Subject: Circular Letter No. 3 of the President of CCI

Dear Colleagues and Friends,

I am pleased to send you the third circular letter of the current intersessional period. The CCI Management Group met the end of October in conjunction with the WCRP Open Science Conference, reviewed accomplishments and laid plans for the second half of this intersessional period. While this letter discusses plans, its main focus is on recent accomplishments. Additionally, I will briefly introduce you to two of our key volunteers and touch on a little bit of CCI-related recent science that you may find interesting.

Yours sincerely,

(Thomas C. Peterson)
President
WMO Commission for Climatology

To: Members of the Commission for Climatology
Members of the CCI Management Group and OPACEs

cc: Presidents of technical commissions
Presidents of regional associations
Chairpersons of regional associations’ working groups
and regional associations’ rapporteurs dealing with CCI-related matters

(Thomas C. Peterson)
President
WMO Commission for Climatology
1. Time for a midlife crisis?

The main outward manifestation of what some friends see as my belated midlife crisis was the recognition a few years ago that I needed a new physical challenge. My solution was to enroll in weekly a trapeze class. I’m still not particularly good at trapeze, but I am improving and enjoying the challenge. Last year I even performed in a local circus that raised money for charity.

A cousin once told me that the magnitude of one’s midlife crisis is inversely related to the number of small course corrections one made over the preceding years. The more course corrections you make, the smaller your crisis will be. While it may not be obvious from these photographs, I consider my midlife crisis to be fairly small because I have made many changes over the course of my life.

We’re now at approximately the mid-point of CCI’s intersessional period, a time for us to assess what we were doing well and where we should make improvements, which was essentially the topic of our October 2011 Management Group meeting. I’m pleased to report that CCI is only showing minor signs of a midlife crisis. Some of that is because we have changed and set up new teams over the last two years. Some of it is due to the proactive character of our rather superb, if you don’t mind me bragging about them, Management Group. And part of the reason is because CCI created a flexible Management Group structure.

For example, in the two previous intersessional periods, CCI’s organization was based on four Open Programme Area Groups (OPAGs), each with a chair and a co-chair. The co-chair had almost no official duties. So when an OPAG chair didn’t do anything at all related to CCI for almost a year (which happened twice during this time), CCI would undergo a rather politically sensitive crisis as it undertook formally replacing a chair with the co-chair. Now our Open Panels of CCI Experts (OPACEs) have two co-chairs and no chairs.

So when one of OPACE IV’s co-chairs, Albert Martis, formerly of the Netherland Antilles and now of Curaçao and Sint Maarten, suddenly found himself very busy preparing his NMHS to adjust to his country dissolving into three, his fellow co-chair, Rodney Martinez, was able to smoothly rise to the occasion and temporarily take on the lion’s share of the leadership within OPACE IV. Unfortunately, this system was not prepared for both co-chairs becoming extraordinarily busy. So this worked very well until Rodney got promoted to Acting Director of his organization. Thanks to Rodney’s dedication, OPACE IV’s work progressed well, but this additional CCI responsibility coupled with his new work responsibilities put too much of a work load on Rodney. So the lesson I draw from this CCI midlife crisis is that we must be very careful that we don’t overburden key volunteers.
2. **Highlights from OPACE I on Climate Data Management co-chaired by Song Lianchun (China) and William Wright (Australia)**

Rescue of NMHS's climate data is a key part of this OPACE’s work. Yet given the magnitude of the global data rescue need and limited resources available, the Task Team on Data Rescue has focused its activity on coordinating a list of country data rescue focal points, making sure they have the information they need through the creation of a data rescue web portal, and collaborating on various training workshops where demonstrations can be provided. Additionally, a workshop devoted to establishing a collaborate West African Data Rescue initiative is planned for later this year.

To determine where their efforts would be most effective, the Expert Team on Climate Database Management Systems (CDMS) undertook a survey of Members’ use of CDMS. While the responses are still coming in, the preliminary results do provide some insights. Oracle is the most popular data base platform for CDMS. Windows operating system is dominant in developing countries while half the developed countries use Linux. And CLICOM is still used by over a dozen countries. The team is now developing updated specifications for modern CDMS which will likely include reporting formats for data transmission.

