

TWEED SAND BYPASSING

ENVIRONMENTAL MONITORING SUMMARY – APRIL 2024

1. SAND PUMPING & DREDGING

- 42,896 m³ was pumped to Snapper Rocks East.
- 0 m³ of sand was dredged.

Sand Delivery April 2024

Pumped: 42,896 m³

Dredged: 0 m³

Total: 42,896 m³

The number of days sand was pumped this month = 22

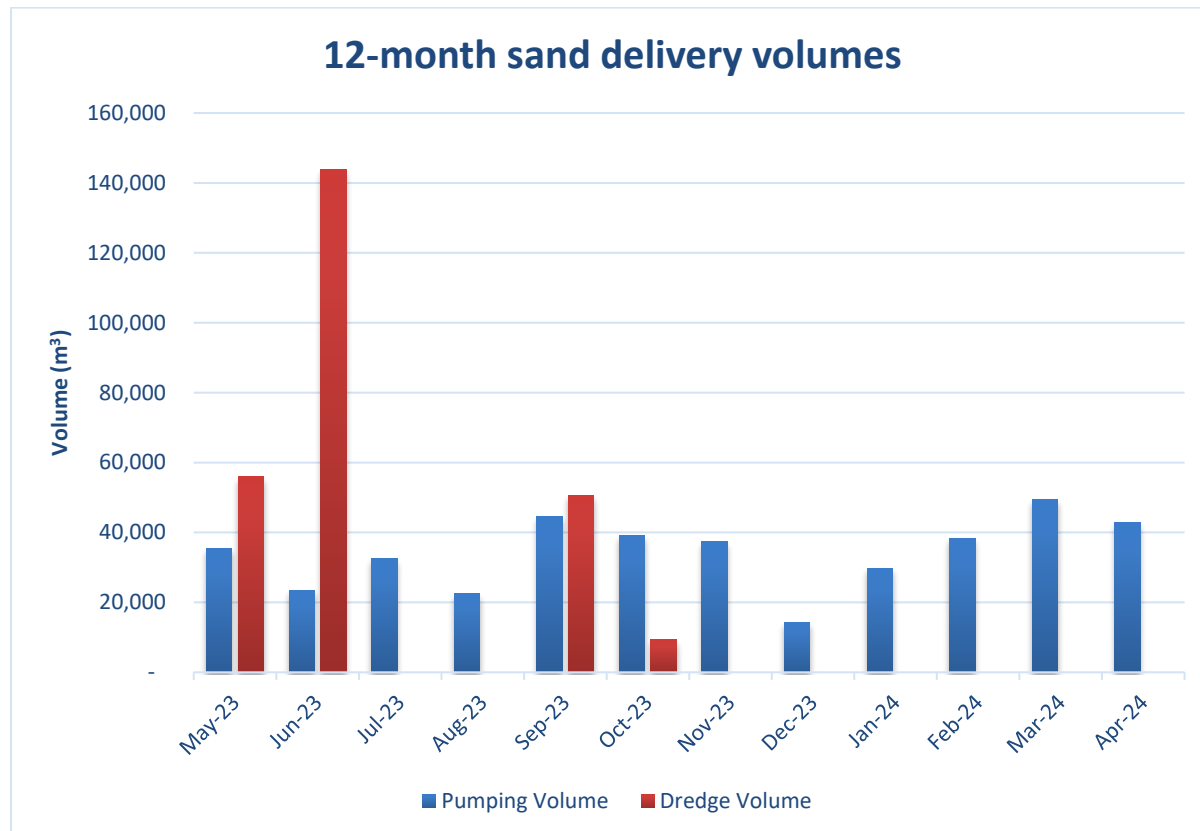
Sand Delivery May 2000 to April 2024

Pumped: 11,726,117 m³

Dredged*: 3,047,294 m³

Total*: 14,773,411 m³

* This Includes 22,870 m³ of sand delivered by dredge to Palm Beach between July 2005 and September 2005



