

Report on the CLIVAR ECS Survey

(Conducted 25th March – 21st April 2013)

Dr. Jennifer Riley (CLIVAR Staff Scientist) jennifer.riley@noc.ac.uk

Overview

This survey was undertaken to gather information on what early career scientists (ECS) want from a CLIVAR ECS network and what they would be prepared to contribute to the running of it. It was found that the most useful web resources were job listings, funding options for research and career paths within science. Interestingly the opportunity for a mentoring scheme was also thought to be useful to the ECS community. Ultimately, a list of recommendations was drawn together for the CLIVAR SSG in the light of the results from this survey. These recommendations include developing:

- a strategy to include ECS into the SSG meetings and panels
- website resources
- social media (Facebook, Twitter, LinkedIn) discussion forum
- a mentoring scheme
- ECS interactions at meetings, conferences and workshops
- the ECS database into an open access searchable network

It is hoped that with the approval of some of these recommendations from the CLIVAR SSG that they will help to guide the next steps in establishing this network.

Introduction

CLIVAR SSG recognized the need for greater interactions with early career scientists (ECS) undertaking work aligned with CLIVAR research opportunities. It was felt that the best way of making this link between the established scientists already involved with CLIVAR and the ECS was to establish a network. The initial steps taken in setting up the network and collecting a database of people who are interested in being a part of such a network have now been undertaken. Information on the steps carried out can be found detailed in the [CLIVAR Early Career Scientist Outreach report](#).¹

Part of the initial work undertaken to establish the ECS network within CLIVAR was to ask people who had registered to complete a survey on what they might want to get out of and give to such a network. This report summarizes the results from the ECS survey and draws conclusions and recommendations for the CLIVAR Scientific Steering Group (SSG) to reflect and perhaps act upon as this network continues to develop.

Research Objectives

¹ The Early Career Scientist Outreach report can be found at http://www.clivar.org/sites/default/files/ECS/Documents/CLIVAR_ECS_Outreach_Report.pdf

To survey the individuals registered in the CLIVAR ECS network to determine:

- 1) What they want from such a network
- 2) What they would be prepared to contribute to such a network.
- 3) What recommendations can be made to the CLIVAR SSG as a result of this survey.

Data collection

The survey was written and designed using a web based software programme, surveymonkey (www.surveymonkey.com). It is an online resource in which different types of survey questions can be designed and then sent out or posted on a website as a link. The survey questions themselves were developed through discussions between Jennifer Riley, Jenny Baeseman and Valery Detemmerman. Reference was also made to the APCS website (www.apecs.is) using this as a well established young scientists network, with well utilized resources and information sources which could be adapted to the CLIVAR ECS network. The survey questions can be viewed through the following link:

www.clivar.org/sites/default/files/ECS/Survey_39202872.pdf

The survey was sent out via a web link on the CLIVAR website (www.clivar.org/ECS) and through a notification in the [first CLIVAR ECS newsletter](#). The newsletter was the most direct way of contacting the registered ECS. The newsletter containing the link to the survey was sent out on the 25th March 2013 asking for completion by 21st April 2013. In total it was sent to 123 individuals with 57% of the emails sent being opened. Individuals who received this newsletter were from the following countries (those in bold show the top 5 countries with the most opened newsletters):

USA	Germany	Sweden	Spain
China	South Korea	India	Brazil
United Kingdom	Argentina	Canada	Bangladesh
France	Columbia	Pakistan	Japan

Further promotion of the survey was undertaken during the EGU meeting in Vienna (8th – 15th April 2013), when networking with ECS was undertaken (see the [CLIVAR ECS outreach report](#)² for more information).

Results

In total, 33 surveys were undertaken and 32 surveys completed between 25th March and 21st April 2013 (Figure 1). The results presented below are the cumulative response of all 33 individuals. In terms of the survey return rate it is not possible to definitively say how many more surveys were

² The Early Career Scientist Outreach report can be found at http://www.clivar.org/sites/default/files/ECS/Documents/CLIVAR_ECS_Outreach_Report.pdf

completed as a result of the networking in Vienna. However, 8 more surveys were completed no data as collected to determine how many more, if any, surveys were completed after the networking event in Vienna.