Standard Normals use a 30 year base period and are updated every 30 years. This works well in a stationary climate. But when the climate is changing, Normals produced from data observed as much as 50 to 60 years ago are not as useful as more recent Normals would be. Therefore, OPACE I co-chair William Wright drafted a discussion paper on changing the definition of the standard climate Normals. It proposes a dual Normals system with a relatively-stable 30 year base period for climate monitoring applications, but also providing for 10-year updates of the 30 year Normals for other applications (e.g., 1981-2010). The paper will be presented to other Technical Commissions and stakeholders as well as being discussed at the WMO Executive Council meeting later this month.

A training workshop on climate data management for Asia, together with an international expert meeting on data requirements for enhanced climate services, is being organized by OPACE I co-chair Lianchun Song. The meeting will take place in Beijing, probably during the first quarter of 2013 with a goal of establishing the foundations for a globally coordinated system for climate data management in support of the Global Framework for Climate Services.

3. **Highlights from OPACE II on Climate Monitoring and Assessment co-chaired by Fatima Driouech (Morocco) and Manola Brunet (Spain)**

The joint CCI/CLIVAR/JCOMM Expert Team on Climate Change Detection continues its stellar work coordinating indices of extremes derived from daily data or global climate model output and organizing workshops where country participants calculate the indices for themselves and the results are written up in peer-reviewed papers so they can contribute to the IPCC as well. Most recently they held a workshop for Arab League members (funded by Sweden) in March which OPACE co-chair Fatima Driouech hosted and Manola Brunet (the other OPACE co-chair) and I were instructors. In May another ETCCDI workshop was held in the Caribbean hosted by Prof. Michael Taylor at the University of the West Indies in Jamaica (and funded by NOAA, WMO and CCCCC). I was an instructor in this workshop as well.
At the formal CCl meeting two years ago, we were asked to clearly define just what an extreme was. So we set up a Task Team on the Definition of Extreme Weather and Climate Events. This team reviewed existing work and studies related to climate extreme events, their definitions, geographical extent and distribution, time-scales, etc., as well as evaluating gaps and the need for common definitions. Today a comprehensive review on current extreme definitions, extreme indices and methodological approaches has been produced by team member Randy Cerveny and is now out for internal and external comments.

Consider two countries reporting that January temperatures were 0.5ºC above average. Were they equally warm? We don’t know because one country might use the 1981-2010 period to calculate their averages while the other might use 1961-1990. To help countries produce climate monitoring products that can be easily compared, OPACE II created a Task Team on National Climate Monitoring Products.

This team is a great example of what works well at WMO. It brought together world leading experts on climate monitoring who knew what was important and climatologists from developing countries who knew what was possible. When I talked to team chair John Kennedy of the UK, pictured here, he confirmed that the mix of members worked well. The experts had all sorts of wonderful ideas that the other members were able to bring back down to reality. They also approached their task in a very methodical way by starting out surveying WMO Member States so they would know exactly what climate monitoring products were currently being calculated. The team’s results are expected to be released shortly. They will include a list of 6 key climate monitoring products that most countries will probably want to regularly assess on either a monthly or annual basis. Each product will come with a precise definition to use when calculating it. And to make the process even easier for NMHS’s to implement, John told they will recommend that software be produced that countries can use.

4. **Highlights from OPACE III on Climate Products and Services co-chaired by Kiyoharu Takano (Japan) and Jean-Pierre Céron (France)**

Two major CCI contributions to the WMO Climate Services Information System (CSIS) are the Regional Climate Centers (RCCs) and the Regional Climate Outlook Forums (RCOF). (As a side note, my 7th grade Latin teacher would be aghast at me writing the plural of Forum as Forums rather than the correct Latin form of Fora.)

