

A message (rant) from the President

Today I pressed the button to submit a proposal to the Ministry for Science and Innovation (formerly MoRST & FRST and soon to be part of the new Ministry of Business, Innovation and Employment - note the omission of "Science" anywhere in the title of this new super-Ministry). Anyway, the proposal is to perform a multi-partner multi-stakeholder multi-year (add any other "multis" you want to this list) research program studying the potential climate change impacts on NZ's environment, economy and society. "Is that all?", I hear you ask! If we get funded (it's a highly contested pot), I'm sure we will be able to do some very good research, but for now it's wait-and-see time for the next few months. Fingers crossed.

And now for the rant. I reckon the combined effort of all the scientists, stakeholders and administrators involved in just this one bid (and note, there are probably a couple of hundred bids going into MSI this week, thankfully not all competing for the same slice of the pie that I'm asking for) would conservatively be around \$50,000. If my guess of 200 bids being submitted to this funding round is close to the mark, each taking about this much effort to pull together, then that's ten million dollars spent over the last month or so - none of it productive in the slightest. Crazy, eh? They say competition is a good thing as it brings the cream to the top. Well, it's also pretty bloody expensive!



**Andrew Tait (brain turned to mush)
2012 President
Meteorological Society of NZ**



Call For Nominations (Deadline, April 20th, 2012)

The Edward Kidson Medal

The Meteorological Society of New Zealand (Inc) is now calling for nominations for the Edward Kidson Medal. The award is made every two years and was first awarded in 2003.

The award is named in honour of Edward Kidson, Director of the New Zealand Meteorological Service from 1927 to 1939. Edward Kidson was instrumental in placing New Zealand meteorology on a sound scientific footing and is regarded as a key figure in the development of meteorology and climatology in this country. His own scientific work in meteorology covered a wide field and he had an international reputation for his papers on Southern Hemisphere atmospheric circulation. His papers on New Zealand's climate remained standard works for many years.

The Edward Kidson Medal will be awarded to the author of an outstanding recent scientific paper published in a refereed scientific journal which

- Advances the science of meteorology and/or climatology, or
- Advances understanding of the influence of meteorology and/or climatology or other meteorological factors in other fields of scientific or human endeavour, or conversely, the influence of other sciences or endeavours on meteorology and/or climatology, or
- Reports on significant and novel scientific, educational, social or economic application of meteorology and/or climatology.

Nominees for the Edward Kidson medal should normally be New Zealand residents, but others who have a significant connection with New Zealand, particularly in the field of the atmospheric sciences will be considered. All nominations must either be by a current member of the Meteorological Society of New Zealand or include a written endorsement by a current member. Nominations, with supporting statements and including copies of the relevant paper, should be sent to

Dr. Kim Dirks

**Chair, Kidson Medal Awards Committee, Meteorological Society of New Zealand
School of Population Health, Faculty of Medical and Health Sciences**

The University of Auckland, Private Bag 92019, Auckland 1142

The deadline for nominations is April 20th, 2012

The winner will be announced June 15th, 2012

**Minutes of the
32nd Annual General Meeting of the
Meteorological Society of New Zealand (Inc.)
Monday, November 14th, 2011**



Cedar Grove Motor Lodge, Nelson

The meeting opened at 5:32pm

The meeting was chaired by Andrew Tait (President) and the minutes have been written by Sam Dean (Secretary).

1. Attendance

Geoff Austin	Shane Bilish	Tony Bromley	Trevor Carey-Smith
Roger Davies	Sam Dean	Kim Dirks	Brian Giles
Sally Gray	Daniel Kingston	Ben Liley	James Lunny
Bob McDavitt	Jenny Salmond	Richard McKenzie	Brett Mullan
Sylvia Nichol	Simon Parsons	Alan Porteous	Katrina Richards
James Renwick	Mike Revell	Matt Ruglys	James Sturman
Andrew Tait	Richard Turner	Rupert Wood	

2. Apologies

David Wratt	Murray Poulter	Errol Lewthwaite	John Sansom
Ross Martin	Rowena Moss	Charles Pearson	Cliff Revell
Neil Gordon	Frank Drost	Jim Salinger	Jack Maunder
Duncan Ackerley	Jim Salinger	Andrew Laing	

3. Confirmation of the minutes of the previous AGM

Motion that “*The minutes of the previous AGM, held on the 17th November 2010 be accepted as a true and correct record*” **Bob McDavitt/Jim Renwick** -
carried

4. Matters arising from the last AGM

International Forum of Meteorological Societies (Andrew)

Andrew explained that the Society had been invited to attend the second annual meeting of the IFMS in China. The society did not have the funds to send someone to the meeting but had hoped that Jim Salinger would be able to attend. However, a change in date had meant this was not possible. A letter was sent explaining that we would be unable to attend this year. The committee would continue to try to find a way to send someone to this meeting.

Archiving of Weather and Climate on our Website (Andrew)

Andrew explained that the committee has been trying to get all the editions of Weather and Climate scanned and archived in PDF format. Andrew said that Errol Lewthwaite was doing an outstanding job in scanning the editions. He is being very meticulous and the scanned documents will all be text searchable and very tidy. He is about halfway through. The idea is that all pdfs will be uploaded to our website and members will have accessed to the latest couple of editions and all others will be freely available. Sam also said the scanning was part of a plan to make the journal more professional to encourage submissions and that papers

will immediately appear in Google Scholar when searches are performed and hopefully one day on Web of Science and Scopus. Getting DOIs for the documents will also be considered.

Richard McKenzie commented that he has not published in the journal for many years because it has an unprofessional appearance. He commented on the size of the font. It was explained by Sam and Brian that a reasonable proportion of the readership is more senior in age and a large font assists in easy reading. It was suggested that maybe the online PDF could be different from the print version. Andrew wished it noted in the minutes that this should be an on-going discussion point for the committee to consider. Ben Liley suggested that PDFs of presentations made at the annual conference could also be made available on the website. Brian asked how many people in the room had submitted to weather and climate and encouraged everybody present to do so. Sam noted that increasing the professionalism of the journal would encourage more submitters.

