WHY HAS EPPALOCK NOT FILLED?

1-9-2008

Is it likely to fill in our lifetime? Let us consider the facts.

by Kevin Long

It appears that we currently need 2 to 3 consecutive months of above average rain before significant run-off into Lake Eppalock will occur (i.e. months over 100mm rainfall - which we have not had since late 1999).

The most important thing to do in this period of climate change is to "accept" that climate change has already changed the rainfall patterns of this area, and also that - in response to reduced rainfall - the catchment has undergone extensive changes.
As a result we will most likely have little inflow into this lake for a long time - most likely no significant rise until the next La Nina year due in 2011. There is a high probability that even the next La Nina year will fail to deliver good inflows, just as the last four La Nina cycles have all failed to deliver the usual inflows.
(Before 1996 when the current run of four La Nina "failures" began, the La Nina cycle nearly always gave an above-average rain year approx every four or five years. It had never failed twice in a row.)

We are now two-thirds through 2008 (the "intermediate year" of the El Nino/La Nina cycle).
So far we only have 250mm of rain in the rain gauge (normally 350mm – 400mm by this time of the year).
So far only a minuscule flow into Eppalock!
Only two months of above-average rain so far. The signs are not good for more big rains soon.
I forecast about 385 mm of rain for this year, which is about 80mm less than last year.

Unbelievable to most people, but last year was the La Nina year, the "wetter year" of the dominant four-year cycle. You should be able to guess what <u>next year</u> is likely to be!
The only substantial inflow to Lake Eppalock last winter 2007 was during July when 15,000ML flowed in. That was only 7.3% of the old long-term average (206,000ML).
This winter 2008 only 2,000ML rise in lake level, even though more rain fell this winter than during the same period last year. (So far only 0.5% of the old average inflows of 206,000ML.)

We should expect next year 2009 to yield even less inflows, due to increasing effects of climate change, more catchment change and the drift towards the next El Nino cycle.
The first stages of El Nino - including a well-developed "Chinese Effect" - are already visible.

(See website below for explanation of "The Chinese Effect" - the pollution cloud near China pulling moisture away from Australia.)

The following figures also show how climate change has reduced Bendigo's average rainfall for each decade over the last forty years:

(Decadal average rainfall) | 1970's **627mm** | 1980's **576mm** | 1990's **534mm** | 2000's **427mm**

Note also the long-term reduction in "number of months per decade" when over 100mm of rain has fallen:

1862 to 1950	8	months over 100mm per decade	(i.e. the previous "Dry Period")
1950 to 1999	11.3	months over 100mm per decade	(i.e. the previous "Wet Period")
2000 to present	0	months over 100mm	**This is the most rapid drying period on record!**

This is why our reservoirs are near empty and are likely to remain so for a long time.

All the trend lines are still heading downwards. The real water shortage is just beginning!!!

The Coliban system's upper reservoirs have not fared much better than Lake Eppalock over the last 9 years, recording a 70% lower average inflow overall. This year the upper catchment has remained fairly dry as a result of only 40% average autumn rain and only three weeks of winter that recorded above-average rain. The end result so far is only 2,000ML inflow into the upper reservoirs. (This winter's inflow has not covered our winter consumption. The trends of climate change are now deeply engrained in our reducing water yields).

Major changes to our existing water system should have been undertaken. The past and present Bendigo councillors and water authorities have failed to serve the best interest of this community by ignoring the obvious upgrades needed:

e.g. 1. All open channels and small farm dams must be replaced by a piped "Stock and Domestic" system, <u>filling only tanks</u>. All dams not required for firefighting must be removed.
2. Bendigo's storm water must be used in Coliban's water system for non-potable uses.

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