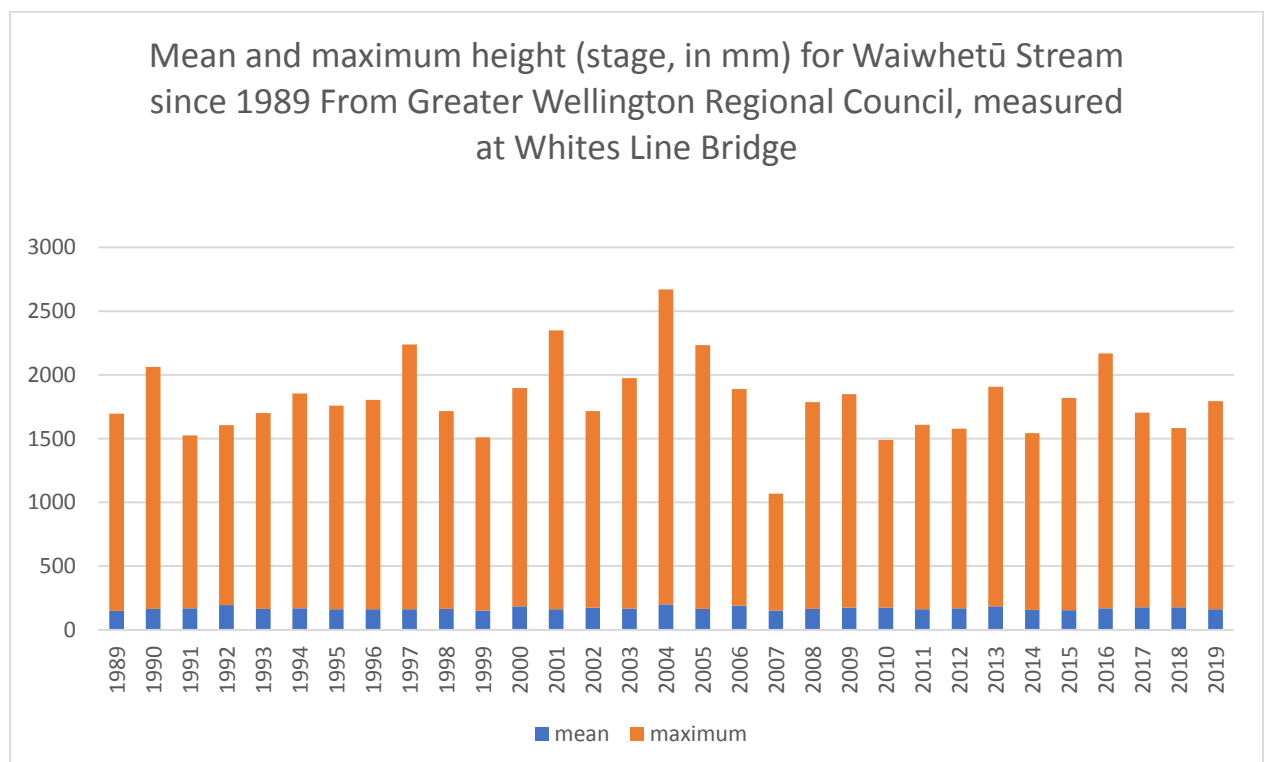


Flooding in the Waiwhetū Stream

From time to time, with heavy, localised rainfall and combined with a high tide, perhaps over ground that is already sodden from prolonged rainfall, the Waiwhetū naturally rises above its normal bank height. As the stream drains a large urban area, which is mostly concreted, the runoff flows straight into the stream through multiple stormwater drains. This means that the stream can rise very quickly. Further urbanisation, or the concreting over of the land, will result in faster stream rises. Recent Hutt City Council planning decisions are considering this effect and working towards minimising the flooding hazard.



