

Groundwater Level Fluctuations at Tasman District

Tasman District is a district to the North of the South Island. It is located to West of Nelson and to the Northwest of Kaikoura which was hit by a M_w 7.8 earthquake on Monday November 14, 2016 at 12.02 am (NZT). Tasman District Council monitors the groundwater levels in all major aquifers in the district. Of the 48 automated groundwater level monitoring sites, data from 14 of these sites are “available in real time via the telemetry network”. Following the M_w 7.8 Kaikoura earthquake, groundwater levels for the past 7 days are retrieved at these sites:

Site ID	Name	Location	Coordinates WGS 1984 (Lat, Long)
1	Appleby Gravel Unconfined Aquifer	CW2	173.113583, -41.316729
2	Appleby Gravel Unconfined Aquifer	Halls	173.094113, -41.368531
3	Arthur Marble Aquifer	Sowmans	172.82471, -40.965702
4	Arthur Marble Aquifer	Te Waikoropupu Springs	172.768241, -40.848101
5 ¹	Deep Moutere Aquifer	Palmers	172.978873, -41.16485
6	Deep Moutere Aquifer	Weka Road	173.025924, -41.186282
7	Motueka Gravel Aquifer	Fernwood	173.009172, -41.134389
8	Motueka Gravel Aquifer	Horrell	172.993677, -41.132705
9	Motueka	Tui Close	173.014851, -41.120747
10	Takaka Unconfined Aquifer	TDC Office	172.806894, -40.858077
11	Waimea Aquifer	Chipmill	173.169982, -41.321696
12	Waimea Aquifer	Ferguson	173.0799, -41.378112
13	Waimea Aquifer	McCliskies	173.124309, -41.303644
14	Waimea Aquifer	Railway reserve	173.117967, -41.37285

Time series data for groundwater levels are plotted for each groundwater site. These are shown below for the past 7 days except for Site 5 where no records/measurements were available for the 7-day period. As shown below, some of these groundwater levels were affected by the M_w 7.8 Kaikoura earthquake on November 14, 2016.

Information and graphs retrieved from Tasman District Council at

<http://www.tasman.govt.nz/environment/water/groundwater/groundwater-levels/> on November 16, 2016 at 4p.m.

¹ No records/measurements for the last 7 days (graph is for last 30 days)

