

Minutes and Action Items for the North American Regional Committee Meeting 23rd and 24th May 2006

The 3rd meeting of the North American THORPEX Regional Committee was held in Montreal on the 23rd and 24th of May 2006. It hosted by the Atmospheric Science and Technology Research Branch of the Meteorological Service of Canada. The goal of the meeting was to exchange information on the international program and national priorities with the intent of developing a regional plan as requested by International Core Steering Committee. The working language of the meeting was English.

The nations represented were Canada, Mexico and the United States (see Appendix A for names and affiliations).

The presentations will be located on the web site of the North American Regional Committee (<http://www.ucar.edu/na-thorpex>). The action items from this meeting are included in Appendix B.

The meeting was opened with a welcome from Pierre Gauthier, the Canadian Co-Chair of the Regional Committee and host of the meeting.

The first session was to present the recent progress on THORPEX discussed at the March 2006 meeting of the Working Groups and Science Advisory Board in Reading and the 2nd Executive Board meeting in Geneva in May. An important aspect of the regional committee is to provide an update of the international priorities, plans and progress to the national committees, and, thereby, to the national research and operational communities. The session proved quite useful in this regard and the presentations were accompanied by a lively period of questions, answers and discussions. The background materials for this session are the reports from the recent Working Group, Advisory Boards and Executive Board meetings. The committee noted the progress that has been made in Canada on societal impacts work concerning weather and traffic accident, injuries and fatalities. The presentations were made by:

- Istvan Szunyogh on the Scientific Challenges and Priorities of the Predictability and Dynamical Processes (PDP) Working Group
- Pierre Gauthier on the Scientific Challenges and Priorities of the Data Assimilation and Observing Strategies (DAOS) Working Group
- Zoltan Toth on the Plans and Research Priorities for NAEFS (North American Ensemble Prediction System) TIGGE (THORPEX Interactive Grand Global Ensemble) and GIFS (Global Interactive Forecast System).
- Brian Mills on the Plans and Research Priorities for the Societal and Economic Research and Applications (SERA) Working Group. Brian also discussed the Canadian national efforts in this area.
- David Parsons gave two presentations i) Some Thoughts on the Scientific Challenges and Proposed Priorities for the Observing System (OS) Working Group; ii) Plans for the THORPEX Pacific Asian Regional (T-PARC) Campaign

The 2nd session was to present the recent progress by national committees in determining their overall scientific vision and their selection of research priorities. In this regard, the International Science Plan makes the case for the establishment of national and regional priorities for participation in THORPEX within the context of the International Planning Process. The regional committee is the mechanism for bringing these priorities to the attention of the international program. The presentations on national priorities (see summaries in Appendix C) were:

- Ricardo Prieto Gonzalez made a presentation on High impact weather in Mexico and Proposed National Priorities.
- Ayrton Zadra and Gilbert Brunet made a presentation on the International Polar Year and the Canadian THORPEX Artic Weather and Environmental Prediction Initiative (TAWEPI)
- Pierre Gauthier presented a talk on High Impact Weather in Canada and THORPEX
- Jim Hansen presented a talk entitled High Impact Weather in the United States and Proposed National Priorities

The presentations proved useful understanding high impact weather in North America and there were some surprises in the national presentations. For example, the attendees from Canada and the US were generally unaware of the high impact and number of fatalities that result from dry cold fronts sweeping down over the high Mexican Plateaus and the likelihood that long-lead times (~5 days) that might be required to mitigate the public safety hazards of these systems. In some years, there are even more deaths in Mexico from these cold fronts than tropical cyclones. The committee noted the large organized effort in Canada for the International Polar Year (IPY) with the proposed activities at the 9.5 M (Canadian Dollars over four years). The US also has THORPEX IPY activities including the link between the THORPEX Pacific Asian Regional Campaign (T-PARC) and a possible collaboration with the French on Antarctic studies. The committee also noted the recent progress of the national committees in the US and Mexico. The politics of science and obtaining funding was noted with the general consensus that THORPEX and weather research in general faces some difficult and grand research challenges, but there are also areas where the improved utilization of current levels of skill could greatly benefit society.