ANZ climate forum

In Jim Salinger's absence there was nothing to discuss regarding this forum.

5. President's Report (Andrew) – 32nd since founding of Society in 1979

I'd like to start by saying a big "thank you" to the 2011 committee. I greatly appreciate all your hard work in keeping the Society running smoothly over the last year.

Summary of activities:

Committee meetings

There were four of these roughly every two months, which is one fewer than usual due to difficulties with schedules early in the year. There have been no major initiatives this year, although we have begun the process of being able to view our financial accounts online.

February's conference joint with AMOS, Wellington

This was an excellent conference. The ~100 attendees from Australia helped raise the standard of the conference greatly. Mike Revell and Sam Dean did an excellent job organizing the conference. Mike noted the excellent work that Janet Symes did in making sure the conference ran smoothly. The net profit from the conference for the Metsoc was about \$3000.

Branch meetings

It was a slow year for branch meetings, particularly since Christchurch had some other issues to deal with during the year. Three seminars in each of Wellington and Auckland were advertised to our members. We didn't have a regional VP for Dunedin this year.

Newsletter/Website

Bob McDavitt continues to do an excellent job here, with most members now receiving the newsletter by email. Regarding our webpage, we continue looking into the feasibility of hosting our webpage ourselves, rather than through RSNZ. Whatever the outcome of this is, we need to put more effort into our webpage design and content this coming year.

Journal

Volume 31 of "Weather and Climate" went out in July. This was a bumper issue, with five good quality papers. One paper is in review for the next volume, plus two book reviews in the works, both on climate change, one "for" and one "against". Our editor, Brian Giles, is hoping for some papers to come out of Nelson conference talks (Brian will be at the conference this year and doing some shoulder tapping). The special issue on Climate Change and Urban Impacts is still in the pipeline for 2012.

Upcoming conferences

The 2012 MetSoc conference will likely be another MetSoc-only affair, though there is the possibility of running it at the same time and place as the Annual Conference of the NZ Geographical Society (Napier, 3-6 December), though this needs further discussion. The 2013 conference will be jointly held with the Hydrological Society. Details (venue and date) are yet to be finalised.

International Forum of Meteorological Societies (IFMS)

Unfortunately, no-one was able to attend the meeting of the IFMS on 3-4 November 2011 in Xiamen, Fujian, China. Kim Dirks discussed funding for travel to future meetings of the IFMS with the Royal Society. RSNZ has an "approved list" of international meetings that they provide travel funds for. Kim has asked that that the International Forum of Meteorological Societies be added to this list.

RSNZ CO Meeting in Auckland

On 3 Nov 2011, Kim Dirks attended the RSNZ Constituents Organisation (CO) meeting in Auckland on behalf of the MetSoc. One of the discussion topics, which is pertinent to the MetSoc, was the concern raised about the lack of readily available information on what the benefits are for societies in becoming (and remaining) constituent organisations. RSNZ is in the process of putting together a handbook which is intended to be a resource that COs can use to address the concern about "what the RSNZ does for us".

Once again, I thank all the 2011 committee members who have helped run the society over the last year. I look forward another good year working with most of you in 2012. I hope you, and all the MetSoc members, have all have a good break over the Christmas New Year period. Best wishes for the coming year.

Andrew Tait

President of the Meteorological Society of New Zealand (2011)

It was moved "*that the president's report be accepted*"

Andrew Tait/ Mike Revell - carried

6. Treasurer's Report (Alan Porteous)

**Meteorological Society of New
Zealand Inc**

**CASH BOOK RECEIPTS AND PAYMENTS FOR YEAR ENDING 31
JULY 2011**

RECEIPTS	2011	2010
Subscriptions	10,229	10,530
Interest	2,254	808
Conference surplus	11,101	3,641
NZ MetService	1,600	1,600
Conf dep refund	6,500	-
Misc	570	-
	<u>32,254</u>	<u>16,579</u>
PAYMENTS	2011	2010
Weather and Climate incl. postage	17,064	871
Newsletters incl stat & post	4,271	2,921
Meetings	-	100
Conference deposit	-	6,500
Student grants	1,665	1,200
Student prizes	-	1,000
Charities Commission	51	50
Auditing Fee	775	-
Royal Society	1,576	1,576
Refund misc	570	-
AMOS profit share	5,325	-
Post Office Box	145	135
Stationery	-	155
Bank Fees	3	15
	<u>31,445</u>	<u>14,523</u>
Surplus of income over expenditure	<u>809</u>	<u>2,056</u>

BALANCE OF BANK AND CASH ACCOUNTS AT 31 JULY 2011

ACCOUNTS	2010	INCOME	EXPENSES	TRANSFER	INTEREST	2011
Petty Cash	225					225
Cheque account 000	6,416.25	29,964.99	31,444.84	500.00	18.88	5,455.28
Term deposit 002	1 12,582.94				1,321.21	13,904.15
Term saver 004	2 11,145.67				327.24	11,472.91
Term deposit 005	3 12,050.62				534.66	12,585.28
Bus first call 066	1,963.20	35.00		-500.00	51.66	1,549.86
			-			
	<u>44,383.68</u>	<u>29,999.99</u>	<u>31,444.84</u>	<u>0.00</u>	<u>2,253.65</u>	<u>45,192.48</u>

	Matures 17 October		
Notes 1	2012		(4.6%)
2	Matures monthly		2.75%
	Matures 13 April		
3	2012		4.30%

