

Tweed River Entrance Sand Bypassing Project

Letitia Spit to Kirra



Monthly Environmental Monitoring Summary

MAY 2007

Department of Lands 



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1. EXECUTIVE SUMMARY

This report provides a summary of pumping and dredging activities, as well as surf, beach, river, entrance and weather conditions for the southern Gold Coast Beaches, Duranbah, the Tweed River Entrance and Letitia Spit.

- Pumping to Duranbah was carried out from 2-28 May 2007.
- The number of vessels that passed through the entrance in May was significantly higher than on average.
- Surf quality in May was generally good, with reports of excellent surf conditions occurring in the middle the month..
- There were no significant impacts on the Lower Tweed River tides. Recent tidal data is consistent with ocean tidal levels.
- The amount of sand moving north towards the Tweed River entrance was approximately half the May average.

**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT
LETITIA SPIT TO KIRRA
MONTHLY ENVIRONMENTAL MONITORING SUMMARY MAY 2007**

2. INTRODUCTION

This document provides a summary of sand quantities delivered by the system, as well as surf, beach, river, entrance and weather conditions for the southern Gold Coast Beaches, Duranbah, the Tweed River Entrance and Letitia Spit for ongoing monitoring purposes.

Information has been sourced from TRESBP monitoring programs, GCCC coastal reports, media coverage, Surfing NSW and Surfing Queensland and the following World Wide Websites:

- www.burleighcam.com.au
- www.bom.gov.au
- www.coastalwatch.com.au
- www.surfingaustralia.com.au
- www.swellnet.com.au
- www.tracksmag.com



3. PUMPING AND DREDGING ACTIVITIES

Sand Delivery for MAY 2007

	PUMPED		DREDGED	MAY 2007 TOTAL DELIVERY
Location	Snapper Rocks East	Duranbah		
Amount (m ³)	19,496	19,766	0	39,262

Total Sand Delivery This Year (January to May 2007)

	PUMPED	DREDGED	2007 TOTAL DELIVERY
Amount (m ³)	214,708	0	214,708

Total Sand Delivery to Date by the Stage 2 Permanent Sand Bypassing System (May 2000 to May 2007)

	PUMPED	DREDGED	TOTAL DELIVERY STAGE 2
Amount (m ³)	4,072,549	1,862,793	5,935,342

PUMPING AND DREDGING ACTIVITIES CONTINUED

PHOTOGRAPHS OF DURANBAH PUMPING

Pumping and nourishment works at Duranbah were carried out from 2-28 May 2007.



Pumping to Duranbah, 9 May 2007



Duranbah Dozer works, 10 May 2007

4. TWEED RIVER ENTRANCE CONDITIONS

VOLUNTEER VIDEO MONITORING LOG

The following Entrance Condition observations for May 2007 were recorded by volunteers Mr Brian Mason and Mr Robert Ford:

Date	Observations
4 May Mid Morning	Fine weather. Good crossing conditions. Vessels entering.
11 May Mid Morning	Cloudy. Poor crossing conditions. Waves breaking. Dangerous conditions for small craft.
25 May Mid Morning	Cloudy. Good crossing conditions. Small boats entering.

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TWEED RIVER ENTRANCE CONDITIONS CONTINUED

VOLUNTEER MARINE RESCUE REPORTS

Volunteer Marine Rescue Pt Danger (VMR) has been monitoring daily entrance conditions on behalf of the TRESBP since 20 January 2002, monitoring results for May 2007 are presented below.

The navigation ratings from 1–5 are as follows:

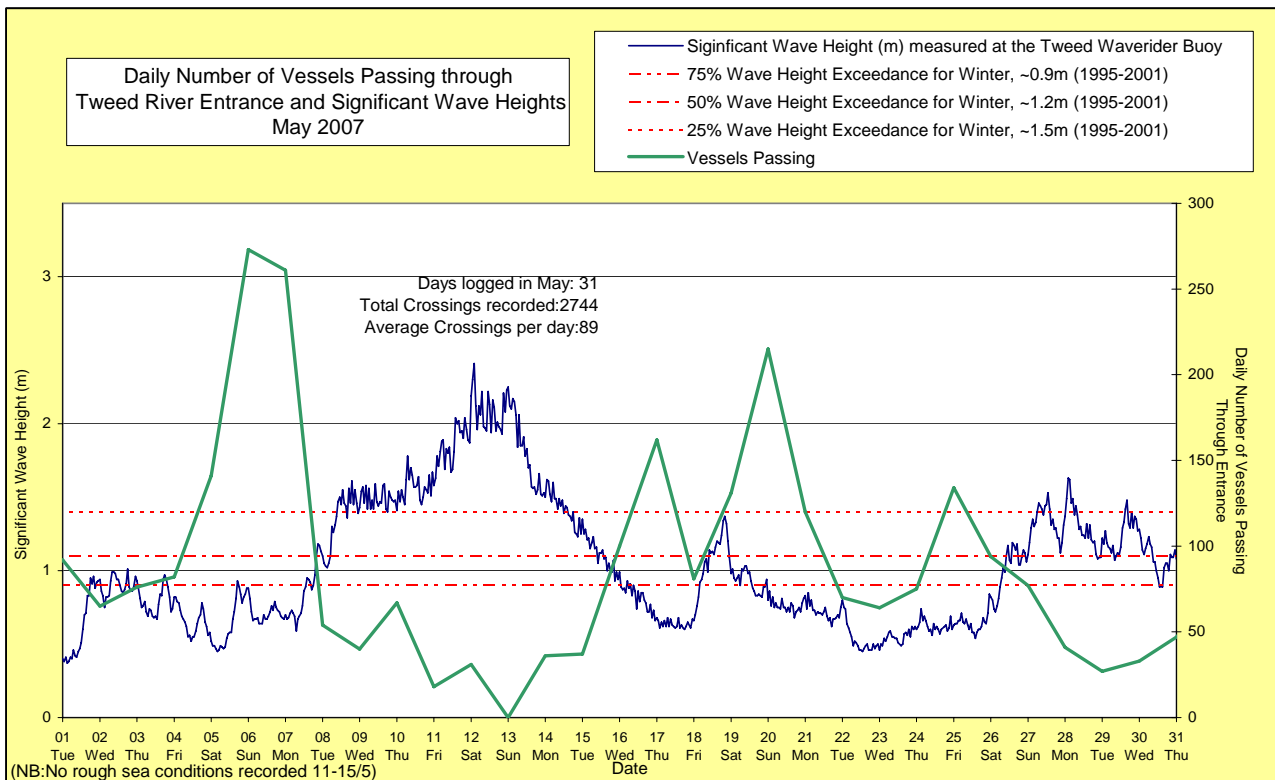
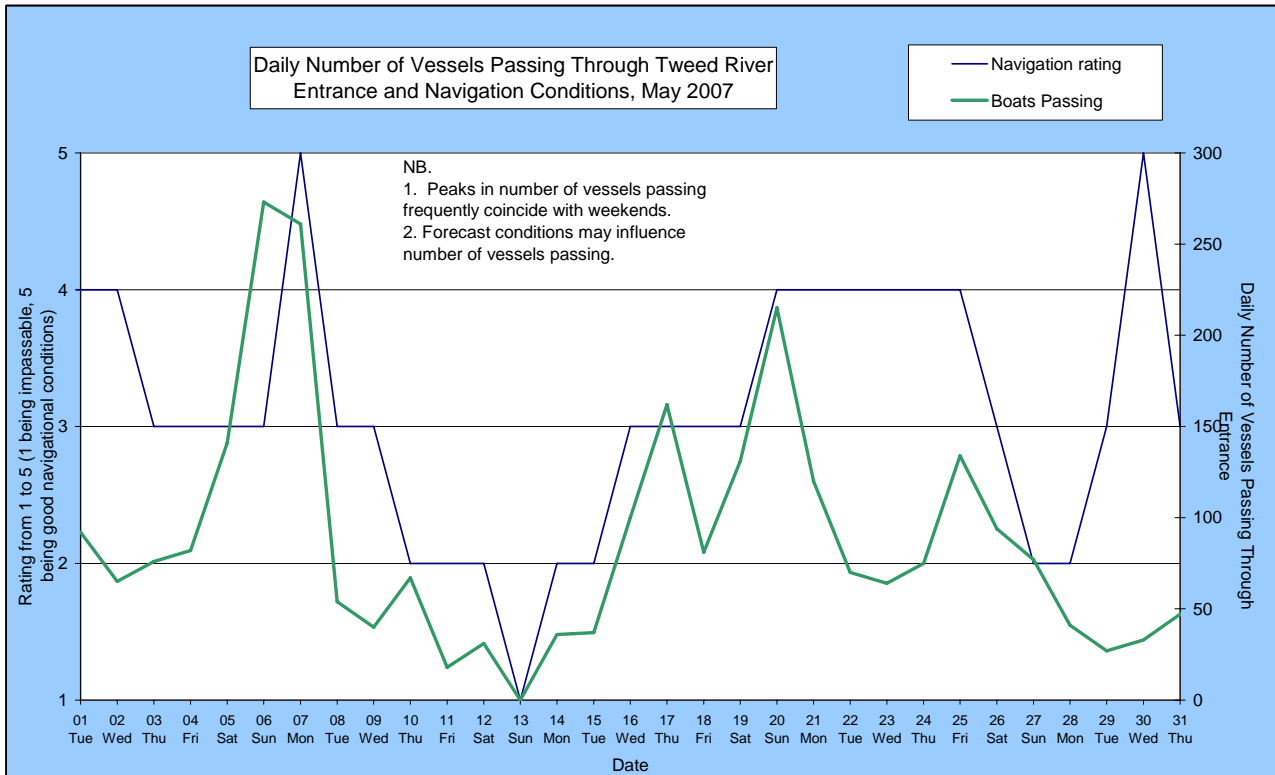
- 1 – Impassable 2 – Difficulty encountered 3 – Some difficulty encountered
4 – Relatively good crossing 5 – Good conditions

