KCros PO Box 425 Jindabyne NSW 2627.
www.kcros.org.au

YOUR VOICE FOR CROSS-COUNTRY SKIING IN KOSCIUSZKO NATIONAL PARK

NEWSLETTER – July 2007 ISSUE

KCros is a special interest group with a primary focus on the issues of service and facilities for cross country skiers in Kosciuszko National Park. Experience has shown that a unified, well-organised representation is more effective than many small scattered voices. KCros has the mandate of various cross-country organisations and independent skiers to speak on those issues on their behalf as a single strong voice.

KCros exists to ensure that the views and needs of cross country skiers are addressed and met in the operation of and in the future development of the Kosciuszko National Park.

KCros is aware of the differing needs of beginners, novices, children, seniors, racers, the physically disadvantaged, ski orienteerers and biathletes, day tourers, back country tourers and snow campers.

KCros provides the structure for varied and unrelated cross country skiing groups as well as independent skiers' to speak with one voice on
issues that affect safe and enjoyable participation in their chosen sport anywhere within Kosciuszko National Park.

KCros will identify and investigate relevant issues of concern to cross-country skiers. When necessary KCros will co-ordinate lobbying activities and establish an effective lobby network wherever and whenever it is needed.

MEMBERSHIP OF KCros

Your KCros subscription gives life membership and KCros is funded by voluntary annual donations from members.

FROM THE PRESIDENT

Well what a great start to the season we have had! I have been fortunate to go down a few weekends and the weather and quality of snow have made it some of the most enjoyable cross country skiing I have done for a number of years. I hope you all will be able to get out and enjoy the snow some time this season.

Please remember our AGM on Saturday 11th August at 3pm in the National Parks building at Perisher Valley. It would be great to see you there if you can make it. I intend to have a few speakers there to discuss some of the issues later in this column. We are also looking for a new Membership Officer, someone who will update the database for us. It is not an onerous position so if you can help out please email me or come to AGM.

There are some important issues that have come to our notice over the last couple of months. Firstly the implementation of trail fees and the formation of a business structure to run the Perisher Valley trails are off for at least another year. You may remember from our last newsletter that Perisher Range Cross-Country Inc. PRCCI (that Kcros is involved in) had secured extra funding for trail grooming for the next two years with trail fees to be implemented in 2008.

Currently National Parks and Wildlife Service (NPWS) and Perisher Blue are negotiating a reconciliation of the 11 leases of the franchise area down to one. NPWS in a recent meeting indicated that to involve a new business such as PRCCI into the franchise arrangement would only stall the negotiation process.

This is disappointing as it again delays the development of our sport on the Perisher Range. However the cross-country community is being consulted by NPWS on priorities for cross-country skiing within the franchise area that could be included in lease negotiations. This could be very significant as the 1982 lease has held our sport back. A new lease with a prominent role for cross-country skiing contained within it could be a great driver for our sport.

Another issue that has arisen in the last few weeks followed a discussion paper released by NPWS that called for the licensing of instructing and guiding activities within Kosciusko National Park. Under that discussion paper if an organisation such as a club or school group wanted to hire a guide or instructor, they would need to obtain a licence first. This is going to cost money. That guide or instructor would also need to be accredited by the NPWS even though they may already hold the necessary professional qualifications. KCros does have some concerns that this only going to add the cost of instruction and add to the difficulty of finding a guide or instructor. This can be difficult even now. KCros is writing a submission in response to this discussion paper.

On a positive note you may remember from the recently released Kosciusko Plan of Management that there were plans for the shelter at the Dry Dam trails at Cabramurra

to be demolished. From discussions I have had with NPWS staff there are certainly no plans for its removal and in fact it has recently been upgraded. Apparently there is very good snow up there at the moment so I hope you get a chance to go up there and enjoy some of the best cross-country ski terrain in Australia.

Anyway I look forward to your feedback and to seeing you at the AGM.

