

Tweed River Entrance Sand Bypassing Project

Letitia Spit to Kirra



Monthly Environmental Monitoring Summary

FEBRUARY 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.

- The number of vessels that passed through the entrance in February was higher than on average.
- Surf quality in February was generally good.
- 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 75% of the February average.

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

	PUMPED	DREDGED	FEBRUARY 2007 TOTAL DELIVERY
Location	Snapper Rocks East		
Amount (m ³)	58,002	0	58,002

Total Sand Delivery This Year (January to February 2007)

	PUMPED	DREDGED	2007 TOTAL DELIVERY
Amount (m ³)	85,205	0	85,205

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

	PUMPED	DREDGED	TOTAL DELIVERY STAGE 2
Amount (m ³)	3,943,046	1,862,793	5,805,839

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4. TWEED RIVER ENTRANCE CONDITIONS

VOLUNTEER VIDEO MONITORING LOG

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

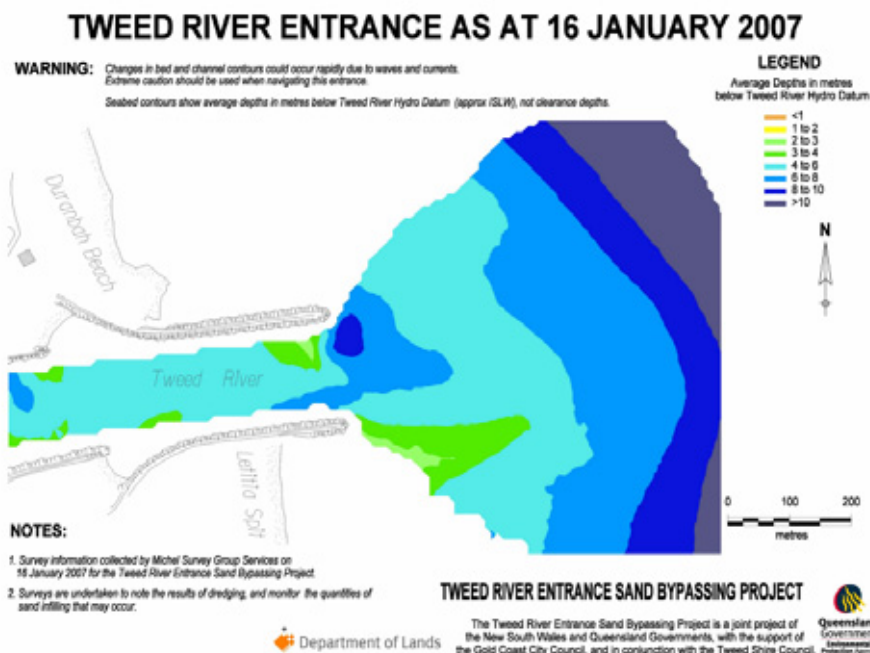
Date	Observations
5 February Morning	Cloudy. Good crossing conditions. No breaks inside or outside the channel.
9 February Morning	Calm crossing conditions. Several small crafts operating.
17 February Morning	Overcast. Fair crossing conditions. No breaks inside entrance.
23 February Morning	Overcast. Good crossing conditions. Small craft operating.

ENTRANCE SEABED MAP

A survey of the Tweed Entrance was undertaken by Michel Group Services on behalf of the TRESBP on 16 January 2007. A Tweed River Entrance Seabed Map based on the results of the survey is currently available on the project's website and is accessible at the following address:

<http://www.tweedsandbypass.nsw.gov.au/surveys.html>

This map has also been made available to the public through NSW Maritime Authority, Tweed Heads.



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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 February 2007 are presented below.

The navigation ratings from 1–5 are as follows:

