

NCAR Fellows News

JANUARY EVENTS

January 5: Research Reviews

11:00 am, Live: FL3-2072
ML Gil Finley (Tower A Penthouse)
Marielle Saunois and
Julie Theriault.

January 12: ASP Seminar

11:00 am, FL2-1022,
Raj Panda, UCAR SOARS
*A Changing Role for Scientists:
How to Prepare and Succeed,*
Lunch immediately following with
the speaker in FL2-1003.

January 19: Research Reviews

11:00 am, Live: FL3-2072
ML Gil Finley (Tower A Penthouse)
Michael Toy and Natalia Calvo
Fernandez

January 20: Fellows Association Happy Hour

More details will follow by email.

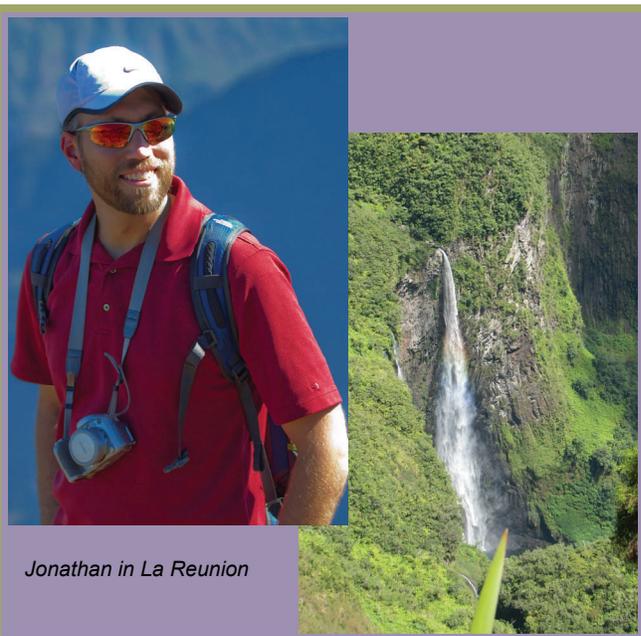


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Finding ways to predict cyclones by Jonathan Vigh

Tropical cyclones continue to present a profound challenge to the global forecasting and research community. While forecasts have generally improved over the past three decades (especially for track; less so for intensity), the vulnerability of many coastal regions has also increased as populations continue to swell and sea levels rise. Since 1970, a tropical cyclone has contributed to more than 100,000 deaths on four separate occasions -- most recently in 2008 when Tropical Cyclone Nargis assaulted the ill-prepared country of Myanmar and killed over 146,000 people. Since tropical cyclones occur in seven different basins around the world and cross national boundaries, the World Meteorological Organization (WMO) has recognized the need for better international cooperation and exchange of knowledge.

Under the auspices of the Tropical Cyclone Programme (TCP) in the WMO World Weather Research Programme (WWRP), a major workshop series is held every



Jonathan in La Reunion

four years to bring tropical cyclone research scientists and warning specialists together. This unique forum is charged with two major tasks: to summarize the current state of scientific knowledge about tropical cyclones and to make recommendations for specific actions needed to improve tropical cyclone forecasting and warning systems or prioritize new observational data and research requirements. Participation in

the IWTC is by invitation, with participants assigned to various working groups tasked with surveying the recent scientific literature for each topic. The leader of each working group (called a rapporteur) then synthesizes the relevant findings into a pre-workshop report. At the workshop itself, these rapporteurs present the findings and draft recommendations. Once the workshop concludes, the reports are edited and

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POSTDOC NEWS

Hannah Brenkert-Smith will be leaving ASP and joining a team of researchers at CU during the middle of this month. Good Luck Hannah!

JANUARY NEWS

NCAR will be closed on Monday, January 17th in observance of Martin Luther King Day.

Just in case you missed it under Events, the NCAR Fellows Association is planning a happy hour on Thursday, January 20th. More details will follow by email.

Cyclones (continued)

published in a proceedings document.

Wanting to participate in my first IWTC, I volunteered my time and services to the conference organizers. They invited me to join one of the six working groups assigned to the major topic of structure and intensity change. I then spent about a month reviewing a wide variety of papers on how inner core processes lead to structure and intensity change. My working group found that the recent literature has focused on several key "hot topics" over the past few years, such as the role of intense convection (known as "hot towers") in rapid intensification. Another group of papers focused on the role of eye-eyewall mixing, baroclinic instability of the eyewall, and the

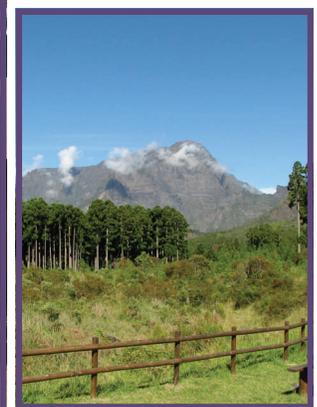
so-called superintensity hypothesis which posits that air-sea fluxes from the eye may boost the storm's intensity above the theoretically-expected value (recent literature shows that this effect is probably quite small). Other papers examined the formation of secondary eyewalls and how the diabatic heating of the eyewall leads to changes in the storm's primary circulation which intensify (or weaken) the storm.

