

WAIKATO: A WET AUTUMN 2017

Record rainfalls and flows through March and April due to back to back weather events.

All sites – except Kaimai Summit for April – recorded greater than 100% of average rainfall for both March and April 2017.

MARCH

Heavy rainfall bands occurred in the region. The two most significant occurred overnight on 7/8 March and 10/11 March and were colloquially termed the 'Tasman Tempest'.

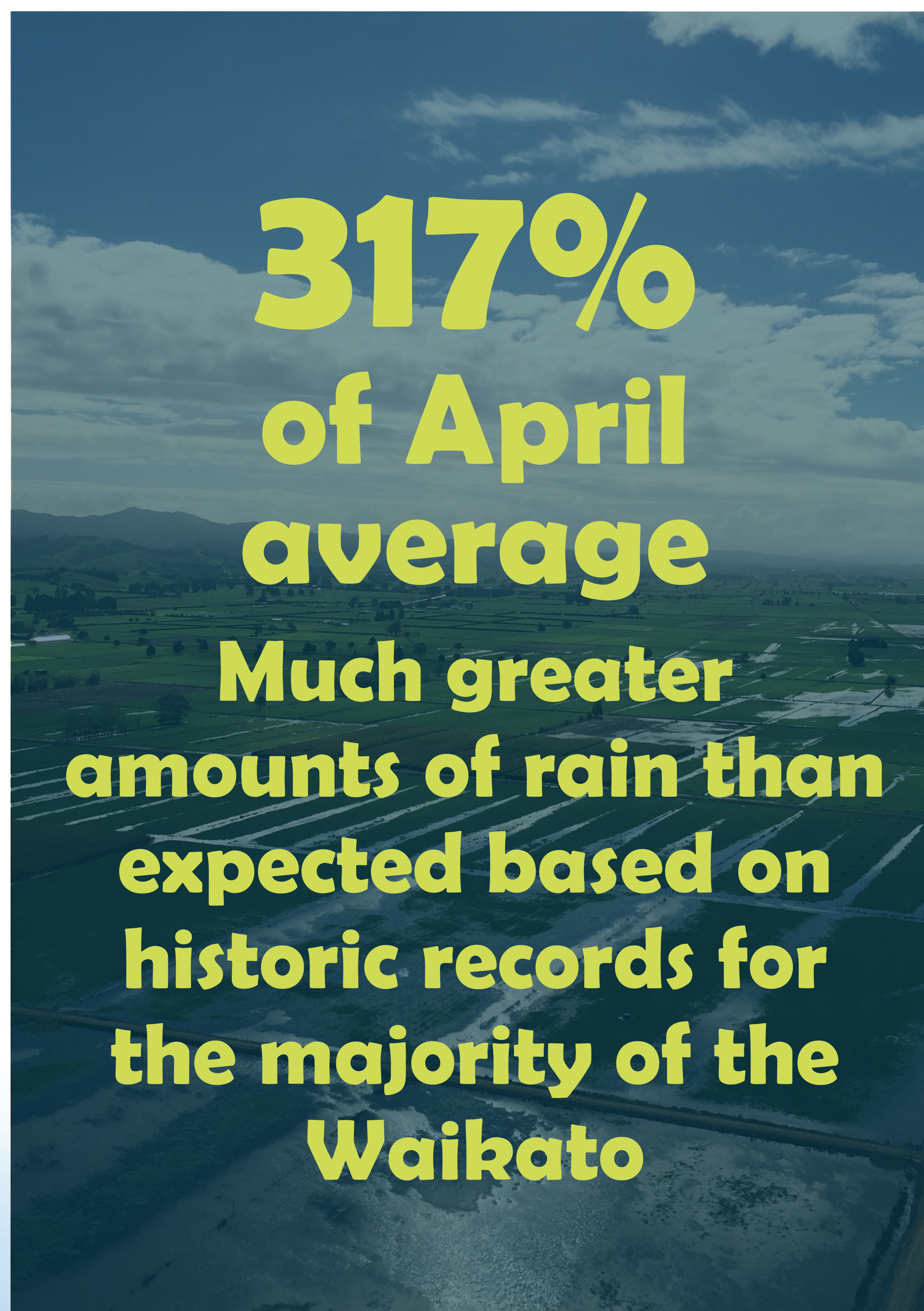
APRIL

Ex-Tropical Cyclone Debbie made landfall in New Zealand on 4 April. The non-frontal, low pressure system caused heavy rainfall across the Waikato region, but was relatively short-lived with heavy rainfall easing by the early hours of 6 April.

Ex-Tropical Cyclone Cook and another Tasman Low combined to produce 3½ days of heavy rainfall from 11-14 April.



450%
of March
average
Unusually wet for
many areas of the
Waikato



317%
of April
average
Much greater
amounts of rain than
expected based on
historic records for
the majority of the
Waikato

UNDER THE PUMP

- 52 pump stations in the Waihou Plako flood schemes
- Pumps transfer water from drainage networks into rivers.
- During April, some pumps ran for 600+ hours – well above normal for the time of year!

HOW MUCH RAIN FELL IN WAIHOU PIAKO?