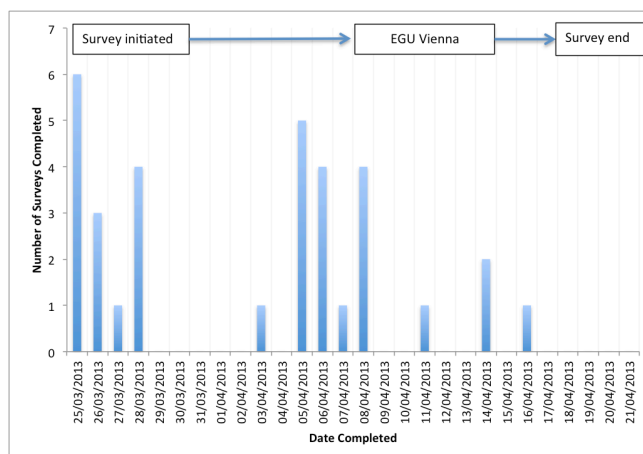


Figure 1 Survey responses during the period 25th March - 21st April 2013

For the survey questions that are not simply a yes /no type answer, the results are displayed as a weighted mean, based on the weighting scale of the answers. In this case the survey weighting scale ranged from 1 – 5, but are displayed as gradational verbal options ranging through the options not (0), slightly (1), moderately (3), very (4) and completely (5).

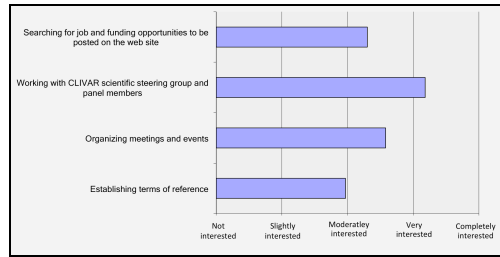
The results will be described in the order they were presented in the survey and will reflecting the subsections of the survey. It should be noted that it is likely that the majority of the individuals had already signed up to the CLIVAR network before completing the survey. Thus the results are likely to be skewed towards individuals who are looking for an active and dynamic ECS community.

A. CLIVAR ECS Network Development

Question

1.

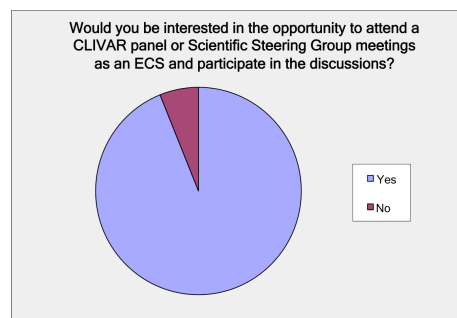
To help establish the CLIVAR ECS network we are looking for enthusiastic individuals to get involved. Would you be interested in getting involved with any of the following activities?							
	Completely interested	Very interested	Moderately interested	Slightly interested	Not interested	Rating Average	Rating Count
Establishing terms of reference	21.2% (7)	15.2% (5)	21.2% (7)	24.2% (8)	18.2% (6)	2.97	33
Organizing meetings and events	30.3% (10)	15.2% (5)	42.4% (14)	6.1% (2)	6.1% (2)	3.58	33
Working with CLIVAR scientific steering group and panel members	60.6% (20)	12.1% (4)	18.2% (6)	3.0% (1)	6.1% (2)	4.18	33
Searching for job and funding opportunities to be posted on the web site	24.2% (8)	24.2% (8)	27.3% (9)	6.1% (2)	18.2% (6)	3.30	33



Of the four suggested activities the survey responses suggest that ECS would be most interested in working with the CLIVAR SSG and panel members, becoming involved through this route in the CLIVAR science. The next most popular choice is to help organize meeting and events. Within this question there was also scope for other ideas to be suggested, which would help to establish the CLIVAR ECS network. These suggestions included establishing:

- Support/discussion groups looking at grant writing / time management/ promotions within science/ media and communications)
- Mentoring schemes
- Specific ECS workshops
- Somewhere to advertise publications and opinion papers
- Womens network and gender issues (this suggestion came from an individual who is part of the leadership board of the Earth Science Women's Network and is interested in helping with this issue, should the CLIVAR ECS progress further with it).