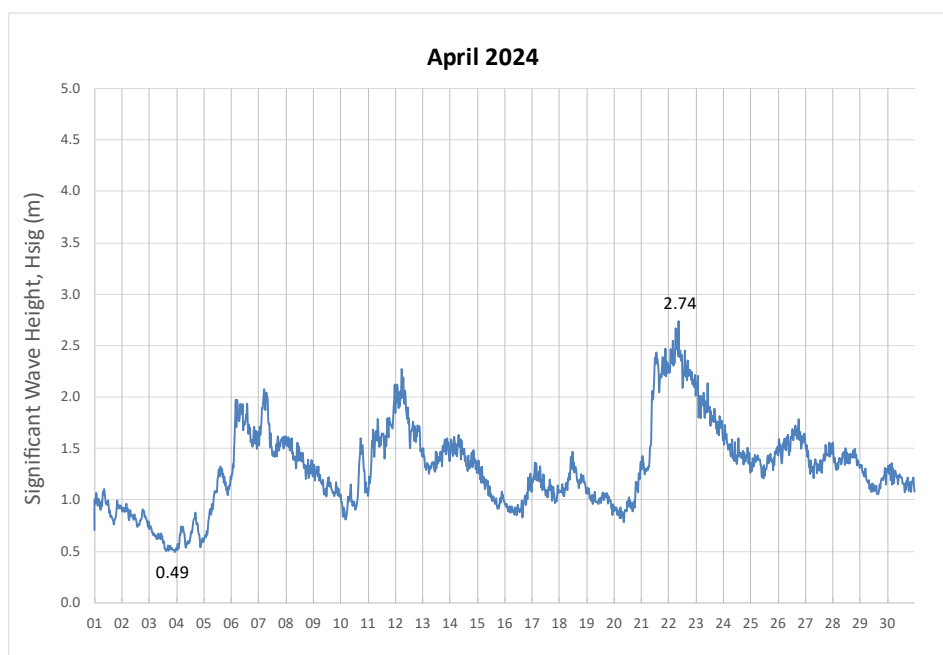
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2. WAVE CONDITIONS

April saw energetic south-easterly wave conditions accompanied by easterly wind. The start of April was relatively calm before wave heights increased to 1.5 m to 2 m Hsig. Between 13 and 21 April conditions were less energetic, with wave heights consistently under 1.5m Hsig. The maximum wave height was observed on 22 April at 2.74 m Hsig.

- Minimum H_{sig}: 0.49 m on 03 April 2024
- Maximum H_{sig}: 2.74 m on 22 April 2024
- Number of days where H_{sig} <1 m at some point: 11
- Number of days where H_{sig} >2 m at some point: 6

Note: H_{sig} is defined as the average of the highest ⅓ of waves recorded over a period of approximately 30 minutes