☐ – Weekends and public holidays

Date	Entrance Conditions	Navigation Rating Impassable-----Good					Number of Boats
		1	2	3	4	5	
1	Slight						92
2	Slight						65
3	Moderate						76
4	Moderate						82
5	Moderate						141
6	Moderate						273
7	Slight						261
8	Moderate						54
9	Moderate						40
10	Moderate						67
11	Rough						18
12	Rough						31
13	Rough						0
14	Rough						36
15	Rough						37
16	Moderate						100
17	Moderate						162
18	Moderate						81
19	Moderate						131
20	Slight						215
21	Slight						120
22	Slight						70
23	Slight						64
24	Slight						75
25	Slight						134
26	Moderate						94
27	Slight						77
28	Slight						41
29	Moderate						27
30	Slight						33
31	Moderate						47

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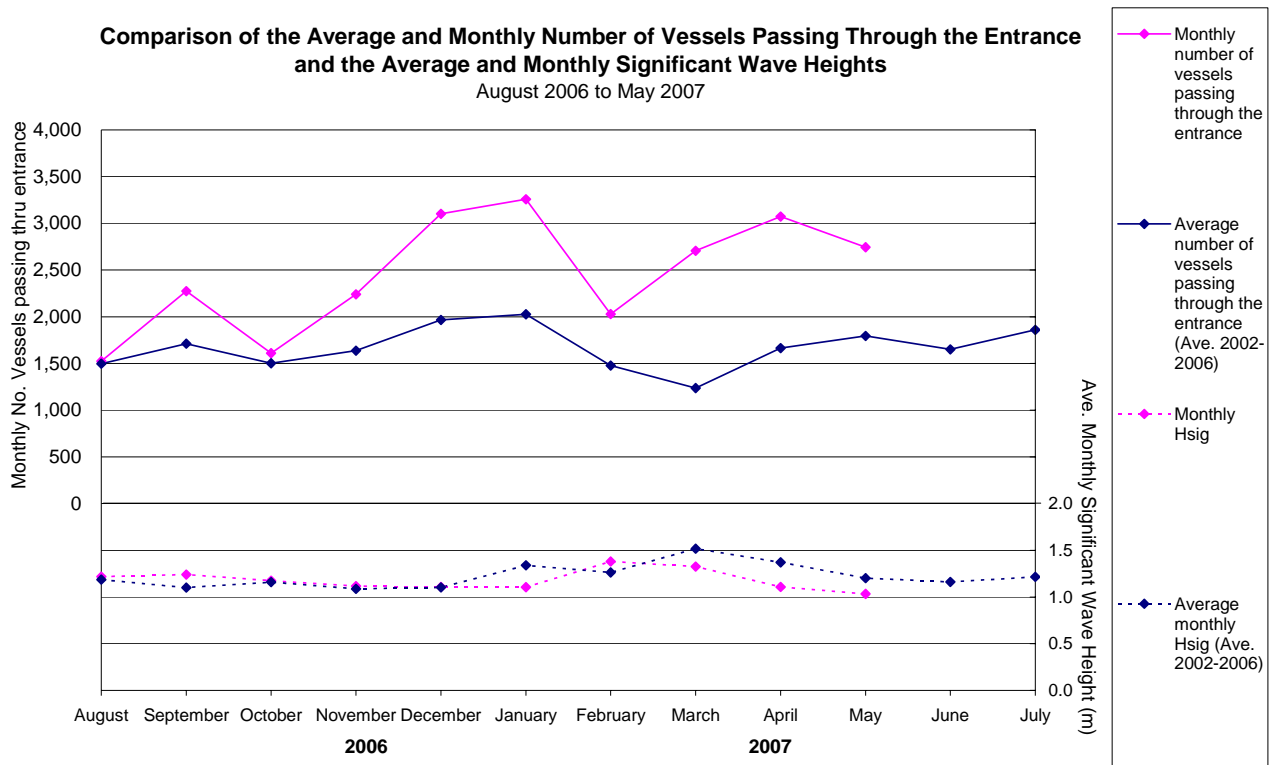
TWEED RIVER ENTRANCE CONDITIONS CONTINUED



**TWEED RIVER ENTRANCE SAND BYPASSING PROJECT
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TWEED RIVER ENTRANCE CONDITIONS CONTINUED

**Comparison of the Average and Monthly Number of Vessels Passing Through the Entrance
and the Average and Monthly Significant Wave Heights**
August 2006 to May 2007