Question 2.



In total 94 % of the individuals completing the survey would be interested in attending the CLIVAR SSG to participate in the discussions.

Question 3.

Can you think of a catchy acronym for the CLVAR ECS network?

The majority (85%) of individuals could not think of an acronym. However, of the 15 % of people who said they could the following were suggested:

- ECareS-Cliv
- CLECS
- CLIENT
- CLIVEN
- CLIVARECS

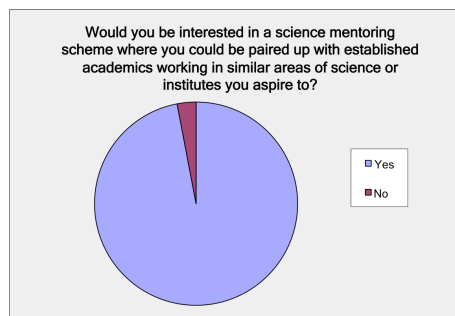
Question 4.

Do you know of any other images which might be used as a banner for the ECS network?

No other suggestions were made in response to this question. This question was posed in response to a somewhat negative comment about the current banner image after the current CLIVAR ECS webpage was launched.

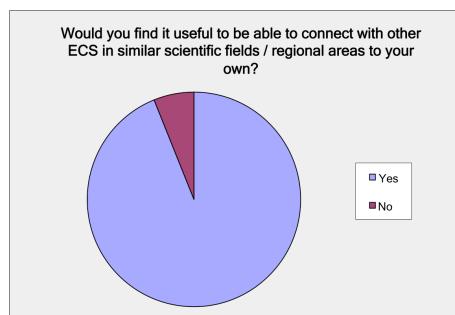
B. Website resources

Question 5.



This question had one of the strongest positive responses with 97 % of individuals saying they would be interested in a mentoring scheme run through the CLIVAR ECS website.

Question 6.

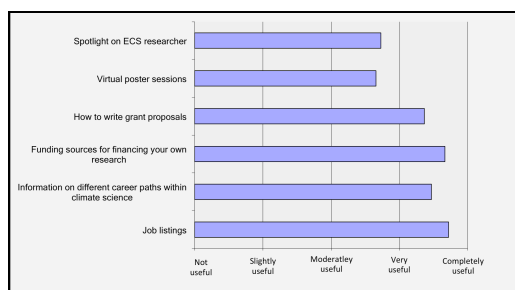


94 % of individuals said that they would find it useful to be able to connect with other ECS through the CLIVAR ECS webpage.

Question 7.

Which of the following web based resources would you find useful? n.b. Virtual Poster sessions would provide the opportunity for ECSs to register for and upload their poster presentations into sessions held on the CLIVAR website. This would allow individuals to present their work to audiences beyond that at a conference and for longer periods of time Spotlight on ECS researcher would provide the opportunity for a couple of ECS researchers to provide a brief biography about themselves and their research, which CLIVAR would promote on its website to the wider CLIVAR scientific community.

	Completely useful	Very useful	Moderately useful	Slightly useful	Not useful	N/A	Rating Average	Rating Count
Job listings	75.8% (25)	15.2% (5)	6.1% (2)	0.0% (0)	0.0% (0)	3.0% (1)	1.28	33
Information on different career paths within climate science	60.6% (20)	21.2% (7)	15.2% (5)	0.0% (0)	0.0% (0)	3.0% (1)	1.53	33
Funding sources for financing your own research	75.8% (25)	18.2% (6)	3.0% (1)	3.0% (1)	0.0% (0)	0.0% (0)	1.33	33
How to write grant proposals	48.5% (16)	39.4% (13)	12.1% (4)	0.0% (0)	0.0% (0)	0.0% (0)	1.64	33
Virtual poster sessions	21.9% (7)	34.4% (11)	31.3% (10)	12.5% (4)	0.0% (0)	0.0% (0)	2.34	32
Spotlight on ECS researcher	33.3% (11)	24.2% (8)	27.3% (9)	12.1% (4)	3.0% (1)	0.0% (0)	2.27	33



