



SEGMENTS

Journal of the
Scientific Expedition Group



Planned replacement of the GRaSP Pluviometer data loggers

Written by Chris Wright

After nearly 17 years of service, the Cherryville loggers that have been collecting and storing rainfall and river flow data at Arcoona Creek are nearing the end of their useful life. The instruments are becoming unreliable and need to be replaced. Modern logger designs are much smaller and lighter, and they are simpler to download. It would be nice also, not to have to bring a laptop computer up to the Gammon Plateau to do the servicing, and to use an instrument with a screen that still works in bright sunshine. Graham Blair fell while working on the stream-gauge site last year, and damaged the laptop computer. (SEG subsequently compensated DWLBC for the damage.)

SEG 2005 Calendar

| | |
|---------------------------|---|
| April | |
| April 21 to 25 | Minnawarra Survey |
| April 21 to 25 | GRaSP Trip |
| April 30 | Applications due to Chief Leader of Moonabie Expedition |
| May | |
| May 30 | June SEGments articles due |
| June | |
| Mid June | SEGments Vol. 21 No. 1 |
| July | |
| July holidays | GRaSP Cross-over Trip |
| August | |
| Late August | SEG AGM |
| August 29 | SEGments articles due |
| September/ October | |
| Mid September | SEGments Vol. 21 No. 2 |
| School holidays | GRaSP trip Minnawarra Survey |
| October/ November | |
| Late Oct/ Nov | Moonabie Expedition |
| November 28 | SEGments articles due |
| December | |
| Mid December | SEGments Vol. 21 No. 3 |

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PO Box 501
Unley SA 5061

Graham Blair has been working with the loggers since the early days and has done an excellent job maintaining them, keeping them in good order, and making sure that the data is collected efficiently and that no records are lost. The use of dual loggers on all sites has done a great deal to ensure that the record is good.

It should be noted that the second logger at each site, (the white box that is housed inside the Pluviometer cylinder), is manufactured by Hydrological Services in Sydney, and is the same as those used by the Bureau of Meteorology at all of their long-term pluviometer sites. These loggers do not need replacing at the present time.

There is a new generation of loggers, manufactured by Campbell (from the USA), which Graham is considering. These loggers have the ability to "talk to each other" by radio-telemetry, which should allow us to set up the new logger system so that they report rainfall back to the Bureau of Meteorology at Kent Town each day. The information would then be posted to the Internet.

Graham is currently bench-testing the new loggers and later this year will be doing some trials on site to test the radio path between the sites. This will require two groups of people, located at different sites trying out the radio signals. A special trip will be required to do this, probably in July this year.

If we decide to go ahead with the upgrade, it would be best to change all of the loggers at the same time, and get the new system operational. However this will mean that each of the 5 sites requires a new logger, with a total cost that could be as much as \$8,000. We are looking to find sources of funding for this upgrade.
(Continued on page 2)

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It is worth noting that we have completed almost 17 years of rainfall and water flow data collection from the Gammon Ranges, and have compiled a unique record. When added to the data from the Leigh Creek pluviometers, this represents a valuable archive of hydrographic information that is available for all time. All of the time commitments on the project have been voluntary, (no salary or travel costs contributed by the State or Commonwealth Governments). On most trips the vehicles have been supplied by expeditioners.

If anyone is interested in assisting Graham with testing the new equipment up at Arcoona Creek, please advise Chris Wright (phone number on last page of SEGments).

Moonabie Expedition, Oct-Nov 2005 SEG - LEADERSHIP OPPORTUNITY!

The Scientific Expedition Group encourages the promotion and execution of expeditions of a scientific, cultural and adventurous nature, the furthering of knowledge, understanding and appreciation of the natural environment and the development of skills required for planning and running expeditions and to develop sound field techniques.