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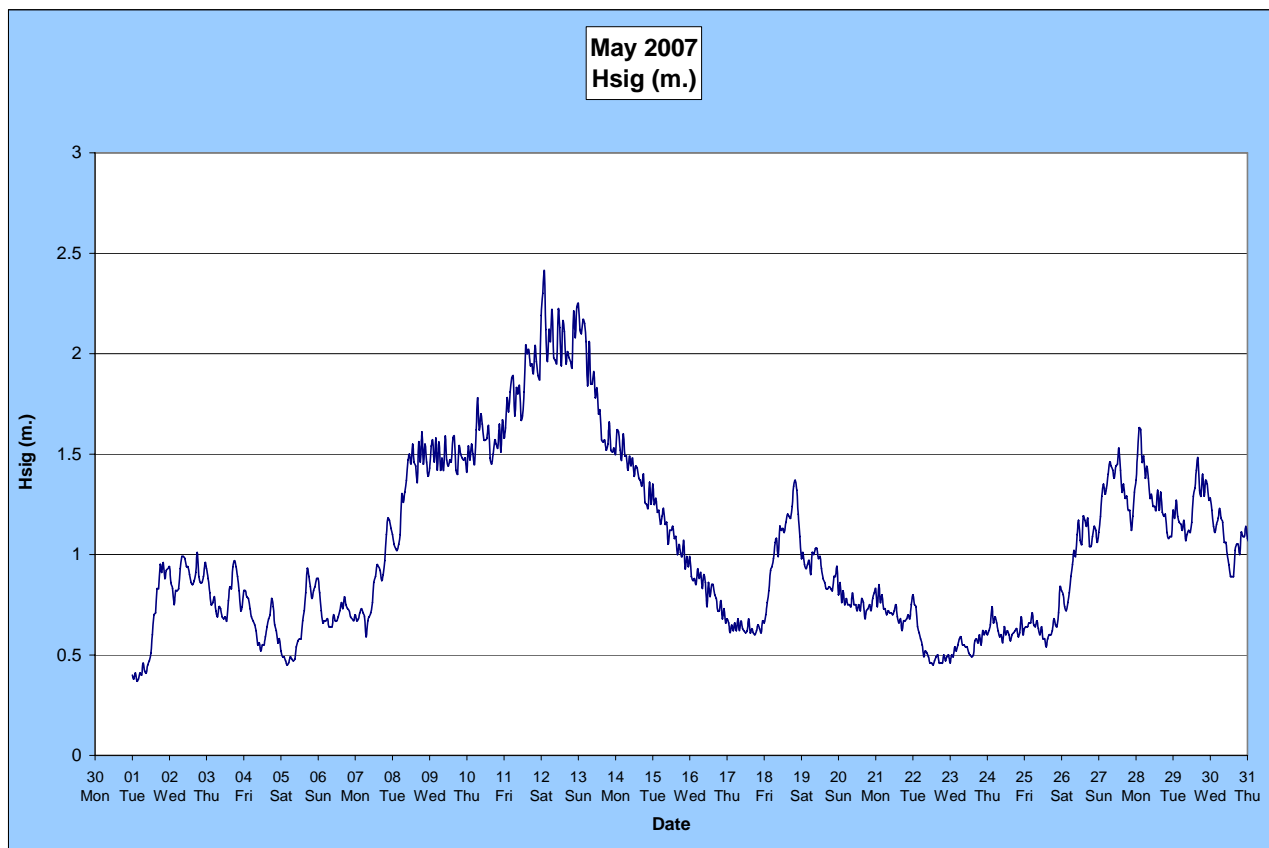
5. SURF SUMMARY

Waves of between 0.5 – 1.5 m from the E dominated surf conditions on the Southern Gold Coast in May 2007. Winds varied over the month where the most predominant wind conditions were SE and NW at 10-25 Knots.

Readings from the Tweed Waverider Buoy showed a minimum significant wave height of 0.37m on 1 May and a maximum significant wave height of 2.41m on 12 May. There were 21 recorded days when waves dropped below 1.0m and 3 days when waves were above 2.0m.

Surf quality in May was generally good, with reports of excellent surf conditions occurring in the middle the month.

Source: Tweed and Brisbane Waverider Buoy, RealSurf, Swellnet, Burleighcam, Coastalwatch, BoM.



A link to data recorded continuously at the Tweed Waverider Buoy is available at:

www.epa.qld.gov.au/sandbypass/

SURF & SURF LIFE SAVING EVENTS

Events in May 2007

9-13 May - Malfunction Longboard (Rainbow Bay/Coolangatta)

Upcoming events in June 2007

3 June - Printpoint Masters Surfing Circuit

9-11 June - Quiksilver Queensland Junior Series

30 June – 4 July - Billabong Occy's Grom Comp

Source: Surfing Australia, Surf Life Saving Australia & Surf Life Saving Queensland

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SURF SUMMARY CONTINUED

VOLUNTEER SURF QUALITY OBSERVATIONS

The following observations for May 2007 were made by volunteers Mr Brian Mason and Mr Robert Ford on behalf of the TRESBP.

Date	Duranbah	Frog's Beach / Snapper Rocks	Kirra Point
4 May Mid Morning	1 – 1.5m NE swell, spilling waves. 13 surfers present. Flat surfing conditions.	0 surfers present. No longshore transport occurring. No offshore bar apparent.	Flat to <1m spilling waves. 0 surfers present. No longshore transport occurring. Unpleasant conditions.
11 May Mid Morning	1.5 – 2m ENE swell, plunging waves. 20 surfers present.	76 surfers present. Large longshore transport occurring. No offshore bar apparent.	1 – 1.5m spilling waves. 1 surfer present. No longshore transport occurring. Offshore bar present.
25 May Mid Morning	1 – 1.5m ENE swell. 32 surfers present.	14 surfers present. No longshore transport occurring.	<1m spilling waves. 2 surfers present. No longshore transport occurring. Offshore bar present.

6. BEACH CONDITIONS

PHOTOGRAPHS OF BEACH CONDITIONS

DURANBAH



9 May 2007

RAINBOW BAY



View from Greenmount, 10 May 2007

COOLANGATTA



View from Greenmount , 9 May 2007



View from Kirra, 9 May 2007

KIRRA



9 May 2007



9 May 2007

Source: Department of Lands

7. MEDIA COVERAGE AND COMMUNITY FEEDBACK

MEDIA COVERAGE

13 May 2007, Surfing Australia, "Malfunction"

"Day 4 of the 2007 Malfunction Surf festival scored excellent surf at Rainbow Bay again on the famous "Superbank" with spitting barrels and waves lining up from Snapper Rocks to Coolangatta."

16 May 2007, Gold Coast Bulletin, "Pumping at D'bah"

"Sand pumping is back at Duranbah Beach with the blessing of Kirra Surfriders Club boss Darryl Green."