Meteorological Society of New Zealand

Profit and Loss Account for the year ended 31 July 2011

	2011	2010
Income		
Subscriptions Received	10,228	10,415
Conference Surplus	5,775	3,281
Metservice Grant	1,600	1,600
Interest Received	1,750	1,699
Other Income	<u>0</u>	<u>360</u>
Total Income	<u>19,353</u>	<u>17,355</u>
 Expenditure		
Audit fee	775	0
Conference Prizes	0	1,000
Meetings	0	100
Newsletter	2,998	2,909
Other Expenses	53	65
P O Box	145	135
Royal Society NZ fees	1,576	1,576
Stationery	0	272
Student Grants	1,665	1,200
Weather and Climate	<u>10,732</u>	<u>6,851</u>
	<u>17,944</u>	<u>14,108</u>
 Surplus of Income over Expenditure	<u><u>\$1,409</u></u>	<u><u>\$3,247</u></u>

Meteorological Society of New Zealand

Balance Sheet as at 31 July 2011

	2011	2010
Accumulated Funds		
Balance 1 August	43,436	40,189
Surplus of Income over Expenditure	<u>1,409</u>	<u>3,247</u>
Balance 31 July	<u>\$44,845</u>	<u>\$43,436</u>
Represented by:		
Petty Cash	225	225
Cheque Account	5,455	6,388
Student Conference Fund Account	1,550	1,963
Accrued Interest	388	891
Conference deposit	0	6,500
Term Deposits	<u>37,962</u>	<u>35,779</u>
	45,580	51,746
Less Accounts Payable/Subs in Advance	<u>735</u>	<u>8,310</u>
	<u>\$44,845</u>	<u>\$43,436</u>

Meteorological Society of New Zealand

Notes to the Financial Statements

Statement of General Accounting Policies

These financial statements have been prepared using the historical cost method. Accrual accounting has been used except as noted below, and reliance has been placed on the Society being a going concern.

Statement of Particular Accounting Policies

Subscription receipts have been accounted for on a cash basis.

These financial statements were prepared on a Goods and Services Tax (GST) inclusive basis.

The convention surplus is accounted for on a cash basis. The conference was entirely managed by Absolutely Organised Limited and the net surplus was paid into the Society's bank account.

Interest income includes accrued interest on the term deposits as at balance date.

Changes in Accounting Policies

There have been no changes in accounting policies. All accounting policies have been applied on bases consistent with the previous year.

Income Tax

The Society is now registered as a charitable entity so income tax is not payable.

The cash accounts were presented by Alan to the meeting. The audited profit and loss accounts were not available at the time but are included in these minutes. Subscriptions were about the same as previously. Interest received this year was high because of an 18 month account maturing in this period. Two weather and climates were produced and so publication costs were high. One of these will likely be accrued to the previous year. There are five accounts. One is a

conference student fund. Alan will consider whether we need so many accounts. The accrued accounts will be ready shortly and included in the AGM minutes. The auditing fee was larger this year because the fee was for two years. The accounts are reconciled exactly with the bank statements.

A motion was made *“that the statement of accounts be accepted as a true and accurate representation of the accounts at the end of the financial year.”*

Alan Porteous / Tony Bromley - carried

There was then discussion of the budget for 2011/12. Alan noted that \$1080 has already been spent on student travel grants for the 2011 conference. Most discussion revolved around the cost of a possible second special edition of Weather and Climate and whether this should be paid for from savings. There was general support for this as a one off activity. Sam noted that at \$8000 this was a pretty significant proportion of our savings. He said that he would like to see the society to consider putting publication charges in place. As a contributor to the edition Andrew said that it may be possible for NIWA to pay some subscription fee for the special edition. He would discuss further with management and it was noted this as an item for the new committee. Jenny asked if not putting up the subscription rate this year would result in needing to make a bigger increase in the years ahead. It was said that fees usually go up in five dollar increments. Sam noted that it had been about three years since fees went up. Andrew proposed to keep fees at \$35 for this year but that the committee should consider whether to recommend an increase to \$40 for next year. Richard McKenzie said that since NIWA pays his subscription he would not be concerned with raising fees, and in comparison with other societies our fees were very low. It was pointed out that it was important we continue to attract members and that a higher fee may be a deterrent. Richard suggested a higher fee for professionals only. It was noted that NIWA already makes significant contributions to the costs of the society.

7. Subscription Rate (Alan)

Andrew put the motion that based on current income and expenditure, and expectation for the rest of the 2011/12 year, that the subscription rate remain unchanged (\$35 individual, \$105 corporate).

Andrew Tait / Bob McDavitt – carried unanimously.

8. Election of Officers (Kim Dirks)

The floor was then passed to Kim Dirks as Immediate Past President to carry out the Election of Officers. The following nominations for Officers of the Society for 2011/2012 were made:

President	Andrew Tait
Auckland VP	Jennifer Salmond
Wellington VP	James Renwick
Christchurch VP	Omid Alizadeh Choobari

Dunedin VP	Daniel Kingston
Secretary	Sam Dean
Treasurer	Alan Porteous
Journal Editor	Brian Giles
Newsletter Editor	Bob McDavitt
Circulation Manager	Sylvia Nichol
Webmaster	Peter Knudsen
HydroSoc Liasison	Charles Pearson
General Committee	Mike Revell
	Gareth Renowden
	Kim Dirks (IPP)
	Duncan Ackerley
	Katrina Richards

There being no other nominations, it was moved that the nominations be closed.
Kim Dirks / Bob McDavitt -carried

Kim declared the above nominees duly elected.

9. Other Matters

Annual Conference

Andrew explained that we were unable to have a joint conference with the Geographical Society as they were too advanced in their planning. They had invited us to hold our conference at the same time and share an icebreaker and/or keynote speakers. This would require the conference to be in December. This means that the 2012 conference will be a MetSoc only conference. Andrew suggested that an alternative would be to hold the conference in Wellington, where MetService members could participate more easily. James Lunny agreed with this. Sam noted that regardless of location the key to a good conference was having someone willing to organise the meeting, and that it was very good having Katrina on the ground in Nelson this year. James Renwick offered to help organise a Wellington meeting. Brett noted that following on from the conference in February that the marine physicists at NIWA would be interested in joining a MetSoc meeting in Wellington, which had an oceanography session. Phil Sutton is a good person to talk to about this.