The 3rd session was motivated by the desire to establish regional priorities and further intraregional collaboration. The session was opened by a presentation by David Parsons and Pierre Gauthier entitled Brief Overview of Other Regional Efforts. This talk relied heavily on presentations made by the Co-chairs/Chairs of the Regional Committees at the recent THORPEX meetings in Reading and Geneva.

The session continued with discussions on potential areas of regional collaboration within the context of the international program and proposed national priorities. The unanimous consensus of the group was that the following research topics (see below for an expansion of these topics in the outline for the North American THORPEX Plan) were well suited to collaboration across the three nations of the region. These research areas are consistent with the priority research areas and the developing international themes of THORPEX and include:

- Pacific predictability, including the proposed PARC experiment in 2008.

- Tropical convection and tropical-extratropical interaction. The interest of Mexico in the downstream THORPEX-AMMA driftsonde operations was also noted.
- Prediction including collaboration between the operational and research communities, NAEFS, how the academic research community will use TIGGE, access of academic community to satellite data sets.
- SERA activities
- Capacity building among the nations of the North Hemisphere.

In addition to these areas, Canada and the US are likely to collaborate significantly on the activities of the International Polar Year.

The fourth session was to reach a consensus on the plan for developing a regional science and implementation plan for the North American THORPEX Regional effort. The implementation of THORPEX is in large part through the regional committees. Currently regional committees exist or are being formed within the Asian, EU, Southern Hemisphere, and North America. The International Core Steering Committee requested regional plans. The North American Regional Plan will i) highlight major efforts and focus areas of the nations of the regions, ii) areas for collaboration between the nations of the region, and iii) describe the links with international program. The agreed upon time-lines are:

- Completed national plans by 1 Sept. prior to the completion of the regional plans so that national priorities can “lead” the regional process.
- Polished 1st draft of regional science and implementation plans by 1 Oct. by working on areas of regional collaboration in parallel with the national planning effort. The regional plan should be sufficiently polished so that it can be used by national funding organizations at this time.
- Vetting of regional plans at the 2nd Science Symposium in Dec. through a presentation at the 2nd Science Symposium and an open meeting of available North American participants.
- “Final” plan due for the March 2007 ICSC/SAB/TAB meeting so we should be done by ~1 Feb.
- The next meeting of regional committee will be hosted by the Mexican National THORPEX Committee in late April or early May. Several venues were discussed including Mexico City. One aspect of this meeting will be to develop responses to the comments and suggestions of these advisory panels.

The tentative outline for the North American Regional Plan with writing assignments are:

- *Introduction (Pierre Gauthier and Dave Parsons)*
- *Few pages on high impact weather in NA and a few examples of real importance (Pierre Gauthier, Dave Parsons, Brian Mills, Juan Caballero Gonzalez -- with some interaction with national leaders)*
- *National priorities*
 - *Canada (Pierre Gauthier)*
 - *Mexico (Ricardo Prieto González)*
 - *US (Jim Hansen)*
- *Scientific vision for regional activities (Jim Hansen, Istvan Szunyogh, Ricardo Prieto González , Pierre Gauthier, Dave Parsons)*
- *Areas of research collaboration*
 - *Pacific predictability and PARC (Dave Parsons, Ayrton Zadra, René Lobato Sánchez)*
 - *Tropical-extratropical (Istvan Szunyogh, Gilbert Brunet, Fernando Oropeza Rosales)*
 - *Prediction (Jim Hansen, Martin Montero Martinez, Pierre Gauthier) including academic-operational aspects*
 - *NAEFS (Peter Houtekamer, Zoltan Toth, Juan M. Caballero Gonzalez)*
 - *SERA (Jeff Lazo, Brian Mills, Jorge Luis Vazquez Aguirre)*
 - *Capacity building (Dave Parsons, Brian Mills, Martin Montero Martinez)*
- *Links to international program (Dave Parsons, Pierre Gauthier, Jeff Lazo, Istvan Szunyogh)*

The meeting concluded with the development of action items. These action items are listed in Appendix B.