Warren McCourt
President
Gabs_waz@yahoo.com

FROM THE SECRETARY

THE 2007 AGM is to be held Sat 11 August 2007 at 3 pm at Perisher in the National Parks Building (NPWS) at the southeast end of the car park opposite the Fire Station. Last year we also held our AGM similarly after the running of the Snowy Mountains Classic Race and it was a good time as many people were up at Perisher for the day if not the race. Do come along again.

NEW WINDOW

Top marks to those of you who have noticed the new north-facing window in the Nordic Shelter that should be giving more sun to lunch eaters. The north-facing wall of the current shelter has also had some new cladding. A big thanks goes to those who attended the Summer Working Bees and I believe that Peter Cunningham and Bruce Porter are to be thanked for the new window that resulted from the April working bee. If you want to attend a working bee you are more than welcome. Contact KCros or the ACT or NSW X-C ski clubs.

SNOW IN AUSTRALIA'S SNOWFIELDS

This article is based on my 26 years of working as a forecaster with the Australian Bureau of Meteorology. My work in the Canberra Office involved analysing charts and issuing weather forecasts and this included twice-daily forecast for the Snowy Mountains. From my specialised experience I can readily explain the good early 2007 snowfalls because snow events in Australia fall into well-defined parameters. The reason this year is that a LONG WAVE TROUGH was amazingly stagnating over southeastern Australia in June. Even now in mid-July although weaker it is still hanging back over the Tasman Sea to the NSW south coast. Meteorologists use 500hPa charts to find the long wave pattern. These charts have isopleths of height in metres from about 5,400 metres up in intervals of 40 metres. This is the height above the ground that the pressure at that point in time is 500hPa. The isopleths make a sinusoidal pattern of troughs and ridges and give a less complicated pattern than the surface pattern of isobars with Highs and Lows and Cold Fronts. *The chart value of 500hPa is taken as a good middle (or average) value of the depth of the atmosphere.* To arrive at a long wave pattern these 500hPa charts are further smoothed by averaging their values over a period of days. This simpler pattern is why the charts are called 'long' wave charts. Australian meteorologists use circular 500hPa charts around the hemisphere at our latitudes not just the chart covering the Australian region. What results around the hemisphere is a simple pattern of waves composed of ridges and troughs that is slow moving and the position of the features is maintained for a much longer period of time than the surface pressure features. ***In fact the most exciting feature of this is that the direction of movement of surface fronts is regulated by the location of the long wave troughs.*** The usual number of troughs at our latitude is five but values either side are interesting as they influence the speed of movement of the fronts. The ocean and land mass areas have a big influence on where the ridges and troughs are located and so definite patterns emerge. The sea surface temperatures, also monitored for the SOI predictions of El Nino and La Nino periods, and the temperature of the landmasses play a part in where the long waves are located. The most usual pattern for an Australian winter is a long wave trough in the Indian Ocean west of Perth and the next up stream trough in the Tasman Sea towards NZ. Surface cold fronts peak near WA in the long wave trough then slip southeast crossing the Bight towards Tasmania before moving northwards again to peak in the long wave trough in the Tasman Sea close to NZ. This usual long wave pattern is maintained from June into July and only breaks down most years into August. This winter the early cold fronts (and associated cold air) moved up over eastern Australia into the abnormally located long wave trough instead of dropping to the south over Tasmania. More so, in the long wave trough, there was further development leading to the intensification of cold fronts and the deepening of small lows at the surface. The lows that formed over the sea close to the coast brought in massive moisture resulting in significant floods on the central coast of NSW and Gippsland in Victoria. There were cold pool episodes associated with these developments that brought snow to areas removed from the usual snowfields but also over them, e.g. the snow in the Victorian Alps associated with the low that developed off Eden. New Zealand so far this season has not been in a long wave trough region and fronts have weakened and slipped southeast. In mid-July Snowfarm at Waiorau was only reporting 10 cm of snow on the ground.

SO WHERE DO WE GET OUR SNOW?

