

# Drought Overview

## - Summer 2008



*Waikato Times – 11 Feb*

# Situation report

- Driest summer on record for many places
  - Driest January in Hamilton since 1907 (100 yrs)
- Prolonged period of record breaking low rainfall, low river flows and high (mean) air & water temperatures
- Caused by a large number of “blocking highs” which have been greater than normal – La Nina
- Soil moisture levels extremely low
  - Need 140mm of rain to restore field capacity levels
- Waikato/Hauraki basins – rain shadow areas

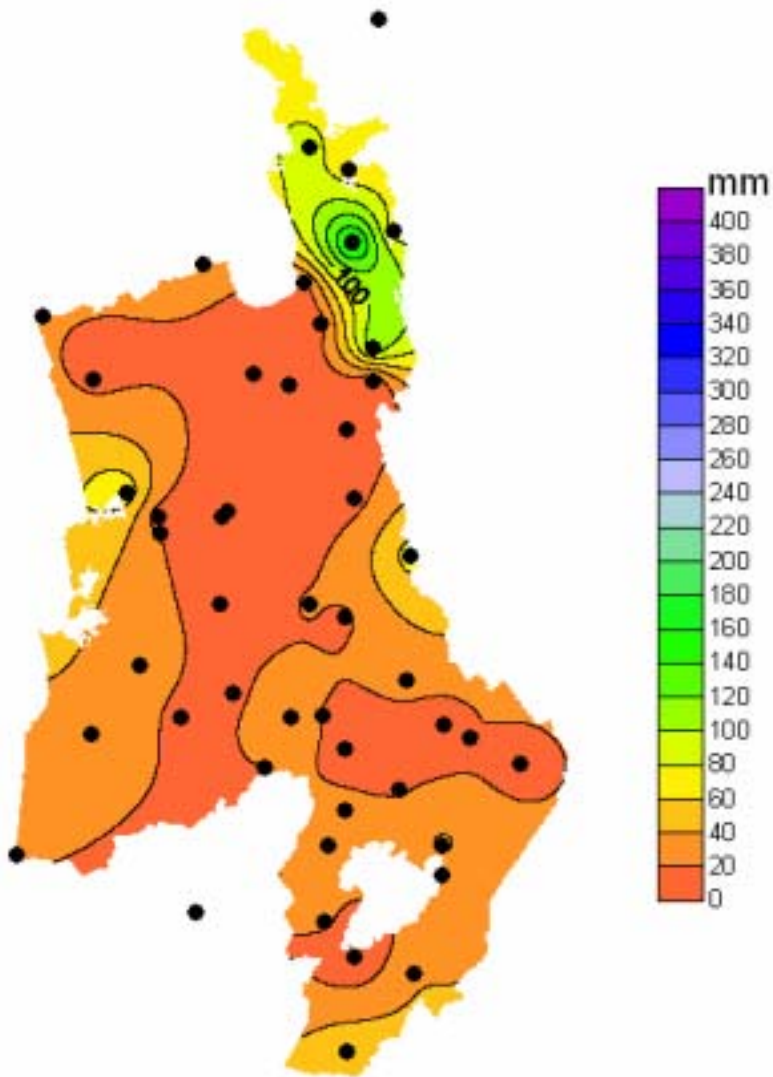
**Table 1 Rainfall sites at or near record low rainfall.  
Sites denoted with \* are NIWA sites.**

Location	January Rainfall (mm)	Percentage of average	Year records began	Comments
Paeroa*	8	10	1916	Very Low
Te Kuiti	14.5	14	1983	2nd lowest
Mangatangi	33	32	1986	3rd lowest
Maukoro landing	1	2	1987	Lowest
Ngaroma	40.5	25	1982	2nd lowest
Mangatoetoe	37.5	38	1987	Lowest
Te Aroha	6.5	9	1986	2nd lowest
Kiko Road	37.5	27	1976	2nd lowest
Otewa	14.5	14	1981	Lowest
Matamata*	3	3	1966	Lowest
Pukekohe*	13	14	1982	2nd lowest
Ruakura*	4	4	1906	Lowest
Hamilton Airport*	7	8	1990	Lowest

