

DOES THE MOON AFFECT RAINFALL?

Common comments heard from farmers about the moon and rainfalls are:

- 1) There is a likelihood of higher rainfall around the date of the new moon.
- 2) There is a likelihood of lower rainfall around the date of the full moon.
- 3) If there are good rains at the time of the new moon, the following month will be wet.
- 4) If there are poor rains at the time of the new moon, the following month will be dry.

To check whether the validity of these statements, I have compared nine years of moon phases with rainfall data collected at my property located in Nairne, Eastern Adelaide Hills, South Australia. The answers found in this local project may only apply to the Nairne area. The validity of such a local survey to other areas can be challenged. However the results are interesting and may be quite surprising to some.

Firstly, looking at statements 1 and 2;

At Nairne, from 1989 to 1997, there was an average 53% increase in rainfall recorded on the new moon date and the two days either side, compared to that of the full moon date and the two days either side.

This increase varied from 207% extra rainfall in 1995 to a 34% decrease in 1996. 1996 was the only year out of the nine that showed a decrease in rainfall in the new moon 5 day period (see Figures 1 and 2).

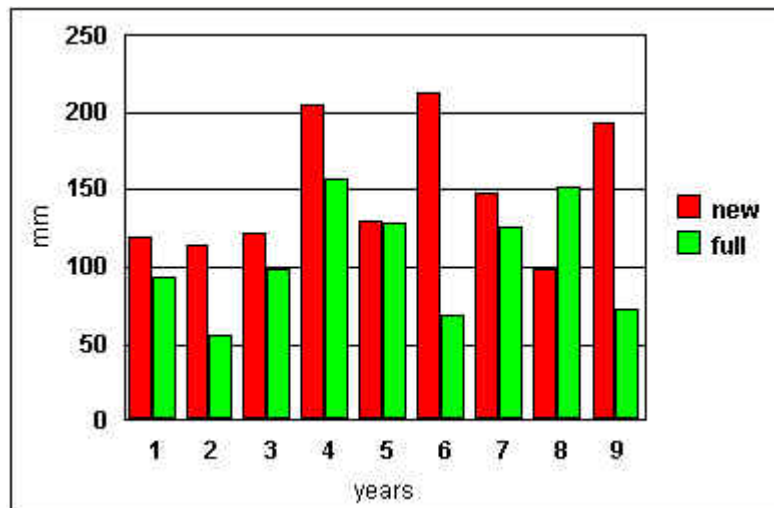


Fig 1. Average rainfall recorded during new moon 5 day period vs. full moon 5 day period for years 1989 to 1997 (1-9).

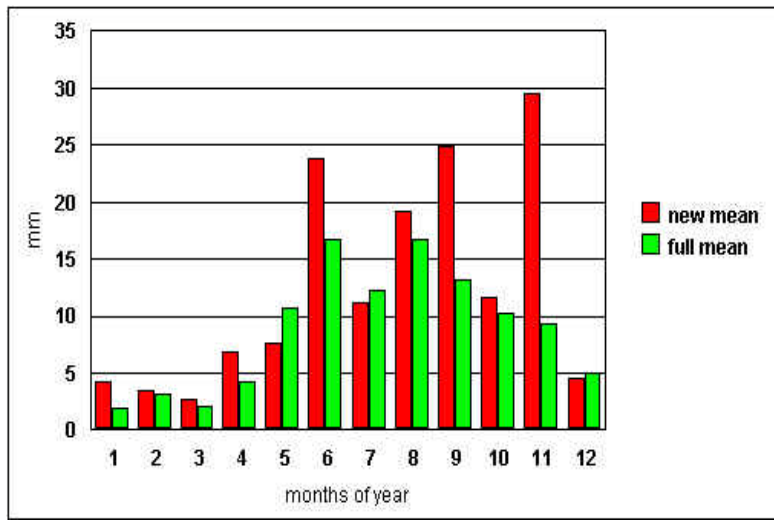


Fig 2. Percentage increase from rainfall in full moon 5 day period to new moon 5day period for years 1989 to 1997 (1-9).

If we look at individual months of the year, it can be seen that the 5 day new moon period has shown an increase in rainfall in all months except May, July and December (Figure 3, the unusually large rainfall increase in the month of November is due to a very heavy rainfall in 1997). To achieve comparable 25 day periods we must multiply the results from the 5 day moon periods by 5 (Figure 4). Comparing these figures shows that the 25 day new moon period rainfall is greater than for the 25 day full moon period following. May, July and December are again the exceptions and March also does not fit the trend. So we may perhaps conclude that less rainfall generally does occur in the month following a new moon.