It was agreed that the conference would be held in Wellington. The 2013 conference will be joint with HydroSoc.

Media awards.

Andrew asked if we planned to hold these again. Bob agreed to organise media awards this year. There was discussion of which area to do. It was agreed that this year the award would be made for presentation of weather forecasts on the internet.

Kidson Medal

It was agreed to award another Kidson medal this year. Sam said that he had one more medal in his office. The Royal Society needs to know by June who we will be presenting the award to, in order for it to be presented at the awards dinner. As such, nominations will need to be made by March or so.

IFMS

Kim announced that the IFMS was now on the official RSNZ list. Geoff Austin confirmed that this should make it possible to apply for travel funds to the conference.

Royal Society

Geoff updated issues from the Royal Society. He noted that the Royal Society regularly issues announcements and consultation documents to members. Sam said that we did receive these and they were forwarded to the committee but not the general membership. Geoff recommended that they should be sent to all members. He said that the consultation documents in particular are relevant to all people with an interest in the future direction of New Zealand science. He said that if there are particular issues that the society wants raised with the Royal Society then he is happy to help. There was also a discussion about the MetSoc's representative on the RSNZ Constituents Organization. Kim is currently in this position, and stated that she enjoys it, but suggested that it may be better for the President to hold this role. Andrew will think about it and it will be discussed further by the committee.

With no other business put forward the meeting was declared closed by Andrew at 6:36 pm.

2012 Annual Conference

This will be held in Wellington in November

More details will be announced in the next newsletter

Summer 2011-12

National Climate Summary –

Summer 2011: North Island and Nelson – short changed!

- **Sunshine:** Record cloudy for much of North Island and Nelson/Marlborough.
- **Rainfall:** Wettest summer on record for Takaka and Nelson. Very wet across the North Island, Otago and South Canterbury. Extremely dry over southwest of South Island.
- **Temperatures:** A cooler than average summer between Timaru and Gisborne, as well as for the Central Plateau and Bay of Plenty. Warmer than usual for the West Coast of the South Island and Fiordland.
- **Soil Moisture:** Above normal by the end of summer for Auckland, Bay of Plenty, Taranaki, Tasman, Otago and south Canterbury. Below normal for coastal Southland, Fiordland, Wairarapa and southern Hawkes Bay.

Summer (December 2011- February 2012) was characterised by more highs than usual near the Chatham Islands, and more lows than normal over the north Tasman Sea. This produced more northeasterly winds than usual over the country, consistent with the La Nina climate pattern present throughout the summer. December 2011 was notable for being extremely wet for the North Island and Nelson/Marlborough, with Takaka recording 392 mm on 14 December. In contrast, December was extremely dry over the west and south of the South Island. January was unusually cool, and February extremely cloudy, over much of the country.

It was an extremely cloudy summer across the North Island as well as in Nelson/Marlborough, with many records broken. Notably, it was the cloudiest summer on record for four of the six main centres (Auckland, Tauranga, Hamilton and Wellington). In contrast, it was sunny for the west and south of the South Island.

It was the wettest summer on record for Takaka and Nelson, with the summer rainfall totals about treble summer normal. Summer rainfall was also above normal or well above normal across most of the North Island, as well as in Otago and South Canterbury. In contrast, it was a rather dry summer over the west and south of the South Island. Soil moisture levels at the end of summer were above normal in Auckland, Bay of Plenty, Taranaki, Tasman, Otago and south Canterbury. In contrast, soils were drier than usual in coastal Southland, Fiordland, Wairarapa and southern Hawkes Bay by summer's end.

Below average summer mean temperatures (between 0.5°C and 1.2°C below average) were experienced in Canterbury, the Kaikoura Coast, Wellington and the Wairarapa, Hawkes Bay, Gisborne, the Central Plateau, Taupo and Bay of Plenty. Above average summer mean temperatures (between 0.5°C and 1.2°C above average) were observed for Fiordland and the West Coast. Elsewhere, temperatures were close to average. The nation-wide average temperature in summer was 16.2°C (0.4°C below the 1971–2000 summer average), using NIWA's seven-station temperature series which begins in 1909.

Further Highlights:

The highest temperature was 31.7°C, observed at Lake Pukaki on 4 January. The lowest temperature was -0.9°C, at Ranfurly on 3 January. The highest 1-day rainfall experienced was 392 mm at Takaka on 14 December. The highest gust recorded was 185 km/hr at Rock and Pillar Range, Central Otago, on 31 January. Of the six main centres in summer 2011/2012, Tauranga was the warmest and sunniest, Hamilton the wettest and cloudiest, Christchurch the driest, and Dunedin the coolest.

For further information, please contact:

*Ms Georgina Griffiths – Climate Scientist– NIWA National Climate Centre, Auckland,
Tel (09) 375 4506 (office DDI), Mobile (027) 2936545*

*Dr Andrew Tait – Climate Scientist – NIWA National Climate Centre, Wellington,
Tel. (04) 386 0562 (work) or (027) 327 7948 (mobile)*

NOTABLE WEATHER IN NZ - SUMMER 2011-12

Ben Tichborne

This summer was memorable for very, wet unsettled weather over northern and central NZ. La Nina conditions resulted in frequent low pressure systems, the worst being the system in mid-December which ravaged the Nelson and Golden Bay area with severe flooding. In eastern areas it wasn't much of a summer, with persistent cool onshore airflows and cloudiness. By contrast, the South Island West Coast and Southern Lakes areas were blessed with much sunnier and warmer weather.