PEAK RIVER FLOW	MAX. AEP (%)	2-1	PEAK RIVER FLOW	MAX. AEP (%)	1	
	MAX ARI (YEARS)	50-100		MAX ARI (YEARS)	100	
	PLACE	Orere		PLACE	Okauia (Waihou) Mellon Rd (Waitoa)	
	FLOW CUMECS	189.9		FLOW CUMECS	329.6 139.3	
24 HOUR RAINFALL	MAX. AEP (%)	5-3	24 HOUR RAINFALL	MAX. AEP (%)	5-3	
	MAX ARI (YEARS)	20-30		MAX ARI (YEARS)	20-30	
	PLACE	Maungakawa		PLACE	Maukoro Landing	
	RAIN (MM)	123.0		RAIN (MM)	141.9	
	LITRES ON A 100M ² ROOF	12,300		LITRES ON A 100M ² ROOF	14,190	

WHAT'S AN ARI?

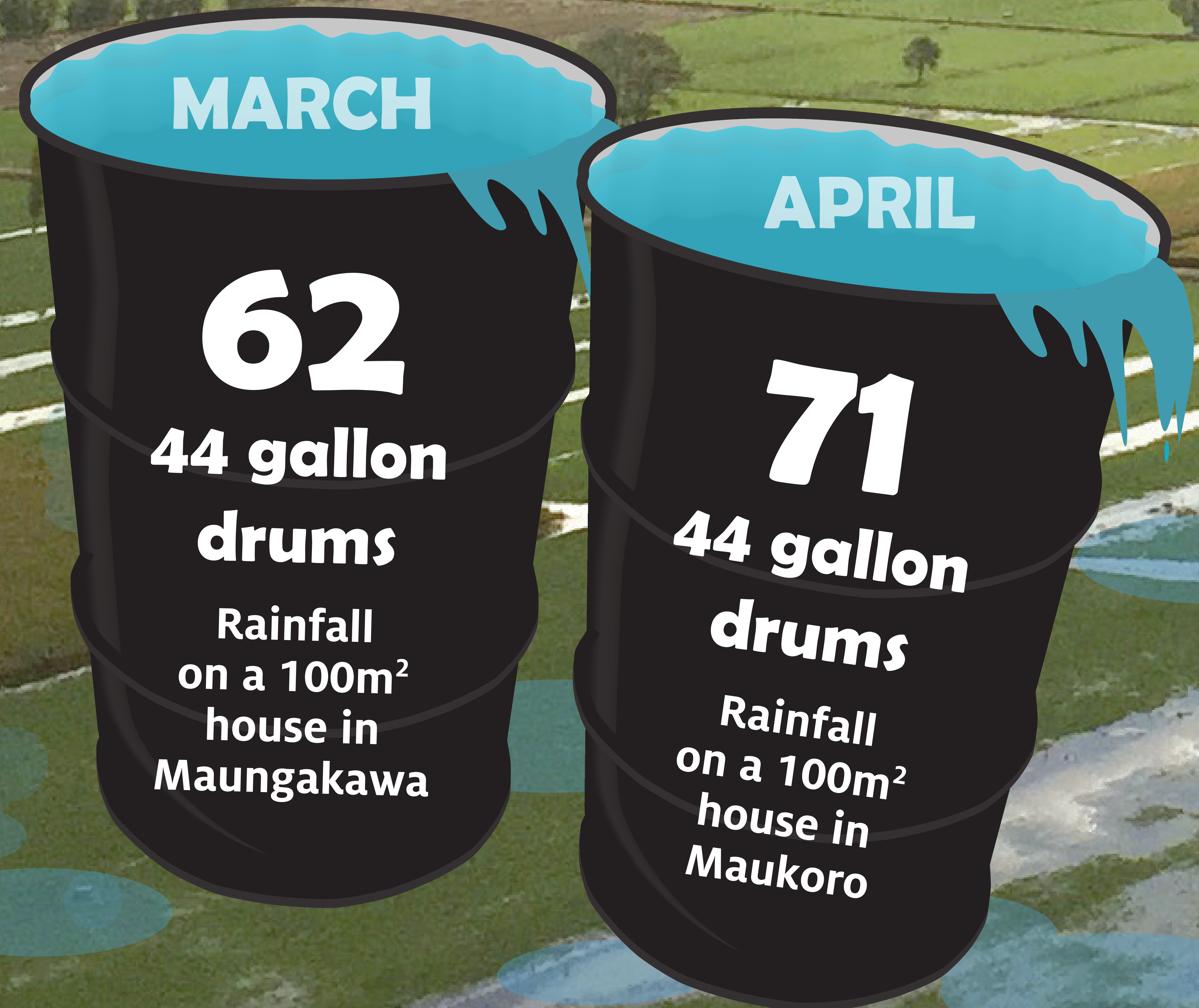
An annual recurrence interval is sometimes also known as 'return period'. It is the average number of years that it is predicted will pass before an event of a given magnitude occurs. For example, a 50 year ARI event would on average happen every 50 years.

WHAT'S AN AEP?

An annual exceedance probability (AEP) is the probability of an event occurring in any given year. i.e. A 1% AEP means there is a 1% chance in any given year of the event occurring. This means that on average 1 event of this size will occur every 100 years. Therefore, 1% AEP is equal to a 100 year ARI, a 2% AEP is a 50 year ARI, and a 10% AEP is a 10 year ARI.

Both ARI and AEP values are based on statistical calculations and represent the average timing of events. These may not be exact and although relatively unlikely, a number of 1% AEP or 100 year ARI events could occur within the same year.

RECORD RAINFALL



WHAT NIWA IS PREDICTING

Normal or below normal winter rainfall levels predicted for winter 2017.

Even with relatively moderate rainfall events, the current elevated river levels and saturated catchments means affected areas are at risk from further high flows and flooding issues.