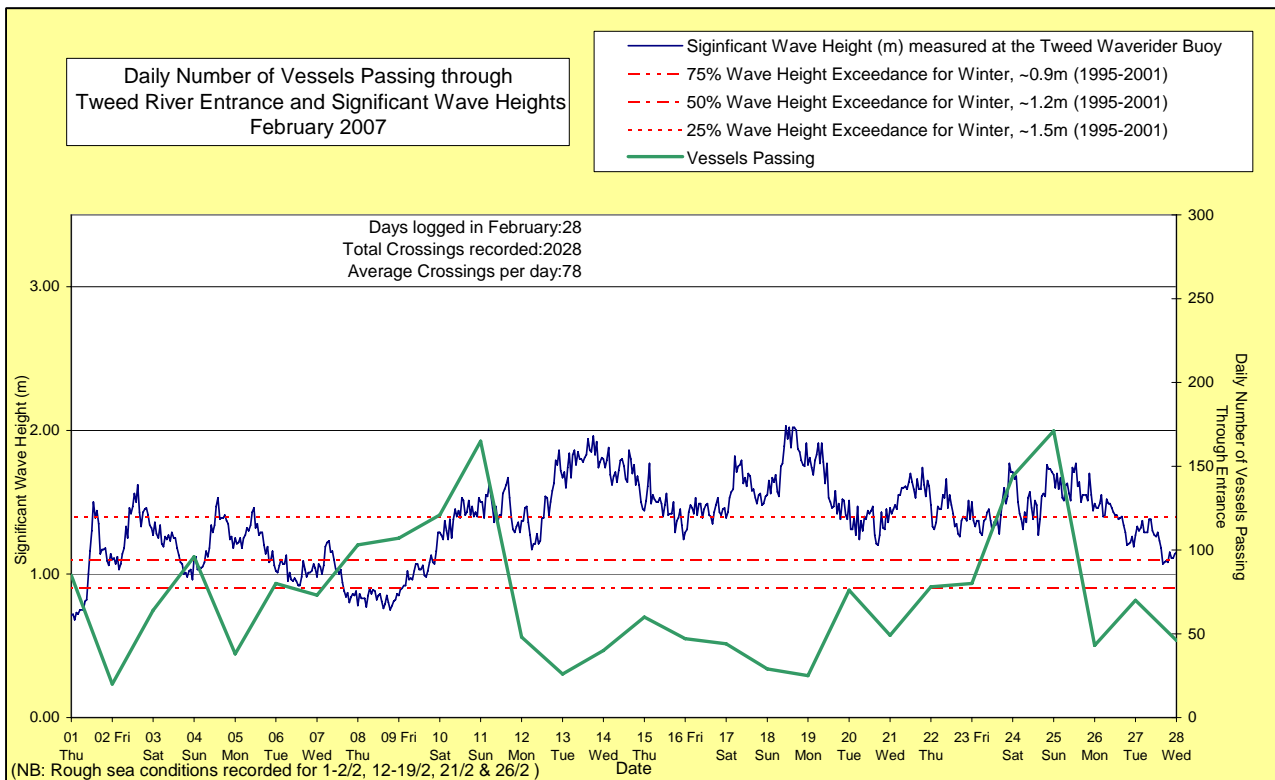
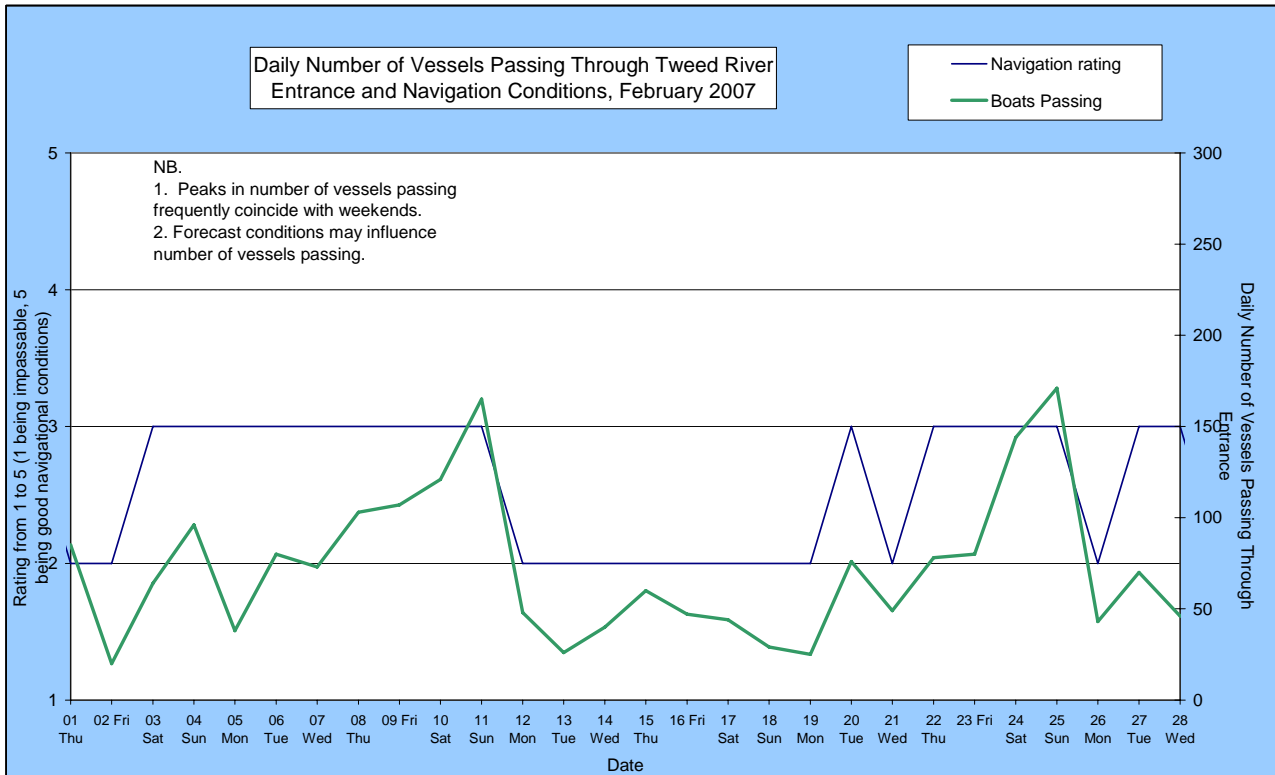
- 1 – Impassable 2 – Difficulty encountered 3 – Some difficulty encountered
4 – Relatively good crossing 5 – Good conditions

☐ – Weekends and public holidays

Date	Entrance Conditions	Navigation Rating Impassable-----Good					Number of Boats
		1	2	3	4	5	
1	Rough						85
2	Rough						20
3	Moderate						64
4	Moderate						96
5	Moderate						38
6	Moderate						80
7	Moderate						73
8	Moderate						103
9	Moderate						107
10	Moderate						121
11	Moderate						165
12	Rough						48
13	Rough						26
14	Rough						40
15	Rough						60
16	Rough						47
17	Rough						44
18	Rough						29
19	Rough						25
20	Moderate						76
21	Rough						49
22	Moderate						78
23	Moderate						80
24	Moderate						144
25	Moderate						171
26	Moderate						43
27	Moderate						70
28	Moderate						46

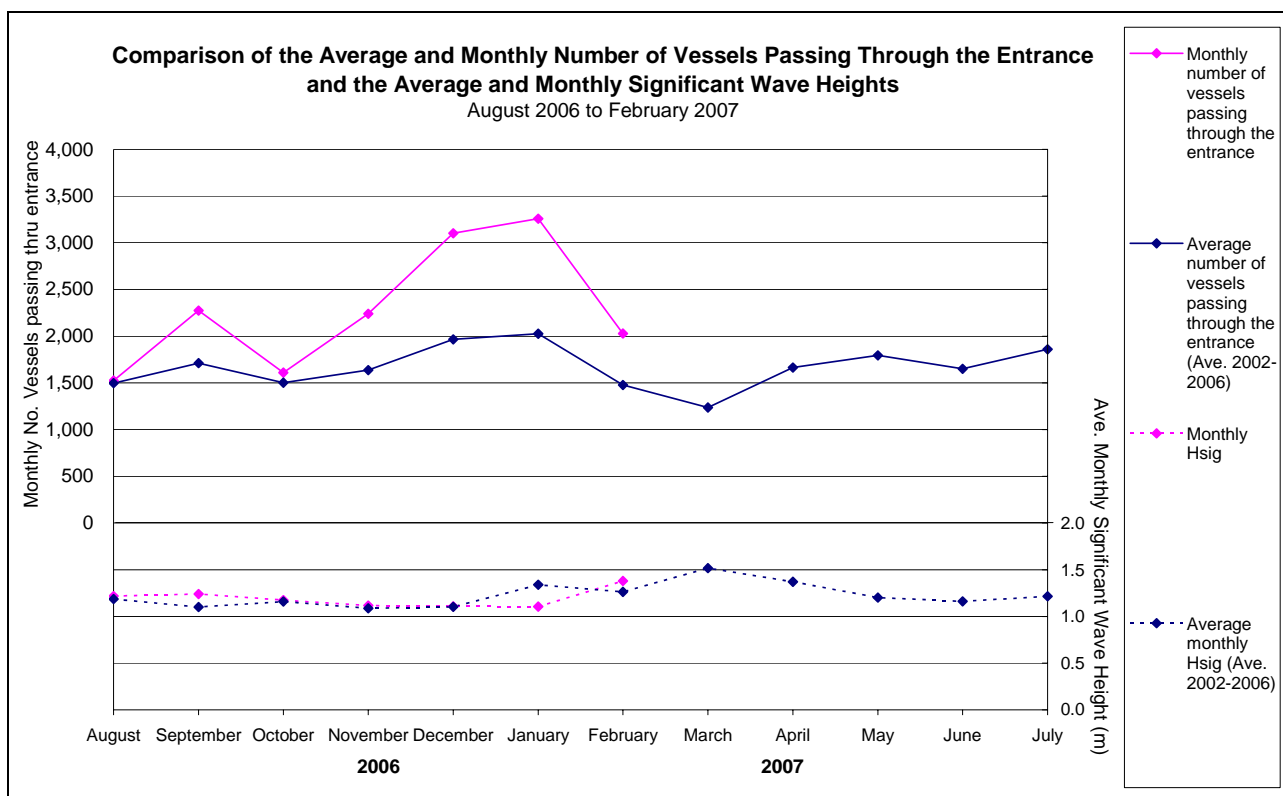
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LETITIA SPIT TO KIRRA
MONTHLY ENVIRONMENTAL MONITORING SUMMARY FEBRUARY 2007**