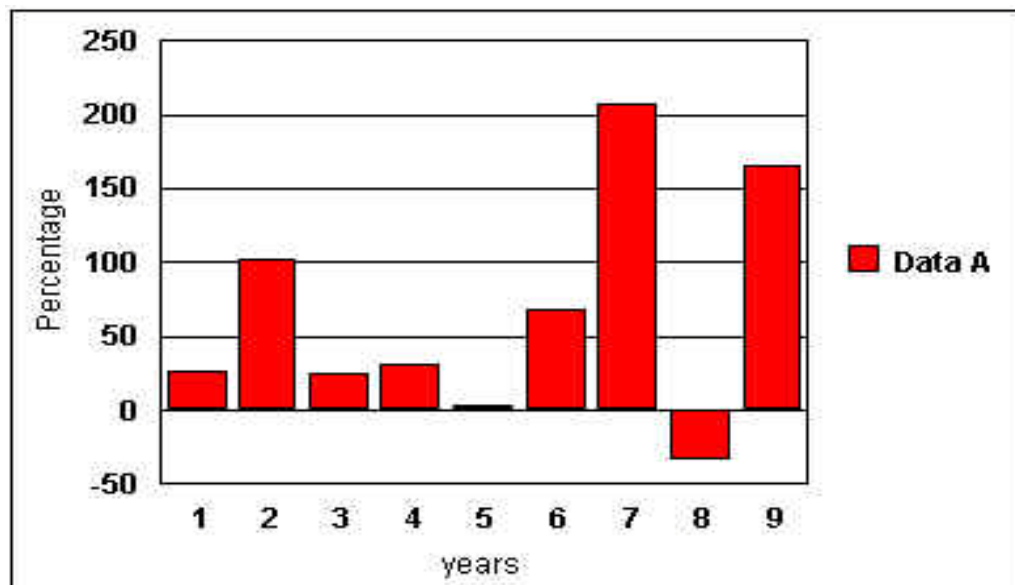


Fig 3. Average rainfall recorded during new moon 5 day period vs. full moon 5 day period for each month (1-12) from 1989 to 1997.

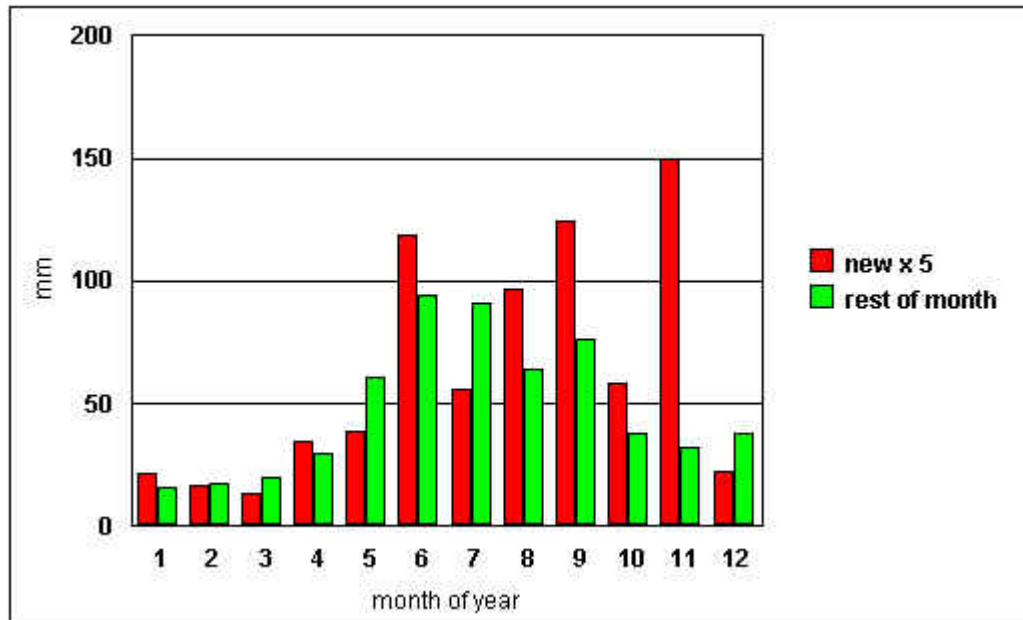


Fig 4. Average rainfall recorded during new moon 5 day period X 5 vs. 25 day remaining day period for each month (1-12) from 1989 to 1997.1

The moon greatly affects the earth's sea tides, so it is not surprising that it also affects atmospheric tides as well. Therefore, a similar influence on atmospheric monthly rainfall at any site is, in reality, not unexpected

Looking at questions 3 & 4;

If the farmers\quote hypothesis is correct, then there should be a strong correlation between rainfall on the 5 day new moon period, and the rainfall reported for the following 25/26 day period (until the next new moon period. If any particular month has a correlation of .62 between the 5 day new moon rainfall and the following 25/26 day period, it would be significant at the 95% level. This result would then indicate that some reasonable relationship exists between the two periods.

The correlations of the 5 day new moon period rainfall with the next 25/ 26day rainfall period were as follows, January -.31, February .18, March .08, April -.12, May .34, June -.14, July .59, August -.30, September .58, October -.35, November -.04, December .43. The results show only two months approach the .62 level, viz July .59 and September .58. Therefore, in general, the theory that the new moon rainfall period is indicative of rainfall expected until the next new moon period, does not hold up (at least for Nairne, SA, in the period 1989 to 1997). Although, there are some individual months, that follow the rules very closely, there were also some individual months that certainly do not!

In Summary:

There was a result that (arguably) shows that the rainfall at Nairne, SA, is significantly higher around the 5 day period of the new moon, than for the 5 day period of the full moon.

There was a result that (arguably) shows that the rainfall at Nairne, SA, is at a significantly higher rainfall rate around the 5 day period of the new moon, than for the 25/26 day period until the next new moon period.

There was little evidence (arguably) to show that the rainfall recorded at Nairne, SA, during the new moon 5 day period is linked to that expected in the following 25/26 day period.

I am sure that results found from this limited project will not settle the debate. But, the results will certainly add fuel to parts of the moon/rain theories!

Post-script: Later information I have noted does suggest that the tidal pull of the moon may have effects on weather patterns and be of some use in short-term weather forecasting. However, another article is not planned at this stage.

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