We are seeking expressions of interest for the position of Chief Leader for the annual 2 week expedition. This year the expedition will be to Moonabie which forms part of the Munyaroo Conservation Park and is located on the coast between Whyalla and Cowell on Spencer Gulf in the north of South Australia.

The expedition will comprise approximately 24 expeditioners, a leadership team (Chief Leader, Scientific Leader and Catering /Logistics Leader) and a group of 6-8 scientists.

The first week of the expedition will involve the study of a varied range of subjects and collection of scientific data under the guidance of the expedition's scientists. Some of the survey areas to be covered in this phase include:

- Mammals
- Birds
- Reptiles
- Invertebrates
- Vegetation

The second week may involve an Adventure Phase where small groups led by experienced leaders, undertake a bushwalk through the area.

The Chief Leader will be responsible for the overall planning, directing and controlling of the expedition within the broad direction and policy set by the SEG Committee. Key tasks for the Chief Leader will be to:

- Prepare a proper and adequate administrative base for the expedition
- Ensure the welfare and safety of all participants on the expedition
- Assist the SEG Committee to attract sponsors of cash or kind
- Ensure effective promotion and publicity to achieve attainment of expedition objectives
- Assist the SEG Committee to attract and select expeditioners
- In conjunction with the Scientific and Catering/Logistics Leaders delegate work to the expedition team to ensure balanced workload and responsibility
- Ensure appropriate standards of behaviour and discipline are maintained.
- Assist the Scientific Leader with preparation of a final report on the expedition and its outcomes.

The SEG Committee will form an Expedition Sub-committee of its experienced members to provide guidance, support and assistance to the Chief Leader in fulfilling these tasks.

Further information can be obtained by contacting the following members of the SEG Committee -

Chairman:

Alun Thomas H: 82969453

Vice Chairman:

John Hayes H: 82346017

Committee Member:

Trent Porter H: 82789078

Applicants interested in applying for the position of Chief Leader should prepare a brief statement in writing (no more than 2-3 pages) outlining the following:

- Background, experience and skills you would bring to the position.
- Names and contact details of at least two referees.

The application should be sent to "Moonabie Expedition", Scientific Expedition Group, PO Box 501, Unley, SA, 5061 by 30th April 2005.

Upgrade of GRaSP Leaders Manual

Leaders on the Gammon Ranges project (GRaSP) trips have used the Leaders Manual which was developed by Paul Harvey and John Waterhouse in about 1990. There have been many changes to the

project since then, and we have made various attempts to keep the manual up to date. Paul Wainwright and Annie Bond have done a lot of work on it, but recently John Love has taken the manual by the scruff of the neck, shaken it, and subjected it to a major revision. He has put a great deal of determination, time and effort into the job and is close to completing the task. We expect that the new version will be put to use during the ANZAC weekend trip. Many thanks to John for a job well done.

GRaSP Data Recovery Trip
26 to 29 January 2005
Written by Kent Wilson

Party Members:

- Linton Johnston (Party Leader)
- Stephen (Soursob Bob)
- Karl Gohra
- Kent Wilson

Transport

The Ford sedan belonging to Soursob Bob – a real cruiser.

Wednesday 26 January 2005

We left the Adelaide at 6.45am. We stopped at Jamestown (9.30am), Hawker (11.00am) and Leigh Creek (1.00pm) where Linton spoke to the Police Officer. A shredded tyre east of Copley brought the pit stop crew into action with some quick team work and a delay of only 20 minutes. It was 45° C in the sun (sorry Linton, but there was no shade for an official reading) and the tyre and steel rim were very hot to the touch. After a brief chat with Paul at Owieandana Station, we arrived at Arcoona Creek Base Camp at 3.30pm.

Storm clouds were building up as we ate a late lunch and headed off at 4.15pm to change the Base Camp Exclusion Zone pluviometer data logger. At the Base Camp Exclusion Zone we made our only feral animal sighting of the trip - a lone rabbit. We changed the water level recorder and started the Yellow Footed Rock Wallaby (YFRW) survey at 5.05pm. We reached the saddle at 6.55pm.