TWEED RIVER ENTRANCE CONDITIONS CONTINUED



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TWEED RIVER ENTRANCE CONDITIONS CONTINUED



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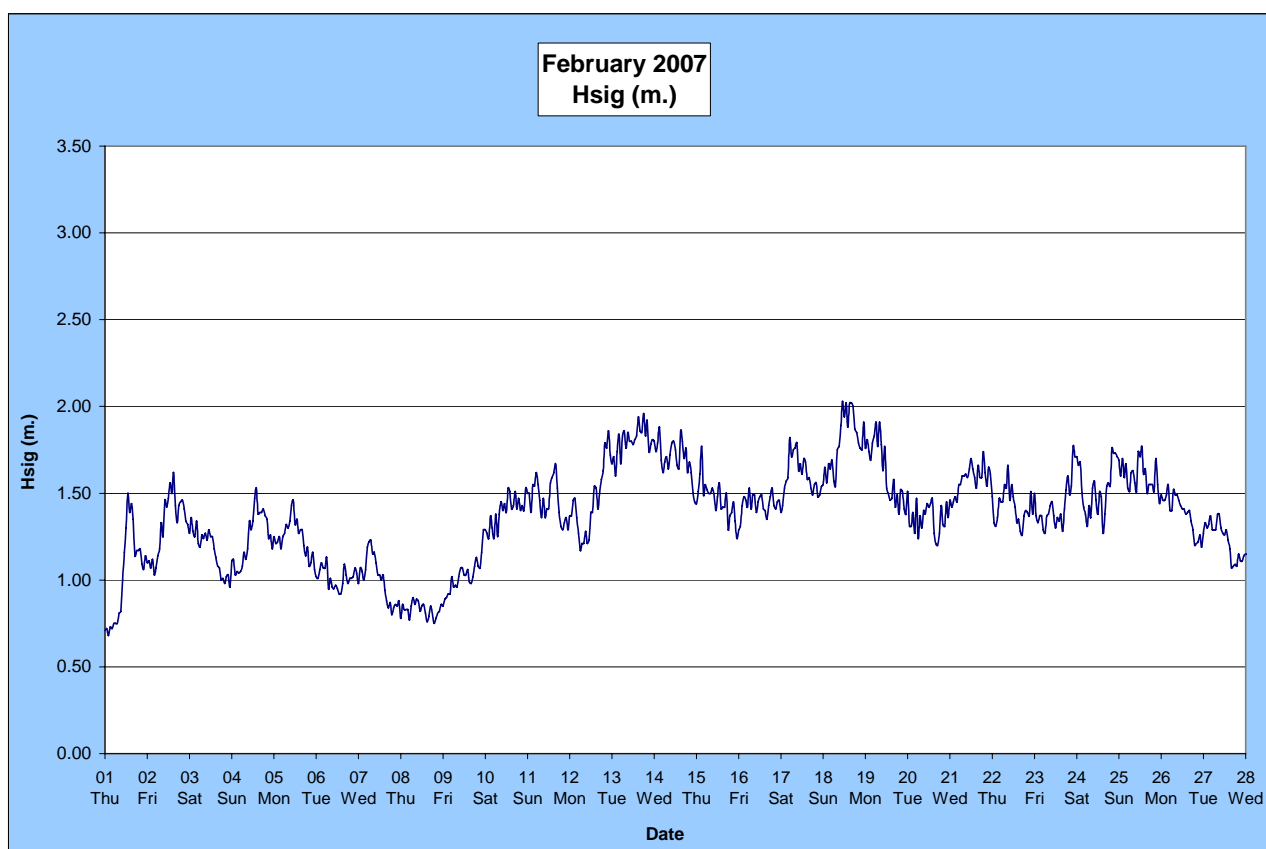
5. SURF SUMMARY

Waves of between 1 – 2 m from the E dominated surf conditions on the Southern Gold Coast in February 2007. Winds varied over the month where the most predominant wind conditions were SW at 10-20 Knots.

Readings from the Tweed Waverider Buoy showed a minimum significant wave height of 0.68m on 1 February and a maximum significant wave height of 2.03m on 18 February. There were 7 recorded days when waves dropped below 1.0m and 1 day when waves were above 2.0m.

Surf quality in February was generally average, with a few periods of excellent conditions occurring throughout 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 February 2007

3-4 February - Rip Curl MP Classic

23-25 February - Rip Curl Kirra Teams Challenge

26 February - Quiksilver Pro Trials

27 February – 11 March - Quiksilver Pro Gold Coast - Snapper Rocks

Upcoming events in March 2007

27 February – 11 March - Quiksilver Pro Gold Coast - Snapper Rocks

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 February 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
5 February Morning	NE swell. 93 surfers present. Waves coming in all directions.	44 surfers present. No longshore transport occurring. No offshore bar apparent.	1 – 1.5m waves. 13 surfers present. No longshore transport occurring. Offshore bar present.
9 February Morning	Plunging waves. 65 surfers present.	25 surfers present. Small longshore transport occurring. No offshore bar apparent.	<1m spilling waves. 13 surfers present. No longshore transport occurring. Offshore bar present.
17 February Morning	1 – 1.5m ENE swell, plunging and spilling waves. 60 surfers present.	20 surfers present. Small longshore transport occurring. No offshore bar apparent.	1 – 1.5m spilling waves. 27 surfers present. Average longshore transport occurring. Offshore bar present.
23 February Morning	1.5 – 2m ENE swell. 65 surfers present. Carnival in progress. Good wave conditions for board riders.	78 surfers present. Average longshore transport occurring. No offshore bar apparent.	<1m plunging and spilling waves. 7 surfers present. No longshore transport occurring. Offshore bar present.

