

Project Baseline Wellington Kelp Survey Report for Kelp Survey 08 June 2023

Kau Bay Kelp Observation – D17 (08 June 2023)

Reference: KB D17

Date: **08 Jun 2023**

Time: 3-4pm

Route: From Kau Bay into Mahanga Bay

Surface snorkel observation

Snorkeler: Nicole Miller

Method: GPS tracking with Garmin etrex 20x in waterproof housing.

Visibility: 3m

Surface Temp: 13.6 °C (Sony TG-6 camera sensor); Hobo data still recording

Tide: slight incoming (low tide approx. 2.21pm, 0.6, Linz)

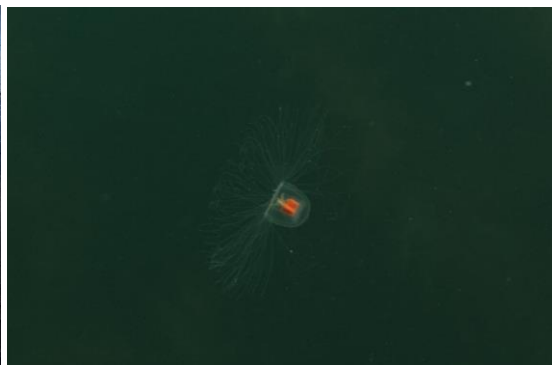
Kelp Bed Size: **area covered 2,161m²**

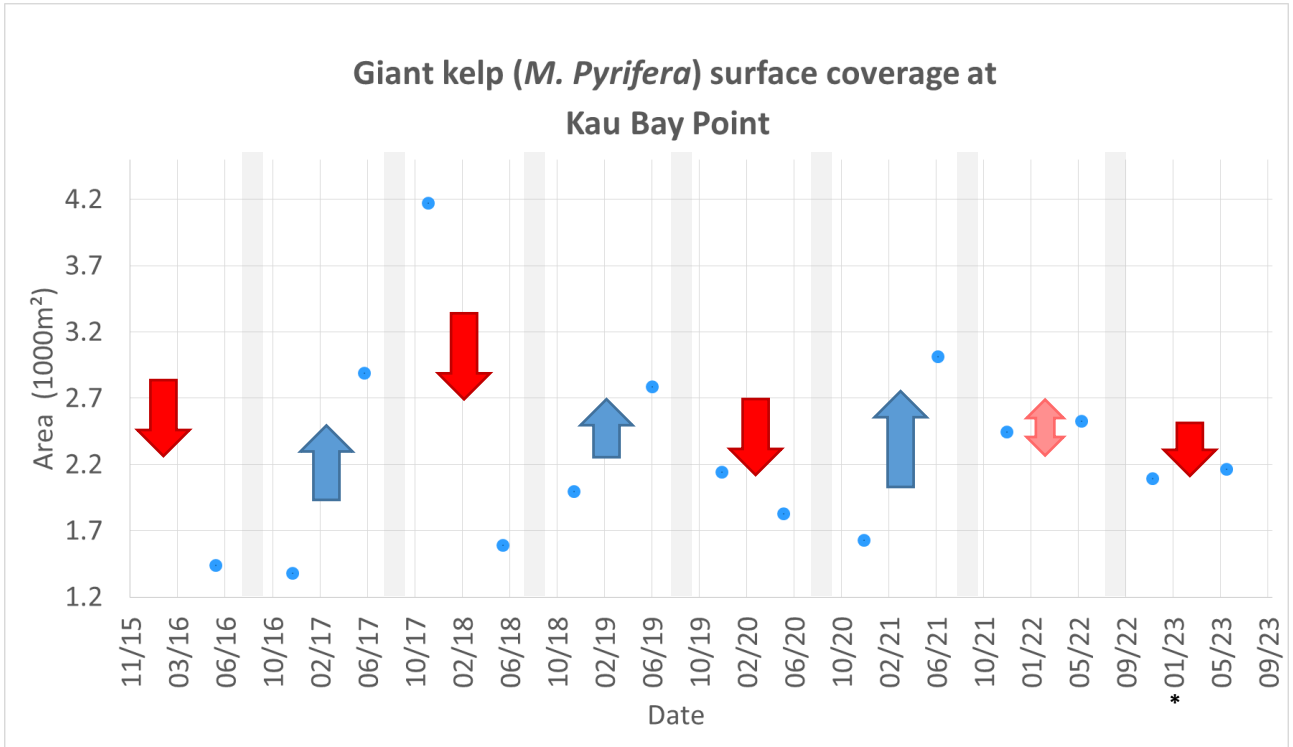


Dec 2022 (yellow, 2,095m²) & Jun 2023
(white, 2,161m²)