There has recently been a flurry of RCC activity in preparation for the formal meeting of the Commission for Basic Systems (CBS) in September. While the RCCs are formally recommended by their Regional Association President and designated by CBS, the approval process includes consultation with CCI to seek our advice on their satisfactory compliance with the designation criteria. To accomplish this, a joint CCI/CBS Expert Team on Regional Climate Centers reviews the RCC documentation and results during their demonstration phase and provides recommendations for CCI and CBS as well as advice for the RCC. As of this writing, the ET just reviewed and last month recommended the establishment of the RCC for the RA VI (Europe) and is currently evaluating a proposal for the North Eurasian Climate Center as an RCC in Region II (Asia). I’ve been impressed with the seriousness in which the ET undertakes these evaluations and the high value of the insights they provide.
OPACE III has been actively supporting the conduct of Regional Climate Outlook Forums (RCOFs) around the world and also the efforts to promote RCOFs to cover new regions in need. These include the North Eurasia Region, Indian Ocean, and Caribbean Climate Outlook Forums. In addition, with RCOFs in mind as a key target audience, Global Seasonal Climate Updates (GSCU) which are consensus summaries of major circulation features that impact climate, are being facilitated by the OPACE III Task Team on GSCU.

Discussions on the development of a new Southeast Asian Climate Outlook Forum were initiated at the CLIPS Training Workshop on Operational Climate Prediction for Southeast Asia which was organized in collaboration with the Meteorological, Climatological and Geophysical Agency of Indonesia, at Citeko, Bogor, Indonesia, in September/October 2011. Operational climate experts from NMHSs of 10 Southeast Asian countries were provided training in theoretical and practical aspects of seasonal prediction, downscaling and tailoring.

5. **Highlights from OPACE IV on Climate Information for Adaptation and Risk Management co-chaired by Rodney Martinez (Ecuador) and Albert Martis (Curacao)**

Following on the success of OPACE II’s Expert Team on Climate Change Detection and Indices, OPACE IV organized a similar team on Climate Risk and Sector-Specific Indices. At their meeting in July of 2011, they brought together experts in climate indices as well as representatives of the health and agriculture sectors to help formulate the most relevant climate indices for these sections. Since that meeting the team has created a list of sector-specific indices. The documentation and software to calculate the indices are now being developed with the goal of having them ready for a proof of concept workshop being planned for early 2013 in South America.

The Task Team on User Participation in Climate Outlook Forums met in November. While Regional Climate Outlook Forums (RCOFs) are part of the domain of OPACE III, this team seeks ways to improve user engagement and in that effort will be collaborating with the Commission for Agricultural Meteorology and the Commission for Hydrology. After discussions with various user sectors; user feedback, products and interface opportunities were compiled in support of the development of guidance on enhancing user participation in Climate Outlook Forums.

Following a Symposium on Climate Risk Management hosted by OPACE IV co-chair Rodney Martinez’ organization in Guayaquil, Ecuador, in October 2011, the Task Team on Climate Risk Management met to plan their strategy. Having defined Climate Risk Management and laying out its key characteristics, the team is working on defining criteria for determining the effectiveness of CRM practices. In addition, case studies of successful user interface engagement are being compiled as the basis for guidelines on integrating climate information, including seasonal predictions, into climate risk management. Some of this material is contributing to a document on “improving climate risk management at local level – techniques, case studies, good practices and guidelines for WMO Members” which has 20 authors from all parts of the world.

6. **Highlights from the Vice-President Serhat Sensoy (Turkey)**

Our Vice-President has actively participated in a number of meetings including those focusing on Quality Management for Climatology and Strategies for Capacity Building for Climate Services which have contributed to the developments of requirements for the Global Framework for Climate Services.
In addition he organized and hosted an International Climate Analysis and Application course which had 23 participants from 20 countries ranging from from Bhutan to Peru and from Tanzania to Russia.