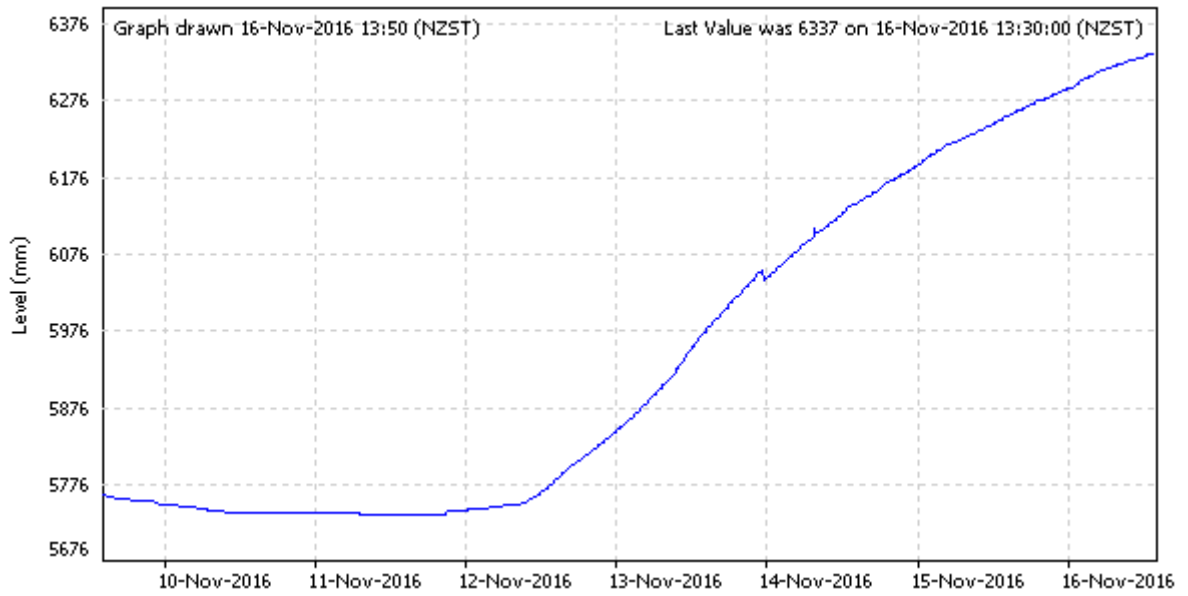


Figure 1: Groundwater level for Site 1

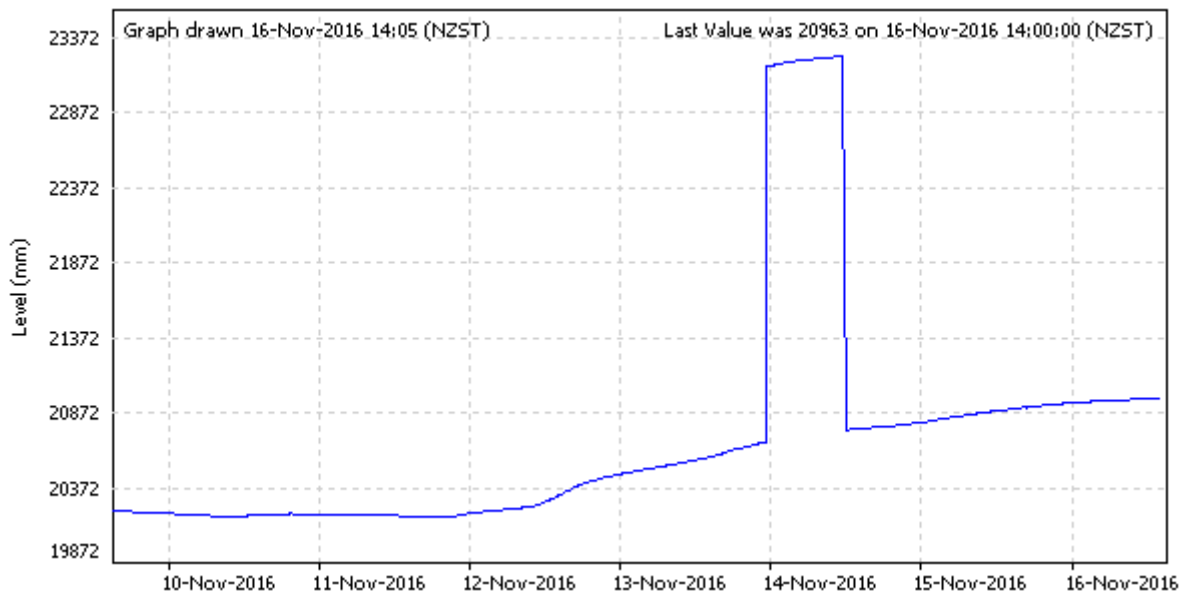


Figure 2: Groundwater level for Site 2

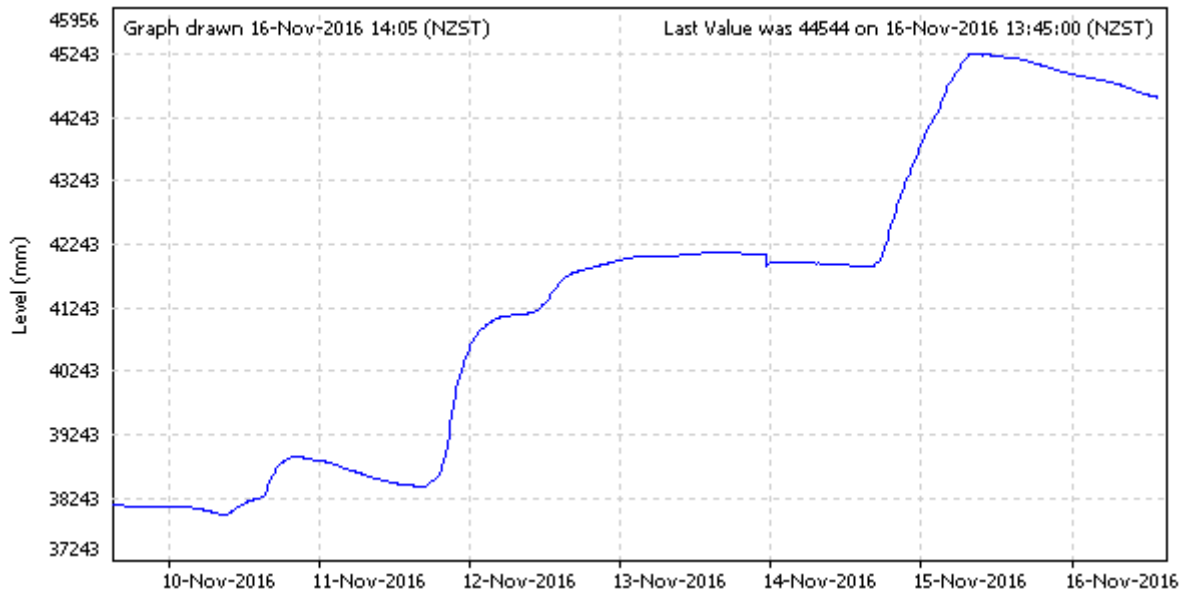