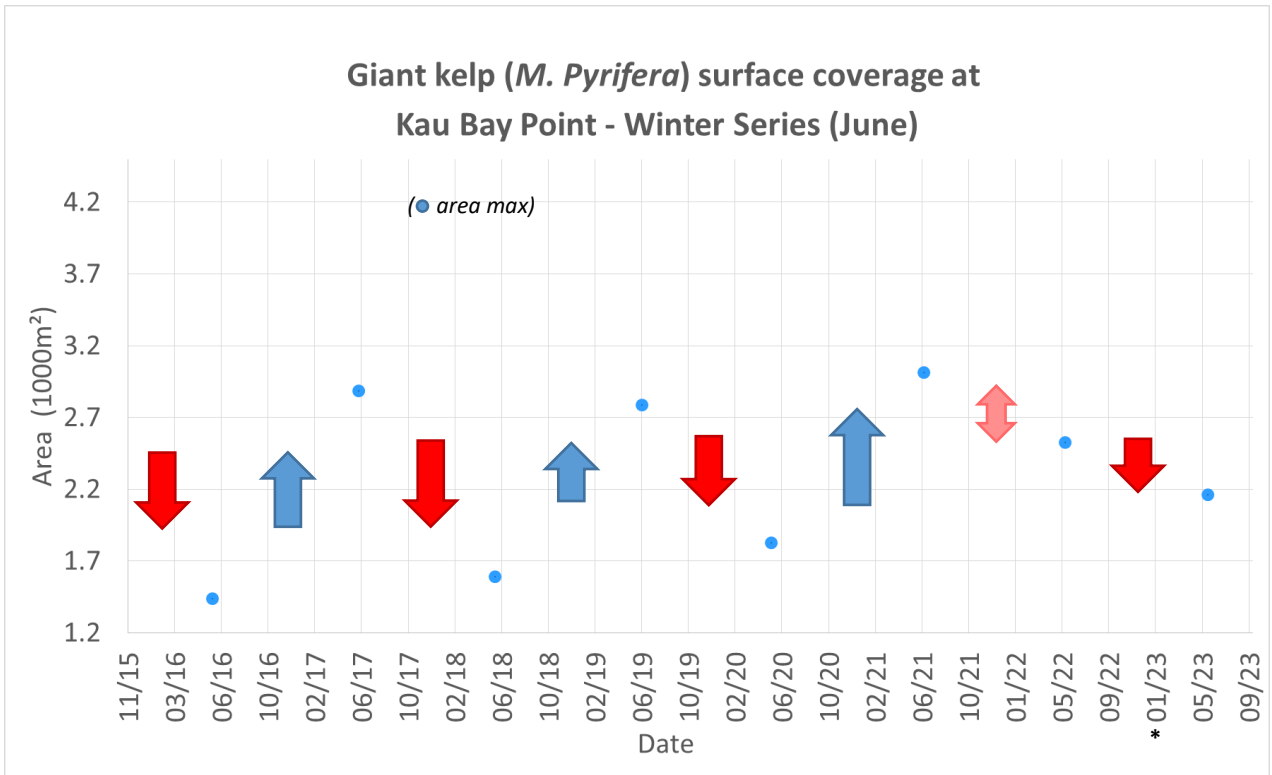


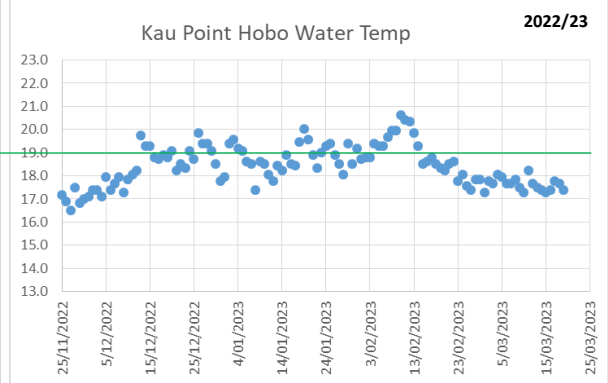
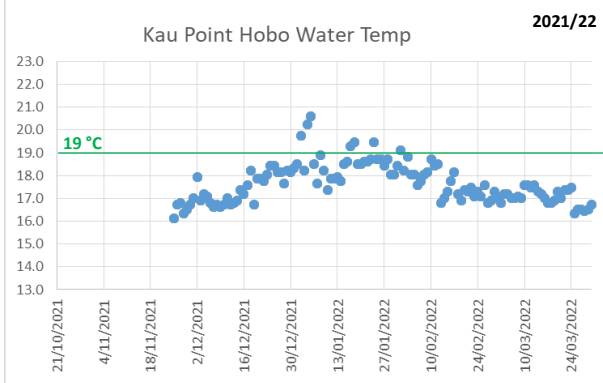
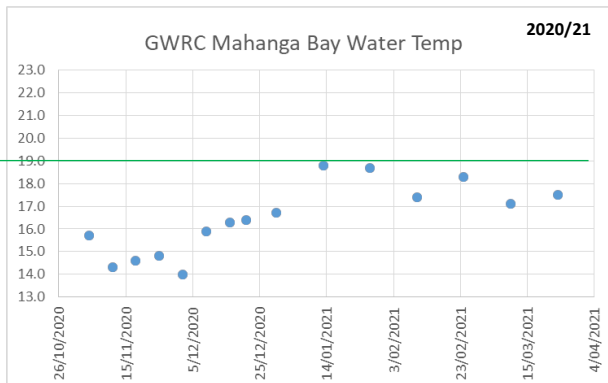
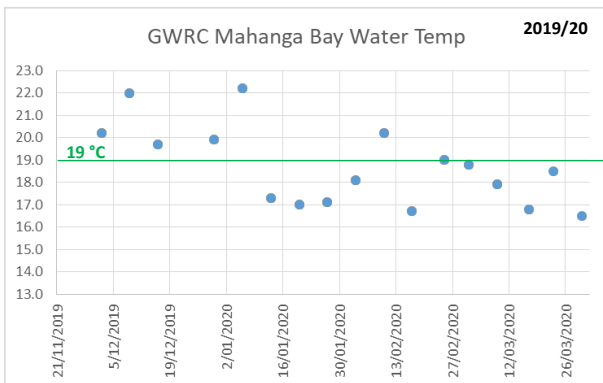
