

**LGP SCIENCE STEERING COMMITTEE MEETING
Monday 10 March 2008, Antarctica New Zealand**

PRESENT:	Megan Balks	University of Waikato
	Vonda Cummings	NIWA
	Jenny Webster-Brown	University of Auckland
	Mark Stevens	Massey University
	Clive Howard-Williams	NIWA (LSSC Chairperson)
	Shulamit Gordon	Antarctica New Zealand
	Dean Peterson	Antarctica New Zealand

Actions from LSSC Meeting

LSSCer	Action Item	Status
Shul	Link the LGP AWS page to SB AWS data	
	Can Hallett soil probes and AWS be linked? When will Hallett next be visited to download these?	
	Ask Wendy Lawson what happened to the AWS project she supervised.	
	Let LGPers know about 2 nd LGP Special Edition with Antarctic Science. Submit Dec 09 publication 2010.	
	Promote LGPers to get in mini reviews or smaller papers in Nature or Science if possible. Mentioning LGP hypotheses.	
	Reference Special edition of Geoderma papers in LGP bibliography	
	Indicate to Matt Vance and Bette Flagler that many of the NZ IPY projects are under LGP as the key integrator.	
	Keep encouraging LGPers to highlight their link with LGP in reports, publications, posters etc	
	Literature summary for Granite Harbour for marine and terrestrial	
	Flag TBA site as north Victoria Land site for marine and terrestrial to Ant NZ	
	Point out that Beardmore is next terrestrial site. Get an idea of who might be interested in the Beardmore.	
	Review work on sites north of Adare so we can locate a site that would be good. Or is there somewhere between Hallett and Adare for marine? Or between Hallett and MZS.	
	Ask Diana to contact Megan re representing soils work at the Antarctic Gradients Workshop	
	Shul to circulate LGP poster round LSSC for comment once updated.	
	At Ant NZ conference present LGP poster that will be presented at SCAR.	
	See which LGPers will be at Ant NZ conference to see if an LGP session can be organised at Ant NZ conference	
	Give feedback on May workshop at Ant NZ conference	
Tell LGPers that Polar Science is offering a publication opportunity for MERGE participants and EBA related groups		

	At Ant NZ conference - make afternoon tea straight after the LGP session – meet and greet with the LGP group	
	Look into whether or not September may be a better time for the annual Ant NZ conference.	
	Send out an email re Opportunities for research that would contribute important aspects in LGP. Key knowledge gaps. Anyone out there interested or have other ideas or interesting areas to work at? Have a point of contact.	
	AWS calibrations need to be sorted. Need to keep calibrations for the future. Same person to retrieve data. Consistency with AWS set up and download. Need to check this with Wisconsin, LTER, USDA and NIWA.	
	Beardmore AWS? Is there one? Where would we put it? Talk with Nancy Bertler and Wisconsin contacts.	
	Advertise the potential for an AWS project if someone finds a suitable student to do this. Could try Nancy's group too. Good for science update and the LGP list.	
	Encourage scientist to scientist level of collaboration.	
	Organise a phone LSSC conference after St Petersburg in August/September time to bring us together again?	
	Organise with Megan an official thanks for Clive being the Chair of the NZ LSSC.	
Dean	Get input from LGP PIs for content of his poster/talk and circulate draft for comments. Try to put this under the key questions.	
	Present LGP talk going to give to SCAR at Ant NZ conference	
	Talk on LGP future plans in Ant NZ Session at Ant NZ Conference	
	Send out information about links with AAD.	
	Talk to Tom Wagner about AWS on Beardmore	
	Is there any opportunity for marine research off the Oden?	
Mark	To see the extent to which PLOS take review articles.	
	Look at BMC to see if there is a relevant journal for LGP.	
	Follow up with looking into further links between LTER and Jenny.	
Clive	Send EOS round the LSSC to see if this was an appropriate publication	
	Write a letter of thanks and congratulations to Lou on behalf of the LGP community for LGP support.	
Jenny	Organise a NZ LGP terrestrial meeting (Shul happy to help)	
Vonda	Organise a NZ LGP marine meeting (Shul happy to help)	
	Keep in touch with physical oceanographers at NIWA re links with LGP	
Megan	Check what samples Jackie and Malcolm got from the Darwin for potential geochemical analysis.	