We had carried sufficient water to enable us to check the new pluviometer but lacking an Allen key we were unable to remove the cover to access or change the data logger.

The increasingly heavy clouds made it quite dark, so we abandoned the survey and walked down Evasive Creek and back to camp. At the lower end of Evasive Creek, we

had a close encounter with a beautiful slim snake with a brown pattern.

Several euros were sighted but no YFRWs. We were back at Base Camp at 8.40pm, just on dark.

Thursday 27 January 2005

As on the previous year, we decided to forego the morning YFRW survey. The stress to both YFRWs (which were not so much stressed as absent) and walkers (who were very stressed) seemed unjustifiable. This allowed us to start the walk to Vandenberg Campsite earlier, thereby avoiding the higher temperatures in the middle of the day and early afternoon.

After a 6.30am rise and a final sorting of gear and supplies, we left for Vandenberg campsite carrying 12–15 litres of water each. Within five minutes, a buckle broke and Linton's pack fell to the ground. We cut the stitching on a lid compression strap to obtain a replacement buckle and attached it to the existing shoulder strap loop with cable ties, restoring the original design functionality – important for comfort when heavy loads are being carried. We resumed the walk at 8.50am.

There was water at Woodcutter's Well but none at The Seeps – not even dampness when we pulled away the rocks in the lowest part.

We arrived at Wagtail at 10.45 (totally dry) and Vandenberg's (likewise) at 12.25. It was 40°C in the patchy shade of the trees. We sat in the cave to eat lunch and cool down. The sky gradually darkened until a thunderstorm broke at 2.15pm. Showers followed and the temperature dropped considerably.

At 4.45pm we walked up the creek in light rain and serviced the Sambot pluviometer, then continued to Lower and Upper Sambot waterholes. Upper Sambot had a small amount of tannin-black water. It was a real surprise to find the water as elsewhere was totally dry. There were some macro-invertebrates and plenty of frogs, as well as a wedge tail eagle.

On our return to camp, we enjoyed the spectacle of lightning and rolling thunder with occasional showers of rain. The clouds were very impressive with pendulous udder-like shapes. As we were not carrying tents, we looked at the caves further up the cliffs as a possible refuge for the night. However, the

rain gradually cleared and in the end only Bob slept in a cave.

Friday 28 January 2005

Another 6.30am rise revealed a fine morning. However, we were soon discovered by swarms of very friendly bushflies. At 7.45am we headed up the flanks of North Tusk, to be refreshed by a pleasant breeze on summit at 8.55am. We had a break at the summit of North Tusk and arrived at the Plateau pluviometer at 10.10am, changed the data logger and left at 10.55am.

On the return walk we overshot the saddle, so decided to walk down the creek which lies to the west of North Tusk. We descended the fairly steep hillside then followed the creek back to Vandenberg Campsite. The creek is pretty, with a couple of waterfalls and cascades. However, the rock would be slippery when wet, so this route perhaps should be avoided after rain.

We arrived back at Vandenberg at 1.20pm. We returned to the cave to eat lunch and to read away the heat of the day, then packed and left for Wagtail at 5.10pm.

We arrived at Wagtail at 5.55pm and immediately headed south. Minutes later, the weather broke. We stood in the wind driven rain and discussed the advisability of continuing. Apart from the adverse conditions for walking, we were concerned about getting our conventional vehicle back onto the bitumen roads. However, our sense of adventure won through and we bent into the wind-driven rain and continued to Arcoona South.

We reached the pluviometer at 7.20pm, just on dusk. As it was still raining, we changed the data logger as quickly as was practicable, while protecting the pluviometer with a groundsheet. In the circumstances, we forewent the prescribed checks. The whole exercise took just a few minutes then we were on the way north again.

