

Student Name:

Campus:

Course:

BLACK'S BEACH FIELD TRIP #2 WORKSHEET

Observations and Analyses of Coastal Waves and Currents

Field Stop #1 - From the Bluff Top Overlooking Black's Beach

1. Observe and Record the Local Offshore Swell Conditions for Today:

Swell #1: Swell height Swell direction Swell period

Swell #2: Swell height Swell direction Swell period

a) If there are two or more swell running, how can you tell by the wave patterns?

b) Does the CDIP Wave Model match the locally observed swell conditions? _____

2. Observations of the Surf Conditions for Today

a) What is the surf height, shape and quality? Surf height: _____

Surf shape: _____ Overall surf quality: _____

b) Compare the offshore swell height (out at sea) to the surf height (when wave starts to break in the surf zone). Why is the surf height roughly twice as much as the swell height?

c) Do you see evidence of wave refraction or wave interference with today's waves? Describe.

3. Observations and Analysis of Today's Tide Chart:

	<u>Time</u>	<u>Tidal height</u>	<u>High or Low?</u>
First Tide of the day:	_____	_____ feet	_____
First Low Tide:	_____	_____ feet	_____
Second High Tide:	_____	_____ feet	_____
Second Low Tide:	_____	_____ feet	_____

a) Is the present tide conditions a slack, ebb, or flow tide? _____

b) Are we in a neap tide or spring tide part of monthly tidal cycle? _____

c) Do we have a Diurnal, Semidiurnal, or Mixed tide pattern in San Diego? _____

4. Observe and Record the Longshore Current Conditions for Today:

a) Do you observe a longshore current? _____ If yes then record the direction and speed:

Direction: _____ Relative Speed: _____

b) What causes a longshore current to develop inside the surf zone?

c) What is the prominent direction of the longshore current in Southern California? Why?

d) What is the longshore *drift or transport*? What causes it? Where does it ultimately end up?

5. Observe and Record the Rip Current Conditions for Today:

a) Do you observe a rip current? If yes, then record the number, spacing and intensity:

Number: _____ Spacing: _____ Intensity: _____

b) Which direction do the rip currents move through the surf zone? _____

c) What causes a rip current to develop inside the surf zone?

d) What are the tell-tale signs for spotting a rip current?

e) What do you do if you are caught in a rip current and need to escape it?

POST TRIP REFLECTION:

a) What did you learn on this trip? _____

b) What did you find most interesting, enjoyable and/or important? _____

c) What did you find most difficult or challenging? _____