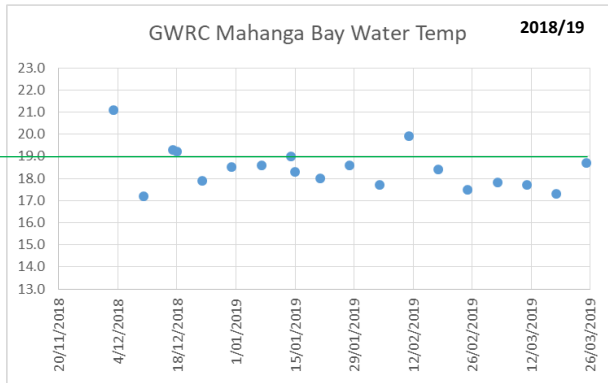
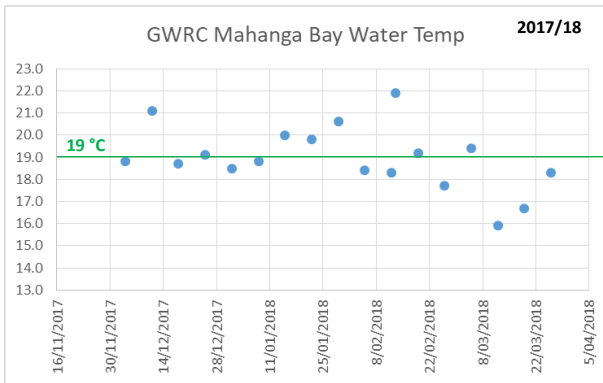
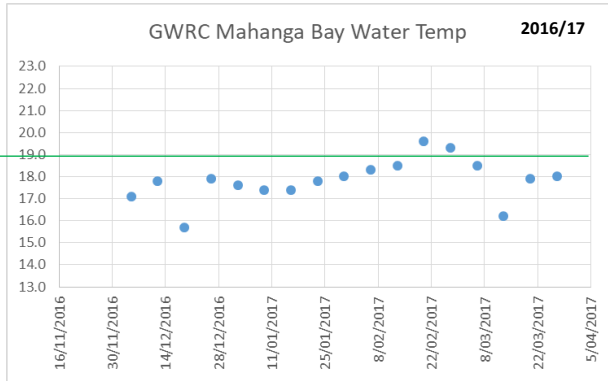
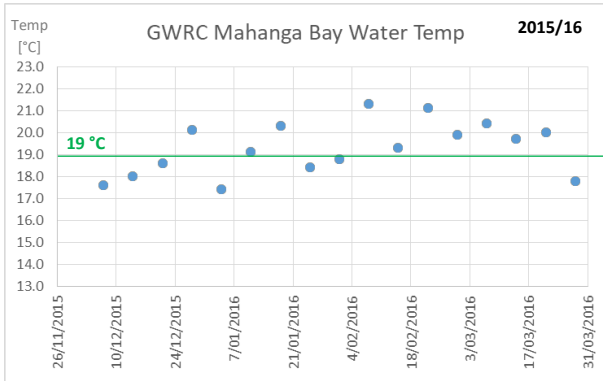
June 2022 (blue, 2,525m²) & June 2023
(white, 2,161m²).