As it continued to rain lightly and we had no tents, it looked like being a long night. Part way along the braided creek, we found a flat area of sand, so we stopped and ate while waiting for the showers to pass. It was still warm with a multitude of friendly bush flies trying to get to know us better. As the clouds pass overhead, Bob entertained us with an amusing and witty monologue while we endured intermittent light showers. Eventually the rain cleared and we retired. A

shower or two during the night hardly disturbed our slumbers.

Sunday 29 January 2005

Our final day saw us up again at 6.30am. A superb honey gold scorpion was discovered departing one team member's sleeping bag. In continuing light showers we were on our way by 7.10am. We reached the junction with Arcoona Creek at 8.05am and were at Base Camp by 9.10am.

We left for Adelaide at 9.40am. The roads were still passable, although quite sticky in places. A highlight of the drive out was two wedgetail eagles perched in a tree close to the track. One had a considerable amount of white in its plumage. We stopped to watch until first one then the other took flight.

We bought petrol at Copley and called at the Police Station at Leigh Creek to advise our safe return. We left Leigh Creek at 12.10pm and stopped again at Hawker at 1.45pm for lunch. We were back in Adelaide by 7.15pm and another expedition was over.

Summary

This walk was remarkable for a number of reasons including:

- the heat (but it was not hotter than is to be expected in the Gammons in Jan.);
- two awesome thunderstorms on successive afternoons with an inch of rain at Arcoona Bluff (but considerably less than that at Vandenberg Camp site and insufficient to make the creeks flow or even form pools in the rocks);
- the intense humidity after the rain
- a solitary rabbit at the base camp exclusion zone being the only feral animal sighted-although we could hear the occasional goat (none of which adopted Linton);
- no water being removed from the caches and at least some of us returning with water. This would not have been possible if the weather had been consistently hot;
- the presence of two incorrigible troubadours (take a bow, Linton & Bob)

Note:

There is a "Total Fire Ban" sign at the entrance to the park. This suggests that naked flames of any sort should be avoided during the summer walks.

Some sort of rain protection should be carried by each party member, even on summer trips. It is imprudent to do otherwise. All equipment should be checked before the party leaves Adelaide.

Special Summer 2005 Trip to Leigh Creek and the Gammon Ranges

Written by Chris Wright

Last year SEG took over the operation of 3 pluviometers in Windy and Emu Creeks. These had been operated by DWLBC since about 1984. The creek system feeds Aroona Dam, the main water supply for the Leigh Creek village and mining community. They were closed in August 2003 and the stations were re-opened on the understanding that SEG would look after them. However there are direct costs involved in keeping the pluviometers maintained, replacing batteries etc and SEG hopes that NRG Flinders will contribute towards the project.

In mid-February Graham Blair and Chris Wright made a trip to Leigh Creek, mainly to show management staff where the pluviometers were located, and explain the project and the value of the rainfall data. We were accompanied by Ann Cantrell, a visitor from Wimbledon in UK. The first night's stop was at North Moolooloo. We arrived there at dusk, and met Bridie Ferguson, who was preparing to return to work in the Maree area, and her Dad, Ian, called in later that evening. Ann was delighted to be able to stay at the place where they filmed Rabbitproof Fence, and took plenty of photos. Ian filled us in with stories about the actual filming.

On the Friday we drove in to Leigh Creek for a meeting with Dion Robins who manages the water supply and treatment for the village. He then drove us on a circuit, visiting each of the Pluviometer sites, 1 on Maynards Well, 1 on Angepina and 2 on North Moolooloo. At the Maynards Well site, the Telecom box that contains the logger and drums, was full of water, everything floating around inside. This problem has occurred before, due to the Crabhole, cracking clay soils, and we needed help to sort it out. Eddie Nichols had come out to have a look and offered the services of his backhoe. We decided that the best approach would be to dig out a cubic metre or so of clay, and replace it with gravel, and reinstate the pluviometer and box. This will be a fairly large job and will take about a day to complete. Eddie says he will be available in July and we are putting together a plan to meet him up there.

