RESUME

Name:	Alison Wendy Grimsdell
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Educational History

BSc Graduate of Auckland University (New Zealand), 1989.

Courses in Physics, Mathematics, Computer Science, Chemistry and Anthropology

MSc Graduate (First Class Honors) of Auckland University, 1991.

Physics graduate courses

Thesis

PhD Graduate of the University of Colorado at Boulder, 2003.

Courses in Physics, Mathematics, Chemistry, and Geology including:

Remote Sensing of the Environment

Remote Sensing Image analysis

Published Work

Journal Publications

1. L. Hoffmann, A. W. Grimsdell, and M. J. Alexander: *Stratospheric gravity waves at southern hemisphere orographic hotspots: 20032014 AIRS/Aqua observations.* Atmos. Chem. Phys. Diss., **16**, 9381-9397, doi:10.5194/acp-16-9381-2016 (2016)

2. L. Hoffmann, M. J. Alexander, C. Clerbaux, A. W. Grimsdell, C. I. Meyer, T. Rößler, and B. Tournier: *Intercomparison of stratospheric gravity wave observations with AIRS and IASI.* Atmos. Meas. Tech., **7**, 4517-4537 (2013)

3. M. J. Alexander and A. W. Grimsdell: *Seasonal cycle of orographic gravity wave occurrence above small islands in the Southern Hemisphere: Implications for effects on general circulation.* J. Geophys. Res., **118**, 111, doi:10.1002/2013JD020526 (2013)

4. David A. Ortland, M. Joan Alexander, and A. W. Grimsdell: *On the wave spectrum generated by tropical heating.* J. Atmos. Sci., /bf 68 2042–2060 (2011)

5. A. W. Grimsdell, M. Joan Alexander, Peter T. May, and Lars Hoffmann: *Model Study of Waves Generated by Convection with Direct Validation via Satellite.*, J. Atmos. Sci., **67** 1617–1631 (2010)

6. A. W. Grimsdell and W. M. Angevine: *Observations of the Afternoon Transition of the Convective Boundary Layer.* J. Applied Meteorol. **41** 3–11 (2002)

7. W. M. Angevine, A. W. Grimsdell, and L. M. Hartten: *The Flatland boundary layer experiments.* Bull. Amer. Meteorol. Soc. **79** 419–431 (1998)

8. W. M Angevine, A. W. Grimsdell, S. A. McKeen, and J. M. Warnock: *Entrainment results from the Flatland boundary layer experiments.* J. Geophys. Res. **103**, 13,689–13701 (1998)

9. A. W. Grimsdell and W. M. Angevine: *Convective boundary layer height measurement with wind profilers and comparison to cloud base.* J. Oceanic. Atmos. Technol. **15**, 1331–1338 (1998).

Conference Proceedings

1. A. W. Grimsdell, M. Joan Alexander, Peter T. May, and Lars Hoffmann: *Model Study of Waves Generated by Convection with Direct Validation via Satellite.*, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract A31C-0098 (2008)

2. A. W. Grimsdell and W. M. Angevine: *Observations of the afternoon transition.* 14th Symposium on Boundary Layers and Turbulence, Aspen, Colorado, 7–12 August 2000.

3. A. W. Grimsdell and W. M. Angevine: *Afternoon transition of the continental convective boundary layer.* 13th Symposium on Boundary Layers and Turbulence, Dallas, Texas, 10–15 January 1999, 127–130.

4. A. White, W. M. Angevine, A. W. Grimsdell and R. Zamora: *Evaluation of a mixing depth parameterization.* 13th Symposium on Boundary Layers and Turbulence, Dallas, Texas, 10–15 January 1999.

5. A. W. Grimsdell and W. M. Angevine: *Characteristics of the afternoon transition* 4th International Symposium on Tropospheric Profiling: Needs and Technologies, Snowmass, Colorado, 21–25 September 1998, 130–131.

6. W. M. Angevine and A. W. Grimsdell: *Mixing Height measurements from UHF wind profiling radar.* EURASAP workshop on the determination of the mixing height, 1–3 October 1997, Risoe, Roskilde, Denmark.

7. A. W. Grimsdell and W. M. Angevine: *Boundary layer measurement during the Flatland boundary layer experiments* 12th Symposium on Boundary Layers and Turbulence, Vancouver, Canada, 28 July–1 August 1997, 3–4.