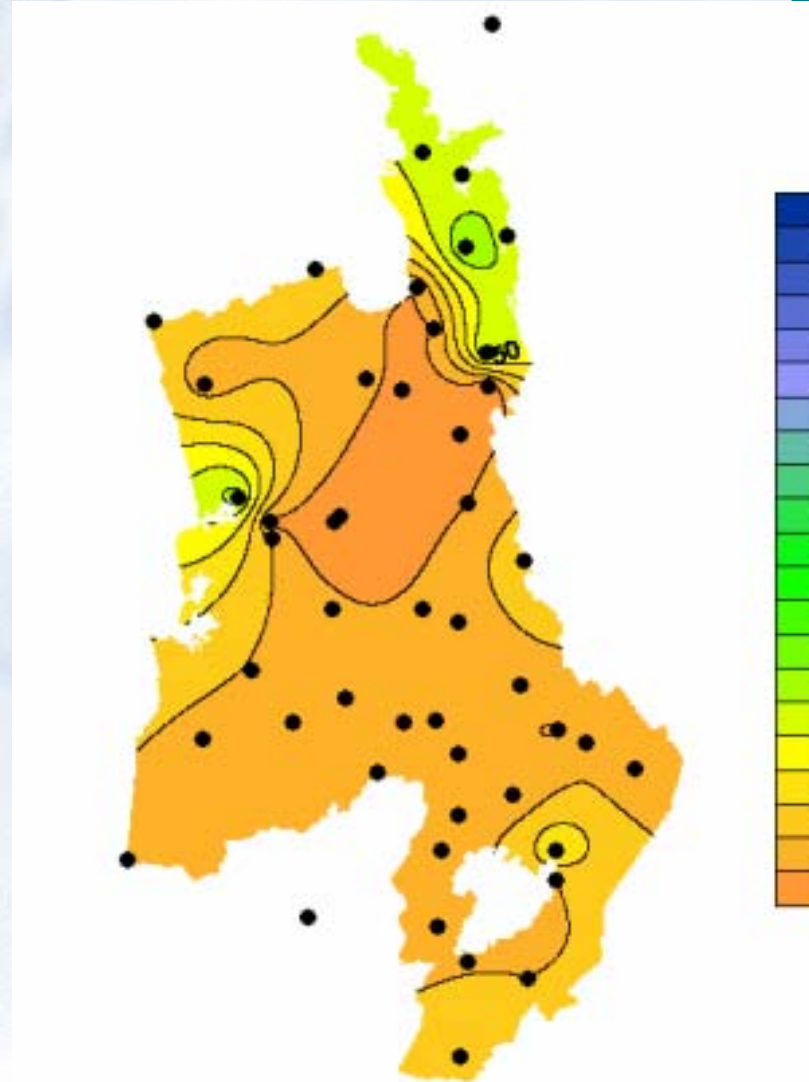
## Table 1: Record low river flows

River	Site	Year records began	Comments
Piako	Kiwitahi	1980	January record low
Mangaokewa	Te Kuiti	1983	January record low
Waipa	Otewa	1985	Record low
Waipa	SH31	1967	Record low
Mangawara	Jefferis	1974	January record low
Waingaro	Ruakiwi road	2001	Record low
Waikato	Rangiriri	1965	January record low
Mangatutu	Walker road	2004	January record low
Mangapu	SH3	2000	January record low
Waitoa	Waharoa	1984	January record low
Waihou	Te Aroha	1965	January record low