Dion drove us out to Mocatoona where we were hoping to be able to install one of the NRG telemetry units, so that they can get

real time data, straight onto their data base, and be able to monitor heavy rain that will cause flow into Aroona Dam. They need to be able to anticipate inflows because the turbulence causes stratified layers of water to be drawn into the water supply intake, and people don't like smelly water coming out of their taps. Unfortunately the Mocatoona pluviometer is located on the side of a valley and we weren't able to get a radio path back to Leigh Creek. However there may be an opportunity to locate a passive repeater on the nearby ridge.

We continued to Pfitznerns Well and then back to North Moolooloo, doing a quick data download and battery change on the way, then back to Leigh Creek. Dion and Graham are working on a report to justify maintenance on the gauging stations and will look at the rainfall record at the times when there were major inflows to Aroona Dam.

After saying goodbye to Dion and Ian, we drove to Maynards Well for tea with Eddie Nichols, and Morgaine. He showed us a beautifully bound leather folio containing hundreds of samples of plants that he had found and identified, each with the botanical names and descriptions. It is a most impressive work. Then he took us round the back of the garden, (and the goats) to see the solar panels and charging system that he has installed. The house is run entirely from solar energy, and there is a backup generator for heavy demands such as welding. To date the system has provided over 7,000 kilowatt hours of power. We drove away from Maynards Well having avoided the attention of the goats and continued to Arcoona Creek to camp for the night. Conditions were remarkably cool for mid-summer in the Flinders, and the day temperature hardly got above 25° C.

The next day, after a slow start we headed for Wallaby Creek and the Arcoona Bluff pluviometer to do a logger exchange and look for wallabies. Graham had never seen wallabies in this area and we think he didn't really believe in them.

On the way down Evasive Creek, Ann saw a Yellow Footed Rock Wallaby streaking up the side of the valley, heading for the rocks. Chris was able to confirm the sighting, but Graham's disbelief continued! However shortly afterwards we came upon a family of these beautiful creatures and were able to watch them for about 15 minutes before they finally disappeared amongst the kloofs and

cliffs. Graham actually had one wallaby come up to within a few metres, and he took a photo on Ann's camera, that we hope will be the best shot of all. Chris took a number of photos, although his hands were shaking with excitement. This, I believe, is the first time that we have been able to photograph the animals in this area.



Gammon Ranges Yellow Footed Rock Wallaby
Photograph supplied by Chris Wright

In a happy state of mind, we returned to the camp and packed up for the return to Leigh Creek. The Copley Bakery was closed for the summer, but Fiona Gosse, the owner had kindly invited us in for a cup of tea, and plenty of conversation. The very dry conditions in the Northern Flinders and Maree area are causing much concern. Also the gradual diminishing number of people working on the mine and living at Leigh Creek is a problem for maintaining services and the school.

We drove on to the Prairie Hotel at Parachilna and booked cabins for the night. The staff looked after us well for dinner, and we each had a Feral Mixed Grill (FMG). I noticed a poem by Bob Major on the wall entitled FMG, but didn't have time to read it all. I will have to ask Bob for a copy, to be recounted during the next GRaSP trip.

Bunker Ranges Field Trip Easter 2005

National Parks have an ongoing requirement to ensuring that their park boundary fences are kept in good order. There is an understanding between neighbours in the outback that the upkeep of boundary fences is a shared responsibility. However National Parks have a lot of boundary fence and a lot of neighbours, and need assistance to determine the state of their fences. Christine Arnold planned a trip to the Bunker Ranges Conservation Park over Easter to do a

survey of some 13km of fence. This was done by walking the fence-line, doing any quick, on-the-spot repairs, and for problem areas, recording the locating, using a GPS, and taking digital photos. The boundary fence survey will enable National Parks to assess the overall fence condition and plan for repairs on an organised basis.

