



# Banff International Research Station

for Mathematical Innovation and Discovery

## Extreme events in climate and weather –an interdisciplinary workshop

August 22-August 27, 2010

### MEALS

\*Breakfast (Buffet): 7:00 – 9:30 am, Sally Borden Building, Monday – Friday

\*Lunch (Buffet): 11:30 am – 1:30 pm, Sally Borden Building, Monday – Friday

\*Dinner (Buffet): 5:30 – 7:30 pm, Sally Borden Building, Sunday – Thursday

Coffee Breaks: As per daily schedule, 2nd floor lounge, Corbett Hall

\*Please remember to scan your meal card at the host/hostess station in the dining room for each meal.

### MEETING ROOMS

All lectures will be held in Max Bell 159 (Max Bell Building accessible by walkway on 2nd floor of Corbett Hall). LCD projector, overhead projectors and blackboards are available for presentations. Note that the meeting space designated for BIRS is the lower level of Max Bell, Rooms 155-159. Please respect that all other space has been contracted to other Banff Centre guests, including any Food and Beverages in those areas.

### SCHEDULE

#### Sunday

- 16:00 Check-in begins (Front Desk – Professional Development Centre - open 24 hours)  
Lecture rooms available after 16:00 (if desired)
- 17:30-19:30 Buffet Dinner
- 20:00 Informal gathering in 2nd floor lounge, Corbett Hall (if desired)  
Beverages and small assortment of snacks are available on a cash honor system.

#### Monday: Introduction

- 7:00-8:45 Breakfast
- 8:45-9:00 Introduction and Welcome by BIRS Station Manager, Max Bell 159
- 9:00-10:00 Peter Guttorp: Introduction to climate modeling
- 10:00-10:30 Coffee break, 2<sup>nd</sup> floor lounge, Corbett Hall
- 10:30-11:30 Eric Gilleland: Some extreme value problems in climatology
- 11:30-13:00 Lunch
- 13:00-14:00 Guided Tour of The Banff Centre; meet in the 2nd floor lounge, Corbett Hall
- 14:00-15:00 Workshop planning. We will decide what discussion groups we will have. See below for some possibilities (feel free to add more).
- 15:00-15:30 Coffee break, 2<sup>nd</sup> floor lounge, Corbett Hall
- 15:30-17:00 Discussion groups
- 17:00-17:30 Group reports
- 17:30-19:30 Dinner
- 20:00- Social gathering, 2<sup>nd</sup> floor lounge, Corbett Hall

#### Tuesday: Time series extremes

- 7:00-9:00 Breakfast

9:00-10:00 Georg Lindgren: Systematic effects of seasonal phase mismatch in extreme value analysis of environmental variables  
10:00-10:30 Coffee break  
10:30-11:30 Rick Katz: Extreme value analysis for climate time series  
11:30-13:30 Lunch  
13:30-13:45 Group Photo; meet on the front steps of Corbett Hall  
13:45-15:00 Discussion groups  
15:00-15:30 Coffee break  
15:30-16:30 More discussion  
16:30-17:30 Group reports  
17:30-19:30 Dinner  
20:00- Posters and beer

### **Wednesday: Spatial extremes**

7:00-9:00 Breakfast  
9:00-10:00 Zhenyung Zhang: Examining extremal dependence in continental USA climate data  
10:00-10:30 Coffee break  
10:30-11:30 Dan Cooley: Models for spatial extremes  
11:30-13:30 Lunch  
Afternoon reserved for outdoor activities, i.e. hiking  
17:30-19:30 Dinner  
20:00- Social gathering

### **Thursday: Forests and observing networks**

7:00-9:00 Breakfast  
9:00-10:00 Charmaine Dean: Looking for climate change signals in the Canadian forest fire ignition record  
10:00-10:30 Coffee break  
10:30-11:30 Paul Whitfield: Observing networks: Precipitation and extreme precipitation  
11:30-13:30 Lunch  
13:30-15:00 Discussion groups  
15:00-15:30 Coffee break  
15:30-16:30 More discussion  
16:30-17:30 Group reports  
17:30-19:30 Dinner  
20:00- Posters and beer

### **Friday: Summary**

7:00-9:00 Breakfast  
9:00-10:30 Summary of workshop, development of research topics  
10:30-11:30 Coffee break and continued discussion  
11:30-13:30 Lunch

### **Checkout by 12 noon.**

\*\* 5-day workshop participants are welcome to use BIRS facilities (2nd Floor Lounge, Max Bell Meeting Rooms, Reading Room) until 3 pm on Friday, although participants are still required to checkout of the guest rooms by 12 noon. \*\*

## **Possible discussion groups**

Multivariate extremes

Can regional climate models reproduce weather extremes?

Data requirements, homogenization, and metadata

Metrics of extreme weather

Visualization of extreme value analyses

Ensemble analysis of extremes

Risk of extreme climate events

Space-time extremes