

Runoff and focused groundwater-recharge response to flooding rains in the arid zone of Australia

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Table S1: Installation of boreholes. Dip 1 was for 7th August 2013; Dip2 was for 13th Oct 2019.

Line	Borehole	Diam. (mm)	Easting (570000)	Northing (6500000)	Depth (m)	Slots	Elevation (m AHD)	Dip1	Dip2
1	FG75	50	-113.362	+61826.401	9.0	2 - 5	166.19	Dry	Dry
	FG77	50	+0018.013	+61826.401	5.5	2 - 5	165.52	Dry	Dry
2	FG78-1	50	+0299.900	+61833.184	21	15 - 18	165.90	17.00	17.80
	FG78-2	80	+0296.995	+61832.395	72	42 - 48	165.72	42.97	42.36
	FG79	50	+0279.803	+61761.968	27	18 - 21	165.15	16.68	17.92
	FG80	50	+0283.255	+61712.344	25	10 - 13	168.34	Dry	Dry
3	FG81-1	50	+2626.835	+62953.848	22	13 - 19	159.44	14.22	Dry
	FG81-2	80	+2629.204	+62955.512	77	68 - 74	159.65	74.01	74.02
	FG82-1	50	+2709.063	+62853.702	20	12 - 18	160.16	14.98	17.68
	FG82-2	80	+2711.605	+62855.528	87	73 - 79	160.24	74.56	-
	FG86	80	+2847.457	+62482.124	90	81 - 87	161.86	76.31	76.31

Table S2: Ranked 48-hour consecutive rainfalls. Day is the first day in the 2-day period

Rank	Date	Amount	Rank	Date	Amount
1	10 Jan 2015	164.4	16	9 Mar 2011	69.6
2	19 Feb 1971	116.1	17	14 May 1974	67.6
3	14 Jan 1974	106.7	18	27 Jul 1996	65.2
4	13 Jan 2011	100.6	19	17 Jan 1996	65.2
5	9 Feb 1976	99.6	20	9 May 1974	65.0
6	18 Dec 1982	98.2	21	14 Jan 1984	64.2
7	20 Feb 1987	97.4	22	1 Mar 2012	64.0
8	11 Jan 2011	92.8	23	9 Apr 1974	60.5
9	8 May 1989	91.0	24	28 Nov 2010	60.0
10	26 Feb 2012	91.0	25	26 Jan 1984	58.8
11	20 Feb 2000	88.2	26	21 Feb 2003	54.8
12	16 Jan 1993	84.8	27	13 Dec 1975	54.6
13	1 Jan 1993	84.8	28	6 Sep 1978	53.4
14	11 Jan 1976	71.7	29	4 Mar 2010	53.4
15	21 May 1981	70.4	30	6 Feb 2011	50.8

