spheres of the earth

Hydros-phere	made up of water	rivers, lakes, streams, oceans, groundwarer, polar ice caps, glaciers, water vapor, clouds, and precip-itation
Biosphere	made up of all living organisms	plants, animals, bacteria, fungi
Geosphere	*ground* composed of all rocks and minerals	mountains, continents, ocean floor, sad, bedrocks and *earth's interior layers*
Atmosphere	body of gas that envelops earth	carbon dioxide and gaseous elements

Layers of earth

Crust	outermost and thinnest layer of Earth there are two types: contin-ental (less dense) and oceanic (dense)
	☐ **listosphere**: crust and upper mantle
	☐ **asthenosphere**: below the lithosphere is the asthenosphere layer, a much hotter and malleable portion of the upper mantle.
Mantle	**M**iddle layer, the crust is thicker and denser because of aluminum and magnesium
Core	**C**enter of the earth
	outer core: liquid (melted) nickel and iron because of high temper-ature

Layers of earth (cont)

inner core: higher temperature and is in solid form because of the atomic pressure

Geological Processes

Hydrometeoro-logical Hazard	A process or phenomenon of atmosp-heric, hydrological or oceanographic nature
	Typhoon Thunderstorm Flood Storm Surge El Niño La Niña Rainfall--induced landslide Tornado
Typhoon (pacific and Indian Ocean, Hurricane for Atlantic Ocean.	Are intense circulating winds with heavy rain over tropical waters and land
tropical cyclones (bagyo)	wind systems circulating around a low-pressure area (warm water)
	Tropica:l depressio-nspeed up to 61 kph
Eye of the storm	A region of most calm weather at the center of strong tropical cyclone
Monsoon	seasonal wind patter
	amihan:cloudless skies and cold mornings
	habagat: brings heavy rain
Flood	hazard brought by heavy rains where theres a progressive rise in water level

Geological Processes (cont)

Tornado	is a narrow, violently rotating column of air
Thunde-rstorms	characterized by strong winds, heavy rains, lighting and thunder
	- formed when wam air mass if forced to move upeard by cold air mass
Storm Surge	- rise of normal sea level cause by winds that are directed toward the shore
	not a Tsunami
El Nino	It refers to the large-scale warming of the ocean and atmosphere across the central and east-central Equatorial Pacific.
La Nina	begins in the eastern part of the Pacific Ocean, much similar to the location of El Nino. The sea surface temperatures during this period become lower by 3-5 degree Celsius. Cyclones formed during this time shift westward going to the direction of china.

Thunderstorm Hazards

1. heavy rainfall that can lead to flooding.

2. lightning that can electrocute humans and livestock and damage electrical facilities.

3. air turbulence which can displace or disorient a flying aircraft.

4. fire that can burn building and vegetation.

Flood Hazards

1. disruption of commercial and industrial operations leading to loss of income

2. stand-still traffic causing paralysis in network transportation and communication

3. displacement of affected homes and families

3. displacement of affected homes and families

5. waterborne diseases such as leptospirosis and typhoid fever.

Geological Processes

exogenic process	occuring on the surface of the earth, responsible for transforming rocks
weathering	breaking down of rocks
*physical/mechanical weathering8	can be done mechanically or chemically, theres no change in chemical composition
chemical weathering	the breakdown of rocks by chemical mechanisms
- Examples:	**Hydration**: minerals dissolving when coming into contact with water
	Carbonization: reaction between rocks and carbonic acid
	Oxidation: causes rock to become fragile

Geological Processes (cont)

Differential Weathering	- landscape shaping
	Examples: Fall, slides, flow
Erosion	The conponents of soil pile up and are physically removed from their place.
	☆ *Agents*: the materials are trasported to different locations through **moving water, wind, gravity, and animals**
endogenic process	takes place within the earth resposible for the changes of the surface of the earth
internal heat	source of energy of endogenic processes
Geological Processes	physical processes which create and modify landforms on the surface of the Earth
Mass Wasting	the downslope movement of rocks & soil under the influence of gravity

Marine and Coastal Processes and Hazards

Atmospheric factors affecting coastal erosion	Climate change and gravity
Human factors	Pollution, and sand and gravel extraction which can increase the strength of the waves

Marine and Coastal Processes and Hazards (cont)

Coast	part of the land near the sea
	contains some of the world's sensitive and threatedned ecosystems
Coastal Processes	waves, tides, sea leve, change, crustal movement
	- they could pose threat to life but shape the physical environment, providing habitat such as turtle or seabird nesting beaches, reefs, and mangrove forests or seagrass beds.

Coastal Hazards

Coastal Erosion: displacement of land along the coastline

Submersion: movement of coastal sediments from the vidsible portion of a beach to the submerged nearshore region of the coast

Saltwater Intrusion: Is the movement of saltwater to freshwater

endogenic

Endogenic Processes	caused by radioactive decay from the Earth's core and the redistribution of materials in the Earth's interior
	effect is formation of landforms

endogenic (cont)

tensional stress:	occurs when a rocks is pulled causing it to be stretched in a divergent boundary
shearing stress:	occurs when the forces that push the rocks and faults in opposite directions
compre-ssional:	occurs when a rock is *squeezed* until it folds or breaks in convergent boundary
Foldin-g/folds	wavelike plastic deformation that result to compressional stresses
Anticlines (upwar-ping)	forms mountains & hills
Synclines (downw-arping)	forms valleys and trenches
Monocline	gradual bending

Types of Stress

Normal Fault	faulting where the hanging wall goes down
Reverse Fault	faulting where the hanging wall goes up
Strike-Slip Fault	faulting caused by a shearing force
	foot wall is longer, hanging wall is shorter
Convergent Plate Boundary	where 2 plates move towards each other and destroys the crust
Divergent Plate Boundary	where 2 plates move away from each other and usually occurs on ocean ridges

Types of Stress (cont)

Transform Plate Boundary	where plates slide horizontally past one another which produces zigzag plate margins & shallow earthquakes

3 Types of Rocks

Sedime ntary rocks	are formed from layers of sand, silt, dead plants, and animal skeletons.
Igneous rocks	are formed from melted rock deep inside the Earth.
Metamo rphic rocks	formed from other rocks that are changed by heat and pressure underground.

Terms

Sea floor spreading	seafloor slowly spreads & moves sideways away from the mid ocean ridge
Convection Current	hot magma is forced upward to the litosphere. As it reaches its destination, the litosphere moves horizontally carrying the plates with it. As it cools, the magma becomes denser and sinks in the mantle, overlying the crust with it.
	he concept where hot air rises, cool air sinks