31 May 2007, Daily News, "Rage prompts waves rules guide"

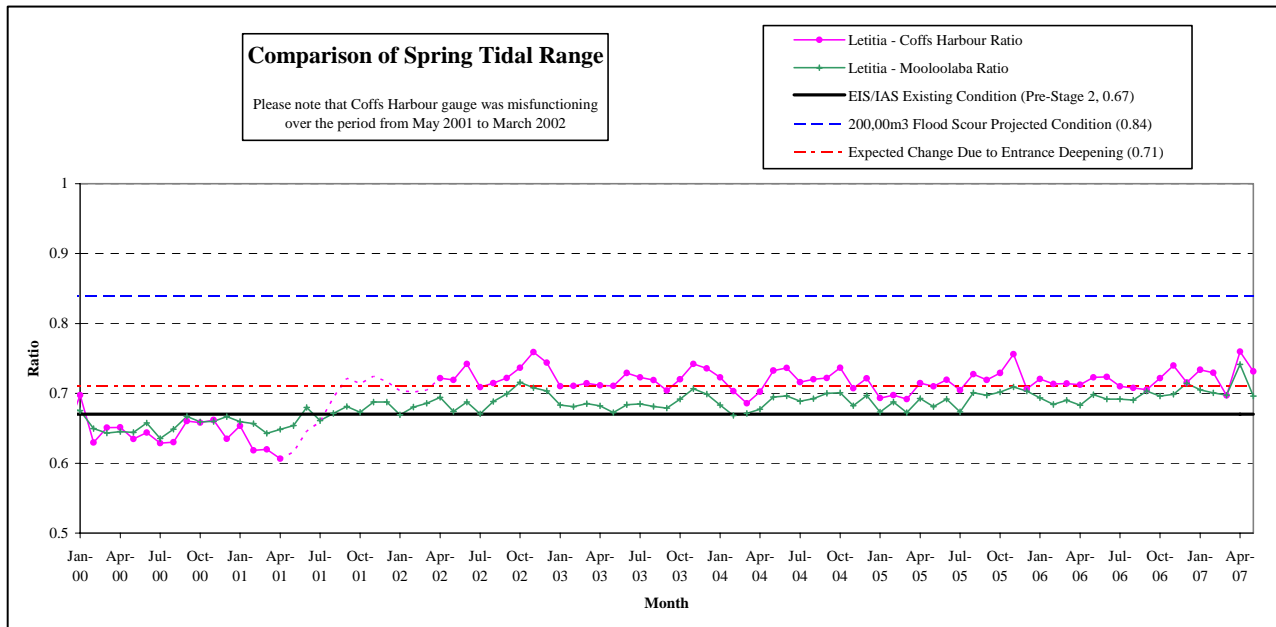
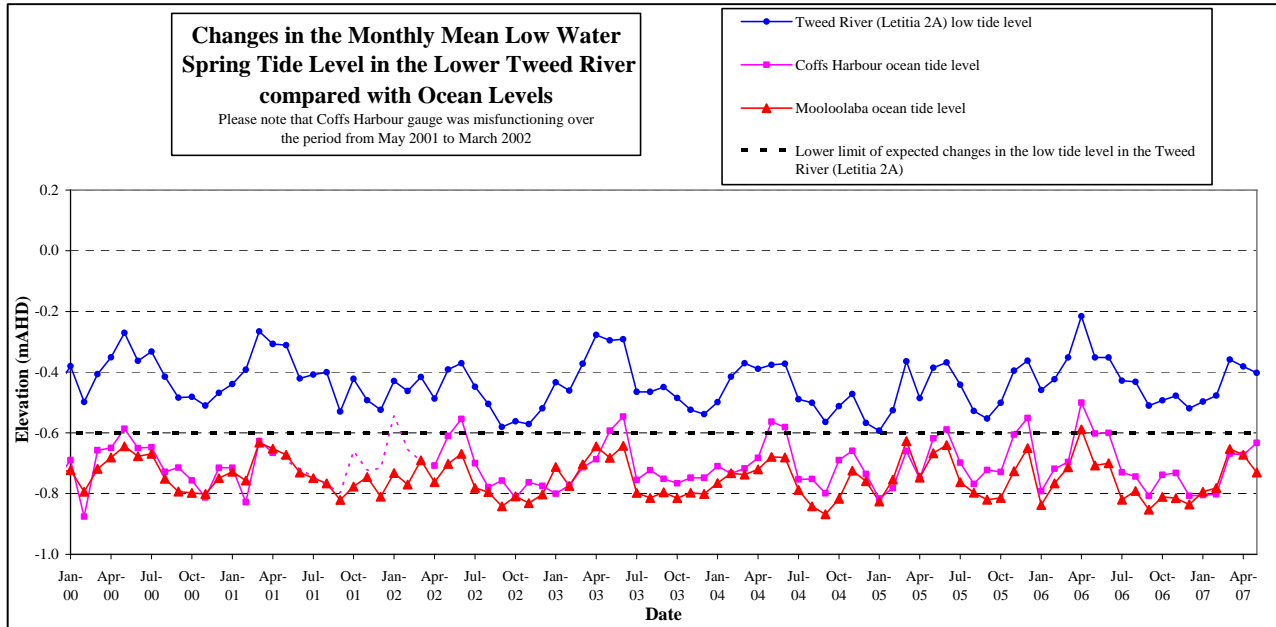
"The 40-year old Lennox Had local has competed in some of the world's most prestigious competitions but admits she has also been the victim of the seedier side of the increasingly popular sport, surf rage...At Snapper Rocks yesterday Mrs Watts said it was time to regulate surfing."

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8. TWEED RIVER LOWER ESTUARY TIDAL CONDITIONS

The Mean Low Water Spring (MLWS) tide level in the lower Tweed River decreased to -0.402 m AHD in May 2007.

The Letitia 2A tidal data for February mirrored the Mooloolaba tidal trends indicating that the TRESBP has not had a significant impact on Lower Tweed River tidal range to date.