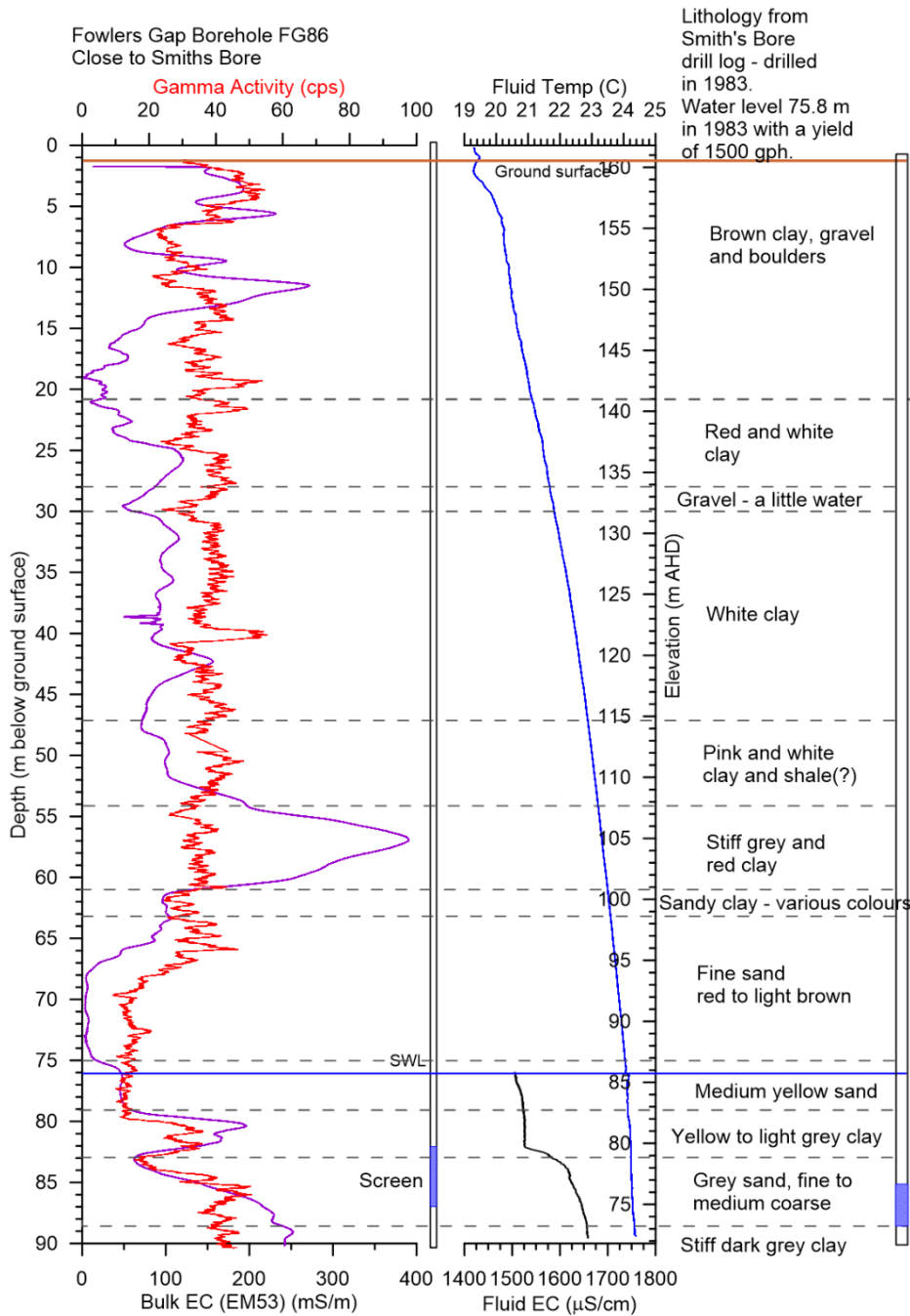


Figure S1: Geophysical logs for FG86 close to Smith's Bore (Figure 4) with the detailed lithology from Smith's Bore recorded at the time of drilling.