DECEMBER

- **4th - Heavy rain in northwest of South Island and Northland, eg 103mm in Kerikeri. (new December record) Some afternoon thunderstorms in North Canterbury.**
- **5th - Some afternoon thunderstorms in several parts of the North Island, especially Northland, Waikato, and Hawkes Bay. Funnel cloud reported in Hamilton.**
- **6th - Only 11C maximums in Oamaru, and 12C in Timaru and Ashburton, due to a damp, cloudy southeasterly flow.**
- **7th - Another cold day in east of South Island under a southerly flow. 12C maximums in Oamaru, Timaru, and Ashburton. Funnel clouds seen from Bulls and Sanson.**
- **12th - Warm northerly flow over South Island. 28C maximum in Gore. Unusually high overnight minimums in Central Otago, eg 18C in Alexandra (new December record), and 17C in Wanaka.**
- **13th-19th - Heavy rain and flooding, especially in Nelson region. (see details below)**
- **20th-26th - Anticyclone persists over NZ during this period with fine, settled conditions for the majority of the country. However, daytime heating results in convective showers in many (mostly inland) areas during this time. Some of these are thundery, including downpours which cause flash flooding in South Auckland on the 22nd.**
- **26th - Very warm 29C maximum in Reefton.**
- **30th - Heavy rain in many northern and central areas. Surface flooding in low-lying Wellington suburbs. Storm water overwhelms Mōa Point sewerage plant, with raw sewerage spilling into Lyall Bay. The rain also causes more disruption in the Nelson region, which is still suffering the effects of the earlier big storm. Several roads are closed again due to slips. By contrast, sunshine and a warm foehn wind gave Milford Sound a near record 26C maximum.**
- **31st - More heavy rain in many parts of North Island. New Year's Eve public celebrations are cancelled in many places, including Mt Maunganui, Pāmerston North, and Wellington. Slips close SH29 over Kaimai Ranges, and SH2 between**

Whakatane and Opotiki. Meanwhile, it is warm and sunny on South Island West Coast, with a 26C maximum in Hokitika.

JANUARY

- **2nd - Only 14C maximums in Kaikoura and Ashburton and 13C in Cheviot, thanks to cool southerly flow.**
- **3rd - Light frosts in some sheltered inland South Island places, under an anticyclone following cool southerlies of previous few days. -1C minimum in Ranfurly.**
- **4th - Warm day in inland South Island, eg 31C at Lake Pukaki; 30C in Alexandra.**
- **7th/8th - Sup-tropical low brings heavy rain in many parts of North Island, starting in far north on 7th. Flooding reported in Waimaramara, Hawkes Bay on 8th. Daytime maximums in northern areas are unusually cool (17C-18C in many places, thanks to cloud cover, rain, and a strong southerly airflow. Gales lash southwest North Island on 8th, considerable damage done in Taranaki and around Palmerston North, with buildings, power-lines and trees knocked over, closing some roads and cutting power. High gusts recorded include 150 kph on Mt Kaukau, 104 kph in New Plymouth, and 96 kph in Palmerston North.**
- **9th - Another cool day in northern areas, under continuing cloud cover. Kaitaia records only 17C maximum, its lowest January high on record.**
- **12th - 31C maximum in Alexandra. Heavy rain yet again in Nelson/Golden Bay. Fallen tree blocks SH60 over Takaka Hill overnight.**
- **13th - Northwesterly gales in many areas. Trees felled, power lost and roofs damaged in several areas, including Buller, Wellington, North Auckland, and Wairoa. Recorded gusts include 107 kph in Westport, 96 kph in Hawera, 83 kph in Rotorua, and 82 kph at Motu. (a new January record there) Heavy rain in many parts of Otago, welcomed after months of very dry weather, but causing surface flooding in places. Totals include 50mm in Ranfurly and 32mm in Alexandra. Low cloud causes disruption to Queenstown Airport.**
- **14th - Only 13C maximum at Milford Sound.**
- **15th - Cold and showery weather in south of South Island, under a southwesterly flow. Some thunder and hail, plus snow on the ranges. Chilly 9C maximum at Milford Sound. Funnel clouds spotted above Invercargill, while a waterspout is seen offshore in Southland. An evening thunderstorm on Banks Peninsula.**
- **16th - Chilly start to the day in many places in wake of the southwesterly. 4C minimum at Waipara West; 5C in Greymouth.**
- **17th - Rather chilly overnight again in many areas, eg 2C minimum in Cheviot.**
- **18th - 31C maximum in Alexandra, under a light northwesterly flow.**
- **19th - Warm in east of South Island in a northwesterly flow, reaching gale inland. (Manapouri records 80 kph gust) 31C maximum in Timaru.**
- **22nd - Cold southerly spreads over South Island in morning, and North island during afternoon and evening. Some thunder and hail in places, and snow on the mountains of both islands.**
- **23rd - Rather cold south to southwest flow persists over NZ. Light morning frosts in sheltered places where it has cleared, eg 0C minimum at St Arnaud, 2C in Appleby, and 1C in Blenheim. (latter two both new January records)**
- **26th/27th - West or northwest gales in some areas, eg Southland, and Wellington. (where flights are disrupted) Gusts reach 113 kph in Gore and 91 kph at Tara**

Hills. Unseasonably cold southerly spreading over South Island during afternoon, with snow levels lowering by evening to about 400m in Central Otago and 500-600m in many other eastern and southern areas of the island. (5cm reported in Ranfurly) Only 4C in Oamaru by 9pm. Weather clears during the early hours of the 27th, with frosts in some places. (record January minimums of 4C at Le Bons Bay and 5C at Puysegur Point) Colder southerlies affect North Island during the day, with chilly 13C maximums in Masterton and Castlepoint. (gales at latter reach 159 kph)

