. *Bulletin of the American Meteorological Society* 81, 2433-2455.
51. Kraus, H., C.M. Ewenz, M. Kremer and J.M. Hacker, 2000: **The Multi-Scale Structure of the Australian Cool Changes**. *Meteorology and Atmospheric Physics* 73, 157-175.

1999:

52. Stephan, K., H. Kraus, C. Ewenz and J.M. Hacker, 1999: **Sea Breeze Front Variations in Space and Time**. *Meteorology and Atmospheric Physics* 70, 81-95.

1998:

53. *Hacker, J. M. and Timothy Crawford, 1999: The BAT-Probe: The ultimate tool to measure turbulence from any kind of aircraft (or sailplane).* Technical Soaring, Volume XXIII, No. 2, April 1999.
54. *Luhar, A.K., B.L. Sawford, J.M. Hacker and K.N. Rayner, 1998: The Kwinana Coastal Fumigation Study: II – Growth of the Thermal Internal Boundary Layer.* Boundary Layer Meteorology 89, 385-405.
55. *Sawford, B.L. A.K. Luhar, J.M. Hacker, S.A. Young, I.-H. Yoon, J.A. Noonan, J.N. Carras, D.J. Williams and K.N. Rayner, 1998: The Kwinana Coastal Fumigation Study: I – Program Overview, Experimental Design and Selected Results.* Boundary Layer Meteorology 89, 359-384.

1997:

56. *Williams, A.G., J.M. Hacker and H. Kraus, 1997: Transport Processes in the Tropical Warm Pool Boundary Layer, Part II: Vertical Structure and Variability.* J. Atmos. Sci. 54, 2060-2082.

1996:

57. *Williams, A.G., H. Kraus and J.M. Hacker, 1996: Transport Processes in the Tropical Warm Pool Boundary Layer, Part I: Spectral Composition of Fluxes.* J. Atmos. Sci. 53, 1187-1202.

1995:

58. *Finkele, K., J.M. Hacker, H. Kraus and R.A.D Byron-Scott, 1995: A Complete Sea-Breeze Circulation Cell Derived from Aircraft Observations.* Boundary Layer Meteorology 73, 299-317.
59. *Xinmei, H., T.J. Lyons, R.C.G. Smith and J.M. Hacker, 1995: Estimation of surface parameters using satellite data.* Hydrological Processes 9, 631-643.

1993:

60. *Lyons, T.J., J.M. Hacker, I.J. Foster, P. Schwerdtfeger, R.C.G. Smith, H. Xinmei and J.M. Bennett, 1993: Land-Atmosphere Interaction in a Semi-Arid Region: The Bunny Fence Experiment.* Bulletin of the American Meteorol. Soc. 74, 1327-1334.
61. *Williams, A.G. and J.M. Hacker, 1993: Interactions between coherent eddies in the lower convective boundary layer.* Boundary Layer Meteorology 64, 55-74.
62. *Xinmei, H., T.J. Lyons, R.C.G. Smith, J.M. Hacker and P. Schwerdtfeger, 1993: Estimation of Surface Energy Balance from Radiant Surface Temperature and NOAA AVHRR Sensor Reflectances over Agricultural and Native Vegetation.* J. Appl. Meteor. 32, 1441-1449.

1992:

63. *Williams, A.G. and J.M. Hacker, 1992: The Composite Shape and Structure of Coherent Eddies in the Convective Boundary Layer.* Boundary Layer Meteorology 61, 213-245.

1991:

64. *Shao, Y., J.M. Hacker and P. Schwerdtfeger, 1991: The Structure of Turbulence in a Coastal Atmospheric Boundary Layer.* Quarterly Journal of the Royal Meteorological Society 117, 1299-1324 .

1990:

65. *Hartmann, J., J.M. Hacker and H. Kraus, 1990: Correction of data from a salt spray contaminated temperature sensor.* Boundary Layer Meteorology 50, 153-169.
66. *Kraus, H., J.M. Hacker and J. Hartmann, 1990: Sea-Breeze Frontogenesis: A Multiscale Observational Aircraft-Based Study in South Australia.* Boundary Layer Meteorology, 52.
67. *Shao, Y. and J.M. Hacker, 1990: Similarity relationships in a horizontally inhomogeneous boundary layer.* Boundary Layer Meteorology 52, 17-40.

1988:

68. Hacker, J.M., 1988: **The Spatial Distribution of the Vertical Energy Fluxes over a Desert Lake Area.** Aust. Meteorol. Mag., 36, 235-243.
69. Hacker, J.M., Y. Shao, R.A.D. Byron-Scott and P. Schwerdtfeger, 1988: **The Vertical Sensible and Latent Heat Transport in the Boundary Layer of the Upper Spencer Gulf Area - A Case Study.** Contrib. Atmos. Phys. 61, 56-61.

1985:

70. Kerschgens, M. and J.M. Hacker, 1985: **On the Energy Budget of the Convective Boundary Layer over an Urban and Rural Environment.** Contrib. Atmos. Phys. 58, 171-185.

1982:

71. Hacker, J.M., 1982: **First results of boundary layer research flights with three powered gliders during the field experiment PUKK.** Contrib. Atmos. Phys. 55, 383-402.

1981:

72. Hacker, J.M., 1981: **Der Massen- und Energiehaushalt der Nordhemisphäre.** Bonner Meteorologische Abhandlungen, Heft 27.

1978:

73. Hantel, M. and J.M. Hacker, 1978: **On the Vertical Eddy Transports in the Northern Atmosphere. 2. Vertical Eddy Momentum Transport for Summer and Winter.** J. Geophys. Res. 83, 1305-1318.

1977:

74. Hacker, J.M., 1977: **Vertikaler Eddy-Drehimpulstransport in der Nordhemisphäre.** Ann. Meteorol. N.F. 12, 110-111.
75. Hantel, M. and J.M. Hacker, 1977: **Vertical eddy flux of heat and momentum on a planetary scale.** Contrib. Atmos. Phys. 50, 134-142.

CHAPTERS in BOOKS:

1. Grace, W., and J.M. Hacker, 1997: **Wombats and Smog.** In: C.Carey (Editor): Our Hidden State – South Australia through the eyes of its scientists. ANZAAS (SA Division), Adelaide, p137.
2. Hacker, J.M., and P. Schwerdtfeger, 1997: **An instrumented research aircraft for micrometeorological studies.** 13pp. Chapter 29 in: Webb E.K. (Editor), 1997: Windows on Meteorology, Australian Perspective, CSIRO Publishing, Collinswood, Vic., 342pp.

CONFERENCE PAPERS & POSTERS:**2010:**

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