1. Apologies and Confirmation of Agenda

- No apologies
- Add handover of LSSC Chair to end of Agenda.

2. Action Items from March 2007 Minutes

- Key questions amended on all documents, but still need updating on the new LGP poster.
- LTER system diagrams sourced and presented to LSSC. Noted. Available from Shulamit if anyone wants to refer to them.
- Representation of LGP in 2008 Conferences:
 - Megan going to International Permafrost Association conference in Alaska that overlaps with SCAR OSC conference. ANTPAS members are split between these 2 conferences.
 - SCAR July 2008 (see item 6). All on LSSC hoping to go except Megan and Mark.
 - Jenny going to Goldschmidt geochemistry conference— big annual meeting in Vancouver July 2008.
 - Mark Stevens: Molecular biology and Evolution conference in Barcelona in June- presenting joint work with Italians on Peninsula work.
- Want to keep encouraging LGPers to highlight their link with LGP in reports, publications, posters etc

3. Re-Cap on 07/08 Season

- Gondwana:
 - K018: Mary Sewell –Meroplankton sampling
 - K024B: Tracey Jones – Lichen
 - K043: Ken Ryan (Simon Davy field leader) – sea ice algae
 - K066: Craig Marshall (Melanie Raymond field leader) – nematodes and springtails.
- Darwin:
 - K056C: Bryan Storey - ages of moraines.
 - K024B: Allan Green (Mark Stevens field leader) - Abundance and diversity of flora and fauna.
 - K123: Jackie Aislabie - soils
 - K081B Brian Sorrell (Jenny Webster-Brown field leader): Geochemistry. Took 1 profile on Lake Wilson. Sampled ponds on lower Darwin and terrestrial ponds on NW slope of Diamond Hill. Supra glacial ponds have huge potential. Many ponds visited in 1993 are completely dry = local cooling. Lake Wilson hadn't risen since last there 10 years ago. Yet had risen 25 meters over 20 year before. Behaving like the Dry Valleys. Sampled at Foggydog. Moss and lichen found in Central Valley. Would like to go up around Hatherton next year. Dusky Ridge flowing in December when Wellman was frozen.
- Granite Harbour:
 - K082 Vonda Cummings: 3 weeks at Granite Harbour in early November. Scuba site survey and had a good look around the Southern half of the harbour with drop camera work. Going back again this season. Looking forward to having the camp there for LGP – lots of learnings from last year too.
 - GH comparisons with Terra Nova Bay and Hallett. Some similarities and some differences. Intermediate relative to productivity between south and north. Haven't analysed data yet.

4. 5 Year Plan (science and logistics)

- Shulamit has submitted a long-term plan to the Ant NZ operations group reflecting what the NZ LGP science community has been asking for. The timeframe in the most recent version is given below:

Site	Proposed Timeline	Actual Timeline	Status
Cape Hallett (marine and terrestrial)	2003/04 2004/05	2003/04 2004/05 2005/06	Completed
Darwin Glacier (terrestrial)	2006/07 2007/08	2007/08 2008/09	In Progress
Gondwana Station (Terra Nova Bay) (marine)	2006/07 2007/08	2006/07 2007/08	Completed
Granite Harbour (Mostly marine)	2008/09 2009/10		Planning in Progress
Terrestrial Year out	2009/10		In long-term plan
Beardmore Glacier (terrestrial)	2010/11 2011/12		In long-term plan
New Harbour (marine)*	2010/11 2011/12		In long-term plan
TBA** (marine and terrestrial)	2012/13 2013/14		In long-term plan

*Note that some marine participants have commented that a site between Terra Nova Bay and Cape Hallett may be more desirable. This will need further discussion.