Appendix A: Participants

- Dr. Gilbert Brunet, Member, THORPEX Science Advisory Board, Meteorological Research Division, Meteorological Service of Canada, Montreal, Canada
- Dr. Pierre Gauthier, Co-chair, North American Regional Committee; Meteorological Research Division, Meteorological Service of Canada, Montreal, Canada
- Tte. Juan M. Caballero Gonzalez, Member, THORPEX National Committee for Mexico, Mexican Navy
- Dr. Ricardo Prieto-Gonzalez, Mexico's National THORPEX Coordinator, Mexican Institute for the Technology of Water, Mexico
- Professor James Hansen, Co-chair, US THORPEX Science Steering Committee, Massachusetts Institute of Technology, MA, USA
- Dr. Peter Houtenkamer, Meteorological Research Division, Meteorological Service of Canada, Montreal, Canada
- Dr. Brian Mills, Member, THOREX Societal and Economical Research and Application Working Group, Adaptation and Impacts Research Division, Environment Canada
- Dr. David Parsons, Co-chair, North American Regional Committee; National Center for Atmospheric Research, Boulder, CO USA
- M.Sc. Fernando Oropeza Rosales, Member, THORPEX National Committee for Mexico, Mexican Institute for the Technology of Water, Mexico
- Dr. René Lobato Sánchez, Member, THORPEX National Committee for Mexico, Mexican Institute for the Technology of Water, Mexico
- Professor Istvan Szunyogh, Co-chair, THORPEX Predictability and Dynamical Processes Working Group, University of Maryland, MD, USA
- Dr. Zoltan Toth, NOAA THORPEX Science Lead, NOAA/NCEP, Camp Springs, MD, USA
- Dr. Ayrton Zadra, Meteorological Research Division, Meteorological Service of Canada, Montreal, Canada

Appendix B: Action Items

The Action Items from the First Session include:

- 1) The broader THORPEX research community could benefit from making important research data sets openly available for follow-on research to explore important findings. These data sets could include the data denial experiments conducted by Carla Cardinali at the ECMWF and eventually the results of the upcoming pre-PARC activities of the DAOS working group. While acknowledging the importance of the investigators to publish the results, open access to these data sets for follow-on research would greatly further the goals of THORPEX. This is an action for the Executive Board (EB).
- 2) To increase the utilization of satellite data by the research community, the regional committee encourages the OS Working Group to collect the information on the contact points for relevant satellite systems, access procedures (cost, formal procedure, etc.) and information on the level of post processing (e.g., calibrated, navigated, etc). The ECMWF and NCEP reanalysis results showing the modest impacts of the large growth in the satellite data stream is an important issue for THORPEX and we await seeing the ECMWF 4-d var results.
- 3) Within the US, the national THORPEX committee needs to stay aware and provide scientific guidance (when possible) on discussions into the recent cost difficulties of the NPOESS effort.
- 4) The potential importance of model error and model improvement to the goals of THORPEX was noted. Concern was noted that addressing this topic requires stronger collaboration between WGNE and the PDP and DAOS Working Groups. While WGNE does make important contributions in this area, the group is concerned with numerical experimentation and the reduction of model error sometimes requires activities that go beyond this charge. This topic should be discussed at the upcoming WGNE meeting under the leadership of the EB.
- 5) TIGGE was considered an importance research data set. Several action items were noted for the TIGGE Working Group:
 - a. The TIGGE access procedure should include an area for investigators to state their research intents to allow THORPEX to better track the use of TIGGE. If this information was available to users of TIGGE, it would likely increase collaboration.
 - b. The importance of having the members on a common grid was clearly articulated and questions were raised as to whether the TIGGE plans included the interpolation being done at the archive or operational centers and whether both the native and interpolated data were being archived.
 - c. The importance of having the observations that have gone into the simulations easily available to researchers was noted and the committee recommended a common TIGGE access procedure for the ensemble members and their data sets.
 - d. The issue was as to whether the MUMMA effort (simulations initialized by the analyses from the different centers) was still in the TIGGE plans.