6. BEACH CONDITIONS

PHOTOGRAPHS OF BEACH CONDITIONS

DURANBAH



23 February 2007

RAINBOW BAY



View from Greenmount, 23 February 2007

COOLANGATTA



View from Greenmount , 23 February 2007



View from Kirra, 23 February 2007

KIRRA



23 February 2007



23 February 2007

Source: Department of Lands

7. MEDIA COVERAGE AND COMMUNITY FEEDBACK

MEDIA COVERAGE

1 February 2007, Daily News, "Bring back groyne"

"The Tweed and Gold Coast's surfing leaders have made a passionate call for the restoration of Kirra's Big Groyne to its pre-1996 length at a public meeting."

2 February 2007, Gold Coast Bulletin, "Kirra break options on the board"

"Gold Coast City Council is investigating three options to improve surf quality at Kirra Point which are estimated to cost between \$500,000 and \$4 million to implement."

8 February 2007, Daily News, "Government open to Kirra talks"

"Queensland Environment Minister Lindy Nelson-Carr has opened the door for talks with Griffith University and leading Gold Coast and Tweed surfers on restoring Kirra's perfect surf."

20 February 2007, Daily News, "D-bah in line for facelift"

"The Duranbah Beach precinct looks certain to get a facelift after NSW Lands Minister Tony Kelly yesterday announced a management plan for the surfing Mecca would be requested from Tweed Shire Council."

23 February 2007, Daily News, Your View "Surfers are feeling the groyne strain"

"Another controversy over the Big Groyne? Yes, but how people forget. Kirra Beach used to have a caravan park and camping area. All that remains now is the round brick toilet block that was completed just prior to the 1972 cyclone season."

25 February 2007, Gold Coast Bulletin, "New plan to break Kirra wave drought"

"The Coast's top surfers want their break back and with the help of a new six-point plan, that might become a reality."

27 February, ABC 7.30 Report, "Surfer world tour begins at Gold Coast"

The news story discussed how the current surfing conditions at Kirra are no longer what they used to be, primarily because of the Tweed Sand Bypass Project.

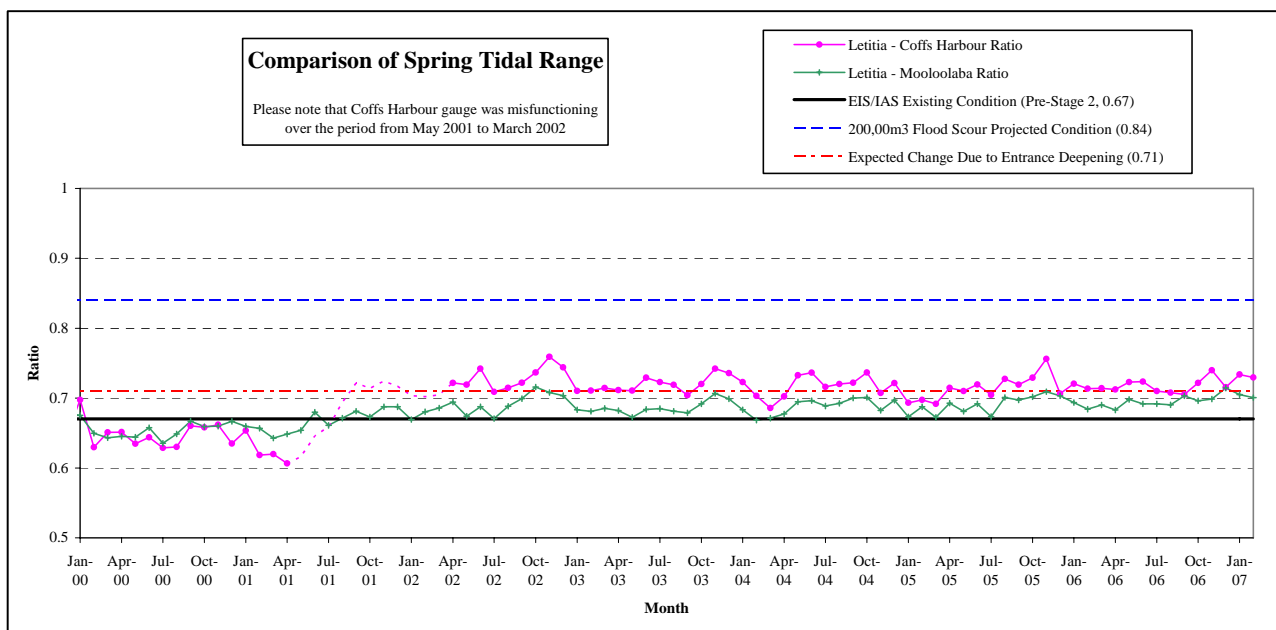
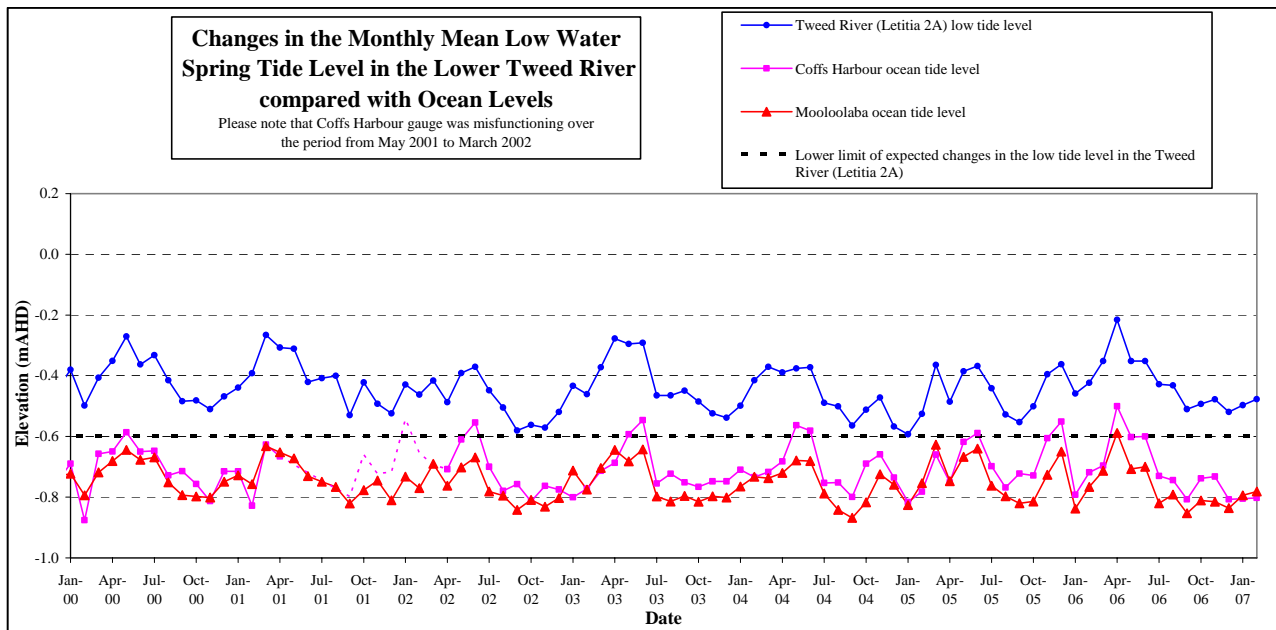
"While some argue it's only a matter of time before a big storm reshapes the beach and brings the waves back to Kirra, a group of surfing champions think otherwise"

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8. TWEED RIVER LOWER ESTUARY TIDAL CONDITIONS

The Mean Low Water Spring (MLWS) tide level in the lower Tweed River increased to -0.477 m AHD in February 2007.