**Note that the final 2 sites will need to be the subject of discussion within the LGP community, before a firm site can be given.

- 08/09 and 09/10 marine camp at Granite Harbour to support Vonda (just one season), Mary and Ken in November/December to use the sea ice.
- Then the plan was to go to New Harbour (NH) as Mary and Ken want to move South down the gradient. Vonda would like to think of going north again in the longer term for the marine work.
- Very little terrestrial work north of Hallett and would be good maybe in 12/13 and 13/14 going far north? Or for marine do we go somewhere between NH and the Darwin? Maybe further south than NH? Ken and Mary not sure if they want to go further South of NH (based on discussions prior to March 2008 LSSC meeting).
- Vonda plans to bring the marine groups together and talk about what's been going on and where they should go in the future. Jenny will organise the same for the terrestrial group.
- Would like to see a literature summary for Granite Harbour. Can this be done for marine and terrestrial?
- Flag TBA site as north Victoria Land site for marine and terrestrial.
- When we go to Beardmore can we work even further south and use the Beardmore as a jumping off point? Shul needs to point out that Beardmore is next spot. Get an idea of who might be interested in the Beardmore.

- Shul: to do some review work on sites north of Adare. So we can locate a site that would be good. But marine people would want to stay in the Ross Sea. Is there somewhere between Hallett and Adare? Hallett and MZS?
- Jenny would be interested to go back to Hallett as they didn't get decent results from where they went. Didn't get the ponds they wanted. All freshwater.

5. NZ Contributions to Antarctic Gradients Workshop

- As a result of the LSSC meeting held in July 2007 and recommendations put forward by the LSSC to EBA – EBA is hosting an invited workshop on Antarctic Gradients from 19-21 May 2008 at the BAS. 17 marine, terrestrial and aquatic scientists representing Victoria Land coast and Peninsula research will be attending to discuss a 'Trans-Antarctic' approach to studying environmental gradients in the current context of global change. The aim is to produce a review paper from this workshop and present the outcomes at the EBA workshop at St Petersburg on 5th July in order to discuss how this concept can be moved forward.
- Noted that specific soil expertise is missing from the list of attendees to the workshop. Diana Wall could be asked to be aware/bring up any potential soil-related issues. Diana could be asked to discuss potential soil-related issues with Megan prior to the meeting. Differences between the Ross Sea region and the Antarctic Peninsula relate to the rapid change of permafrost melt out on the Peninsula that is not evident in the Ross Sea region. The soils in the Peninsula region are distinctly different from the Dry Valleys, mainly due to higher moisture and plant growth, and the intergrade between the regions is a possible area where further work could be undertaken.
- Outcome of this workshop will be vital to the LGP and where this goes and expands.

6. SCAR OSC St Petersburg

- Dean and Shulamit have submitted abstracts for 2 LGP presentations. Dean's will do some data synthesis from LGP work, and Shulamit's will be an overview of the LGP and its achievements to date.
- Dean to get input from LGP PIs for content and circulate his poster. And definitely to get advice from the PIs to find out what is needed in the actual poster/talk. Try to put this under the key questions.
- Suggestions given to Shulamit on the revised content of the LGP poster. Shul to circulate round LSSC for comment.
- Committee thanks Shulamit and Dean and Ant NZ for taking the initiative to give exposure for LGP.
- NZ LGPers going to SCAR that we know of – Vonda Cummings, Clive Howard-Williams, Jenny Webster-Brown, probably not Mark, Ken Ryan, Lars Brabyn, Ian Hogg. Jenny won't be there for EBA workshop but Vonda, Dean, Shulamit and Clive will be.