1) Cold fronts

Cold fronts in winter are good news for snow in the snowfields, even the ones that are slipping away over Tasmania if they are accompanied by some instability and cold enough air. It is often hard to grasp and not every one knows that ***most of the snow with fronts falls steadily in the few hours just ahead of the frontline (***or wind change) when uplift is at its greatest and not after the front has arrived. (Snow showers can even fall from an unstable air mass well ahead of the front with the same mechanism as thunderstorm development. These snowfalls can be accompanied by thunder and/or lightning and the snow then falls as hard pellets.) Following the frontal passage and wind change the nature of the snow is more showery and scattered in the colder air, usually lighter and controlled by orographic lifting and the amount of moisture and instability in the post-frontal stream.

2) Cold pools

These form fairly frequently and occur in troughs or along cold frontal lines as these systems are developing and strengthening. The cold air pocket is usually first detected in the mid-high levels of the atmosphere causing a rapid onset of instability. The cold pool develops an appreciable vertical extent as the cold air descends but most often the pool is only a few hundred kilometres wide or less. They are usually very mobile moving in the cyclonic motion of the accompanying low. Sometimes a pair is formed and they dumbbell in a cyclonic motion. When temperatures on the ground under the pool fall towards zero considerable but short-lived one-off snowfalls occur. For skiers they are sometimes annoying as they can miss the snowfields but produce snow over much lower levels and in surrounding areas and even northwards as far as the Northern Tablelands of NSW. ***When they do pass over the mountains they can give an appreciable amount of snow in a short timeframe.*** Just one early cold pool event was what practically sustained the NSW snowfields during the 2006 ski season.

3) Westerly airflows

In the middle and towards the end of winter the belt of westerly from the southern Ocean some years has moved so far northwards that southern Australia is subject to a continuous battering of fast moving cold fronts in a predominating westerly airflow. Frequent but light snow showers occur over the mountains, the air does not warm and the wind stays up. ***Snow depths can build up considerably during the period.*** This pattern of unpleasant weather for skiers often with blizzards can continue for several weeks without change.

4) Cold southerly outbreaks

At the end of a series of cold fronts such strong ridging can occur into the Southern Ocean by the following High that a direct southerly airflow with a long fetch is set up over southeastern Australia. This is when the erroneous comment is heard, 'that the cold is coming straight off the snow'. Good snowfalls even down to lower mountains can occur at frontal passage but the southerly stream tends to dry out within about 24 hours as it travels over land. Orographic snow can continue longer in higher parts. Cold and wind contribute to a high wind chill factor. A run of heavy frosts and overnight ice formation occurs as skies clear and the wind drops.

5) **Southeast to easterly airflows**

On occasions when there is a Low well out in the Tasman and a southeast or easterly airflow is being directed over southeastern Australia, light snow with high moisture content can be deposited in the snowfields. It is a trap to think that because the air originates over the sea that it will not bring snow and that it will not be cold in the mountains.

6) **Seeder-Feeder mechanism**

This is more a rain situation but in late winter can result in snow over higher parts. It is when large areas of cloud (and moisture) in the higher layers of the atmosphere move in from the northwest ahead of a front. This moisture can seed low-level cloud fields such as diurnal and orographic cloud ahead of the front so that precipitation occurs well ahead of the frontal line. If temperatures are near zero over the mountains this will result in a period of light snowfalls well ahead of the front.

5) **Cold layer near the ground**

This snow event only gives a little light snow but is a meteorologist's nightmare. It occurs in the mountains after a few cold clear nights with maximum radiation of heat away from the ground and widespread heavy frosts. The air in the valleys and air layer near the surface remain well below freezing into the morning. There is an approaching front but all indications are that the cold air with the front is well above freezing level so some rain is forecast with zero probability of snow. What happens is that rain falls from the cloud but then goes through the cold layer near the ground and precipitates as snow in the form of flakes of small ice crystals.

Margaret McCawley
Secretary

FROM THE TREASURER

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