Figure 3: Groundwater level for Site 3

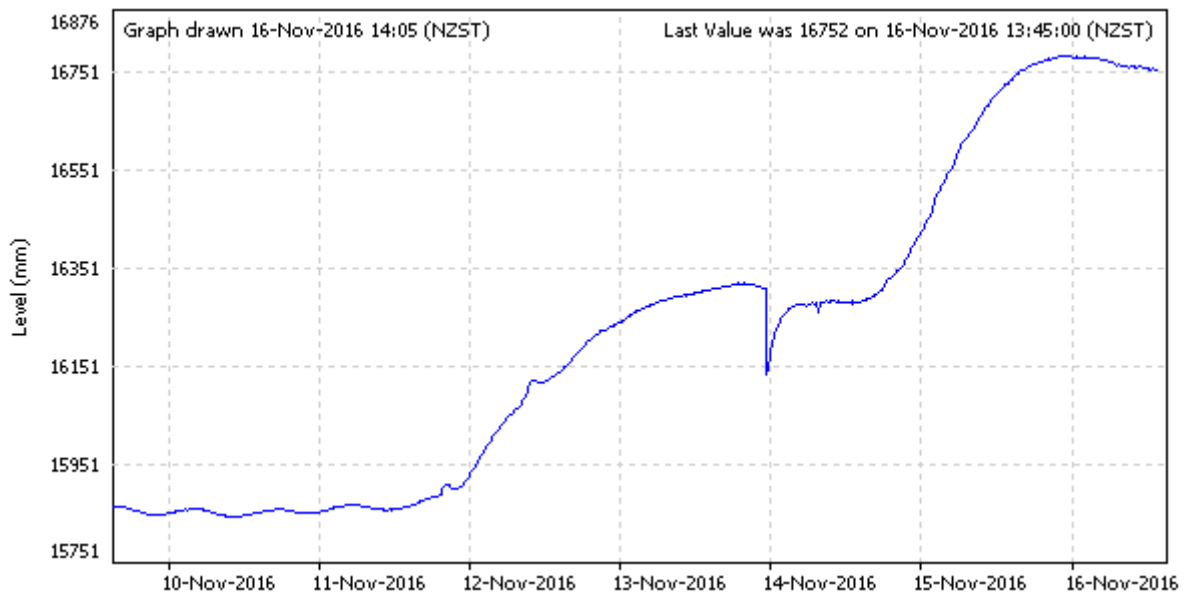


Figure 4: Groundwater level for Site 4



Figure 5: Groundwater level for Site 5 (graph for last 30 days)

