

BIOGRAPHICAL SKETCH:**MELANIE HARSCH**

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RESEARCH INTERESTS

Species response to climate change, causes and maintenance of ecosystem boundaries, interactions between mechanisms acting at different scales in controlling observed patterns, disturbance and forest ecology

PROFESSIONAL PREPARATION

2010: PhD. Lincoln University, Lincoln, New Zealand
2006: MSc Honors, Applied Ecology, Frostburg State University, Frostburg, MD
2003: B.A. Biology, Lewis and Clark College, Portland, Oregon
2002: Conservation Biology, School for International Training, New Zealand

GRANTS AND AWARDS

2011: NSF Postdoctoral Fellowship in Biology
2009: New Zealand Ecological Society Travel Grant (\$5000)
2008: Brian Mason Science and Technology Trust (\$12,000, co-PI with Brad Case)
2007: Miss E.L. Hellaby Indigenous Grasslands Research Trust (\$ 42,190)
2007: New Zealand International Doctoral Scholarship (\$ 57,900)
2007: Honors, Frostburg State University
2006: NASA-MSU Professional Enhancement Award (\$1000)
2006: UMCES Appalachian Laboratory Travel Award (\$500)
2005: Richard A. Johnson, M.D. Biology Memorial Award (\$500)

PUBLICATIONS

Harsch, M.A., Buxton, R. Hulme, P.E. Wilmshurst, J. Duncan. R.P. Observed and predicted shifts at the New Zealand *Nothofagus* treeline using growth, recruitment and mortality rates measured over 15 years. *Submitted to Journal of Biogeography*

Harsch M.A. & Bader M.Y. 2011. Treeline form – a potential key to understanding treeline dynamics. *Global Ecology and Biogeography*. 20: 582-596.

Diez, J., Bucklely, H., Case, B, **Harsch, M**, Sciligio, A, Wangen, S, Duncan, R.P. 2009. Interacting effects of management and environmental variability at multiple scales on invasive species distributions. *Journal of Applied Ecology*. 46(6):1174-1183.

Harsch, M.A., Hulme, P.E., McGlone, M., and Duncan, R.P. 2009. Are treelines advancing? A global meta-analysis of treeline response to climate warming. *Ecology Letters*.12:1040-1049.

This paper was featured in the media, most notably BBC Earth and Nature Climate Change Reports

Harsch, M.A., Wilmshurst, J.M., McGlone, M.S. *in prep.* Winter climate limits subantarctic low forest growth and recruitment

TECHNICAL REPORTS

Harsch, M.A. 2002. The effectiveness of the Ulva Island protection system in preventing Norway rat recolonization during resource abundant years. Department of Conservation, New Zealand.

CONFERENCE PRESENTATIONS

- 2010 Observed and predicted shifts at the New Zealand *Nothofagus* treeline using growth, recruitment and mortality rates measured over 15 years. New Zealand Ecological Society, Dunedin, New Zealand.
- 2009 Are treelines advancing? A meta-analysis of treeline response. Intecol, Brisbane, Australia
- 2008 US-IALE Conference. Treeline dynamics: pattern and process at multiple spatial scales. Madison, Wisconsin.
- 2007 Historical disturbance regimes: methods and applications. New Zealand Ecological Society, Christchurch, New Zealand.
- 2006 Can mesoinvertebrates be applied to broad-scale ecological applications? US-IALE Conference, San Diego, CA.
- 2004 Does insect browse or competition control the growth and survivorship of two native weeds, *Ambrosia artemisiifolia* and *Parthenocissus quinquefolia*? Cedar Creek LTER.

TEACHING

Teaching Assistant (General Biology), Frostburg State University 2004-2006

STUDENTS

- Undergraduate*: 2008-2009 Lisa Coulett. 2008-9. Summer scholarship. Treeline dynamics of the subalpine low forest, Westland, New Zealand.
- Graduate fellow*: 2008-2009 Sara Tomiolo. Laurea Magistrale in Scienze Naturali fellowship.

ACADEMIC SERVICE

2009-present: Reviewer for Biogeosciences, Ecology, Environmental and Experimental Botany, Global Change Biology and Global Ecology and Biogeography

OUTREACH

- 2009: Youth Environment and Sustainability Conference, Christchurch, New Zealand. Conference organizer and presenter
- 2007- 2011: Department of Conservation, Waimakariri area, Rangiora, New Zealand. Volunteer and volunteer solicitor
- 2005 - 2006: Student Representative to Frostburg State University Graduate Student Council
- 2002 - 2004: Member of Protocol for Assessing Community Excellence in Environmental Health (PACE-EH), CDC Grant, Portland, Oregon