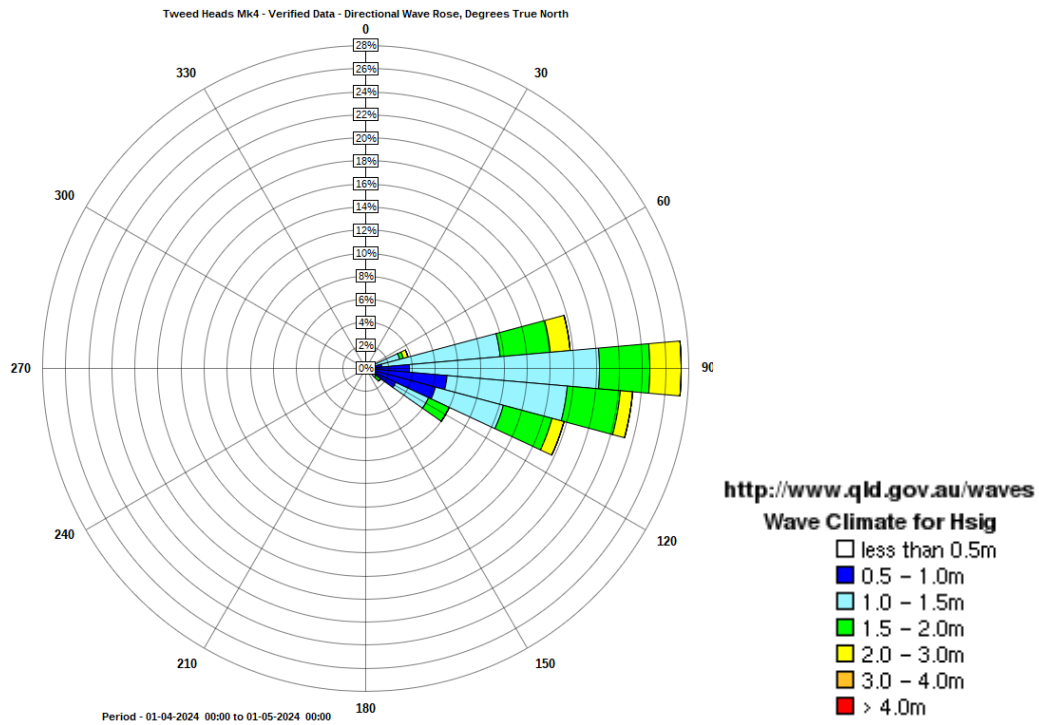


(Source: Tweed Heads Waverider buoy; Queensland Government)

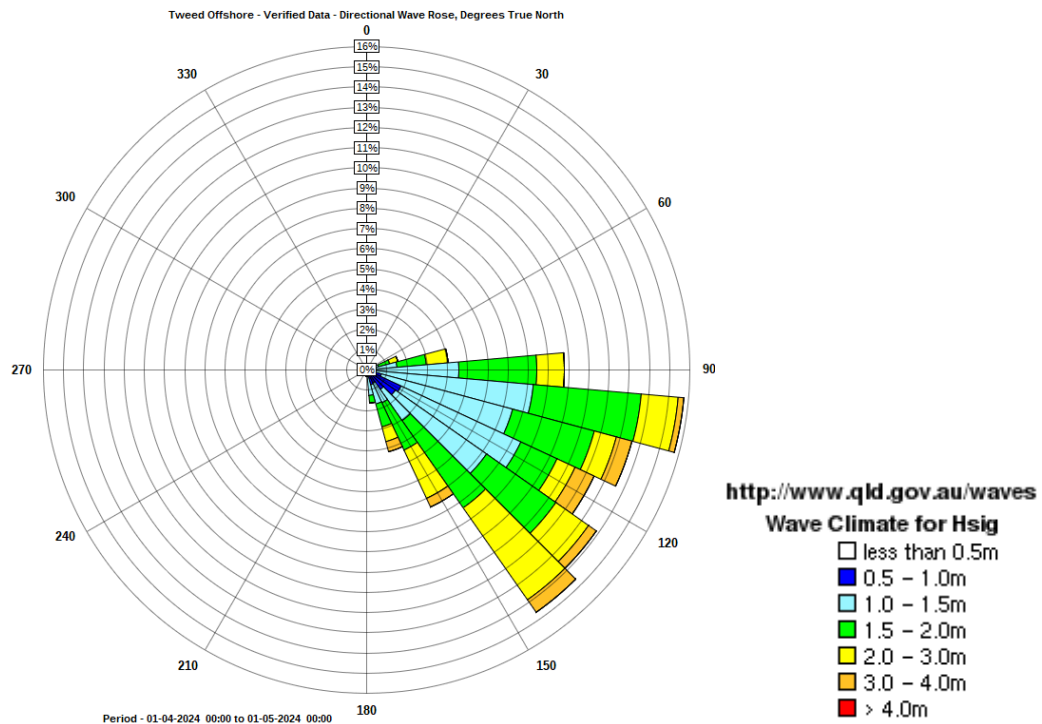
A link to data recorded by the Tweed Heads and Tweed Offshore Waverider buoys is available at:
<http://www.qld.gov.au/waves>