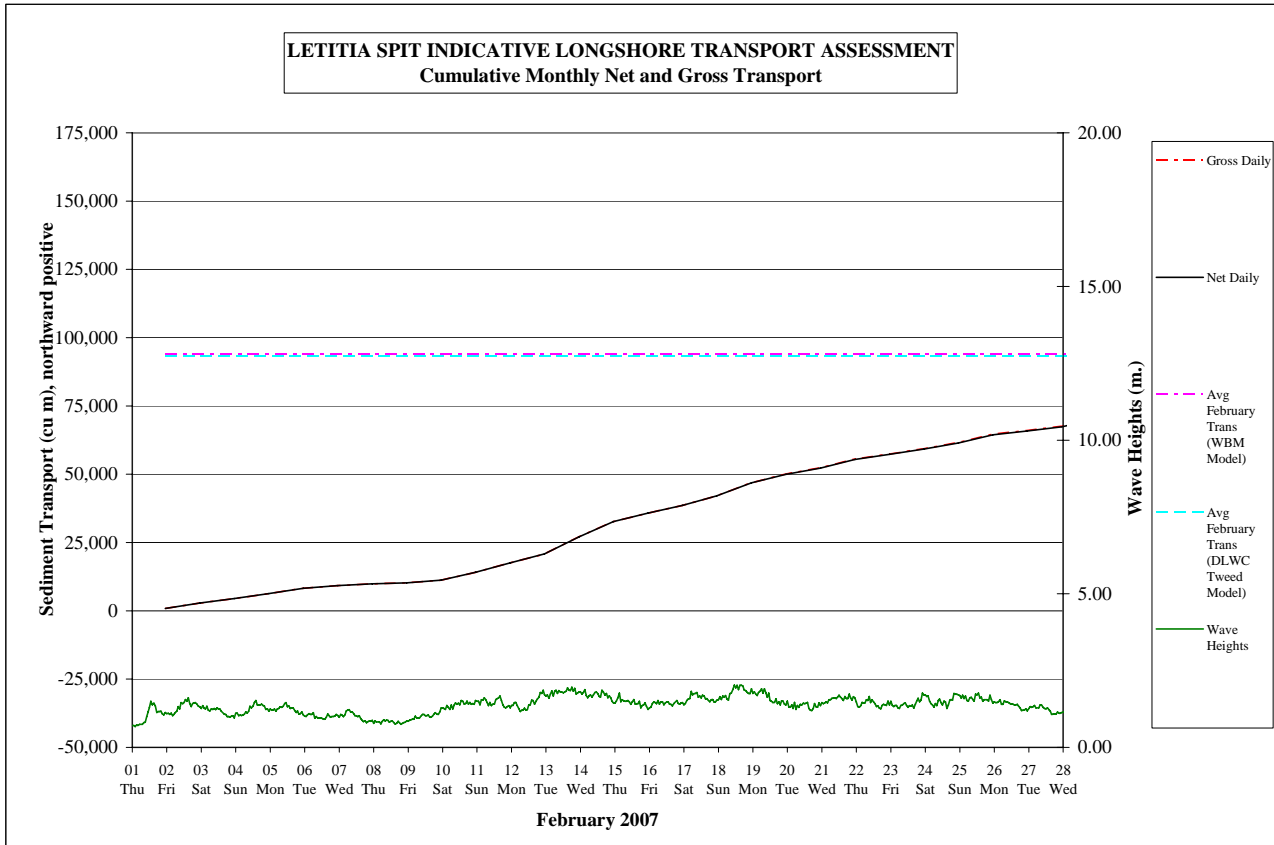
The Letitia 2A tidal data for February mirrored the Mooloolaba tidal trends indicating that the TRESBP has not had a significant impact on Lower Tweed River tidal range to date.



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 February 2007, 70,000m³ of sand was moved north towards the Tweed River entrance by natural processes. This is approximately a quarter less than the modelled average sand transport quantity for the month of February.



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

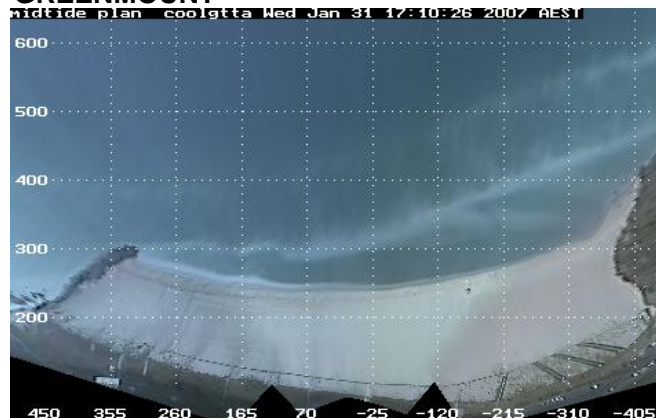
Merged and rectified images taken at mid tide for each of the locations are shown below. Refer to Appendix A for beach width and shoreline analysis for each of the beaches.