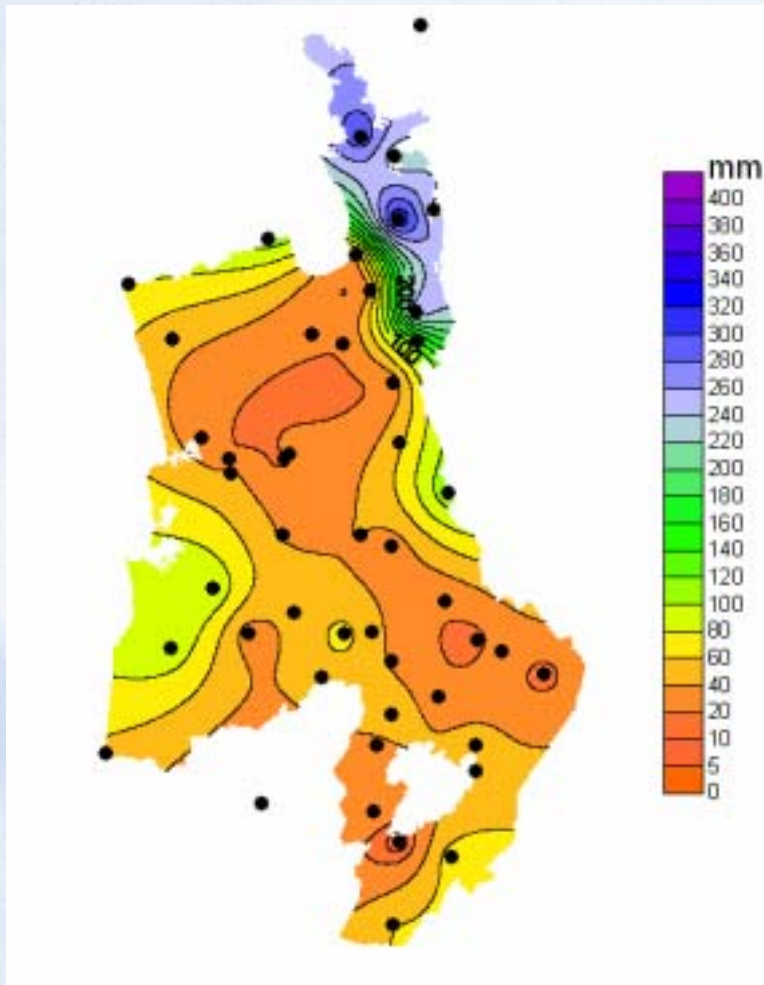
# Rainfall totals (mm) for January 08



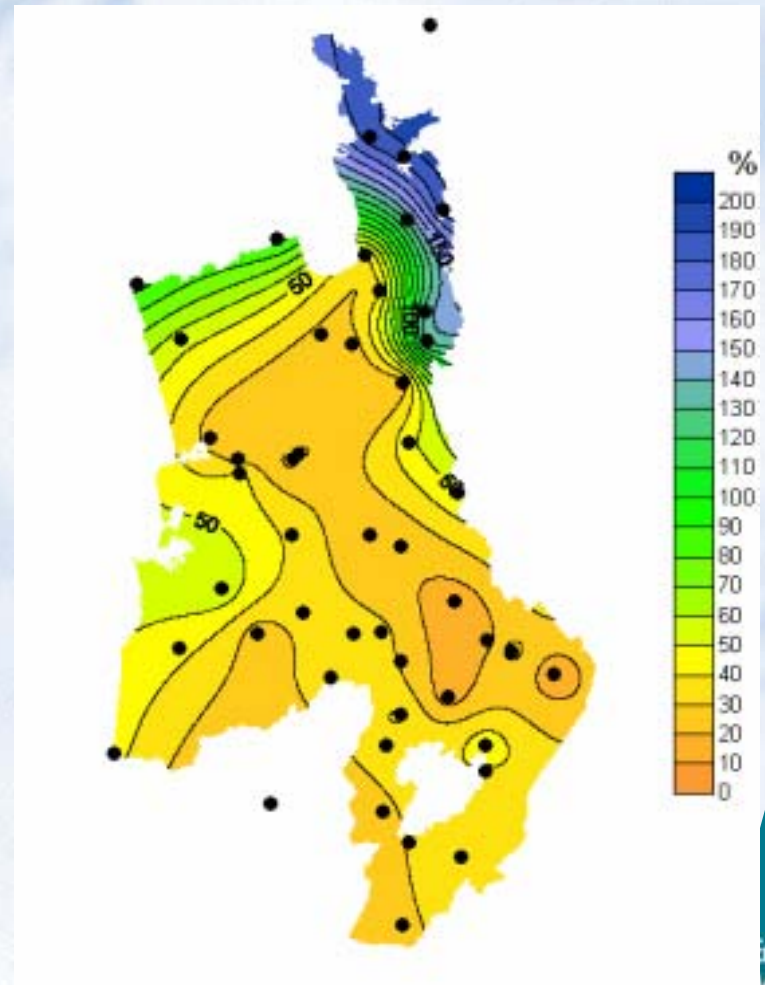
# Rainfall as a % of normal for January 08