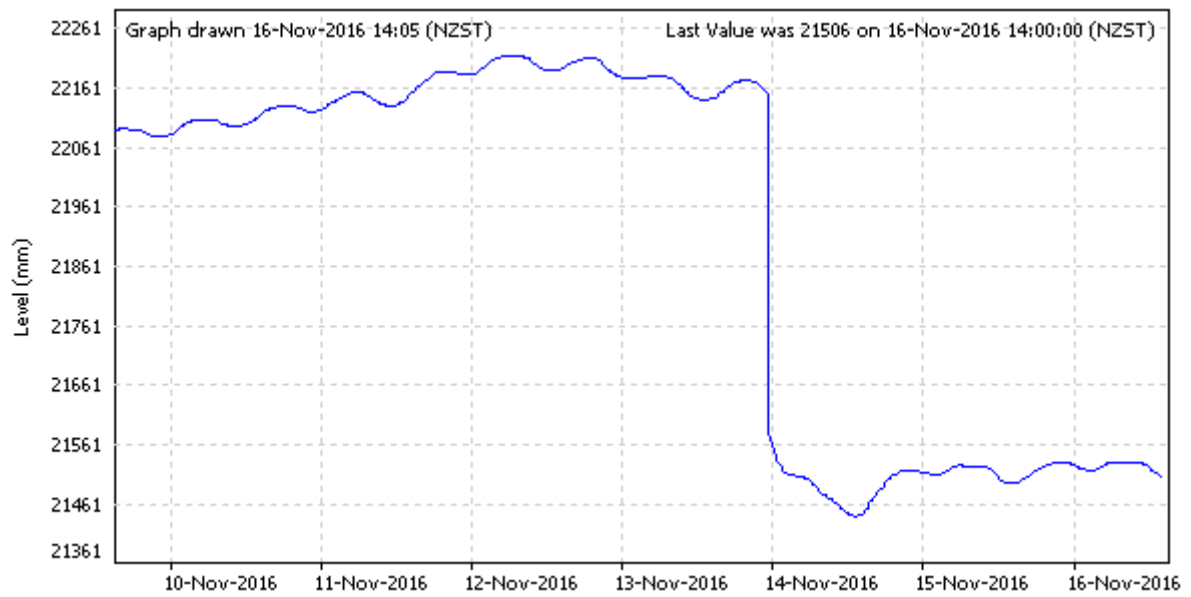


Figure 6: Groundwater level for Site 6

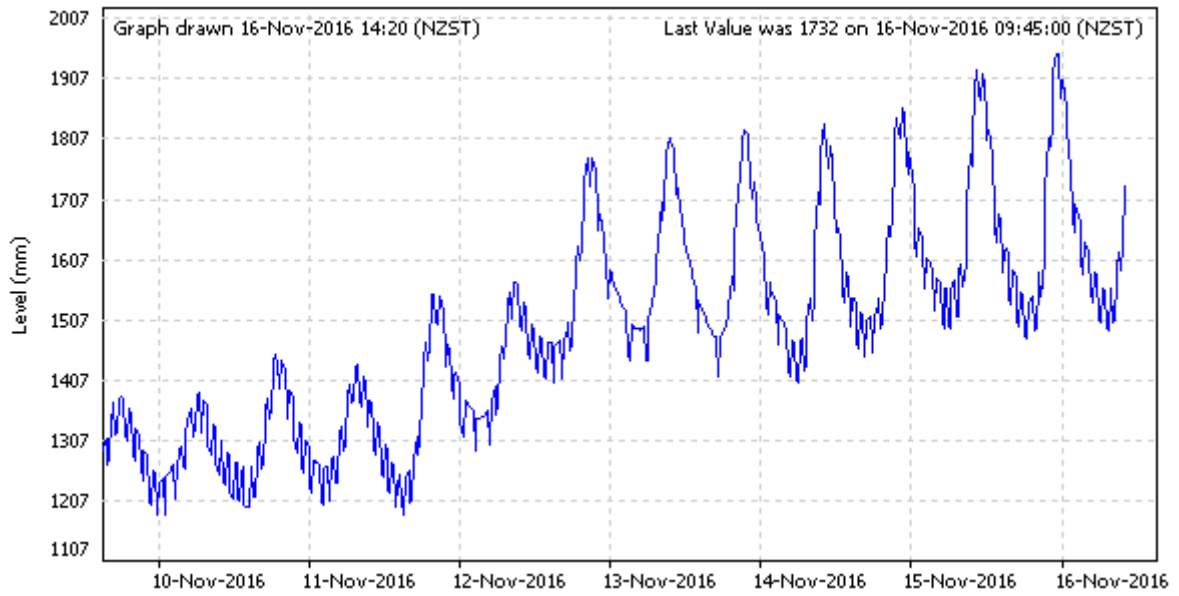


Figure 7: Groundwater level for Site 7