"I'm the King of the Castle (or the Commodore)" *Written by Chris Wright*

A few months ago, on a SEG trip to service the pluviometers in the Leigh Creek area, we visited the Nicholls family at Maynard's Well. Gina and Eddie and their 3 children (Siobhan, Morgaine and Fionn) are delightful and gave us a great welcome and slice of watermelon to cool us down on a hot day. In the course of conversation they told us to be careful about leaving any of our camping gear lying around their car park area, because the goats were likely to eat it! Apparently after a recent goat mustering trip, several youngsters had been fostered by the Nichols children, and had grown and grown, and weren't scared of anything or anyone!! And on occasion caused havoc.

Eddie said that quite recently they had a visitor in a State Fleet car who parked outside the house, and after conducting his enquiries went back outside to find that the largest and heaviest of the goats had decided to climb onto the roof of the car and was hopping around there, Monarch of all he surveyed! The driver was rather concerned at the scratches and dents in the roof! And tried to chase the goat off, however he was well used to humans and not scared at all, so they enlisted the help of the family dogs who arrived full of menace, ready to right the wrongs and clear the car roof of pesky goats. However when the goat found that he was surrounded, far from meekly giving up and running, decided to stand, or rather Jump, firm! Much to the driver's dismay, he stood his ground and drummed his diamond hard hooves on the roof, to indicate that he wasn't afraid of anything or anyone!

History doesn't relate how the goat was removed from the roof - did he leap off the moving car? or did he travel on as a figure-head all the way back to Adelaide? Nor does history record what the driver told the Supervisor at State Fleet HQ on his return, about why the roof was considerably dented and scratched. Can you insure against goats standing on your roof? Eddie says he has

tried to get rid of the goats, but even the lure of \$20 per head was not enough to persuade the children to send them to their doom! So watch out the next group that visits Maynards Well.

Future GRaSP trips

ANZAC Weekend

Planning is well advanced for the ANZAC weekend trip. Christine Arnold, fired up by our sightings of wallabies in Evasive Creek, is planning a survey of the area, assisted by Shara Coulthard from Balcanoona. John Love and David Kemp are working on the rain gauges, photos and bio-monitoring. They intend to leave Adelaide on 22nd April, returning on 26th and at this stage there are places available (contact John Love)

July Crossover

There has been a lot of interest in a crossover trip in July, covering a traverse of the Gammon Plateau, over Mt Change-weather, Octopus Hill and onto Mt McKinlay and back down to Italowie Gap. A possible option will be to walk up from Peach Springs area along the old track that the Hafflinger vehicles used to bring stores up to the Observatory on the summit of Mt McKinlay. It will be a mid-winter trip and potentially very cold at night, but if there isn't too much cloud, the views should be fantastic. (Contact Chris Wright, John Love)

For regular updates on rainfall in the Gammon Ranges and Flinders Ranges check out

http://www.bom.gov.au/cgi-bin/wrap_fwo.pl?IDS60163.html

MINNAWARRA BIODIVERSITY PROJECT Autumn 2005 Survey

VOLUNTEERS REQUIRED

Plans are well underway for the next Minnowarra survey, to be conducted on the Anzac long weekend. Traps will be opened on **Thursday 21st April 2005**, and closed again on **Monday 25th** (Anzac Day). The usual survey will take place (mammal and reptile trapping, marking and recording). In addition it is hoped that the SA Museum will conduct an invertebrate trapping program. Confirmed scientists at this stage are Loraine Jansen, Christina Pahl and Geoffrey Bishop. Claire Gifford and Frances Taylor will be conducting the bird surveys.

In the past we have had the help of Green Corps teams to help set up the sites and

traps, but this is not certain this time, so help is required to undertake site preparation, trap maintenance and trap opening prior to the start of the survey.

DATES:

16-17 April

Site preparation and trap maintenance

This is over a weekend. Help for 1 or 2 days, would be much appreciated. Good camping is available.