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ARGUS COASTAL IMAGING SYSTEM CONTINUED

COOLANGATTA - GREENMOUNT

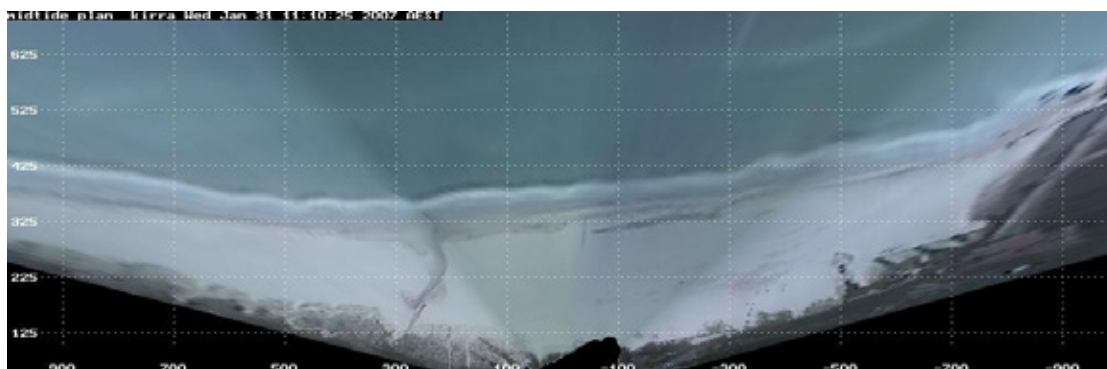


31 January 2007



28 February 2007

NORTH KIRRA - KIRRA

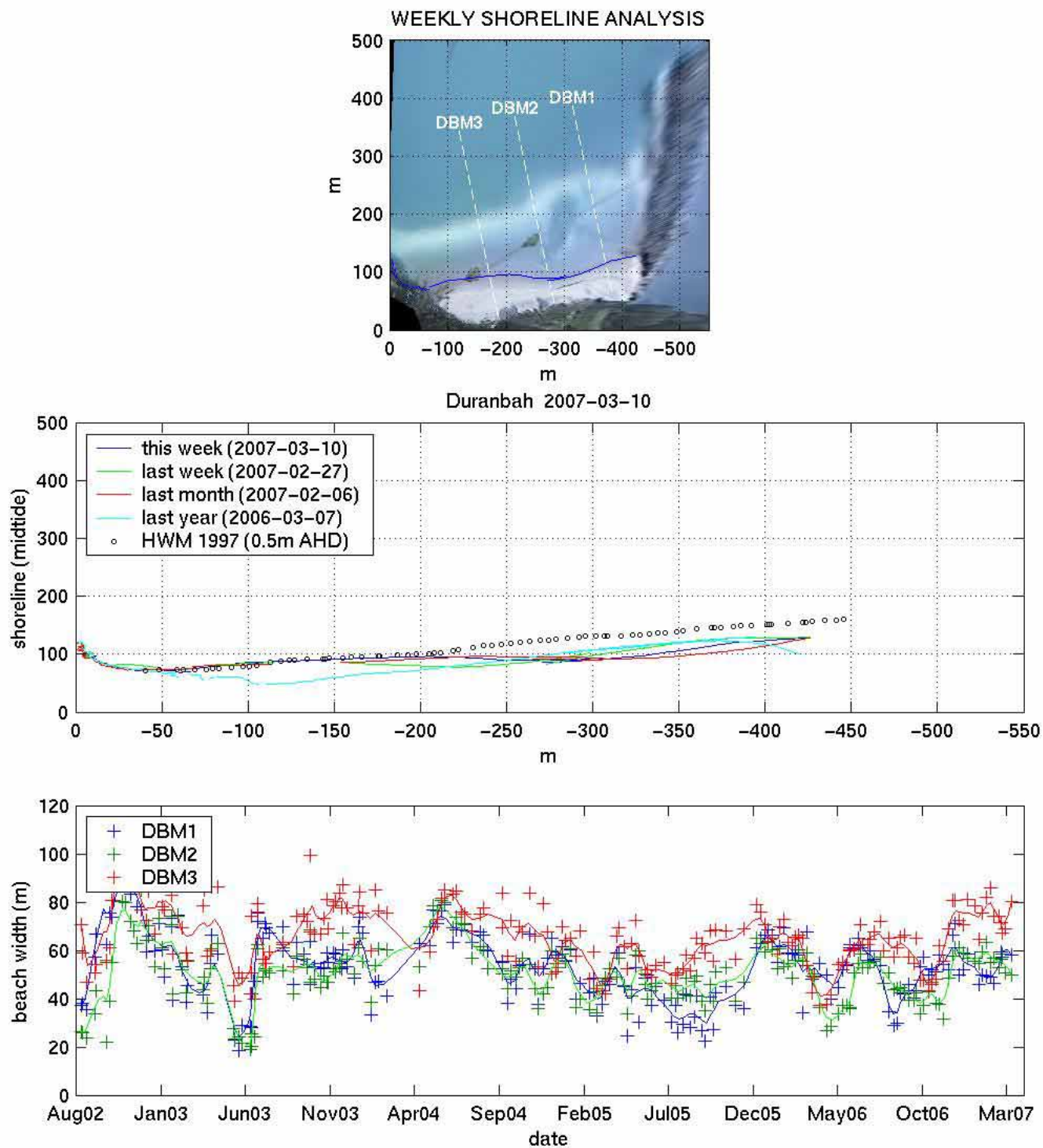


31 January 2007



28 February 2007

APPENDIX A - BEACH WIDTHS



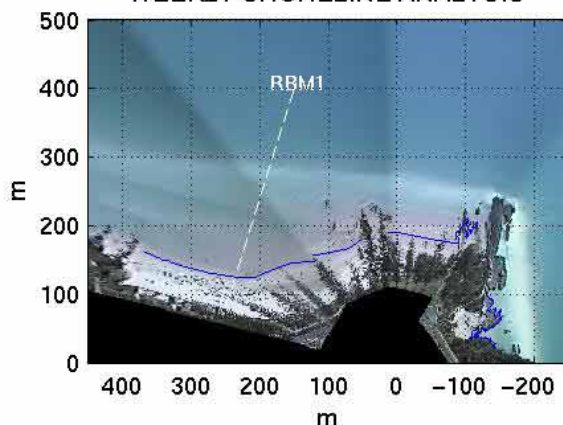
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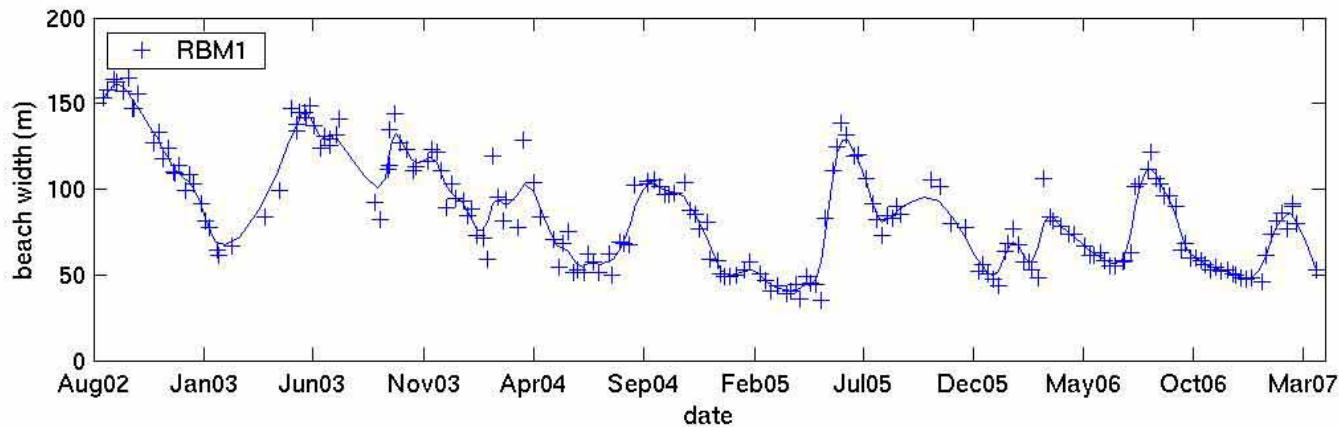