7. Profiles of two volunteers: the co-chairs of OPACE IV

While I’ve heard lots of good things about Rodney Martinez over the years, I didn’t meet him until the WCRP meeting in association with CCI XV in February 2010. He is the Scientific Coordinator of CIIFEN, the Centro Internacional para la Investigación del Fenómeno de El Niño, in Guayaquil, Ecuador. In addition to his CCI work, he has served the WCRP-CLIVAR Pacific Panel since 2005. As appropriate for an institution focusing on El Niño, Rodney is an oceanographer. Yet his main work over the last few years has been on climate applications and climate information systems contributing to the development of sectors such as agriculture as well as management primarily across Western South America. So his fit with OPACE IV is excellent.

In contrast, I’ve known Albert Martis for over a decade. During that time I would repeatedly ask him to serve in various capacities of CCI within the CCI Open Programme Area Group that I chaired for 8 years. Each time the response was the same: he was willing but his boss, the head of the Netherlands Antilles Meteorological Office, would say that Albert was too busy. Fortunately for CCI, Albert became the Director so the decision was up to him. One of his main scientific foci has been on predicting seasonal rainfall in the Dutch Caribbean. This naturally led to a keen interest in information for adaptation and risk management which is the domain of OPACE IV.

8. Improving CCI communication

The work we do in CCI makes the world a better place. Indeed, the creation of the Global Framework for Climate Services is an effort to acknowledge and enhance the vital role that climate data and climatologist play in society. But our work in climate data, data analysis, seasonal forecasts and risk management goes for naught if potential users don't know about it. So communicating our work is important. Yet I know that when I open my mouth to speak some of what I say can only be understood by other climatologists. So help communicate better and with wider audiences, CCI has enlisted five communication advisors to help with different parts of CCI:

- OPACE I: Patrick Luganda (Uganda)
- OPACE II: Susan Hassol (USA)
- OPACE III: Tanja Cegnar (Slovenia)
- OPACE IV: Simon Torok (Australia)
- President and Vice-President: Heidi Cullen (USA)
9. **What is a climatologist?**

With the advent of the Global Framework for Climate Services (GFCS) many National Meteorological and Hydrological Services will suddenly be striving to provide climate services as well. They will be seeking to hire or reassign people to climate services. To help provide some guidance on what it means to be a climatologist, CCI has a team working in association with a WMO Executive Council panel. The current plan is to detail what a climatologist would be expected to do under GFCS, determine what knowledge and skills would be needed to accomplish those tasks, and then finally what training and education would be required to learn that knowledge and acquire those skills.

10. **CCI-related science tidbit**

Attribution of extreme events shortly after their occurrence stretches the current state-of-the-art of climate change assessment. To help foster the growth of this science, an article scheduled to be published in the July issue of the *Bulletin of the American Meteorological Society* illustrates some approaches to answering questions about the role of human factors, and the relative role of different natural factors, for six specific extreme weather or climate events of 2011. These events include the flood producing rains in Thailand, the droughts in the Horn of Africa and Texas, as well as recent warm and cold events in Europe. While I was one of the editors of the paper, the analyses were conducted by many different teams. It should be a good companion piece to the *State of the Climate in 2011* which will be published as a supplement to the same issue. The *State of the Climate* report is a great example of international collaboration as this year it had 378 authors from 48 countries. It will be available from http://www.ncdc.noaa.gov/bams-state-of-the-climate/ on July 10th.

11. **Looking backwards and forwards**

Two milestones are worth noting. One, the publication of a delightful little book, *Commission for Climatology: Over Eighty Years of Service*, which looks backwards. Available through WMO (www.wmo.int/pages/prog/wcp/ccl/documents/WMO1079_web.pdf), it is somewhat humbling to realize that we are following in the footsteps of great climatologists and past Presidents of CCI such as C. Warren Thornthwaite and Helmut Landsberg. The other milestone looks forward: the Extraordinary Session of WMO Congress coming up in October to address the Global Framework for Climate Services (GFCS). As the current draft of the GFCS Implementation Plan states, “The World Meteorological Organization Commission for Climatology is probably the existing [entity] with the closest relationship to the Framework” and later noted that the WMO “Congress recognized that the Commission for Climatology will have a central role in the implementation of the Framework.” Hopefully, the tasks we’ve undertaken over the last 80 plus years have helped prepare CCI for the major challenges that lie ahead with GFCS.