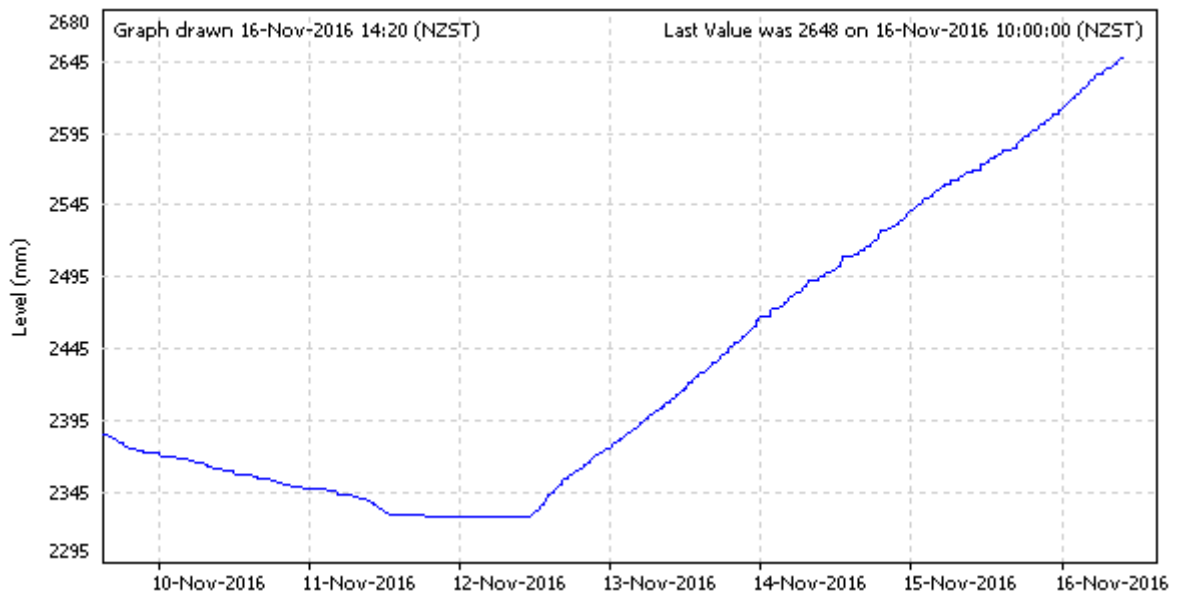


Figure 8: Groundwater level for Site 8

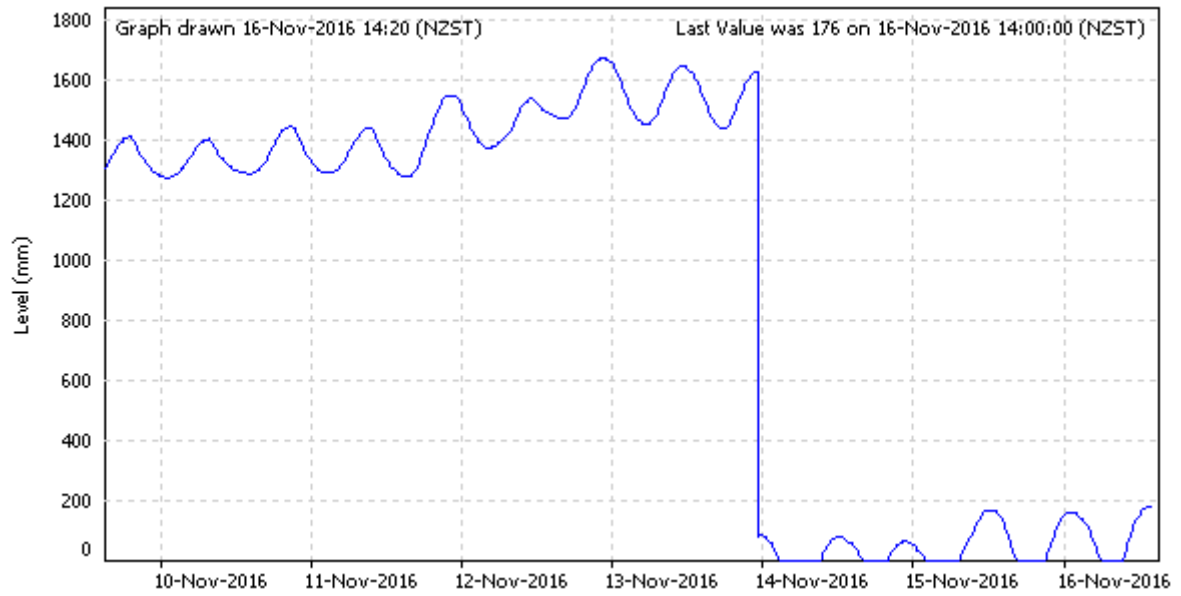