21st April

Trap opening

184 traps have to be opened and baited with peanut paste and rolled oats. There is plenty to do, and many hands make light work. If you are available and would like to join the merry band of helpers, please contact: Richard on (08) 8558 6381 or 0408 807 517; or willingr@comstech.com

Kids Corner

The hidden words are taken from the articles in this issue. The words are hidden in all directions. Can you find them all?

Word List

| | |
|--------------|--------------|
| ANGEPINA | MCKINLAY |
| AROONA | MINNAWARRA |
| BIODIVERSITY | MOCATOONA |
| BUNKER | MONARCH |
| COMMODORE | MOOLOOLOO |
| CRABHOLE | OCTOPUS |
| EVASIVE | OWIEANDANA |
| GOAT | PLUVIOMETERS |
| HAFFLINGER | SAMBOT |
| HAVOC | SOLAR |
| MAYNARDS | SOURSOB |

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SCIENTIFIC EXPEDITION GROUP - Membership

The Scientific Expedition Group came into being at a public meeting on 21st August 1984.

Membership is open to any persons, family or organisation interested in the following aims:

The promotion and running of expeditions of a scientific, cultural and adventurous nature.

The furthering of knowledge, understanding and appreciation of the natural environment.

Promotion of the values and philosophy of wilderness.

Enabling people to learn the skills required for planning and running expeditions, and to develop sound field techniques.

Members receive regular information on SEG activities and expeditions

Patron: Her Excellency, the Honourable Marjorie Jackson-Nelson, AC, CVO, MBE, Governor of South Australia

COMMITTEE

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| | | Phone | Fax | E-mail |
|--|--|-----------|---------------------|--------------------------------------|
| President | Dr Richard Willing | 8558 6381 | 8558 6212 | willingr@comstech.com |
| | | | Mobile 0408 807 517 | |
| Chairman | Alun Thomas | 8296 9453 | 8223 2588 | alun@madderns.com.au |
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| Hon. Secretary | John Love | 8379 1172 | | jsp@senet.com.au |
| Hon. Treasurer | Graeme Oats | 8278 3179 | 8278 5577 | oatsgd@senet.com.au |
| Committee: | Phil Cole | 8390 0250 | 8303 9555 | pjcole@senet.com.au |
| | Duncan MacKenzie | 8332 1204 | 8364 5527 | dmackenzie@iname.com |
| | Chris Wright | 8278 8818 | | c.wright@bom.gov.au |
| | Judy Mack | | | |
| | Peter Bailey | 8370 2464 | | elainpeter@picknowl.com.au |
| | Trent Porter | 8278 9078 | | trentasaurus@bigpond.com |
| | Linda-Marie McDowell | 82784795 | | linda-marie.mcdowell@state.sa.gov.au |
| Editors | Linda-Marie & Matthew McDowell | | | |
| | ph. 8278 4795, e-mail linda-marie.mcdowell@state.sa.gov.au | | | |
| Address: 5 Roseberry Ave, Eden Hills S.A. 5050 | | | | |
| SEG WEBSITE | www.communitywebs.org/scientificexpeditiongroup | | | |
| SEG EMAIL ADDRESS | segcomms@telstra.com | | | |

SUBSCRIPTIONS (Including GST)

| | | |
|---------------------------------|-------|---------|
| Working adult member | ----- | \$16.50 |
| Pensioner student or unemployed | ----- | \$11.00 |
| Family membership | ----- | \$22.00 |
| Organisation membership | ----- | \$22.00 |

APPLICATION FOR MEMBERSHIP AND MEMBERSHIP RENEWAL

Name

Address

Telephone (H) (W)

E-mail

Details of scientific, cultural, adventuring or other relevant skill or interests you may be prepared to share with the group:

.....
.....

Applications should be addressed to :

The Hon. Secretary
Scientific Expedition Group Inc.
P.O. Box 501
Unley S.A. 5061