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NEARSHORE WAVE DIRECTION



OFFSHORE WAVE DIRECTION

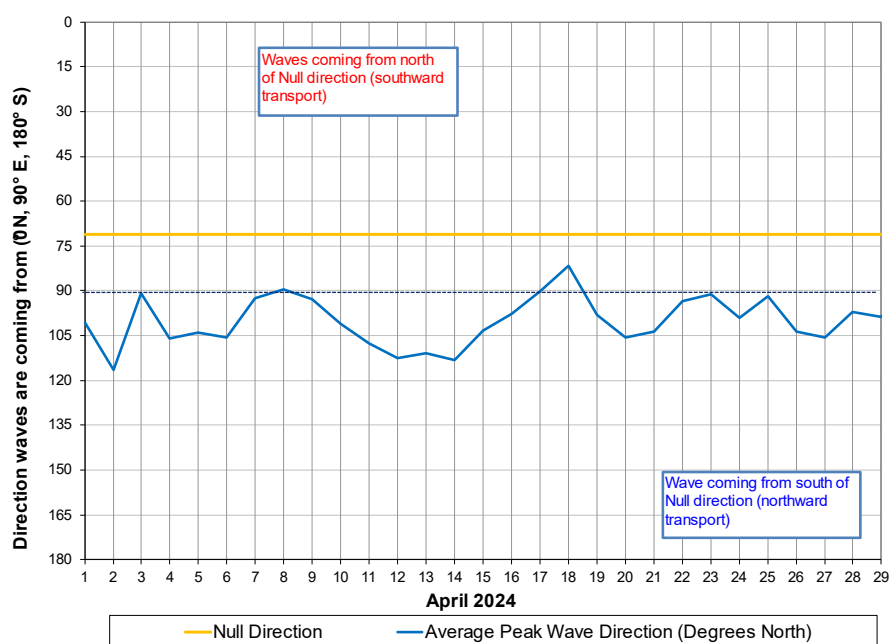
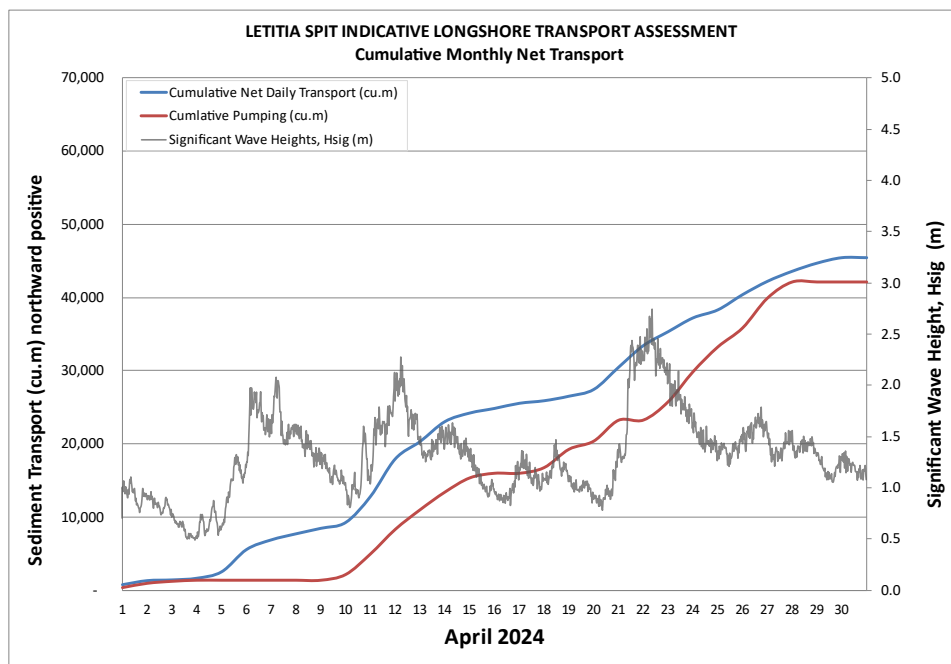


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3. INDICATIVE LONGSHORE TRANSPORT

The first graph below is based on simplified sediment transport modelling and is indicative only. The second graph indicates the wave direction in relation to the shoreline null direction (a wave direction coming from south of this line generally results in northward transport of sand).