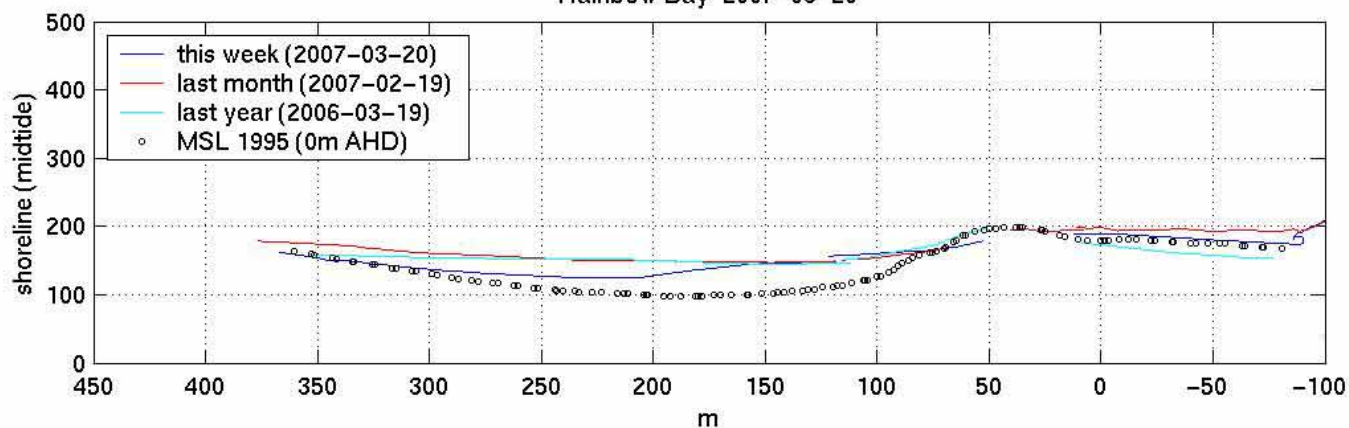
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WEEKLY SHORELINE ANALYSIS



Rainbow Bay 2007-03-20



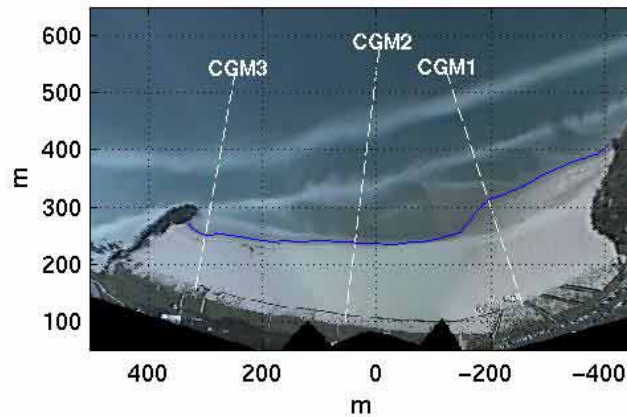
WATER RESEARCH LABORATORY



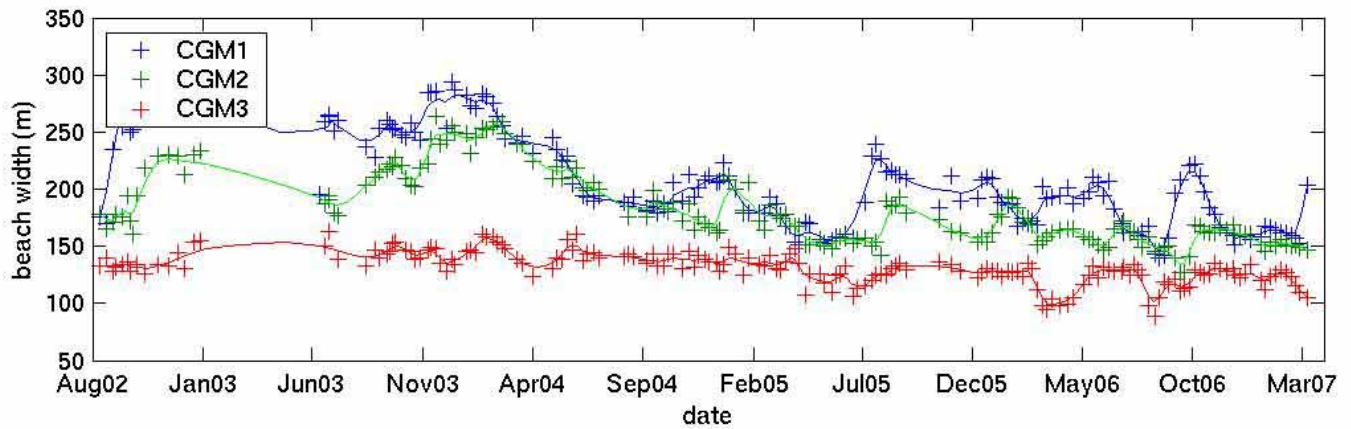
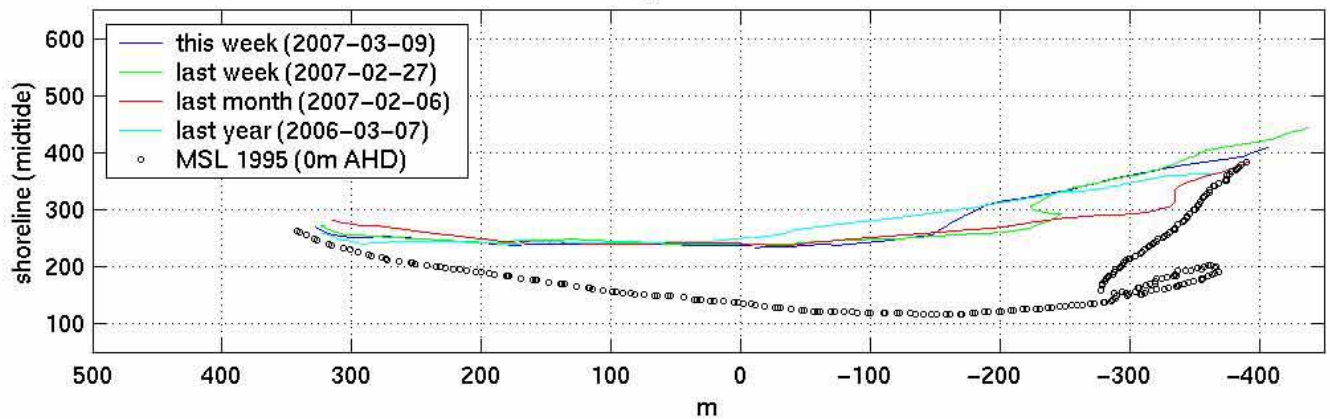
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WEEKLY SHORELINE ANALYSIS