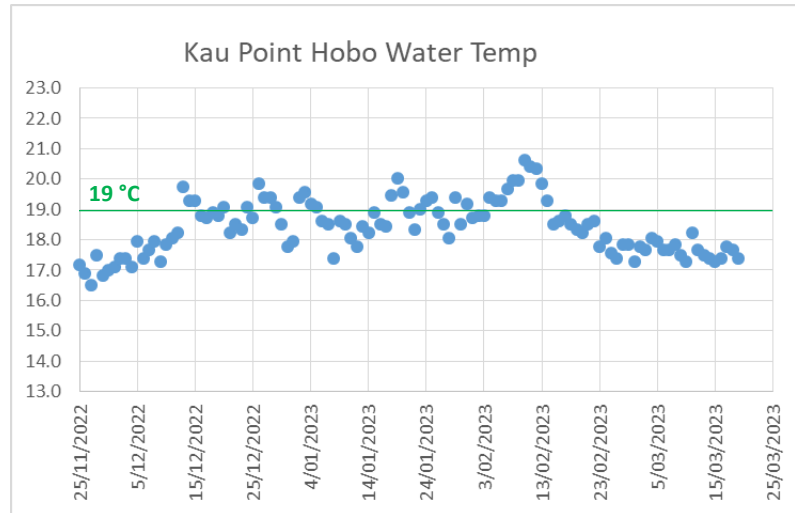
*Kina removal events Dec 2022 to Feb 2023 (www.kinaowhanganuiatara.nz).





Temperature Data from Kau Point Hobo for 2022/23 season

Date	Max Temp each day (d C)
12/13/22	19.8
12/14/22	19.3
12/15/22	19.3
12/20/22	19.1
12/24/22	19.1
12/26/22	19.9
12/27/22	19.4
12/28/22	19.4
12/29/22	19.1
1/02/2023	19.4
1/03/2023	19.6
1/04/2023	19.2
1/05/2023	19.1
01/18/23	19.5
01/19/23	20.0
01/20/23	19.6
01/24/23	19.3
01/25/23	19.4
01/29/23	19.4
01/31/23	19.2
2/04/2023	19.4
2/05/2023	19.3
2/06/2023	19.3
2/07/2023	19.7
2/08/2023	19.9
2/09/2023	19.9
2/10/2023	20.6
2/11/2023	20.4
2/12/2023	20.3
02/13/23	19.9
02/14/23	19.3