Figure 9: Groundwater level for Site 9

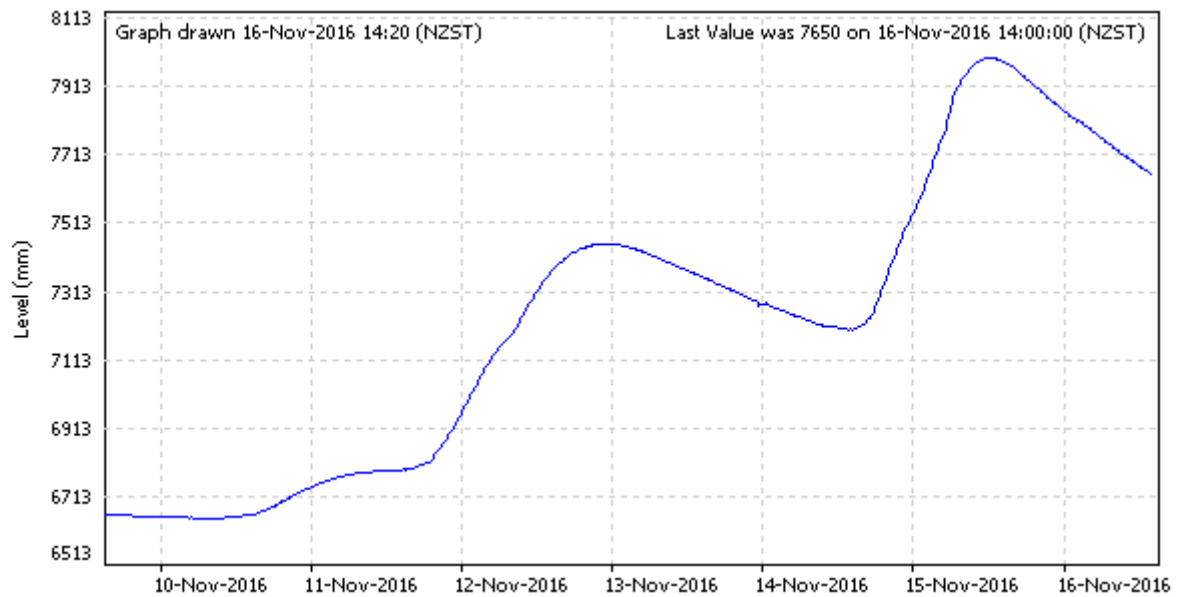


Figure 10: Groundwater level for Site 10

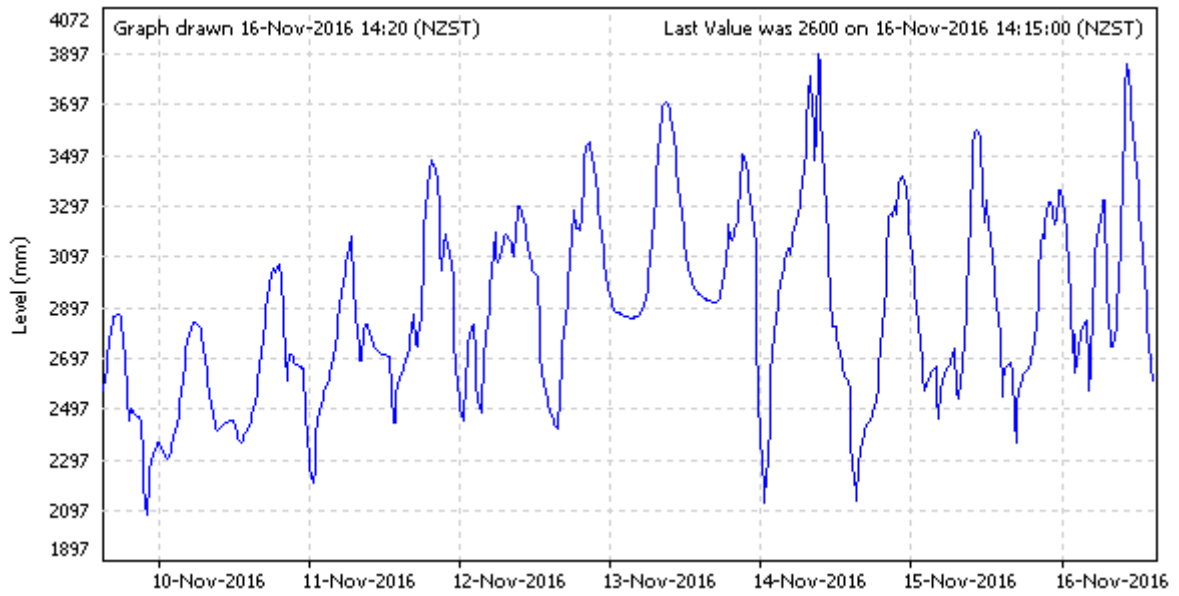