In April 2024, the estimated natural sand transport moving north towards the Tweed River entrance was calculated to be in the order of 44,600 m³. This result is 76 per cent of the average estimated sand transport quantity of approximately 58,900 m³ for April.



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4. BEACH AND SURF AMENITY OBSERVATIONS

Periods of calmer conditions throughout the month allowed beach building to be observed at Duranbah and Frog Beach, although the sediment transport rate was less than the April average. Cooly Classic Ocean Swim was on 14 April and commenced at Snapper Rocks.



Rainbow Bay 08 April *south aspect



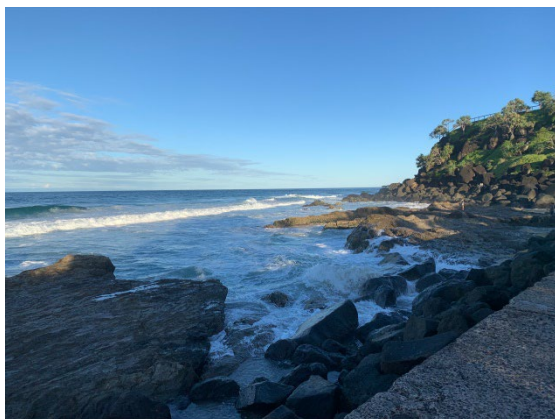
Kirra 08 April



Greenmount 08 April



Duranbah 08 April









Frog Beach 08 April



Frog Beach 03 May

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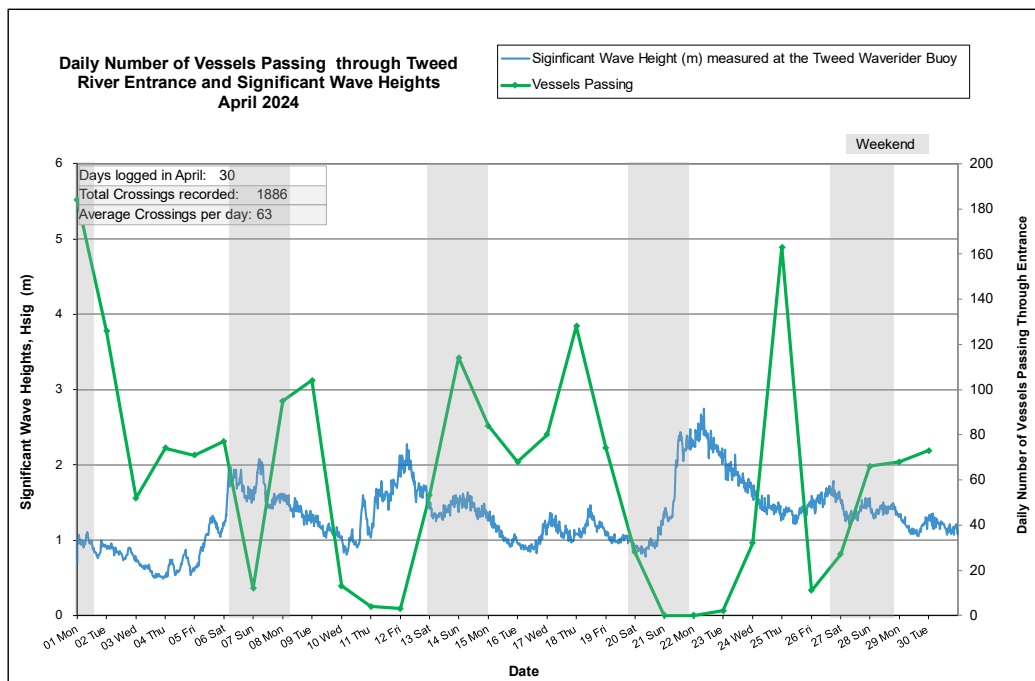
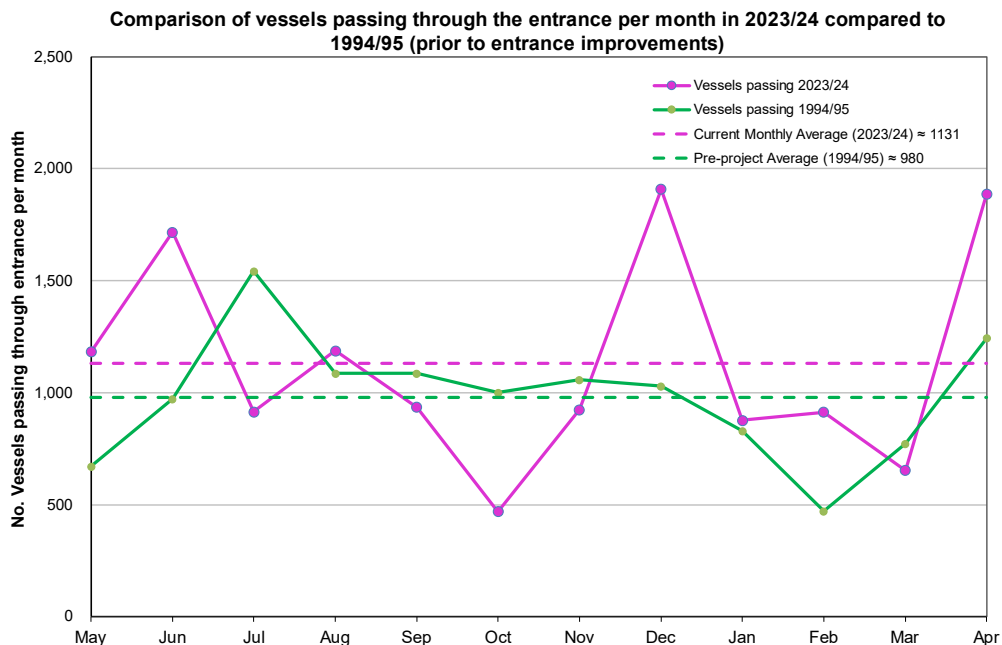
April saw a mix of calm and active conditions and moderate wave heights with E wave direction, only 6 days experiencing swell over 2m Hsig. WSL Challenger Series commenced at Snapper Rocks on the 27 April.

	
Duranbah 08 April	Duranbah 20 April
	
Snapper Rocks 30 April	Snapper Rocks 27 April
	
Snapper Rocks 30 April	Snapper Rocks 30 April

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5. TWEED RIVER ENTRANCE USAGE

A total of 1,886 Tweed River entrance vessel crossings were recorded for the month (110 per cent of the April average (2002–2024)).



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Date April 2024	Navigation Rating					Number of Crossings
	Impassable < - - - - - > Good					
	Impassable	Difficulty Encountered	Some Difficulty Encountered	Relatively Good Crossing	Good Conditions	
	1	2	3	4	5	
1						184
2						126
3						52
4						74
5						71
6						77
7						12
8						95
9						104
10						13
11						4
12						3
13						53
14						114
15						84
16						68
17						80
18						128
19						74
20						28
21						0
22						0
23						2
24						32
25						163
26						11
27						27
28						66
29						68
30						73
					Total:	1,886

Marine Rescue NSW - Monitoring Results (Not including trawlers)

 Weekends

Source: Marine Rescue NSW, Point Danger