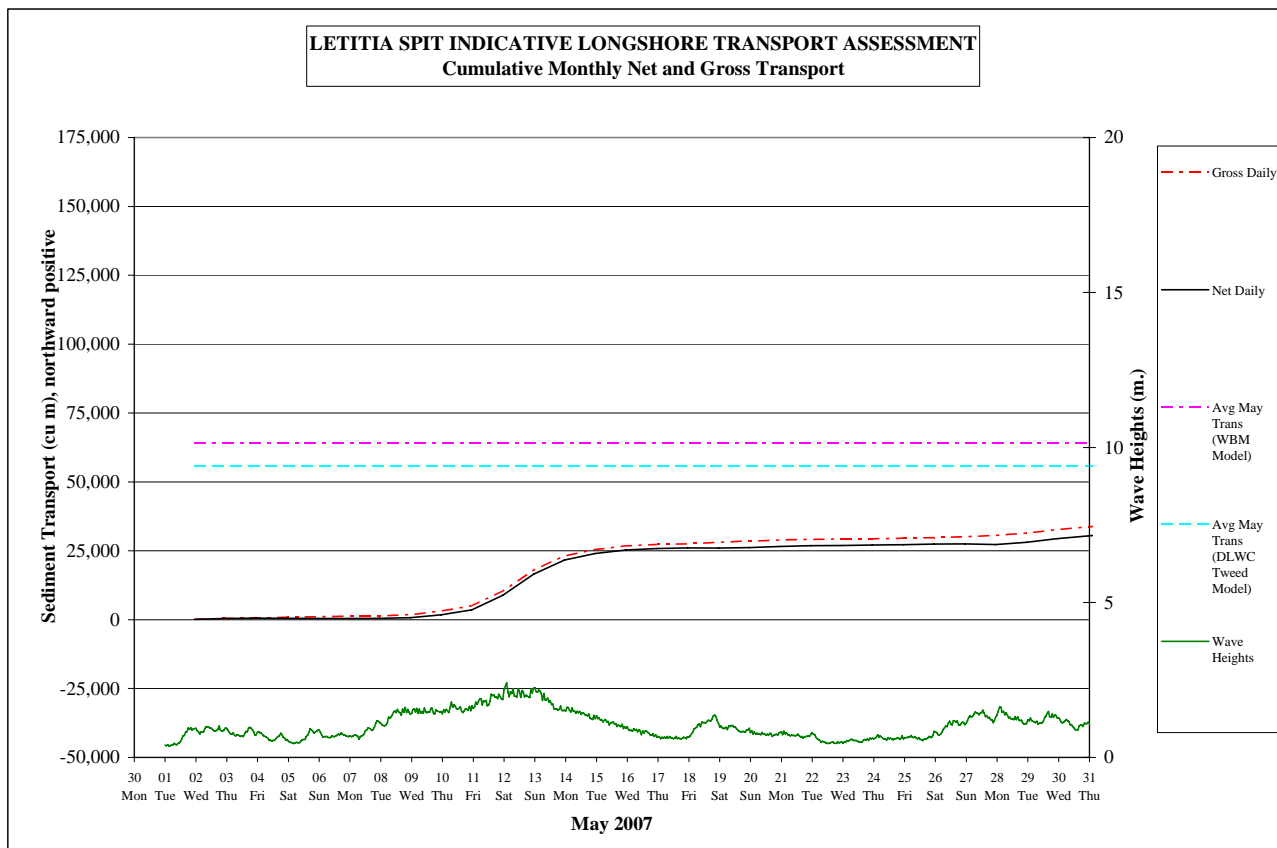


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9. INDICATIVE LONGSHORE SAND TRANSPORT

The longshore sand transport information presented in the graph below is based on a simplified sediment transport model and should only be used as an indicator of the actual sand transport quantities for the month.

It is estimated that during May 2007, 31,000m³ of sand was moved north towards the Tweed River entrance by natural processes. This is approximately half the modelled average sand transport quantity for the month of May.



10. ARGUS COASTAL IMAGING SYSTEM

The University of New South Wales is monitoring Letitia Spit to North Kirra for the project using an ARGUS coastal imaging system. Images are available on the internet at the following address:

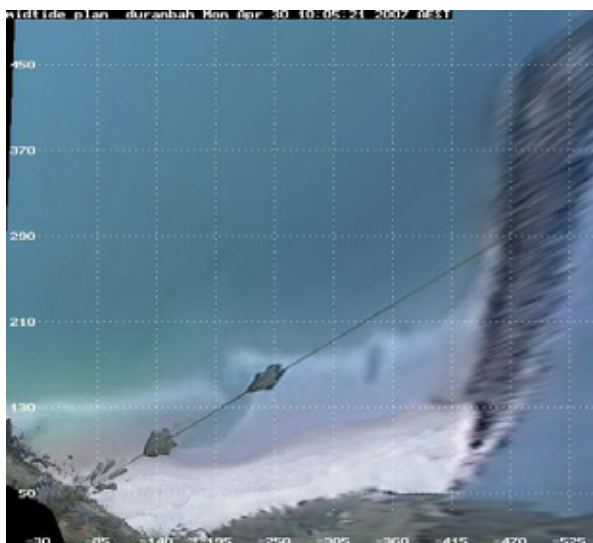
<http://www.wrl.unsw.edu.au/coastalimaging/public/tweed/index.html>

These images are updated hourly and all past photos can be accessed in the archives.

Merged and rectified images taken at mid tide for each of the locations are shown below. Refer to Appendix A for beach width and shoreline analysis for each of the beaches.

DURANBAH BEACH

Note: Sand was pumped to Duranbah beach from 2-28 May 2007

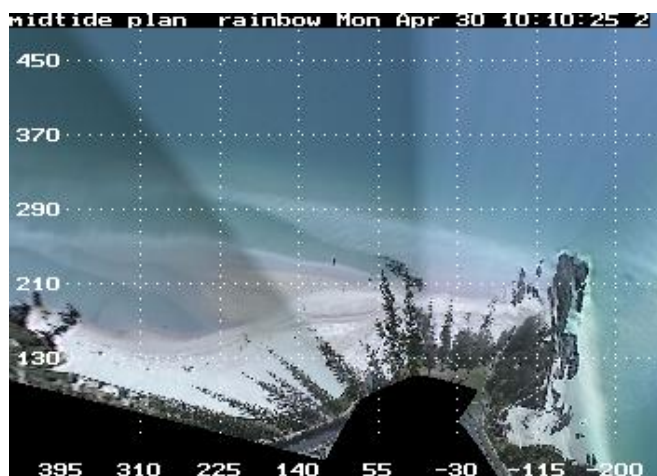


30 April 2007

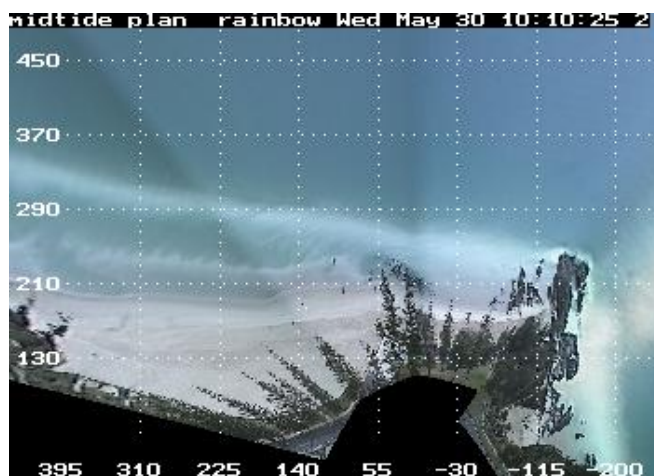


30 May 2007

RAINBOW BAY



30 April 2007



30 May 2007

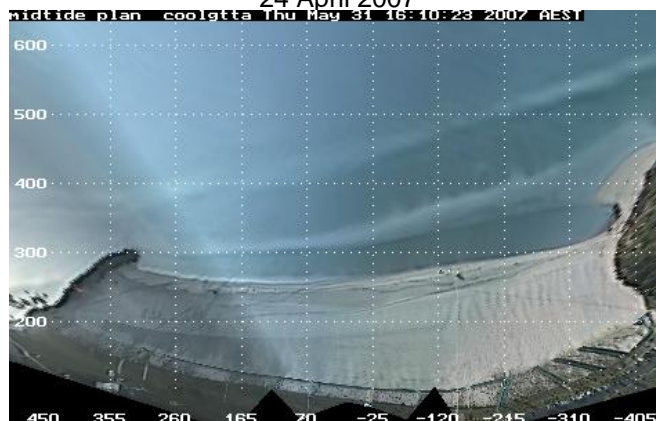
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ARGUS COASTAL IMAGING SYSTEM CONTINUED