> 19.5 °C
19.5
19.1-19.4

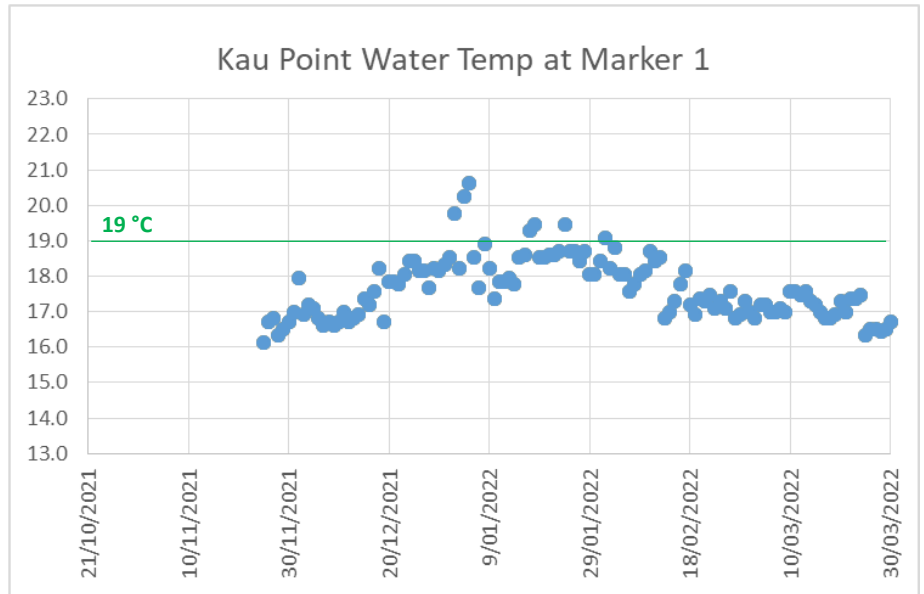
Date	Max Temp each day (d C)
12/13/22	19.8
12/26/22	19.9
1/03/2023	19.6
01/19/23	20.0
01/20/23	19.6
2/07/2023	19.7
2/08/2023	19.9
2/09/2023	19.9
2/10/2023	20.6
2/11/2023	20.4
2/12/2023	20.3
02/13/23	19.9

Max Daily temp above 19.0 °C and 19.5 °C (between September 2022 and 19 March 2023).

Temperature Data from Kau Point Hobo for 2021/22 season

Hobo - daily 1pm Data Point

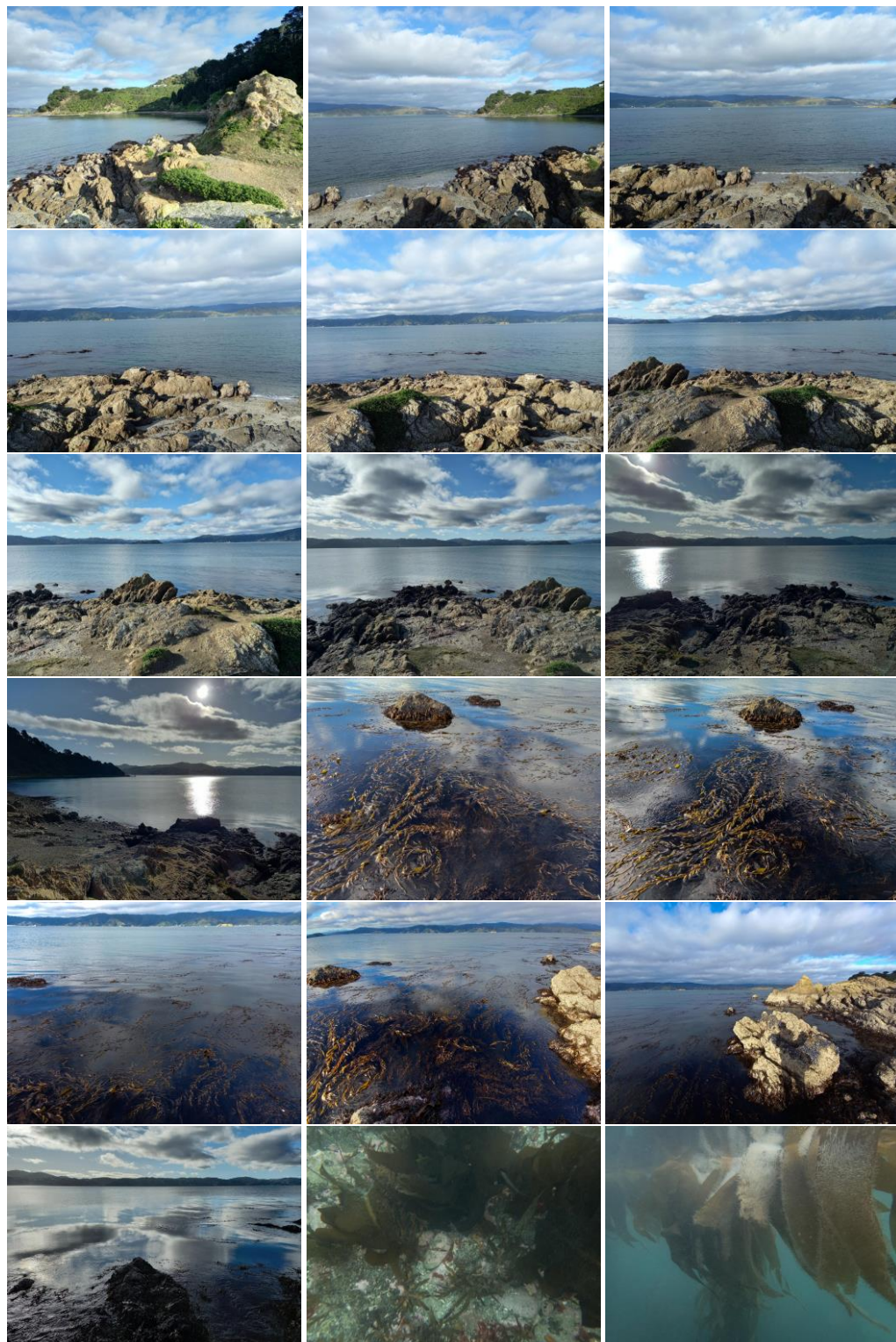
Date	°C
1/01/2022	18.5
2/01/2022	19.8
3/01/2022	18.2
4/01/2022	20.2
5/01/2022	20.6
6/01/2022	18.5
16/01/2022	18.6
17/01/2022	19.3
18/01/2022	19.5
19/01/2022	18.5
23/01/2022	18.7
24/01/2022	19.5
25/01/2022	18.7
31/01/2022	18.4
1/02/2022	19.1
2/02/2022	18.2