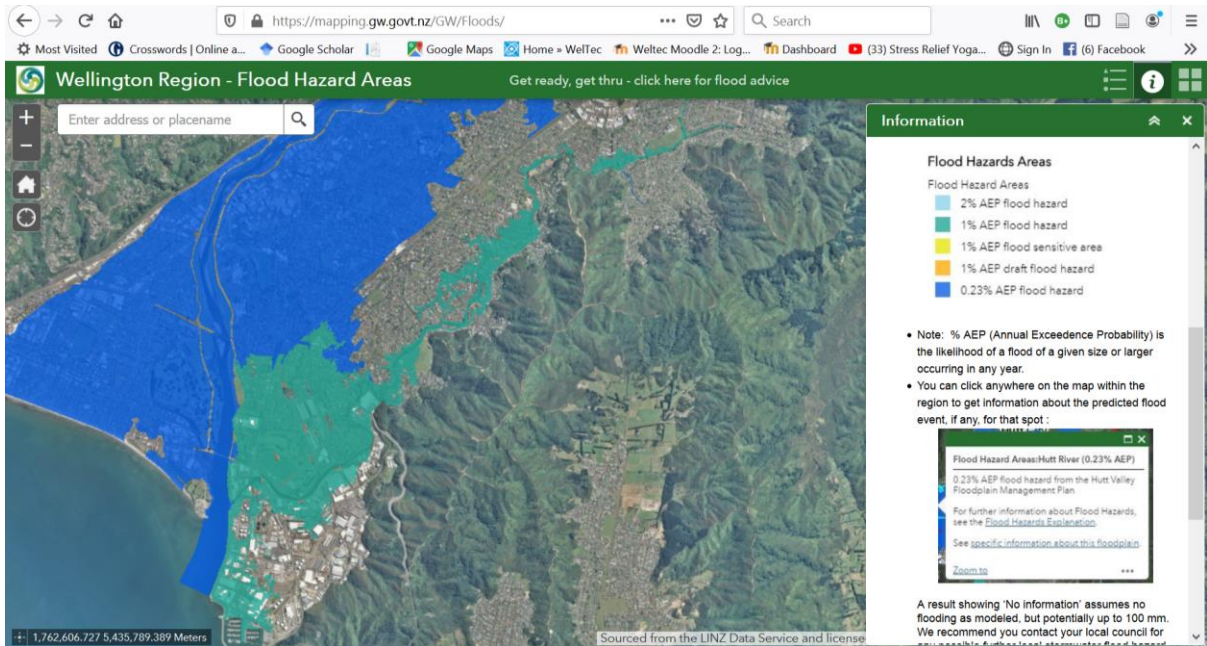
1. Image: GWRC, 2004

Waiwhetū Stream (Stage, in mm). From GWRC. Measured at Whites Line East Bridge.

Year	mean	maximum	Date of max event
2019	161	1632	8-Dec-19
2018	178	1404	8-Jul-18
2017	177	1526	13-Jul-17
2016	169	2000	15-Nov-16
2015	155	1665	14-May-15
2014	157	1386	3-Jan-14
2013	186	1721	21-Jun-13
2012	171	1408	6-Jun-12
2011	162	1446	15-May-11
2010	175	1314	25-May-10
2009	175	1675	16-Oct-09
2008	166	1620	31-Jul-08
2007	151	918	10-Oct-07
2006	190	1700	24-Oct-06
2005	164	2069	6-Jan-05
2004	199	2470	16-Feb-04
2003	168	1807	10-Jun-03
2002	174	1543	18-Jun-02
2001	161	2187	22-Nov-01
2000	184	1714	2-Oct-00
1999	152	1358	24-Mar-99
1998	165	1552	2-Jul-98
1997	161	2076	4-Oct-97
1996	162	1643	7-Feb-96
1995	163	1596	11-Apr-95
1994	170	1685	8-Nov-94
1993	165	1535	13-Jun-93
1992	195	1411	5-Feb-92
1991	169	1356	8-Apr-91
1990	166	1896	13-Mar-90
1989	150	1545	18-Oct-89



2.Image: Stuff.co.nz, 2016



(From <https://mapping.gw.govt.nz/GW/Floods/>)

According to this hazard map, the teal coloured area has a 2% AEP (which is the Annual Exceedance Probability) and is the likelihood of a flood of a given size or larger occurring in any year.



3. Image: Stuff.co.nz 2016 <https://www.stuff.co.nz/national/86481083/flooding-closes-roads-and-cut-off-homes-in-hutt-valley>