COOLANGATTA - GREENMOUNT

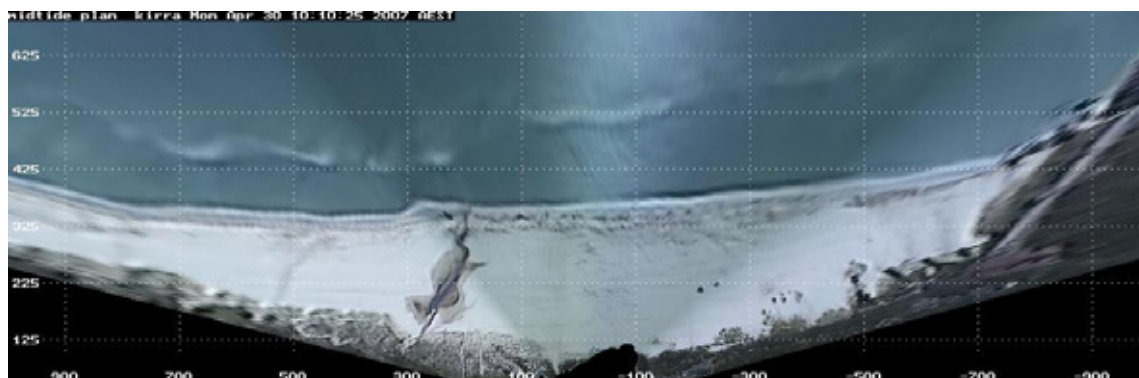


24 April 2007

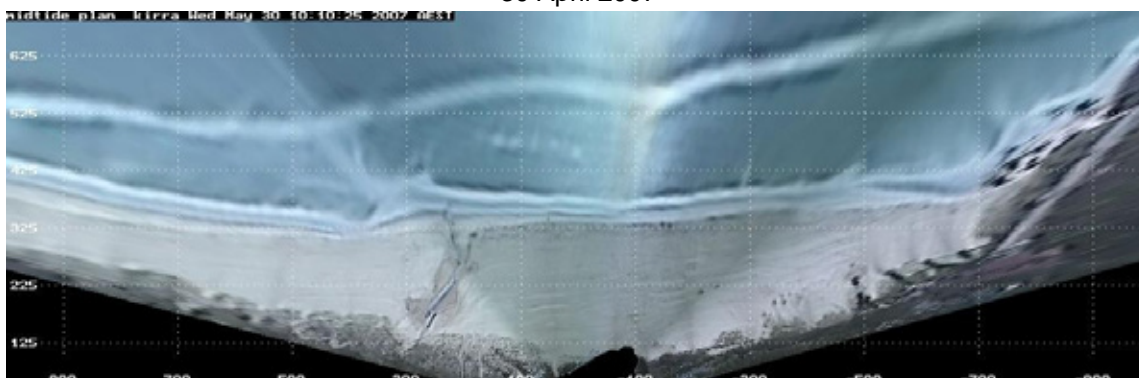


31 May 2007

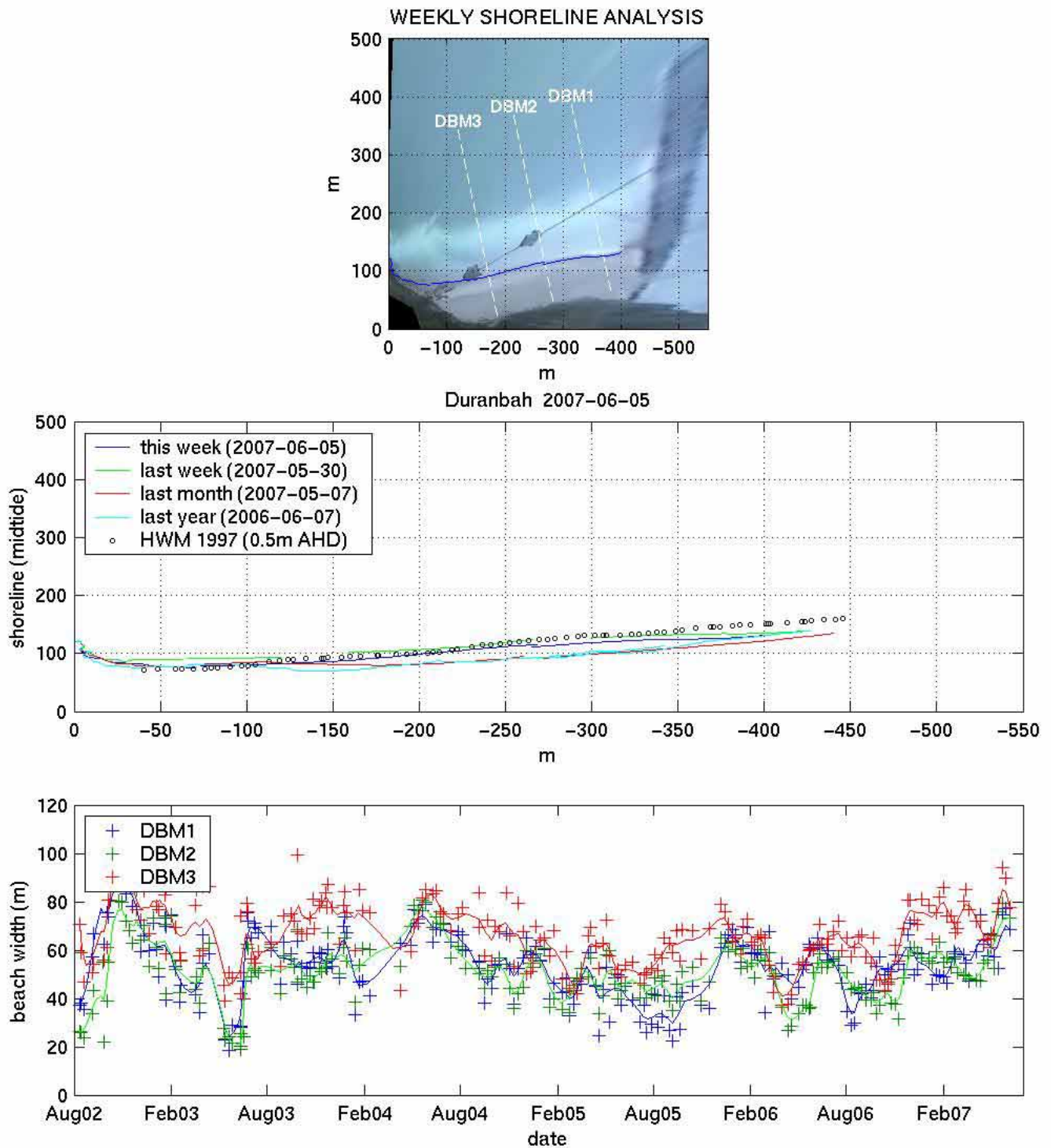
NORTH KIRRA - KIRRA



30 April 2007



30 May 2007



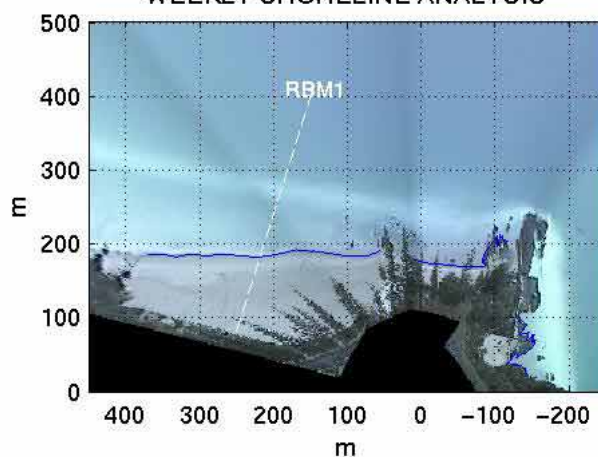
WATER RESEARCH LABORATORY



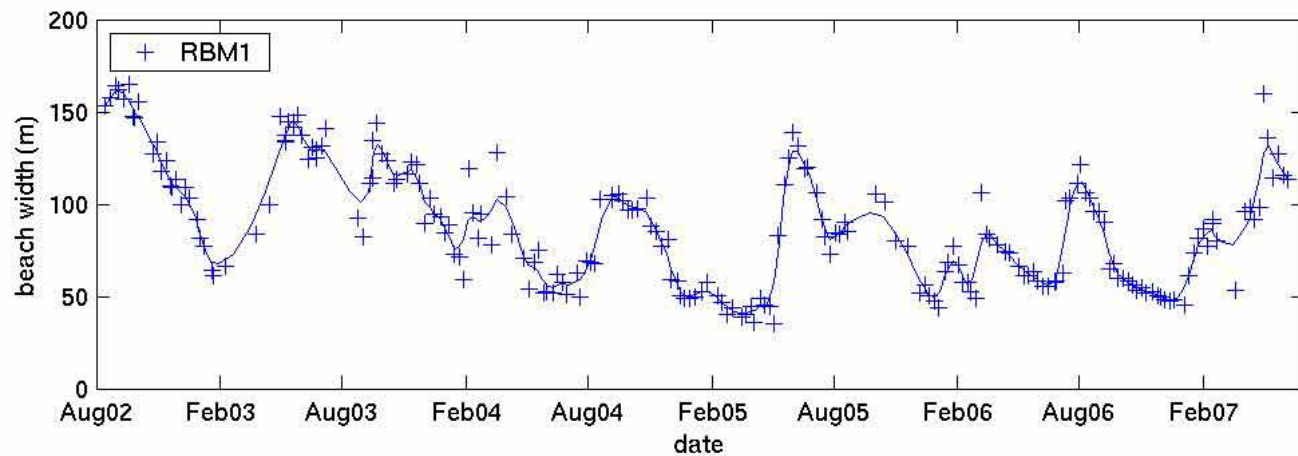
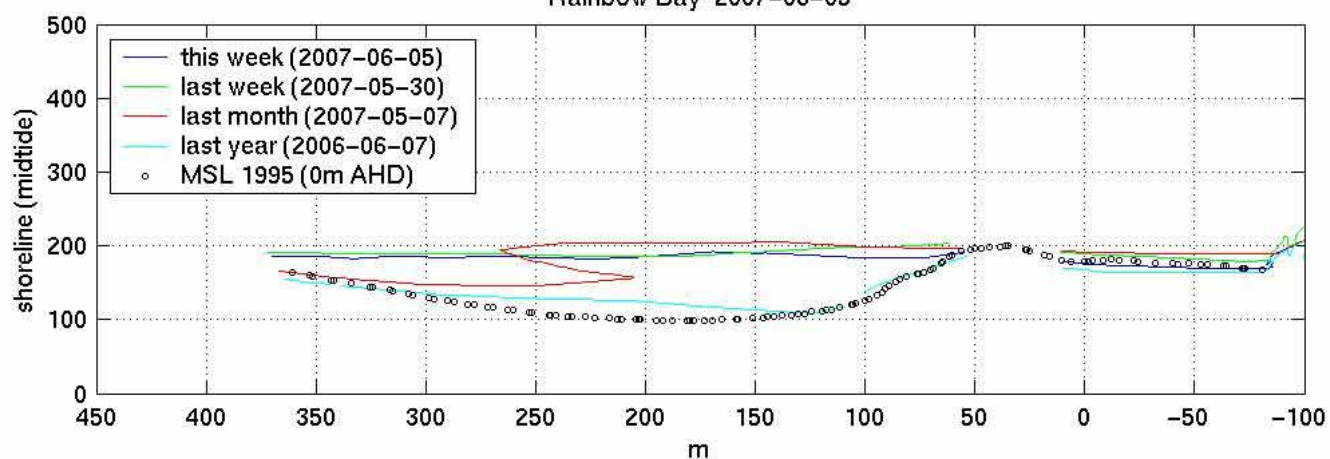
