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Alpine Bibliography

A draft Alpine Bibliography, roughly sorted alphabetically, is attached. If you have papers that are not on this or know of Australian alpine papers missing, please email them to me. - not embedded within the current list but as a separate document. Once I get in the additions I will sort out any duplicates, make corrections, get it into some sort of standard format, and then it will be posted on the AIAS website.

Update of AIAS website.

Along with the uploading of the Alpine Bibliography we will also be updating all members' details and adding in new members. So if you have updates please send them to me.

Bleak future predicted of Alps without snow

David Wroe Sydney Morning Herald October 10, 2011

AUSTRALIA'S ski slopes could be completely bare of natural winter snow by 2050 unless concerted action is taken against global warming, according to a government-commissioned report that paints a grim picture of the effects of climate change on alpine areas.

The report, Caring For Our Australian Alps Catchments, has found that the Alps, which stretch from Victoria through NSW to the ACT, face an average temperature rise of between 0.6 and 2.9 degrees by 2050, depending on how much action countries take to combat climate change.

"The effects of climate change are predicted to be the single greatest threat to the natural condition values of the Australian Alps catchments," the report says.

Rain, snow and other precipitation will decrease by up to 24 per cent in the next four decades, accompanied by more bushfires, more droughts, more severe storms and more rapid run-off, causing heavy erosion.

Australia's major mountain range, which peaks with Mount Kosciuszko at 2228 metres, is particularly vulnerable and faces a dramatic transformation unless serious efforts are made, the study concludes.

"The scenario that is most likely is that there will be less snow both in total and in area, and that we shift more to summer rainfall," said study co-author Roger Good, a former NSW government botanist.

"There won't be snow that sits around and slowly melts as there has been in the past. There will be more storm events in summer and therefore faster run-off, which has a lot of potential impacts in terms of soil erosion and damage to vegetation. The worst-case scenario is that there will be no snow at all … only rainfall in both summer and winter."

The study looked at the 235 Alps catchments, which together provide about 29 per cent of the annual water flows into the Murray-Darling Basin. Towns and cities from Wagga Wagga in NSW to Mildura in Victoria and all the way to Adelaide would be affected by global warming damage to the Alps, Mr Good said.

It was the first full health check on the catchments since 1957. Six out of 10 are in "poor to moderate" condition. Less than a quarter are getting better.

Snow cover has already declined by more than 30 per cent since 1954. The spring thaw has happened two days earlier per decade.

Loss of vegetation and more severe storms meant that the catchments would hold less water, leading to more rapid run-off, the report states. This would erode soil and reduce water quality as well as causing dams to overflow, creating problems for farmers.

"They would not be able to regulate the flows," Mr Good said. "We would have less water, both for human use and for storing for environmental uses."

Ski fields should continue to get reasonable natural cover if the international community sticks to its ambition of keeping global CO2 levels to 450 parts per million (ppm), up from the present 385 ppm, the report states.

But if less concerted action is taken, leading to a concentration of 550 ppm, cover lasting more than 60 days could be reduced by up to 96 per cent by 2050.

Database on Plant Traits now available

The world's largest database on plants' functional properties, or traits, has been published. Scientists compiled three million traits

for 69,000 out of the world's ~300,000 plant species in the so-called TRY database.

For more information see:

http://try-db.org/

http://www.igbp.net/5.1b8ae20512db692f2a6800014762.html

Published this month:

Giljohann, K. M., C. E. Hauser, N. S. G. Williams, and J. L. Moore. 2011. Optimizing invasive species control across space: willow invasion management in the Australian Alps. Journal of Applied Ecology 48:1286-1294

Happold D C.D. (2011) Reproduction and ontogeny of *Mastacomys fuscus* (Rodentia: Muridae) in the Australian Alps and comparisons with other small mammals living in alpine communities. *Mammalian Biology* 76: 540–548.