7. Submission of *Science* or *Nature* paper

- Want to produce a high profile synthesis paper. But needs to be very novel and spectacular for these journals.
- What about EOS? They were interested in news on SCAR scientific research programmes - maybe they would be interested in a paper from LGP. Clive to send EOS round the LSSC to see if this was an appropriate publication.
- Mark suggested PLOS – Public Library of Science – high impact on-line papers. PLOS 1 is the broadest, or PLOS biology. Has an impact factor of 13. <http://www.plos.org/>
- Want to promote LGPers to get in mini reviews or smaller papers in *Nature* or *Science* if possible. Not much data is needed in these papers – they are just flavoursome. So we're not pushing for an LGP paper *per se* – just individual papers from people who contribute to LGP. Could send round a few articles as examples of what people could aim for. Papers not about LGP but with LGP dropped in, referring back to LGP hypotheses.
- Megan: Special edition of *Geoderma* has just been released with several LGP-relevant papers.
- Mark: To see the extent to which PLOS take review articles. Also to look at BMC to see if there is a relevant journal. BMC are the publishing group with various journals. E.g. *Evolutionary Biology*.

8. *Antarctic Science* Special Edition II

- Confirmed that we'll go with a 2nd LGP Special Edition with *Antarctic Science*. Submission 1st December 2009. Publication 2010.
- Need to let LGP community know this.
- Things worked well with the last LGP special edition so we'll stick with *Antarctic Science* rather than changing to possible alternatives such as *Arctic, Alpine and Antarctic Research* or *Polar Biology*.

9. Need for Workshop at Ant NZ 2008 Conference?

- Don't see a need for an LGP workshop
- Present Shulamit's LGP poster. Dean could give his St Petersburg talk/poster.
- Do we have an LGP session? Shul to find out who will go to Dunedin and present so she can pull together an LGP session.
- Dean to talk on the future direction of LGP during the Ant NZ session?
- Shul could also give an update on the May workshop.
- What about September for future Ant NZ conferences? Ask if this is a better time?
- At conference – option for people to meet LGPers. Make it the afternoon tea straight after the LGP session – meet and greet with the LGP group!

10. IPY projects linked to LGP

- Polar Science offering publication opportunity for MERGE participants and EBA related groups. Shul to highlight this to LGPers if they want to submit to this.
- Would like to get LGP coverage under IPY. Indicate to Matt Vance and Bette Flagler that many of the NZ IPY projects are under LGP as the key integrator.
- Shulamit presented the draft first edition of the EBA newsletter which highlights some IPY projects. This will be circulated round the Antarctic community shortly.

11. LGP direction

- How are the outcomes answering the LGP questions? Can only find out in a few years time! However, very impressed at the number of LGP outcomes that have been produced in the short 5 year time span of LGP.
- What are the indicators of if we're going in the right direction?
 - Still got people involved in the LGP.
 - Development of interaction between Mark Stevens and Bryan Storey; Ken Ryan and Mary Sewell.
 - Being able to plan into the future.
 - LSSC discussions starting block for Antarctic Gradients workshop – will hopefully link to work in the Peninsula.
 - Publications linked to LGP so far.
 - International collaborations developed and fostered.
- Excellent support from Shul and Dean and Ant NZ – without this wouldn't have got LGP going.
- Any improvement? How do we get more people involved?
- What about glaciology?
- Continuity – how do we make sure we keep the information going if people drop out?
- Could the LSSC put out questions of interest or knowledge gaps in the LGP framework and what they'd like to know? Glacial history of certain areas? Summary of the weather station data? Questions the LSSC would like answered – or key areas right now where there is no expertise – i.e. potential opportunities. Need to be inclusive of other groups as well as biology.
- So there is interest in glacial history of Mackay Glacier. Is that an interesting area of glaciologists in their own right and then there are spin off benefits down the line?
- 2 areas – glaciers and climate data – are there any other areas that are interesting?
- Opportunities for research that would contribute important aspects in LGP. Key knowledge gaps. Anyone out there interested or have other ideas or interesting areas to work at? Have a point of contact.
- Glacial history really interesting – lots of questions about the glacial history of Granite Harbour.
- Ponds in GH ice might make a good connection with the glacial ponds in the Darwin.
- Vonda to keep in touch with physical oceanographers at NIWA re links with LGP.
- Advantages of LGP – small relatively disparate research groups fit in with the larger framework which gives better opportunities for interaction and collaboration as well as more effective use of logistics support where people are encouraged to work in the same area at the same time. Also the long-term plan gives people something to plan towards and tie their work into.
- The May workshop may offer new opportunities for new collaborations.