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www.wrl.unsw.edu.au/coastalimaging

WEEKLY SHORELINE ANALYSIS



Rainbow Bay 2007-06-05



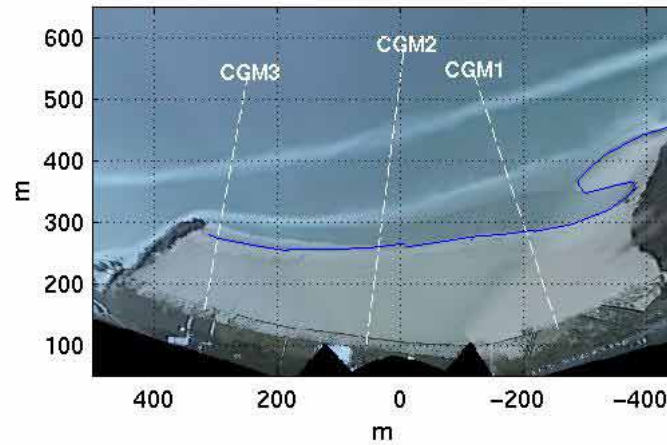
WATER RESEARCH LABORATORY



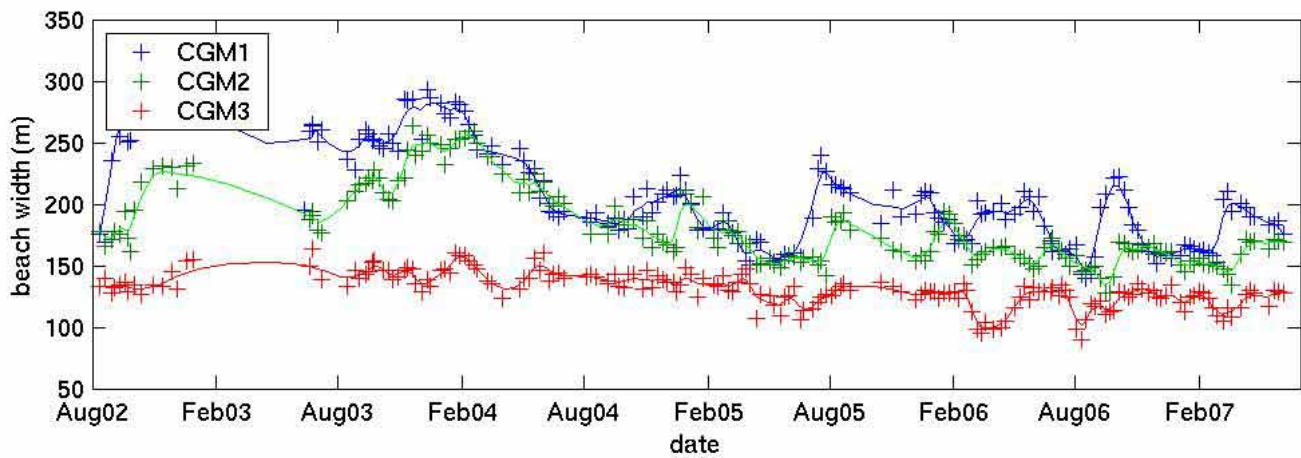
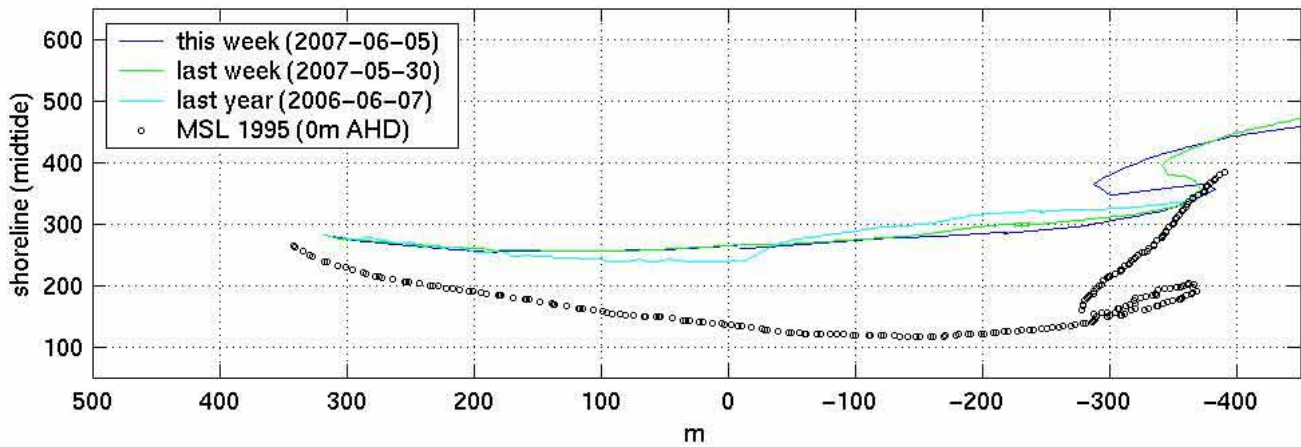
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WEEKLY SHORELINE ANALYSIS