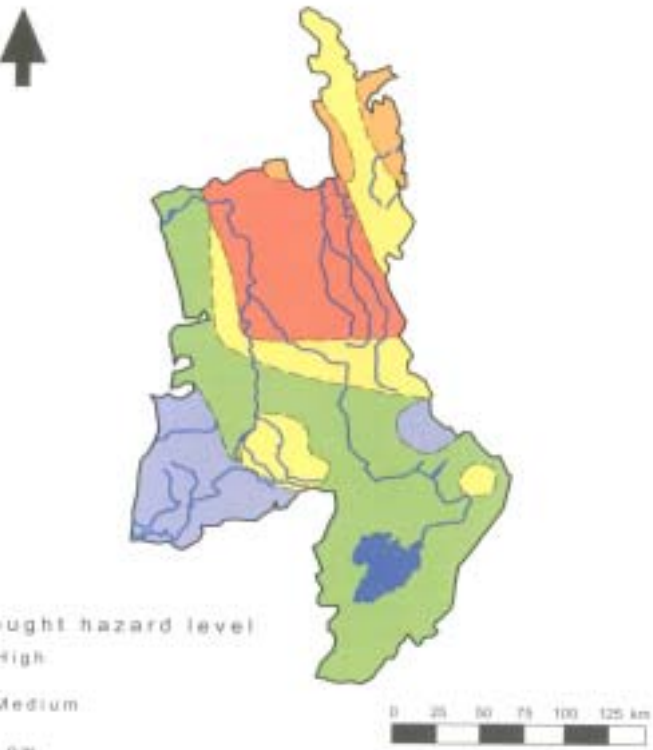


## Rainfall totals (mm) for February 08