M.Sc. Thesis

A remote wind measuring network. University of Auckland, New Zealand, 1991.

PhD Thesis

The afternoon transition of the continental convective boundary layer. University of Colorado, Colorado, 2003.

Academic Prizes

In January 2000 I received the Robert Leviton Award from the AMS for the paper "Convective boundary layer height measurement with wind profilers and comparison to cloud base" (1998). This award is given for the best student paper on the development or evaluation of atmospheric instrumentation or unique measurement techniques.

In January 1999 I was awarded a CIRES Graduate Research Fellowship from the Cooperative Institute for Research in Environmental Sciences at the University of Colorado. This was awarded for my PhD research into the afternoon transition of the continental convective boundary layer.

I was the 1990 recipient of the New Zealand Department of Scientific and Industrial Research Postgraduate Scholarship for MSc research.

Previous Employment

From September 2005 to the present I have been employed at NorthWest Research Associates, first as a post-doctoral researcher, and currently as a Research Scientist. I have been looking at wave generation by convection in the Darwin region and using a 3-D computer model to simulate waves at an altitude of 41 km. The model results were validated by direct comparison to a satellite image from the AIRS satellite.

From August 1996 to May 2003 I was employed as a Graduate Research Assistant at CIRES, University of Colorado and the NOAA Aeronomy Lab. My research used radar wind profiler data to examine the behavior of the convective boundary layer during the afternoon. During this time the boundary layer turbulence decays and atmosphere transitions from being fully convective to stable. I looked mainly at wind profiler reflectivity patterns, which show the variations of humidity, temperature, and turbulence intensity. The behavior of a more direct measure

of turbulence intensity was also been examined. This work is intended to contribute to the goal of predicting afternoon transition behavior from measurements earlier in the day. As part of my research I have been involved in four field campaigns, three near Champaign-Urbana, Illinois, and one in Nashville, Tennessee.

From August 1995 to August 1996 I was employed as a teaching assistant at the University of Colorado. For both semesters I was the sole TA for a first year course on color and light. I was responsible for grading homework, providing review sheets, and teaching two revision classes.

From September 1994 until August 1995 I was employed as a student assistant in the climate and global dynamics division (CGD) at NCAR. I worked with data from the Vegetation/Ecosystem Modeling and Analysis Project (VEMAP) which aimed to evaluate the sensitivity of terrestrial ecosystems and vegetation processes to a doubled CO_2 climate. The work involved quality checking of the data, and correction of any problems as well as graphical presentation and analysis. I also developed and maintained a series of pages on the world wide web for public access to the data.

From July 1991 until I moved to Boulder in April 1994 I was employed as a research assistant on the UARS/ISAMS project at Oxford University in England. UARS is a satellite launched in 1991 which carries ten instruments used to monitor various atmospheric properties. ISAMS measured the concentrations of several atmospheric gases using limb sounding techniques. The operation of the instrument was fairly complex and this contributed to the difficulty of recovering the gas concentrations from the measured data.

The main part of my job was developing code for the initial instrument calibration. A large part of the processing is concerned with checking that the measurements are usable, for instance checking the temperature of the detector elements or ensuring the satellite is stable. The actual calibration compares the signal with both a space view and a black body view at known temperature.

Other projects I worked on included the development of a set of climatology files as a-priori profiles for the processing, determination of the best way to remove the effect of stray radiance from the measurements, and finding a scheme to detect cloud in the raw data.

I was also responsible for a large Dec Command Language (DCL) program used to monitor the data transfer from the Central Data Handling Facility (CDHF) in the United States and

incorporated several of my IDL routines into this program to produce routine plots.

In 1990, I was awarded a Teaching Fellowship from the Department of Physics at Auckland University. This involved the tutoring of students at the second and third year (undergraduate) level. I was also employed for two years to assist students in the first year physics experimental course.

During the southern hemisphere summer of 1987/1988, I was hired as a contract computer programmer by the Defense Scientific Establishment at the Auckland Naval Base. The programming tasks I completed there included a database for tracking commercial ship movements and software for the Underwater Acoustics Division which analyzes underwater sound speed profiles.