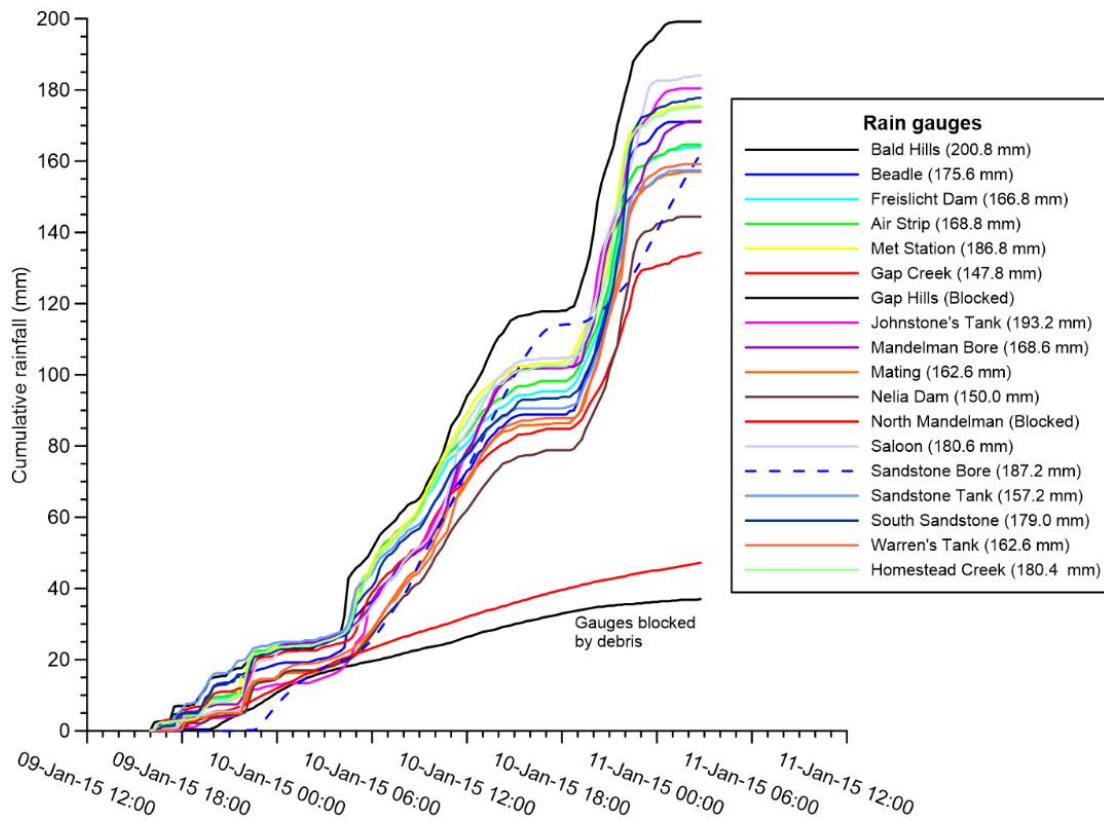


Figure S2: Cumulative rainfall (hyetographs) for all gauges for the January 2015 storm event. The *total for each rain gauge* for the storm is shown in the legend. Note that two gauges became blocked by litter and overflowed.

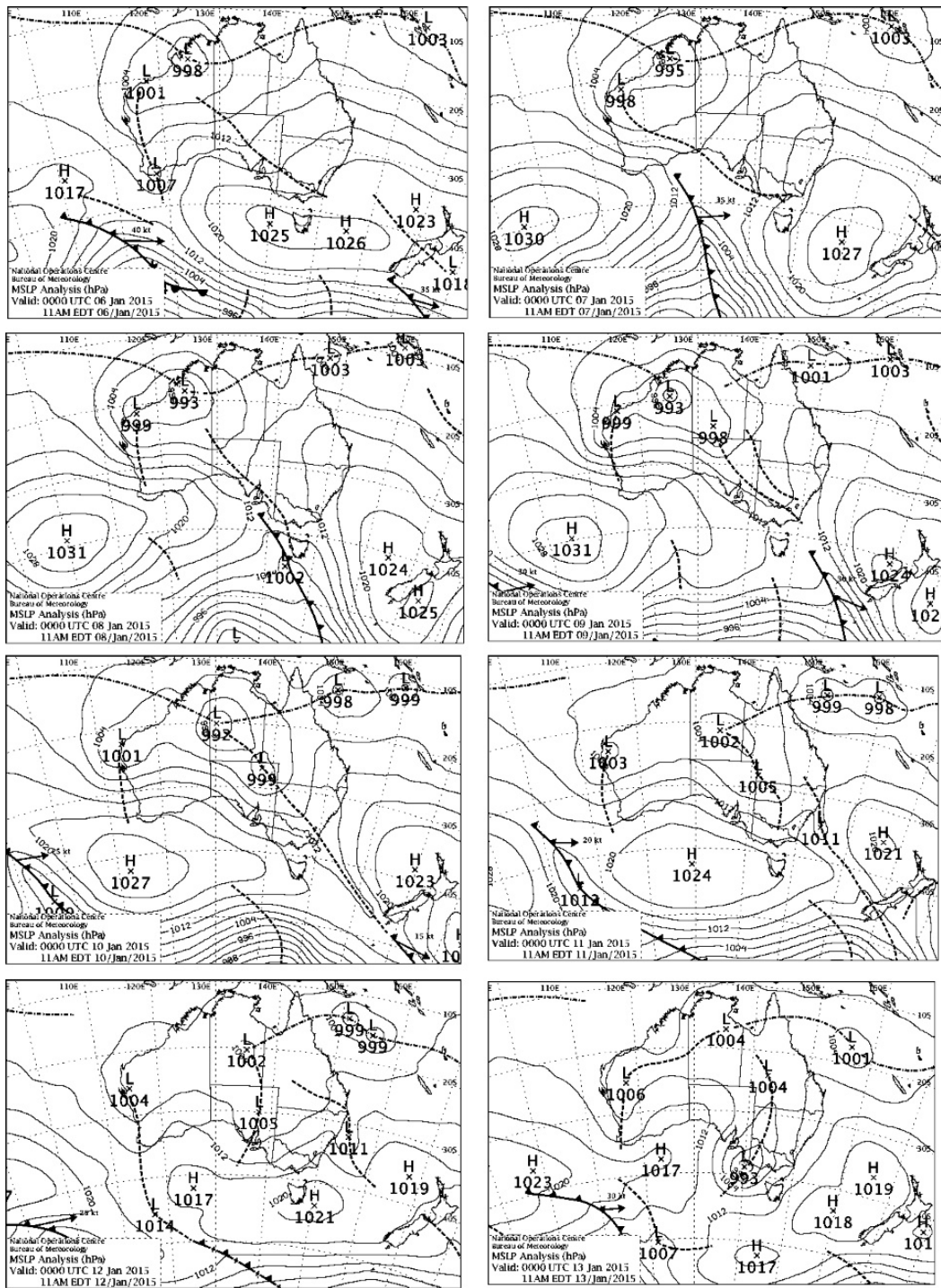


Figure S3: Mean sea level pressure (MSLP) maps for Australia between 6th January and 13th January, 2015.