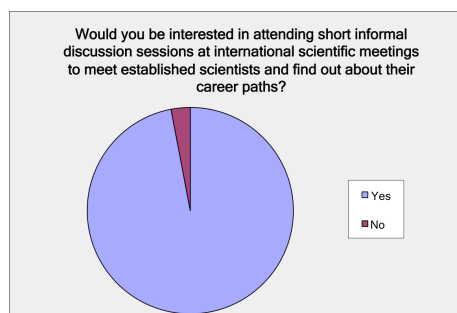
Of the web based resources suggested in the survey, four were deemed to be very – completely useful. These were:

- Job listings
- Information on different career paths in climate science
- Funding sources for financing your own research
- How to write grant proposals

Less popular, although still moderately to very useful were the spotlight on ECS and virtual poster sessions that could be hosted through the CLIVAR ECS webpage.

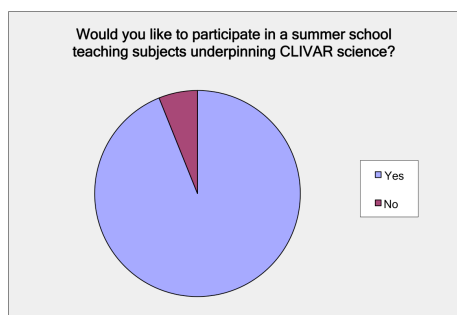
3. Meetings, conferences, workshops and summer schools

Question 8.



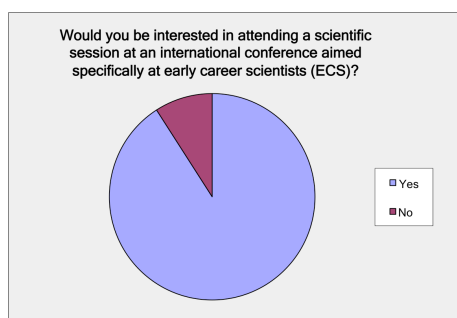
97% of individuals would be interested in attending short informal discussion sessions during meetings to find out about the career paths and choices of more established scientists.

Question 9.



94 % of individuals were interested in participating in a summer school teaching subjects which underpin the CLIVAR science.

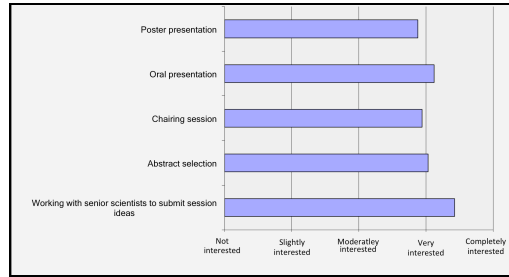
Question 10.



90 % of individuals would be interested in attending a scientific session at an international conference aimed at ECS.

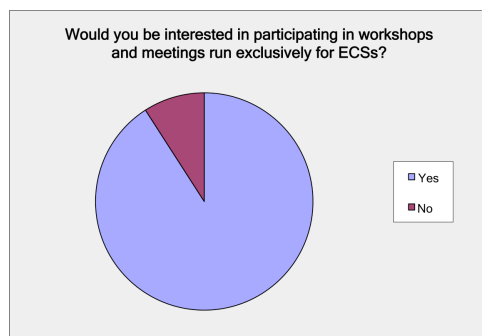
Question 11.

