

Observing requirements for, and design of, a mesoscale monitoring network for  
Vancouver 2010  
2002 Winter Olympics Background:  
John Horel  
Department of Meteorology  
University of Utah

1) Organizational issues

- Public vs. private sector  
Outcome- joint forecast team (NWS- public safety; Private- venues) + others (U/U role for planning and some infrastructure)  
Outcome- funding diffuse and somewhat disorganized (NWS- no direct funding at outset; Private- complicated funding through NBC affiliate; U/U pork barrel)
- Olympic Committee expected federal government to cover costs- paid for very little in the way of met support- wants sponsor for everything.
- Lots of other groups providing weather support (military, security, aviation, backcountry avalanche, roads)
- Lots of other groups expect Olympics to be source of R&D \$\$ (did motivate shoestring funded IPEX field program)
- Disconnect between info provided to media/competitors (defined specifically) and the public (At the last moment public web services switched; access to forecast info changed)

2) Public safety nowcasting & forecasting needs

- Spurred development of MesoWest- need observations throughout region for monitoring conditions and serving as input to numerical models
- Relied upon resources of opportunity- working with any group that collects weather data and will make it available at no charge
- Limited deployment of weather stations (half dozen) mainly in the vicinity of Great Salt Lake and at a couple of venues (some of the equipment left over from Atlanta Games)
- Forecasting for opening/closing ceremony became a big deal at the (relatively) last moment
- Transportation and security forecasting became big issues

3) Venue planning and forecasting needs

- Different venues are more weather sensitive and staff are more willing to work with met support
- Can be very conservative/nitpicky requirements for venue weather support
- In order of level of interest wrt weather data (all interested in wx forecasts):
  - cross country and biathlon- really into wx for waxing. We deployed 1 station years in advance and added 3 others couple years in advance
  - downhill- mountain was covered with stations: combo of ski area and leftover NWS equipment
  - ski jump- Oly Committee purchases equipment years in advance for monitoring
  - bob sled- have wind during race limitations

- rest don't care that much as long as a weather station is in the vicinity of all outdoor events (aerials; moguls; slalom, etc.)
- Committee requires basic climo information for planning and PR; in most cases, we cobbled data together
- important to get equipment at venues and other weather sensitive locations out early for MOS development

#### 4) Recommendations:

- Try to nail down the basics as soon as possible
  - What's the budget for wx support?
  - Who's in charge?
  - Who're all the players?
- Get equipment at the venues as soon as possible
  - need data for climatologies/MOS
  - plan on moving equipment around venues as construction takes place
  - plan on equipment/comms at venues getting messed up at very last minute and during the games (television, national security concerns)
- Coordinate collection of existing data
  - overcoming turf issues
  - don't worry as much about standards of reporting, formats, sensor height, etc.
- Identify holes in existing distribution of stations for forecasting needs
- Be creative in requesting resources.
  - We asked for a lot but didn't get much (portable dopplers, rawinsondes, profilers)
- Have fun attempting new things
  - deploying buoy on GSL (failure)
  - snow temperature at cross country venue (limited success)
- Don't expect to be able to stand by your weather station watching competition events