

Oceans 11
Test Outline - Coastal Zones

Format: Total (50pts)

Section 1: Definitions (10 pts)

Section 2: Multiple Choice & True/False (15 pts)

Section 3: Visuals (10 pts)

Section 4: Short Answer (15 pts)

Terms

	spit
	bay barrier
shore/shoreline	tombolo
coast/coastline	longshore current
nearshore	hard stabilization
offshore	groins
berm	jetties
longshore bar	breakwater
headlands	sea walls
sea cliffs	gulf stream
sea caves	labrador current
sea arch	specific heat capacity
sea stack	strait
	sea

coastal zone
EEZ (Exclusive Economic zone)
marine subsystem
terrestrial subsystem
coastal subsystem
watershed
estuary
rocky shore
sandy beach
salt marsh
mudflat
continental shelf
anthropogenic climate change
greenhouse effect
renewable energy
non-renewable energy
gulf
channel
ocean
bay

Summary of Topics Covered.

1) Intro to Coastal Zones

- Terminology
- Shoreline/Coastline Diagram (foreshore, backshore etc.)
- Beaches are composed by material that is available in that geographical location
- Movement of sand (zig-zag pattern) caused by longshore current
- Diagram of an erosion coast
- features of a depositional shore (spit, bay barrier, tombolo)
- examples of hard stabilization (shoreline armoring)
 - * groins, jetties, breakwaters, sea walls
- alternatives to hard stabilizations
 - * replace sand, not allowing construction in high risk areas, relocation
- pros and cons of hard stabilizations
 - * pros (helps slow down erosion, protects infrastructure, maintains property value)
 - * cons (expensive, eye sore, loss or changes to marine habitat)

2) Coasts and the Climate/Weather

- Ocean Currents (Gulf stream & Labrador current)
- Gulf stream helps fuel hurricanes and other storm systems with its warm water
- Proximity to Water
 - * Ocean moderates the temperature of coastal regions
 - * Reason: High specific heat capacity of water (takes a long time to cool down or warm up)
- Analysis of Climographs

3) Defining Coastal Zones

- Three Subsystems (Marine, Terrestrial, & Coastal)
- Characteristics, Resources, & Challenges
- Marine Ecosystems (matching diagram with ecosystem)
- Types of Bodies of Water (Gulf, Strait, Sea, Ocean, Channel, Bay)

4) Major Types of Coastal Zones

- Estuaries, Rocky Shores, Sandy Beaches, Salt Marshes, & Mudflats
- Challenges, Wildlife, Human Activities

5) NS Coastlines (in general)

- Terrestrial (good relief, rocky, several rivers flowing into ocean)
- Coastal (mainly rocky shore type...few marshes and estuaries due to steep relief)
 - Marine (wide trailing edge type of continental shelf - Scotian Shelf), (gulf stream and Labrador current)

6) Coastal Zones Around the World

- Different from N.S. (coral reefs, mangroves, narrow continental shelves, & different color beaches depending on the type of minerals/land that are present in the area)...white (quartz), red (iron), manganese (purple), volcanic rock basalt (black).

7) Climatic Factors Affecting Coastal Zone Structure and Properties

- Rainfall patterns (volume of freshwater input - size of estuaries & marshes)
- Wind patterns (erosional forces)
- Ocean currents (upwelling of nutrients to the surface)

8) Importance of Coastal Zones to Humans

- Majority of people live along the coast
- Marine (fossil fuels, marine species, aquaculture)
- Terrestrial (good farmland, minerals, timber)
- Coastal (tourism, beaches)
- Population still increasing (higher demand for resources, coastal land)

9) Human Influences (concerns)

- Overharvesting of Fisheries (extinction, loss of work, community economic problems, overfishing of one fish stock can have a negative effect on apparently unrelated species)
 - Habitat Degradation and Destruction (increased building of new infrastructure, clear-cutting of forests, damage to seafloor by draggers)
 - Pollution (untreated human sewage, toxic wastes from industries, runoff (road salt, pesticides, fertilizers, oil products from vehicles, oil spills)
 - Global Climate Change (change in water temperature, rising sea level, increased storm frequency and severity)
 - Human Population Growth (more space, more wastes/pollution, degrades coastal zone environment)

10) Climate Change

- Greenhouse effect (trapping of heat in our atmosphere by GHGs)
- Example of GHGs (CO₂, methane, nitrous oxide, CFCs)
- U.S. & China Greatest Emitters of GHGs
- Canada is a higher emitter on a per capita basis
- Carbon dioxide - GHG having greatest influence on global warming
- Non-renewable energy sources (oil, gas, nuclear)
- Renewable Energies (wind, sun, hydro, geothermal)
- Climate Change Indicators
 - * Arctic Sea Ice decreasing
 - * Rise in sea level (melting of land based ice sheets, and warming of ocean water)
 - * Increased storm severity and frequency
 - * Increasing Global Average Temperature
 - * Increasing levels of GHGs
- Things we can do to help prevent global warming
 - * Reduce fossil fuel emissions
 - * Use renewable energy sources
 - ~ Solar power
 - ~ Wind power
 - ~ Tidal power
 - ~ geothermal power
 - * use active transportation methods
 - ~ biking, walking
 - * grow and buy local foods
 - * turn lights off
 - * recycle
 - * stop deforestation