Would you be interested in any of the following opportunities during such an ECS session?							
	Completely interested	Very interested	Moderately interested	Slightly interested	Not interested	Rating Average	Rating Count
Working with senior scientists to submit session ideas	66.7% (22)	18.2% (6)	9.1% (3)	3.0% (1)	3.0% (1)	1.58	33
Abstract selection	45.5% (15)	27.3% (9)	18.2% (6)	3.0% (1)	6.1% (2)	1.97	33
Chairing session	45.5% (15)	21.2% (7)	21.2% (7)	6.1% (2)	6.1% (2)	2.06	33
Oral presentation	51.5% (17)	27.3% (9)	9.1% (3)	6.1% (2)	6.1% (2)	1.88	33
Poster presentation	39.4% (13)	30.3% (10)	18.2% (6)	3.0% (1)	9.1% (3)	2.12	33



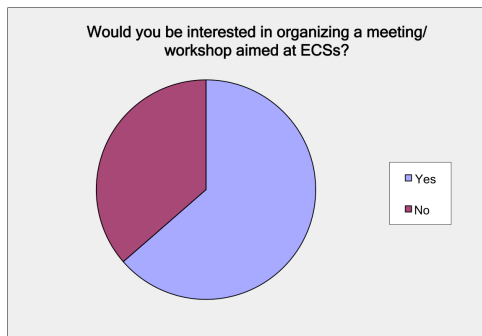
Fairly equal interest was found in all of the mentioned opportunities if CLIVAR decided to run an ECS session at a conference.

Question 12.



90% of individuals would be interested in participating in ECS specific workshops and meetings.

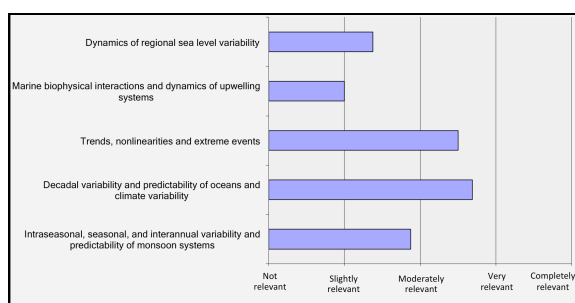
Question 13.



There was less, although still a majority interest (64 %) in individuals wanting to help organize a meeting / workshop for ECS.

Question 14.

Which of the CLIVAR research opportunities aligns most closely with your own research interests?							
	Completely relevant	Very relevant	Moderately relevant	Slightly relevant	Not Relevant	Rating Average	Rating Count
Intraseasonal, seasonal, and interannual variability and predictability of monsoon systems	25.0% (8)	15.6% (5)	6.3% (2)	28.1% (9)	25.0% (8)	3.13	32
Decadal variability and predictability of oceans and climate variability	37.5% (12)	21.9% (7)	21.9% (7)	9.4% (3)	9.4% (3)	2.31	32
Trends, nonlinearities and extreme events	31.3% (10)	21.9% (7)	21.9% (7)	15.6% (5)	9.4% (3)	2.50	32
Marine biophysical interactions and dynamics of upwelling systems	6.3% (2)	6.3% (2)	12.5% (4)	31.3% (10)	43.8% (14)	4.00	32
Dynamics of regional sea level variability	12.5% (4)	12.5% (4)	12.5% (4)	25.0% (8)	37.5% (12)	3.63	32



Of all the individuals who participated in the survey there were people associated with each of the CLIVAR research opportunities. The two research opportunities which has the greatest number of ECS who felt their research was relevant were:

- Trends nonlinearities and extreme events
- Decadal variability and predictability of monsoon systems

The research opportunity with the least relevance to the participants of the survey was the dynamics of regional sea levels variability.

Discussion

Overall, it is clear that there is a strongly positive response to all of the proposed ideas for activities and resources that could be established within the CLIVAR ECS network. Thus there is clearly a need for further development of the CLIVAR ECS network.

There is clearly a strong interest in ECS becoming involved with the SSG and panel meetings held by CLIVAR. Currently there is little representation of ECS on CLIVAR SSG and working group panels. This may therefore be one avenue to explore to better integrate the ECS into the CLIVAR community.

In terms of the ECS webpage resources, this survey indicates that this could be a successful focal point for the network if developed appropriately. The three web resources rated most useful from the

survey were jobs, information on different career paths in science and how to secure funding for your own research. Currently the only resource that the CLIVAR website provides is job listings. However, this is by no means a comprehensive list of jobs. Furthermore the list is not necessarily targeted at ECS, it includes a spectrum of jobs from studentships through to more senior scientist positions.