Coolangatta 2007-06-05



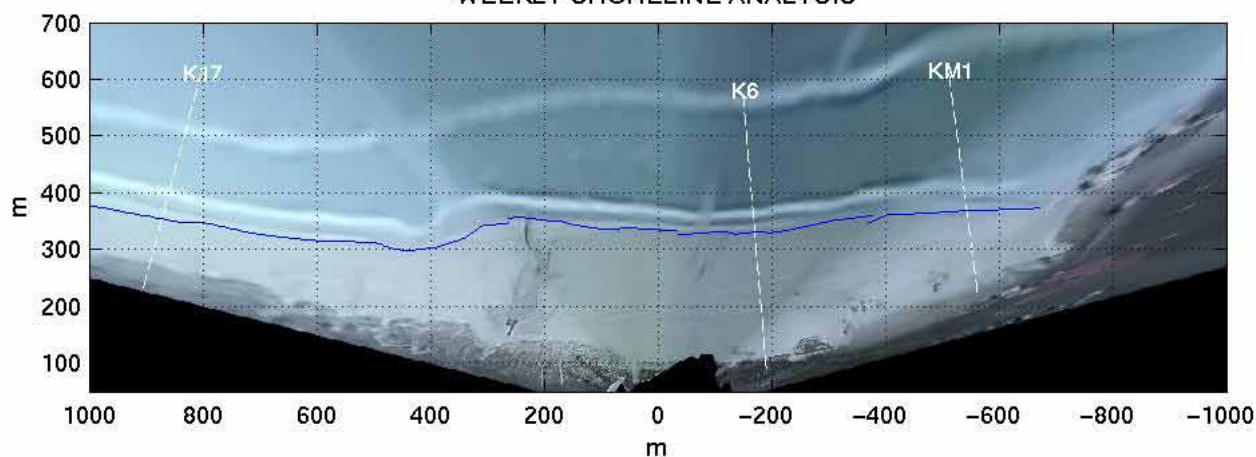
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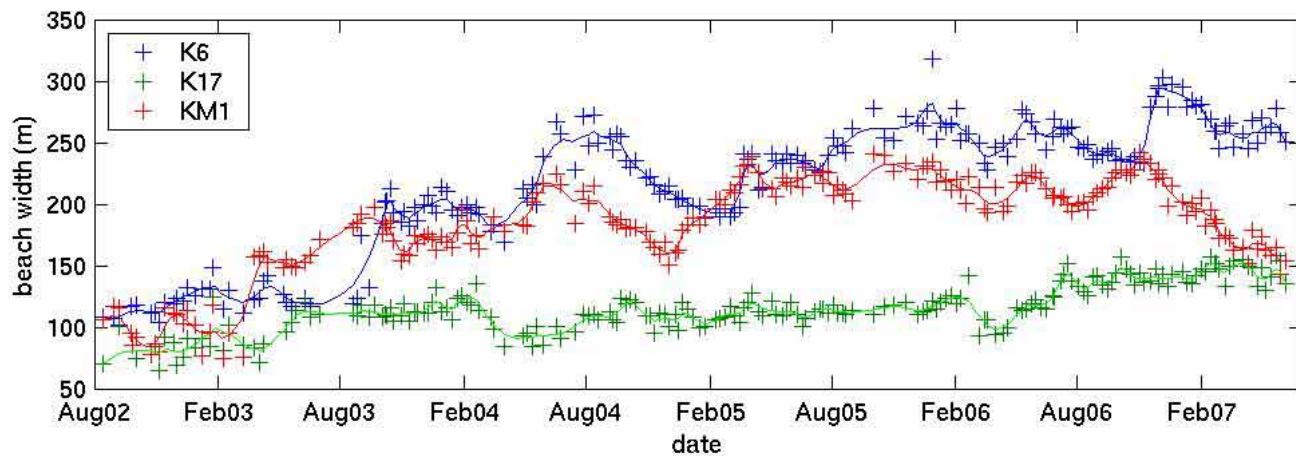
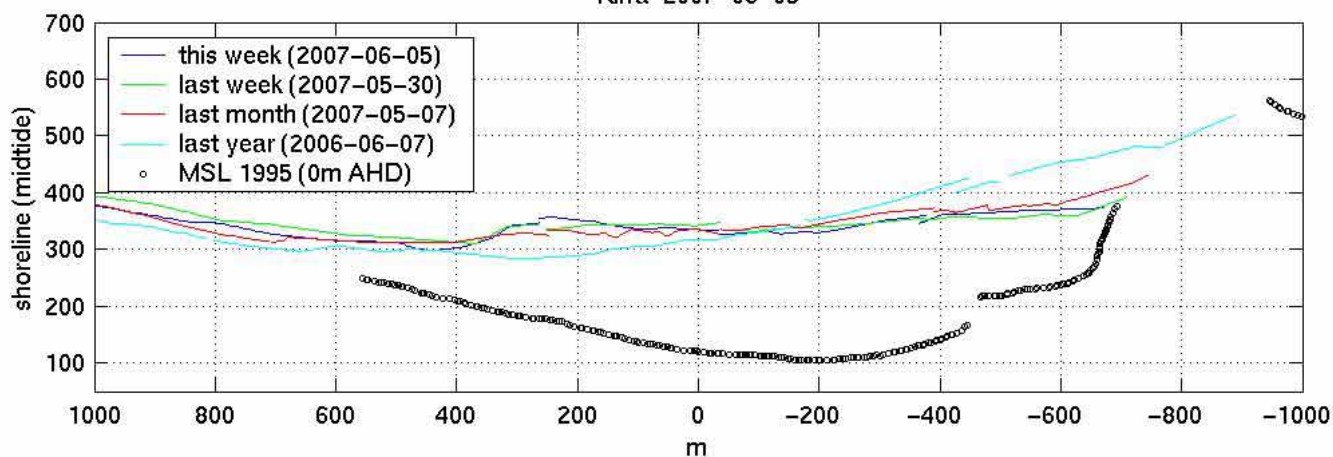
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