- **28th - Unusually cold start to the day in many areas, in wake of previous day's cold southerly. Light frosts in many sheltered places, with January record minimums broken in Dannevirke (0C), New Plymouth, and Te Kuiti. (both 4C) However, temperatures recover in east of South Island, with 26C-28C maximums under a westerly flow. (severe gales cause some damage in Southland) By contrast, a chilly 14C maximum in Greymouth, under cloud and showers due to the same airflow.**
- **29th - West to southwest gales in some central North island areas, eg 87 kph gust in Turangi. Only 12C maximum at Le Bons Bay, as cool southerlies and cloud cover chill temperatures again in east.**
- **31st - Northwesterly gales in many inland areas of South Island, severe in Central Otago. (gusts up to 185 kph recorded at Rock and Pillar Range) Heavy rain in Fiordland, eg 145mm at Milford Sound. Unusual thunder reported from northwest arch cloud in inland mid and North Canterbury.**

FEBRUARY

- **1st - 30C maximum in Whakatane. Northwesterly gales (158 kph recorded at Cape Turnagain) ease in central NZ. Southerly change drops temperatures by about 10C in east of South Island and lower North Island. The southerlies briefly reach gale on Kaikoura Coast.**
- **6th - 30C maximum in Alexandra, under an anticyclonic northeasterly flow.**
- **14th - A period of heavy rain in early morning in eastern Bay of Plenty/East Cape. Thunderstorms in many parts of North Island during the day. Chilly 14C maximums in Timaru and Oamaru, thanks to a damp, cloudy onshore flow.**
- **15th - Moist airmass and light winds result in heavy fog in the Hastings and Clive areas. Waterspouts in Waitemata Harbour, thanks to instability in a slow moving frontal system. One large one causes alarm as it passes close to the Auckland CBD.**
- **16th - Heavy overnight rain on Coromandel Peninsula, with 169mm recorded at Golden Cross.**
- **17th - Thunderstorms in many northern areas, with downpours causing flash flooding in Taupo (where a tornado damages some houses) and Auckland. The West Auckland suburbs of Titirangi and Glen Eden are worst affected, with damage to several homes. Auckland Airport operations are also disrupted by the storm. Heavy hail in Kaitaia and Wellsford forces drivers off the road for a time.**
- **18th - Cool southerly and cloud cover suppresses temperatures in the far south, with chilly 11C maximums at Puysegur Point and Tiwai Point.**
- **19th - Only 13C maximum in Oamaru, thanks to a cool onshore flow.**
- **20th - More thunderstorms in several North Island areas, including a severe one in the central North Island.**

- 22nd - Heavy rain in some northern and western areas of North Island and north of South Island. Totals include 317mm at Dawson Falls, Mt Taranaki and 139mm in Takaka. (new February record there) Some heavy rain in parts of Otago and Canterbury in evening, eg 71mm in Methven, and 42mm in Cromwell.
- 23rd - Heavy rain (carrying over from previous day) causes some surface flooding in northern and central North Island, including hospitals in Rotorua and Taupo. Thunderstorms in Northland. Gales lash the Nelson and Buller areas (83 kph gust recorded in Westport) causing some damage, including a power cut in Motueka and yachts beached in Able Tasman National Park. Heavy rain eases in north of South Island, but persists in Otago, causing flooding in many areas. Properties flooded in Alexandra, and Dunedin Airport closed, while several roads are impassable for a while. Several tourists are trapped by flooding in a campground in Trotters Gorge, East Otago. 74mm recorded at Dunedin Airport; 50mm in Balclutha and Nugget Point, and 45mm in Lumsden. Cool, damp southerly in lower South Island keeps maximums to no more than 13C in Invercargill and Queenstown. By contrast, a warm 30C maximum in Napier, thanks to warm northwesterly flow. Unusually warm overnight in Northland, with record high February minimums in Kerikeri (21C) and Whangarei. (22C)
- 24th - Some thunderstorms on South Island West Coast, due to cold front bringing a cool southwesterly change.
- 28th - Chilly start to the day in many North Island areas, eg 0C minimum at Chateau Tongariro and 2C in Martinborough. Trough with shower activity moves onto central and upper North Island, with temperatures remaining well below normal. (eg 13C maximum in Taumaranui, 15C in Turangi, 16C in New Plymouth, and 19C in Whakatane) Dustings of snow on Mt Taranaki and central North Island volcanoes.
- 29th - Another chilly morning in some North Island areas, eg only 2C minimum in Dannevirke.

MAJOR EVENTS

13th-19th December - Heavy rain and flooding, especially in Nelson region

Very moist air from a northerly flow dumped heavy rain on many northern and western areas of both islands. The Nelson region was worst affected, with severe damage and disruption. Heavy rain then caused problems in some North Island areas.

A northerly flow strengthened over NZ during the 13th, as a low deepened and moved into the central Tasman Sea, while an anticyclone remained slow-moving well to the southeast of the country. Rain set in over the northwest of the South Island by evening.

During the 14th and 15th, both these systems didn't move much, so the very moist northerly flow persisted over NZ, with a frontal system further intensifying the rainfall in exposed areas. While most northern and western areas of the South Island received heavy rain, the Nelson region suffered the most. The torrential rain resulted in severe flooding and many slips. More than 100 houses were evacuated near flooding rivers and numerous roads were closed. These included SH60 between Nelson and Motueka, and the road between Takaka and

Collingwood. Mudslides on the access road trapped people at Totaranui, while a dam collapsed above Pohara Gully in Golden Bay. In Nelson, about 500 residents in Tahunanui lost power due to slips washing away power lines.

Not surprisingly some rainfall records were achieved in this event. Takaka recorded its highest one-day total for any month on the 14th, with a whopping 392mm. Nelson recorded a new December record of 155mm on the same day, with Appleby recording 99mm.

During the afternoon of the 15th, even though the low remained in the mid-Tasman, a secondary centre developed over the lower South Island and the front moved off the Nelson area. However, this same front crossed the North Island at this time, with heavy rain now falling in northern and western areas of the island. Northland was most affected, with surface flooding in many areas, closing SH1 and SH10 for a time.