Information on different career paths could be developed through staff profiles, hosted on the CLIVAR website. Individuals within the CLIVAR and WCRP programmes, with different roles, (e.g. science management, science communication, science research, project leads etc.) could be shortlisted and approached to write a short (1 page) article on who they are, what they do and how they got to where they are, followed by tips and suggestions for career development. This could be developed into a more interactive feature of the CLIVAR ECS network at scientific conferences, where small meetings could be held at lunchtime where established scientists met up with ECS and gave a short (5-10 minute) 'pop up' presentation on their careers. This is a format, which has been used by Jenny Baeseman during her time at APECS, and she found it to be one of the most successful ways of mixing and interacting with ECS and more established scientists, for relatively little cost.

Supplying information on funding sources for financing your own research proposals was also a well-received suggestion. This could be developed as a resource on the CLIVAR ECS webpage and could include information such as fellowships and grants available to apply for (e.g. Marie Curie, NERC fellowships, institution specific awards etc.). Information about requirements for application process, eligibility and annual deadlines would also need to be included on the webpage. It would also be useful to perhaps include information on the best way to complete this type of application. This would only need to be a short statement, written in general terms (as each application will be specific in terms of the science that this being proposed). One way of collecting this information would be to pinpoint ECS who have previously been successful in winning these awards and asking them to contribute to this information resource.

Establishing a mentoring scheme, run through the CLIVAR ECS website was suggested as a useful resource by one of the participating individuals and also had a very strong positive response (question 5). Having a mentoring scheme within CLIVAR would be an excellent opportunity to integrate interested ECS with the current more established scientists involved in the programme. The mentoring scheme would need to be properly organized and would be quite a large undertaking to ensure that there were appropriate mentors and mentees to participate in the programme. Basic terms of reference would also need to be drawn up for the mentoring programme, clearly laying out the basic terms under which both parties would operate. As a starting point the following publication can be used as a guide to the process of running a good mentoring scheme and what both parties can get out of it. Although this publication is from a medical academic perspective the take home messages can be applied to climate science.

[The Academy of Medical Sciences \(2012\) Supporting tomorrow's leaders today. The Academy of Medical Sciences' mentoring scheme for postdoctoral clinical academics](#)

Discussion forums for grant writing / time management/ promotions within science/ media and communications were an idea proposed as a useful resource for the CLIVAR ECS website. Such discussion groups have never existed on the CLIVAR website and would need to be fully developed and integrated into the webpage. However, social media programmes such as Facebook and LinkedIn (both of which CLIVAR has accounts for) could be utilized as discussion forum. If the social media platforms were used in this way it would firstly provide a forum for discussions as suggested without further web development of the CLIVAR site. Secondly it would provide a more active social media presence (thus spreading the sphere of influence the CLIVAR ECS network could have). Such forums would have to be well advertised in the initial period and potentially discussion topics started and maintained as people were learning how to use them and that they were there.

The results of this survey also suggest that it would be potentially useful for the ECS community to be able to contact one another and see their research areas. Currently registration details are just being collected and stored in the CiviCRM database. However, it is possible to create an open access searchable database (similar to what is currently available for the Africa network <http://www.clivar.org/africa/network-search-tool>). This would allow people to search for other individuals by location, research area etc. and contact one another as it would share contact details.

In response to question 11, it was clear that all people completing the survey were very interested in presenting and being involved with ECS specific sessions at conferences. Since sending out this survey there has been further discussion about the merits of such an ECS focused session during a scientific conference. Arguments in support of such a session include it would give greater exposure and precedence to ECS to present at such large international meetings, thus giving them good experience and exposure to the international scientific community. However, the argument against running ECS session is that it isolates the ECS from the rest of the science being undertaken during the conference when the motivation behind ECS events is to integrate them fully into the scientific community. Opinion is therefore out on whether it is of benefit or not to have an event such as this.