- 6) NAEFS:
 - a. NAEFS is an important research tool and needs to be also easily made available to the regional and international TIGGE community. The links to NAEFS data access should be on the TIGGE web site.
 - b. Canadian Meteorological Service and National Center for Environmental Prediction should make the NAEFS raw and corrected data available to THORPEX users.
- 7) SERA is an important critical part of THORPEX. Several action items were noted for the SERA Working Group:
 - a. The committee appreciated the balance between research and applications.
 - b. The need to develop stakeholders for a successful program was noted and it was urged that the upcoming North American and International (in Spain) Meetings be used to jumpstart this process.
 - c. The SERA Working Group was urged to participate fully in the March 2007 meeting in Spain by being proactive in the planning process.
- 8) Speakers in the 2nd Session on national priorities need to provide brief summaries of their talks for the minutes of this meeting.
- 9) The regional committee welcomed the addition of the Mexican National Committee to THORPEX. The action items included resulted from the national presentation included:
 - a. The Mexican National Committee should to work to encourage the participation of Central American and Caribbean nations in THORPEX possibly through the upcoming annual workshop of forecasters working in this region. Names of contacts in Central America and the Caribbean should be provided to the regional co-chairs as soon as possible so that input could be provided to the North American regional plan.
 - b. The relevant NCEP international forecast desks should also work to encourage the participation of Central American and Caribbean nations in THORPEX possibly through the upcoming annual workshop of forecasters working in this region. Names of contacts in Central America and the Caribbean should be provided to the regional co-chairs as soon as possible so that input could be provided to the North American regional plan.
 - c. The co-chairs of the NA THORPEX Committee should contact the EB, WMO and/or the national PRs (Permanent Representatives to the WMO) to get THORPEX on the agenda for the next WMO Regional IV meeting.
 - d. The NA regional committee should work to ensure the THORPEX effort participation of Mexico and other Caribbean and Central American nations in a manner that has a long-lasting and positive benefit to the research and operational capacities of these nations.

- 10) The North American co-chairs should distribute the reports of the Working Groups and Science Advisory Boards to the regional committee.
- 11) The national and regional committees are urged to better distribute information on the real progress of the program including the upcoming science symposium.
- 12) The T-PARC, the Greenland Flow and TAWPEI IPY efforts will allow for a number of unique investigations of the dynamical interactions and between the Arctic and lower latitudes, on observing strategies and local/downstream forecast impacts, and the impact of improved global analysis on high resolution Arctic modeling. The leaders of these groups and the regional Committee are urged to have initiate and maintain discussions on collaborations.
- 13) The regional co-chairs are tasked with getting presentations for this meeting on the North American THORPEX web site and, if desired, in the form of CDs.
- 14) North American regional committee should foster greater academic and operational collaborate across and within the nations of the region to work to bridge the gap between operations and research and to also foster basic research on weather processes.
- 15) US reps on NA regional committee and US committee to come up to with ideas to engage NASA scientific and Air Force research/operational activities (e.g., invitation for summer workshop to D. Waisler, etc).
- 16) Regional Committee: Logo for NA THORPEX
- 17) Observing system working group: Leverage THORPEX as a WMO program to upgrade and improve the observing systems within Mexico, Central America and the Caribbean and to get key data set on the GTS.
- 18) The regional committee and others meeting should make every effort to ensure we meet the schedule for writing the regional plan.
- 19) The EB and IPO needs to note the importance of getting a funding mechanism within the IPO for broader participation from many nations in THORPEX meetings including nations from the developing world.
- 20) The regional chairs need to answer Jim Purdom question list
- 21) The regional co-chairs are responsible for developing a draft terms of reference, obtaining comments from the committee and then vetting the terms to the Chair of the EB and any national oversight committees.

Appendix C: Brief status of National Priorities