The actual workshop was held November 14-20, 2010, with approximately 125 researchers and forecasters in attendance from nearly every region of the world (only 30 were from the United States, 5 of which were NCAR scientists). Both the format and forum were very different than a typical scientific

conference. Mornings were usually spent in plenary session in which the rapporteurs gave 20-minute presentations summarizing the findings of their working groups. Afternoons featured breakout sessions, with participants split into smaller groups to discuss the morning's sessions and to make specific recommendations on how to move the field forward most effectively. Ample socializing time was given to encourage interactions between the participants.

Not one to be intimidated by my first-timer status, I contributed several bold recommendations. One encourages the establishment of a reconnaissance aircraft program for the Asia-Pacific region. In light of the rising economic status of China, India, and

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A room with a view in La Reunion, participants of the workshop, more views of La Reunion

Cyclones (continued)

other nations in this region, as well as their large vulnerabilities, it is high time for an international program of low-level aircraft reconnaissance similar to the U.S. Hurricane Hunters. I also recommended that forecasters start forecasting and "best-tracking" the radius of maximum winds (RMW) (best-tracking involves doing a post-season analysis to come up with the best estimate of the given parameter using all available data). Since the RMW is a crucial parameter for storm surge modeling and ties in with other structural and dynamical changes, it is important for the forecast community to move beyond the past focus on track and intensity. If forecasters are

tasked with predicting RMW (and then verifying these forecasts), there is a much greater chance that researchers will be motivated to develop guidance tools to aid this effort. Finally, I recommended that a global repository be established to facilitate the real-time sharing of model guidance between the national warning centers, the specialized global and regional modeling centers, and researchers. Currently some of the smaller national warning centers do not have access to standard forecast tools or even global model output.

I would be remiss to not mention more about the workshop's location. La Reunion is a 30-mile wide island located approxi-

mately 500 miles east of Madagascar in the southern Indian Ocean. The island consists of two volcanoes, one of which is still quite active and erupts every few years. The other has been eroded by prodigious rains -- in fact, La Reunion holds many of the world records for rainfall (in 2007, Tropical Cyclone Ganmede dropped over 5000 mm in a 6 day period!). The outer portion of the island features a gradual sloping hillside which rises 7500 feet up to a rim. Inside are three cirques which features breath-taking jungle-clad cliffs and a jumble of nearly impenetrable canyons. Reunion is a sport enthusiast's delight, with amazing hiking, canyoning, paragliding, and

mountain biking. As an overseas department of France, Reunion has great Creole food and many quaint mountain villages.

I feel very privileged to have been able to attend this workshop and interact with researchers and forecasters from all around the world. I even made contacts which may lead to future visits with scientists in China and Australia. While I do not know how my recommendations fared along with the other scores of draft recommendations, I found the entire workshop experience to be both inspiring and rewarding.

Webinars 101 by Erin Towler

More and more, researchers are encouraged to engage in collaborative and interdisciplinary partnerships. This often requires direct interaction with a wide-range of scientists and stakeholders who may be anywhere in the world. My PACE (Postdocs Applying Climate Expertise) fellowship is a leading example of this trend, as my appointment is jointly supported by two host institutes: NCAR on the climate-side, and the United States Geological Survey (USGS) on the natural

resource applications-side. While I am based in Boulder, the USGS research team that I am working with is stationed in Bozeman, Montana. Further, my research involves managers, field researchers, and decision-makers throughout Idaho, Wyoming, and Montana. One of the tools that I have found to be a very effective means of sharing and getting feedback on my results is through the use of Webinars. This is a handy tool to have at your disposal for when a phone call isn't enough, but a

face-to-face isn't quite necessary.

There are a number of companies offering webinar services. My experience has been with WebEx (<http://www.webex.com/>), which I've used to provide real-time desktop sharing, allowing me to show results through powerpoint slides and movie animations. Additional features, such as audience polling, are also available. ReadyTalk is another company offering these services, and though I haven't used this myself, NCAR's EOD

(Employee & Organizational Development) is offering an upcoming seminar on their services: "Welcome to ReadyTalk", January 20, 2011, 10:00 am – 12:00 pm, FL2 (find registration and additional information through UCAR's Human Resources Connect website).

As we strive to balance our professional and personal lives, maximize our collaborations and minimize our carbon-footprints, webinars offer a useful service to be aware of.