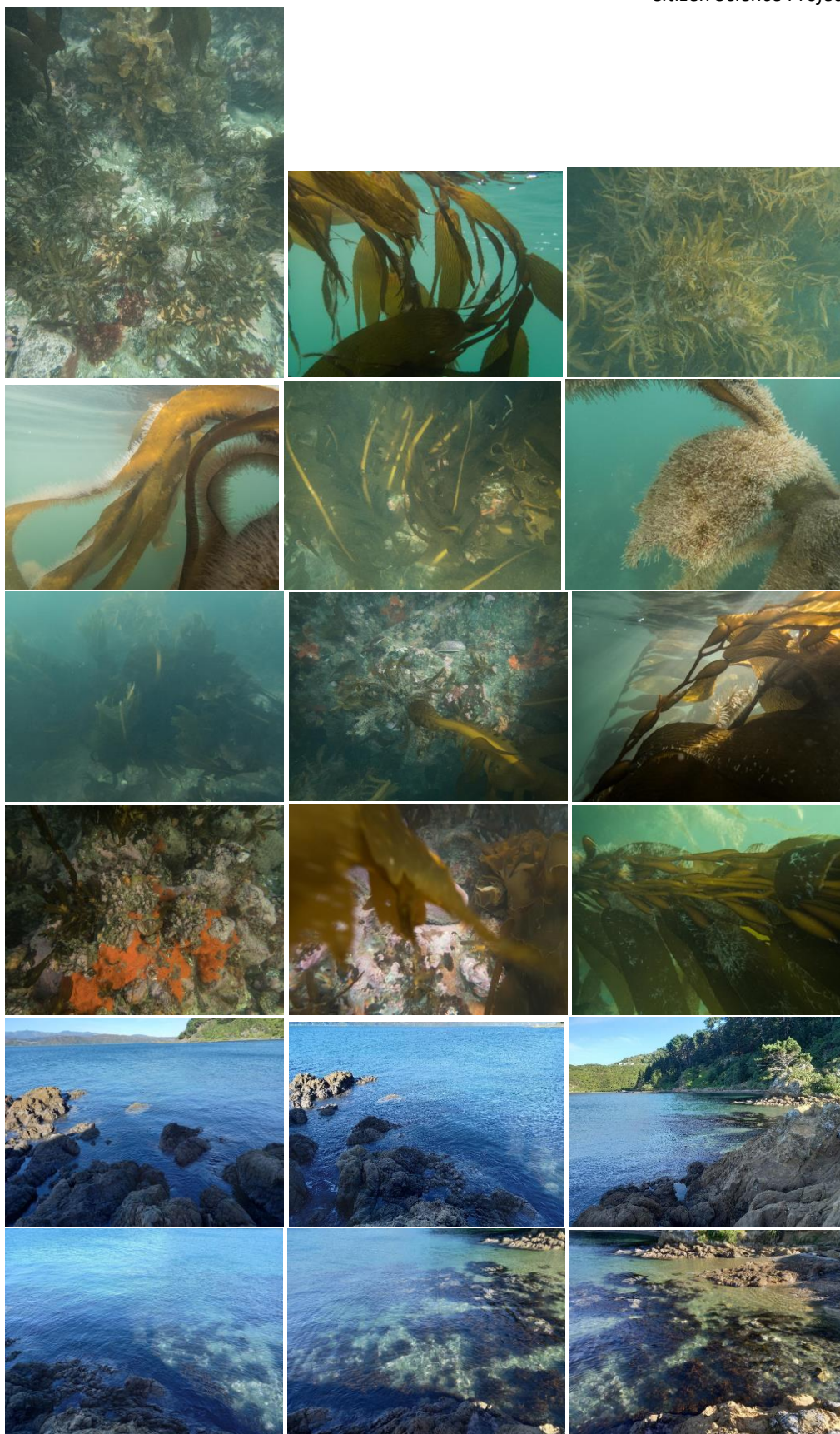


> 19.5 °C
19.5 °C
19.1-19.4 °C

2023-June-08 Survey Photos

Topside photos and surface snorkel (all uw photos taken from surface).

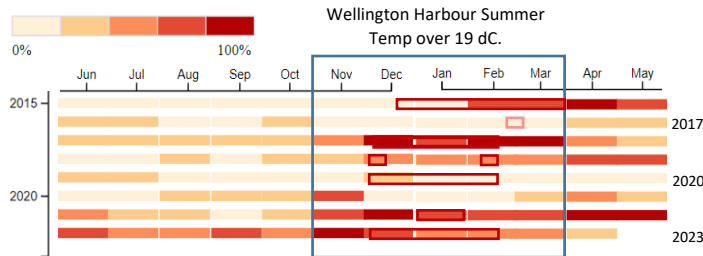




<https://www.theguardian.com/environment/ng-interactive/2023/may/13/are-new-zealands-marine-heatwaves-a-warning-to-the-world> (retrieved 10 June 2023)

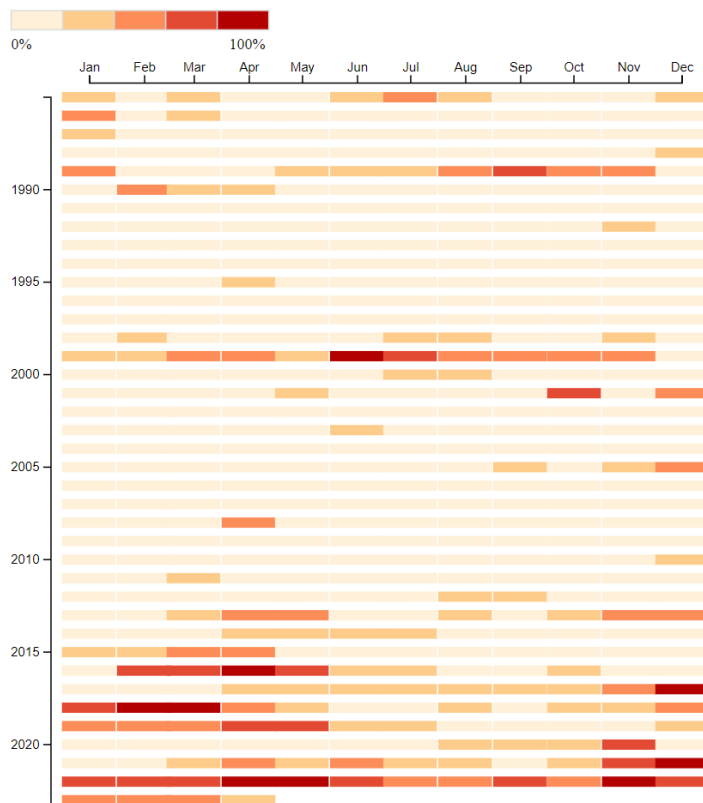
Marine heatwaves in New Zealand

Percentage of New Zealand (exclusive economic zone) experiencing marine heatwave conditions



Marine heatwaves in New Zealand

Percentage of New Zealand (exclusive economic zone) experiencing marine heatwave conditions



Marine heatwave data courtesy of [NOAA Coral Reef Watch](#), [Marine Heatwave Tracker](#) and Dr Robert Smith, University of Otago, New Zealand

