

Winds of the World

WEDNESDAY 16 MARCH 2005

The Katabatic winds of Antarctica: [Dr John King](#), British Antarctic Survey

From the earliest explorers to present-day scientists, all visitors to Antarctica have been impressed by the strength and persistence of the katabatic winds that blow over much of the continent. In this talk I will review our understanding of the origin of these winds and will discuss their impact on the Antarctic environment and on the broad-scale atmospheric circulation at high southern latitudes. I will present recent observational and modelling work carried out at BAS that explains why katabatic winds are not experienced in all parts of coastal Antarctica.

The world's windiest weather: Springtime tornadoes on the great plains:
[Mr Ross Reynolds](#)

The physical nature of the US Great Plains and surrounding regions makes the area susceptible to the development of severe storms. These occasionally spawn tornadoes of varying intensity and in fact non-tornadic winds that can sometimes be as damaging. This presentation will focus on aspects of the genesis, frequency and spatial variability of features that are associated with very strong winds - including the world record wind speed of 318 mph in Oklahoma City in May 1999.

Rotors and rotor streaming: [Professor Stephen Mobbs](#), School of the Environment, University of Leeds

Rotor streaming is a turbulence hazard which occurs in the lee of mountains. It is sometimes, but not always, associated with closed, recirculating eddies. The phenomenon was identified in the 1930s and there have been guidelines for forecasters, indicating the general conditions under which rotor streaming may take place, for over 40 years. It is surprising, therefore, that only very recently have detailed explanations been forthcoming. I will review the long established understanding and then describe the contributions which recent experiments and computer modelling have made to a more detailed description. I will talk about field experiments on the Isle of Arran, the Falkland Islands and the island of South Georgia. I will describe ongoing work over the Pennines and the forthcoming T-REX experiment in the Sierra Nevada.

The Arabian Gulf shamal: [Mr David Membery](#), Met Office College Exeter

The subject of today's talk 'The Arabian Gulf Shamal' first whetted the speaker's appetite

for further investigation in the summer of 1979 when, as a rookie, he was tasked with forecasting overnight take-off and landing conditions at Bahrain International Airport. Curiously, forecasts bore little relation to low-level conditions encountered by arriving aircraft nor indeed did their reports bear much resemblance to any known boundary layer wind profile in the Forecasters' Reference Book. They were something of an enigma; you might say something out of the Arabian nights... Data gathering programs with major airlines in the subsequent Shamal seasons of 1980, 81 and 82 together with satellite observations and a little theoretical background have helped shed some light on the regional nocturnal phenomena. Over the next 20 minutes or so we hope you'll find out more about ... 'The Arabian Gulf Shamal'.

Hurricane Ivan the terrible: a September to remember: [Mr Jeffrey Spooner](#), Jamaican Met Service

The 2004 North Atlantic Hurricane Season was a very active one with fifteen named Storms, nine of which became Hurricanes and six were classified as major Hurricanes (sustained wind speed of 178 km/h or higher). Hurricane Ivan spanned the period 2nd-26th September and caused considerable damage and loss of lives in its track across the Caribbean between 7th-15th September, affecting Islands from the eastern Caribbean, across the central and western Caribbean, before making double landfall in the United States. As one of the forecasters on duty at the Meteorological Service in Jamaica during the passage of the hurricane, this is an overview of the approach and passage of the hurricanes and a look at Jamaica's Met service responsibility with respect to advisories and warnings, and an overview of the damage including pictorials.