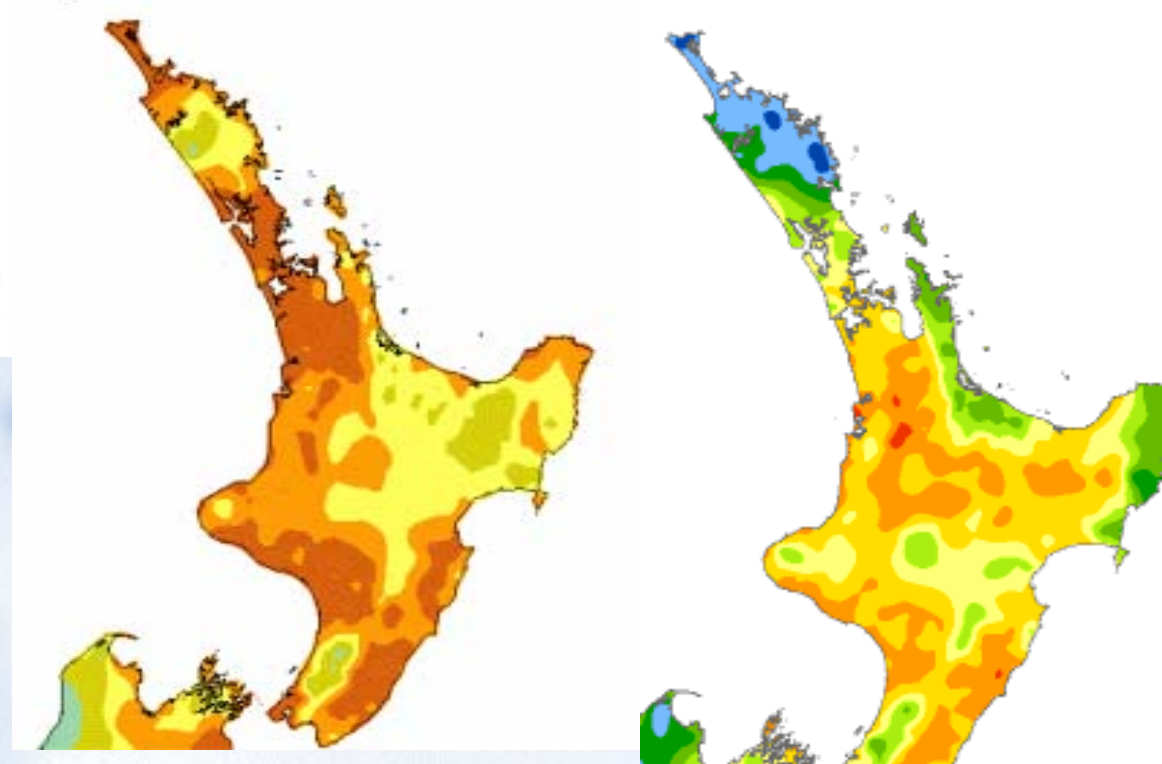
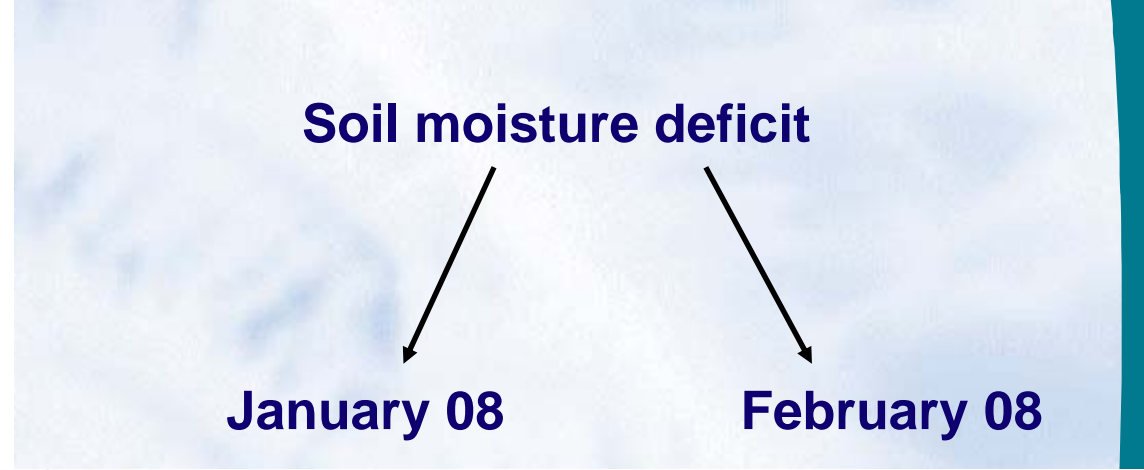