Figure 11: Groundwater level for Site 11

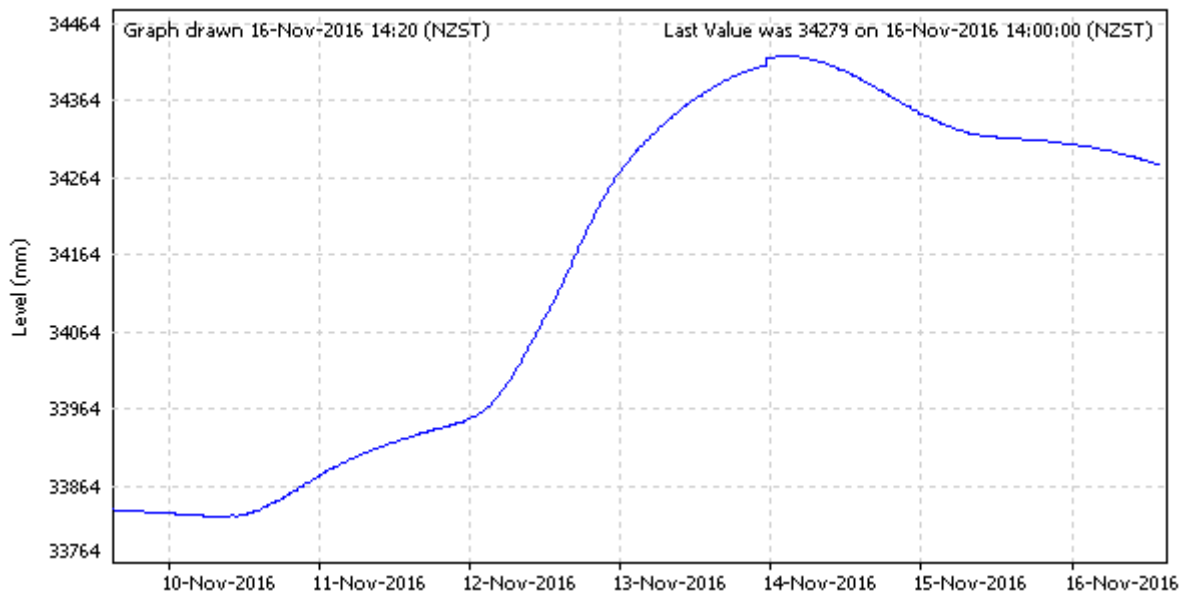


Figure 12: Groundwater level for Site 12