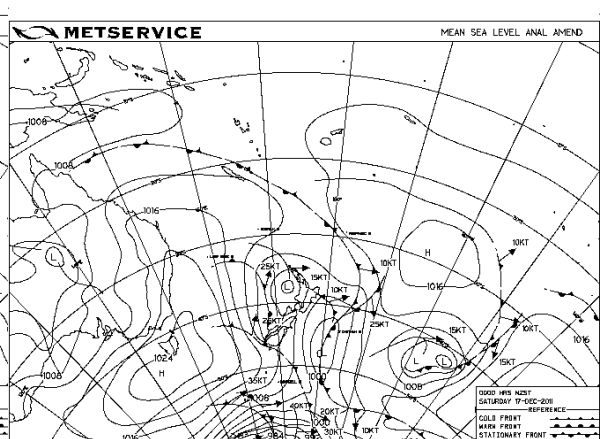
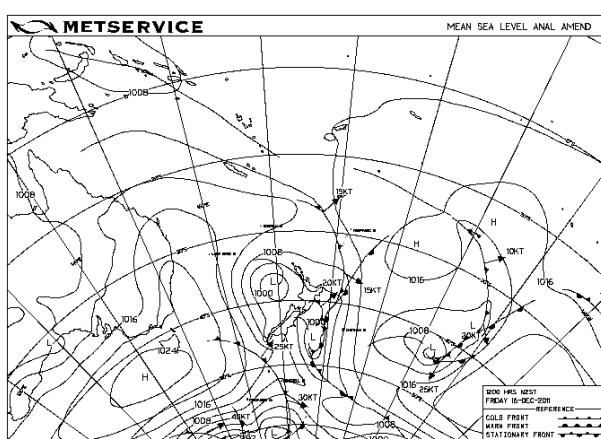
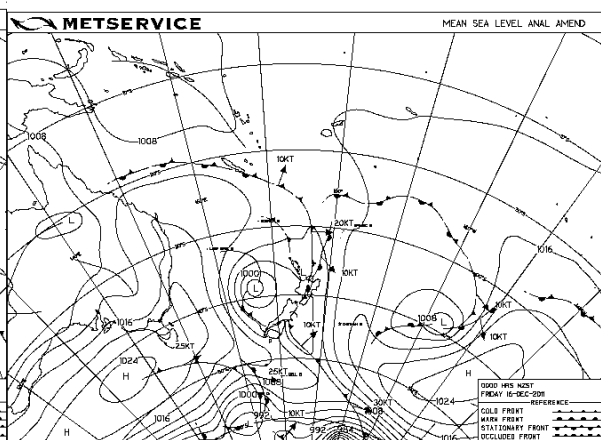
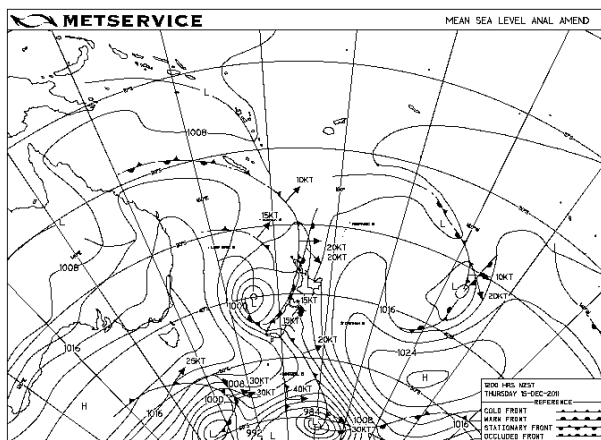
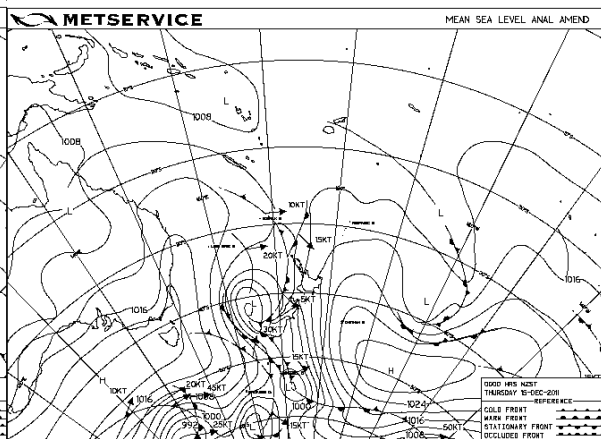
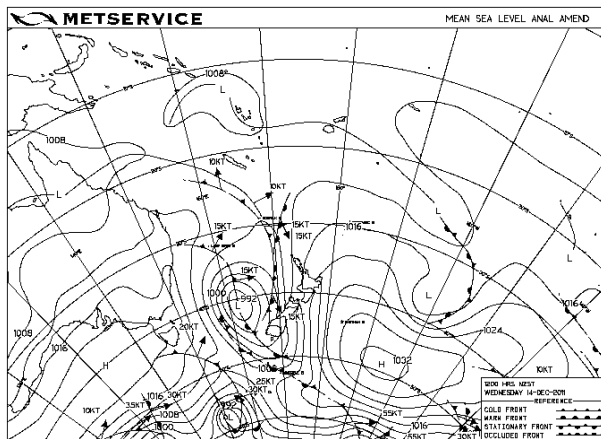
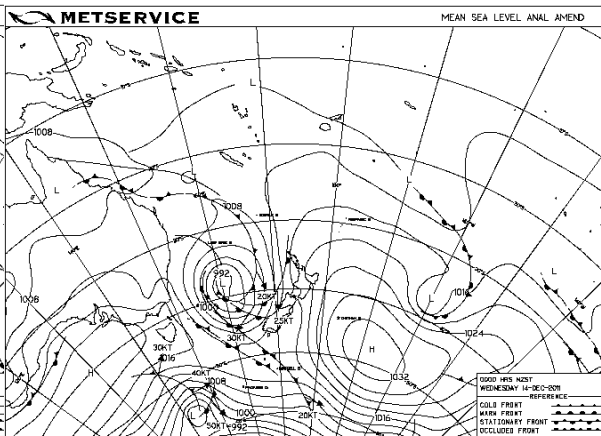
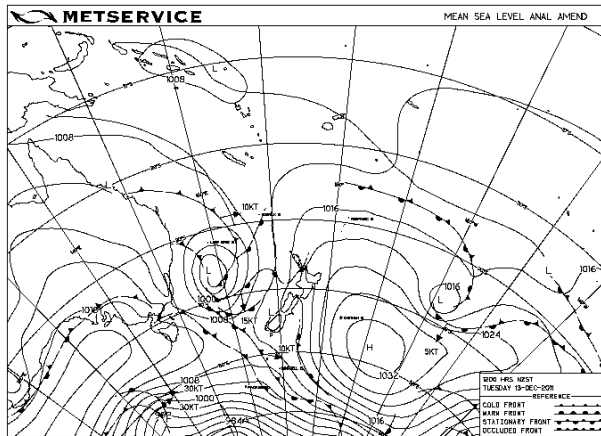
Meanwhile, the main low which spawned the fronts gradually moved closer to NZ, reaching the west of the North Island late on the 16th. On its southern side, a southeasterly brought rain to the far south on the 15th, with a secondary low forming to the east overnight. During the 16th, a colder southerly spread over the remainder of the South Island, with rain in the east. Some heavy falls caused localised surface flooding in Christchurch.