- Good connections happening through the scientists themselves.
- Dean to send out information about links with AAD.

12. LGP Automatic Weather Stations

- Hallett AWS:
 - ARGOS transmitter has been installed on Hallett AWS thanks to Ant NZ and University of Wisconsin with help from Thomas Nylen who is now with UNAVCO. url linked on the LGP website under Hallett data products.
 - Want to link the LGP AWS page to SB AWS data.
 - Soil sensors at Hallett need to be downloaded next time the AWS is visited. These are on a separate datalogger to the LTER AWS and were not downloaded this season. Can they be linked with the current AWS there? Shul to find out.
 - Need a student to look at the AWS data. Shul: to ask Wendy what happened with the AWS data.
- AWS calibrations need to be sorted. Need to keep calibrations for the future. Same person to retrieve data. Consistency with AWS set up and download. Need to check this with Wisconsin, LTER, USDA and NIWA.
- Beardmore AWS? Is there one? Where would we put it? Talk with Nancy Bertler. Talk to Tom Wagner about AWS on Beardmore. Want to put one in the year before we go down to Beardmore at least.
- Great need for a student to do work on the AWS data. Depends on who finds the right student in the right place. Need to advertise the potential project if someone finds a suitable student to do this. Could try Nancy's group too. Good for Ant NZ science update and the LGP list. Met work is a key area for a lot of people.

13. Data Management

- Through the work the Ant NZ data compiler is doing (Ceisha Poirot) all metadata will be brought up to date and entered into the Antarctic Master Directory (AMD).
- Links to this metadata will be made on the LGP website.
- LGP metadata tagged with LGP and EBA – so in the AMD you can easily search for all metadata that links to LGP and/or EBA.
- Want to start with synthesising the met data.
- Ant NZ doesn't yet have a data policy, but will look into one once the metadata is all captured.
- So at the moment all data that exists is being captured so when it needs to be synthesised we at least know what is out there.

14. Status of Science Collaborations in the Ross Sea Region

- Good LTER relationship and scientist to scientist links.
- Encourage scientist to scientist level of collaboration.
- Could be some links for Jenny through Mark with the LTER soil geochemists.
- Plan in place to allow some soil geochemistry to be done through Jenny's work and maybe with Carol Smith now coming in.
- Simon Thrush at NIWA working with the Italian marine collaborators in Italy for 18 months.
- Megan still working with Mauro Guglielmin from Italy.

- Mark working with Francesco Frati.
- Should add Australia on the list of collaborators.

15. Celebrating 5 years of LGP Logistics Support

- Noted that this past season marks 5 years of logistics support for LGP.
- Shul will give a presentation on this to Ant NZ and also to the Ant NZ Conference if possible and show there has been a big outcome with a short time of support.
- Clive to write a letter of thanks and congratulations to Lou on behalf of the LGP community for LGP support.

16. Other Items

- Can we have a phone LSSC conference call after St Petersburg in August time to bring us together again? Maybe September?
- Clive to handover chairmanship to Megan. Megan happy to take on chair if Clive stays on the committee. All agreed on this action.
- Megan offered a huge thanks to Clive for all the time and effort he's put into the LGP, recognising that this wouldn't have happened without him. Clive was proud to see the outcomes that have happened so fast and acknowledges the help from Ant NZ.
- Welcome to Mark Stevens– good to have new input and a new face on the LSSC.