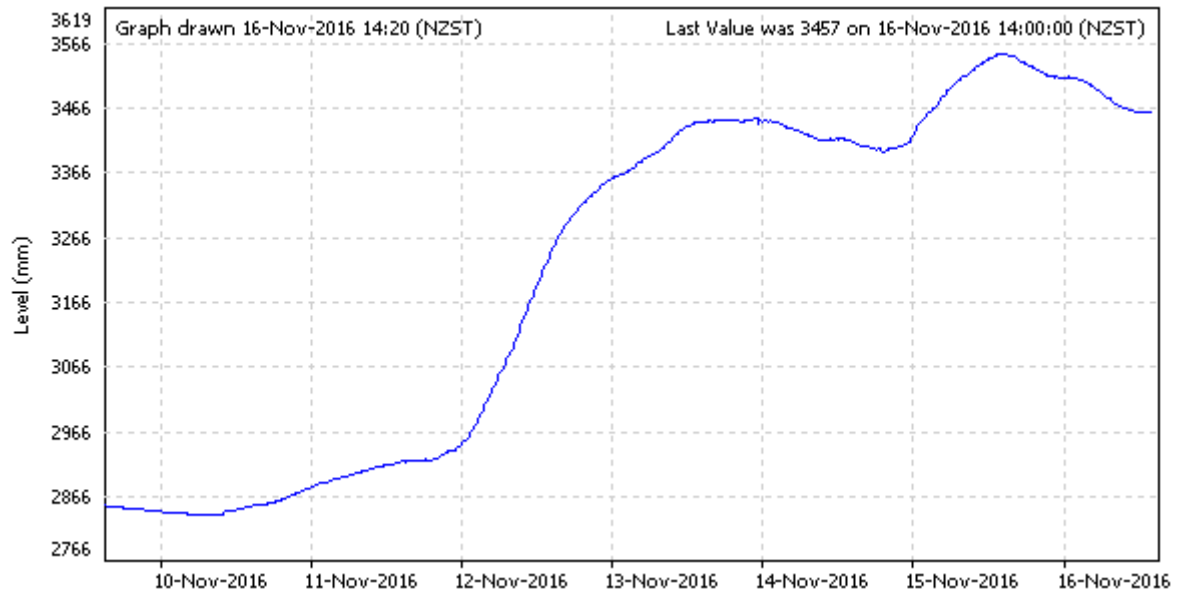


Figure 13: Groundwater level for Site 13

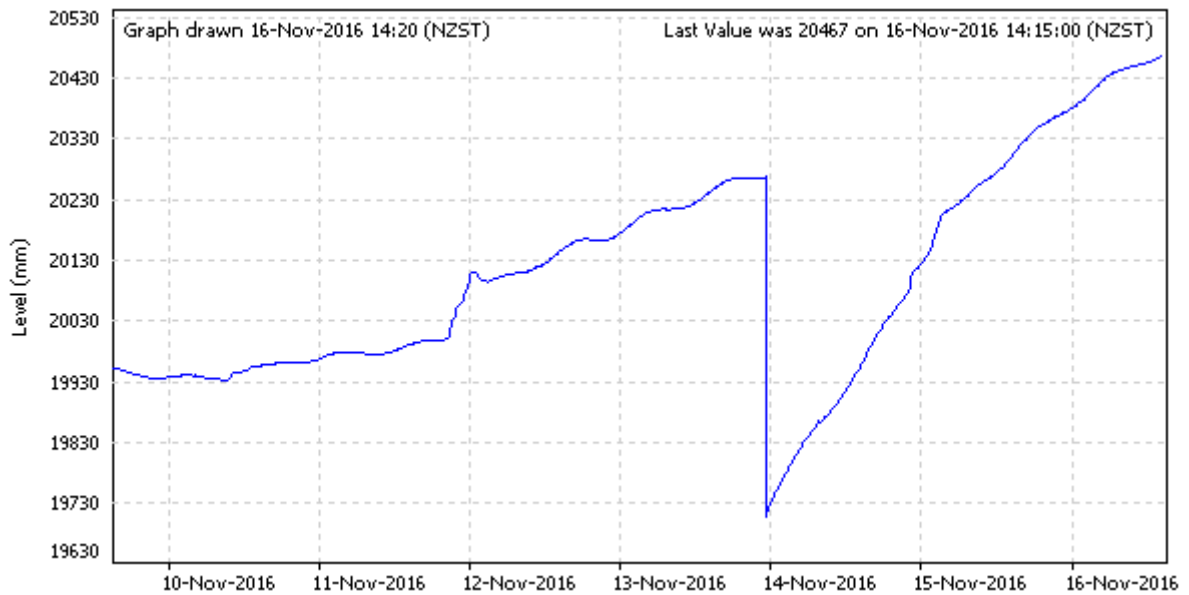


Figure 14: Groundwater level for Site 14