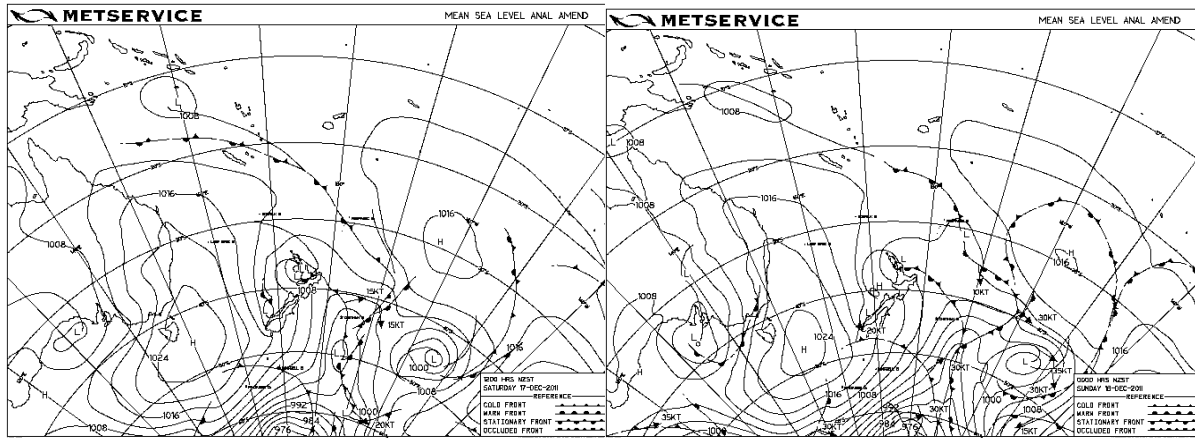
On the 17th, with cold southeasterlies now affecting the lower North Island, the main low moved onto the upper North Island. The clashing of colder air from the south (Hawera recorded a new December low maximum of 13C) and the warm, moist air further north brought more heavy rain to the central and northern parts of the island. These heavy falls occurred in thunderstorms, with some flooding around Rotorua, while a slip damaged cabins at the Oakaura Holiday park, west of New Plymouth.

On the 18th, the low had positioned itself over Northland, with heavy rain now confined to there and the Coromandel Peninsula. However, it remained overcast and wet throughout the northern North Island, and now the colder air had undercut this moisture. This resulted in unseasonably cold daytime temperatures in many places. New December records were broken with 13C in Hamilton, 14C in Hicks Bay and Paeroa, and 15C in Whenuapai.

The low moved away to the northeast of the North Island on the 19th, with the rain easing the far north. However, it remained rather cold in many areas as a light south to southeast flow persisted over most of NZ. Chilly 14C maximums were recorded in Westport, Oamaru, and Kaikoura.

Mean sea-level analyses for 1pm NZDT 13th December to 1am NZDT 18th December in 12 hour steps are shown here.





MONTHLY WEATHER IN CHRISTCHURCH - SUMMER 2011-12

DECEMBER

A combination of onshore airflows and several troughs crossing over, resulted in a slightly cooler (at least in daytime) and cloudier month. Drizzle and rain accompanied some of these systems, with heavy rain resulting in some surface flooding overnight 15th/16th.

JANUARY

The first half of the month saw a predominance of northeasterly winds in the city, with pressures lower to the north and west. This resulted in cool daytime temperatures and more cloud than normal. However, it became warmer from the 10th--14th, with northerly and then westerly flows. During the second half of January, there were several southerly changes, which kept temperatures down, and some delivered rain to the city. The southerly outbreaks of the 15th/16th, 22nd/23rd, and 26th/27th were unseasonably cold with some hail in the city and on the peninsula, as well as snow on the mountains. The southerly blast overnight 26th/27th was particularly wintry, with heavy rain, gales, and snow to low levels on the foothills, plus the top of Mt Herbert.

FEBRUARY

Hopes of more summery weather for this month were dashed, as cool, cloudy onshore (mostly northeasterly, with occasional southerly) airflows again predominated. Precipitation was generally limited to some drizzly spells, but heavy falls of rain (with scattered thunderstorm activity nearby) occurred on the evening of the 24th.