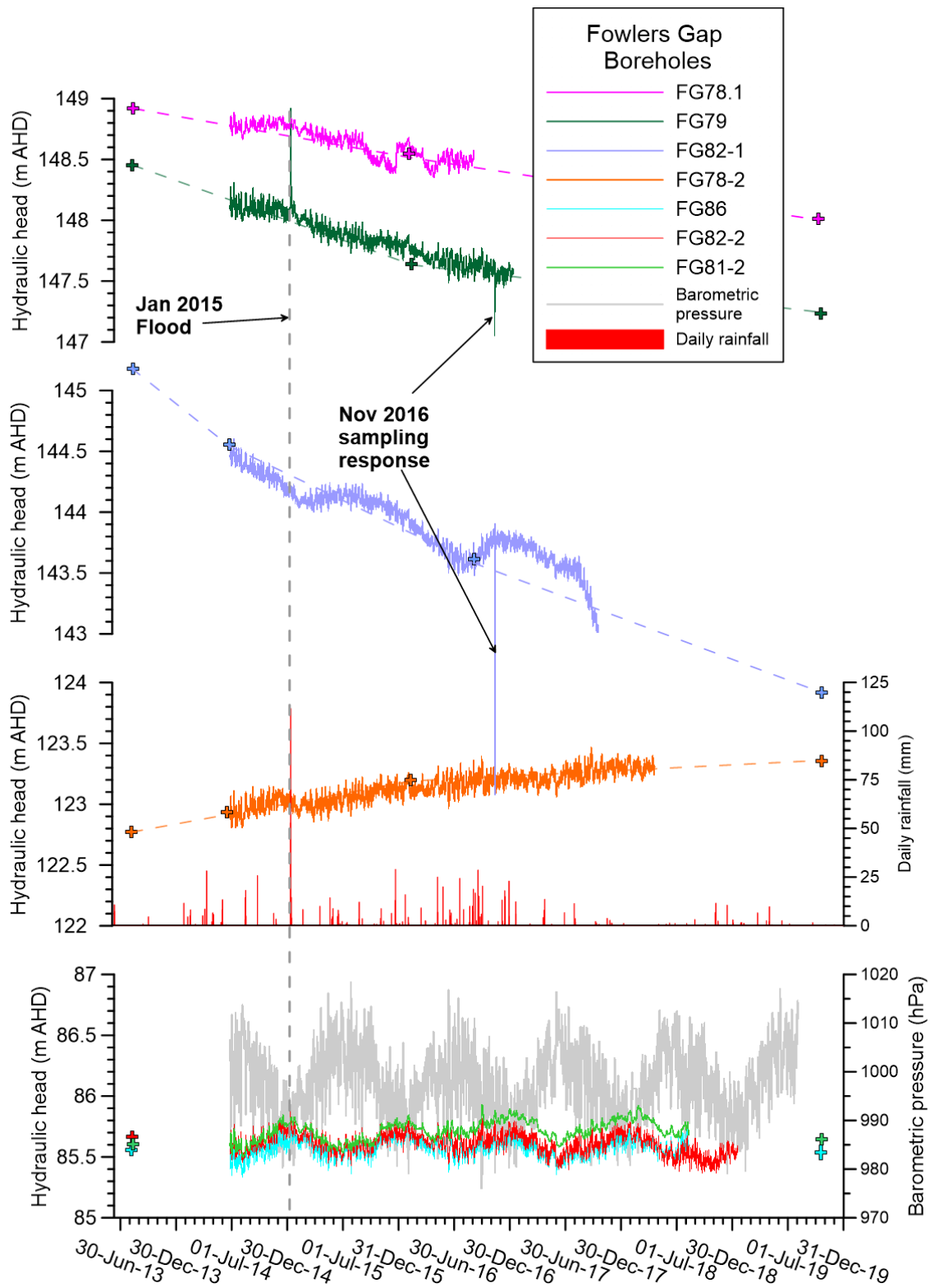


Figure S4: Hydraulic head data (raw data without correction for barometric effects) from the NCRIS borehole monitoring program (2013 to 2019) along with the record of barometric pressure and the daily rainfall. Part records indicate lost data due to system failures. The QA dip measurements are shown by *coloured symbols (crosses)*.