Perhaps a middle ground at meetings and conferences is to have sessions that are run by ECS, under the overall direction of one senior scientist who adds the academic weight to get the session accepted in the first instance. Once the session is accepted the ECS could be responsible for the organization of such a session including abstract selection and chairing of the session. This would provide the ECS with fantastic experience to make themselves more marketable to future employers and would also help integrate the ECS with the rest of the scientific community. This approach has been successfully used by the APECS community to get ECS involved with scientific meetings and the scientific

community at large. The results from this survey also suggest that there is an interest in helping to organize events, meetings and workshops.

The running of ECS specific meetings and workshops and summer schools also had a positive response with 90% of individuals interested in participating in a ECS specific meeting. This could be organized in two ways. Firstly it could be a top down approach meeting where CLIVAR organizes a meeting on a set subject area and invites ECS along to the meeting. Such a top down approach is in the process of being applied to organize a summer school on climate extremes (one of the WCRP grand challenges) to be held next year. An alternative way of organizing an ECS meeting is for a more grassroots approach with the ECS community deciding what to do and organizing the logistics of it. This approach will involve a much more established network of ECS for it to be successful. Thus it may not be the most suitable approach for the CLIVAR ECS network as it currently stands. However, this approach has been successfully used by the UK Polar Network (UKPN – an offshoot of APECS) to host ECS events in the (e.g. the Bangor Polar Symposium <http://polarnetwork.org/2012/11/bangor-polar-symposium/>).

Recommendations to the SSG

Many of the recommendations suggested in this document are reliant on a small team of people working behind the scenes to run and organize the ECS network during its first year. It is therefore critical, once the SSG has agreed upon at least some of the recommendations, to establish a small team of people to assist in the organization and day to day running of the ECS network.

- **Develop a strategy to include ECS into the SSG meetings and panels**

One suggestion could be to have a rotating membership of ECS on each panel. For example the panels could have 2 ECS on each – one lead and one vice – terms will be for 1 year as lead and one year as vice. Each vice is trained up by the lead before moving into lead position. Pro's – workload is split, fast turnover, new ideas. The ECS on each panel could then make up the ECS committee, responsible for running, maintaining and advancing the CLIVAR ECS under the remit of the SSG. Thus the ECS committee would run in parallel to the CLIVAR SSG. The nominated 'president' of the ECS committee would sit on the SSG and report/interact with them.

- **Website resources**

Publish and keep up to date a more comprehensive set of job listings Establish a small team of individuals globally who will search for ECS specific job listings and email them thorough to a central co-ordinator for posting on the website. Link with other established ECS networks (e.g. APECS, Challenger Society UK) who also post job listings and RSS feed / share between the websites.

Start shortlisting sources of funding for research fellowships etc. One way of doing this is to ask SSG and panel members to email through a list of funding opportunities associated with each of their institutions / or schemes that they are aware of. Once this has been established as a list on the website, successful candidates could be approached to provide information how to apply for such grants.

Create an open access, searchable online database for ECS to be able to contact one another through. Prior to doing this with the already collected data it would be necessary to check that people were happy for their information to be shared in this way. The registration form could then also be modified to collect this latter piece of information at the time of sign up.

- **Social media (Facebook, Twitter, LinkedIn)**

Look into setting up discussion forum on Facebook and LinkedIn. Ideally these forum could be linked into the CLIVAR website.

- **Establishing a mentoring scheme**

In order to find out about the steps involved with setting up a mentoring network within ocean sciences, further contact should be made with Dr. Gesche Braker from the Future Ocean, Kiel Marine Sciences. Dr. Braker is the coordinator of the Integrated Marine Postdoc Network and could be a useful contact to set up a CLIVAR ECS mentoring scheme.

- **Meetings, conferences and workshops**

At the next large science meeting with CLIVAR representation (e.g. AGU fall meeting, Ocean Science) organize to have a small lunchtime meeting focusing on career development with ECS. The event can be advertised in advance on the ECS webpage and through the mailing lists.

Think about the next 15 – 18 months and the meetings that are coming up and if any CLIVAR scientists are organizing sessions and it is appropriate they could think about including ECS on the panel to help organize the event.

Include and invite the ECS community already registered on the website in the WCRP summer school preparations. Some of this community may also be interested in helping to organize the event.

- **Develop the ECS database into an open access searchable network**

Care will need to be taken over data privacy issues.