## Rainfall as a % of normal for February 08



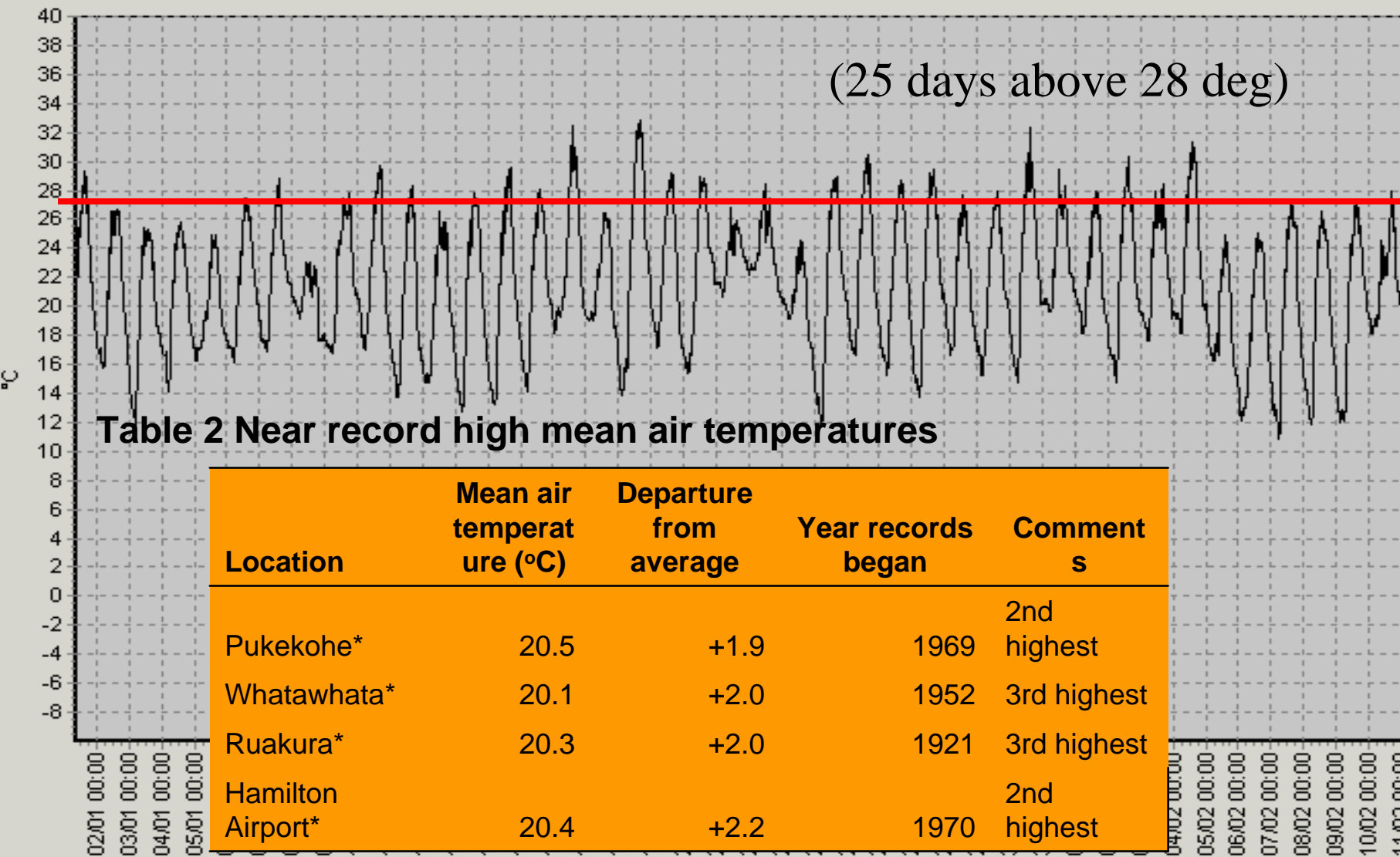


**Drought hazard map**



# Hamilton Air temperatures

1 Jan to 11 Feb 08



**Table 2 Near record high mean air temperatures**

Location	Mean air temperature (°C)	Departure from average	Year records began	Comments
Pukekohe*	20.5	+1.9	1969	2nd highest
Whatawhata*	20.1	+2.0	1952	3rd highest
Ruakura*	20.3	+2.0	1921	3rd highest
Hamilton Airport*	20.4	+2.2	1970	2nd highest

# Drought Actions - EW

- Drought status declared by EW on 5 Feb
- Acting as an advisor/coordinator for the regional drought response group
  - MAF, Dairy NZ, DC's, Rural Support Trust, & NIWA
- Wider role:
  - Regulatory
    - Water takes - irrigation
  - Environmental monitoring
    - Water quality
    - Hydrological – flows, rainfall
    - Meteorological – air temperatures, wind, etc



- National meeting in Wellington - today

# Other actions - EW

- Hazard and risk report - 1999
  - Droughts are defined by:
    - Meteorological – interval of time (months to years)
    - Hydrological – below average rainfall & river flows
    - Agricultural – inadequate soil moisture (wilting point)
    - Economical – social impacts (water supply etc)
- Water shortage risk mitigation plan - 2000
- Advisory to CDEM and Lifelines Groups
  - Rural fire potential

# Implications for RCS

- Fire risk and ground cracking of stopbanks
- Low water tables and lake levels (e.g. L. Waikare)
- Weed growth in drains – potential blockage
- Hydrophobic pumice (Taupo) and peat (Hauraki)
- Hard ground – run-off/erosion potential on steeper slopes
- Plus side....visual & maintenance inspections of assets easier (no dewatering required!)
- Weather outlook - below normal rainfall and above normal temperature to extend through to March.

# Implications for Lifelines

- Domestic/commercial water shortages
- Tar melting of roads
- Power shortages
- Water quality - high temperatures
- Ground shrinkage
- Other?

# Questions?