Coolangatta 2007-03-09



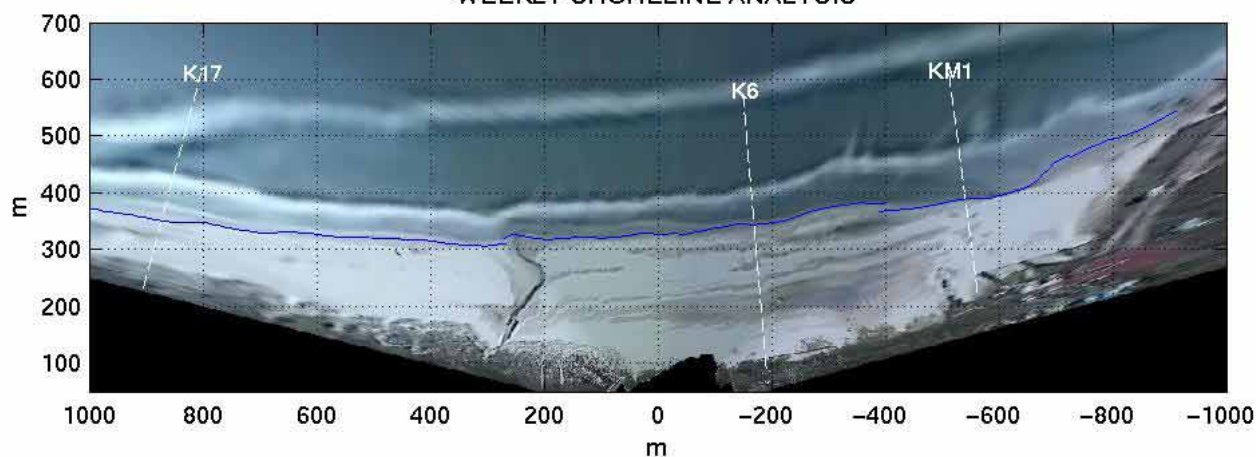
WATER RESEARCH LABORATORY



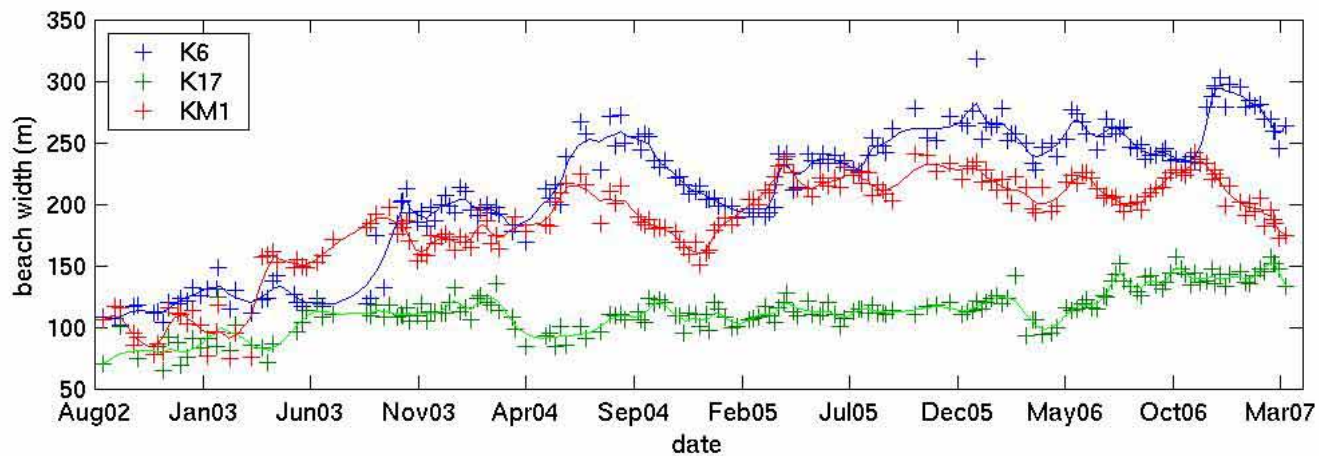
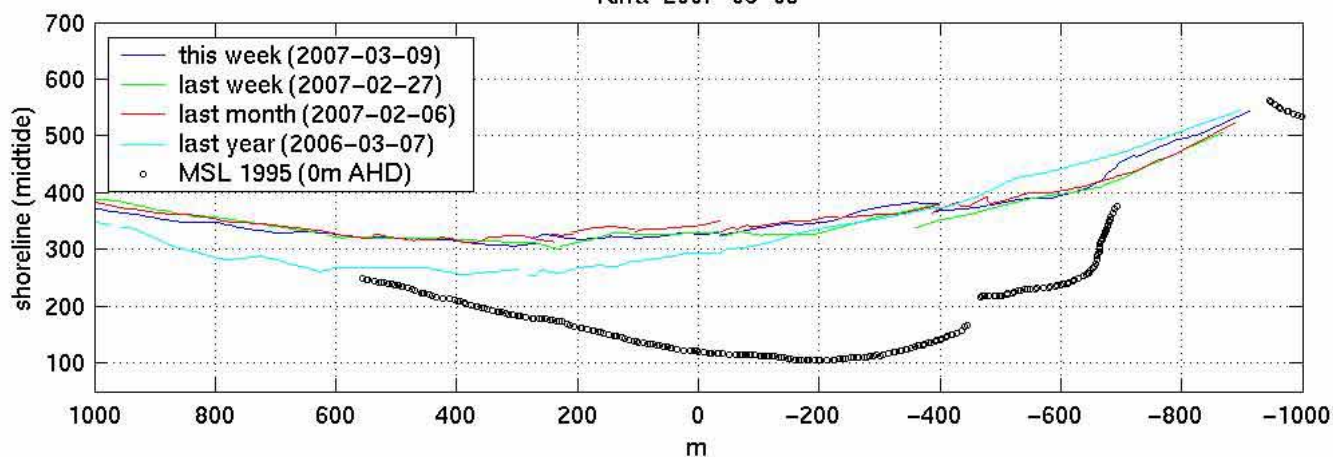
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