Glacier Fall

- ICE FALL: One Ice Glacier is continuously falling onto the other.
- Marginal Lake: Ice Blocked
- Huge amounts of water (was trapped)
- Leaves water ring marking - i.e. ring around tub.

Depositional Glacier (Landforms)

MORAINES = generic name for majority Depositional Glaciers.

Terminal moraine marks the farthest pt. of Glacier (could make a dam and block everything below that pt. is called OUTWASH)

Area called OUTWASH

Rocks, dirt, etc. called terminal moraine

When water travels down Mt. = it will sort out the sizes of rocks.
- Largest to smallest

Glaciers will NOT do that everything is all mixed up.
1. Oldest area pt. of Glacier being present
2. Glacier advances up the mt. slope
3. Thus rock/dirt are left in file called RECESSONAL

LATERAL MORaine

Material drops after glacier melts.

MEDIAL MORaine

GLACIER TARNs

Lake formed when glacier melts

ROCK STEPS

Of water can fell over rock steps

Hangs falls come in @ 90° into fall (H2O)

Rock is more resistant
Thus, doesn't erode away when glacier melts
**Post Glacier Notch** — left over from after Glacier past thru.

**Landslide Lake** — landslide makes an instantaneous dam. Blocks stream -> Thus, eventually makes a lake.

**Finger Lake** — Stream valleys. Glaciers come thru and carve into it creating lakes that are all connected.

**ALP** — terrain in which glaciers move over it.

**California** — only has Mt. Valley & Alpine Glaciers.

**ALL HAVE SIDES**

**ALL HAVE LATERAL MORaine**

**CONTINENTAL GLACIERS** = DON'T HAVE SIDES -> LATERAL MORaine

**Interlobate moraine** — think bare feet step into mud. Mud squishes. Brows, toes.

**Moulin** — hole thru ice

(Kame)

**Pile of stuff left by a glacier**
Tunnels of H₂O - Travel under Glacier

**ESKER** - water that flows under Glacier carries suspended load and when Glacier melts the left over rock/dirt/etc. is left over

When Glacier's melt, evaporates all that's left

KETTLE TERRACES

<Delta is an alluvial fan formed under H₂O>

**DRUMLINS** - piles of rock and dirt/etc. Carved by Glaciers

Cigar shaped land forms

SHEEP ROCKS look like Roche moutonée grazing

about 3x's longer than it is tall
Terminal Moraine:
Area of Glaciers

Erratics - Huge rocks that only a glacier can move, and looks different than the rock around it. Find rock similar - to determine how far rock traveled.

Rock that is pushed ahead of the glacier (or frozen in ice)

Glaciers produce a different type of landscape versus H₂O
LAST CLASS — FINISHED Glacial LANDFORMS.

WIND LANDFORMS
also called Aeolian landforms.
Wind needs to pick up material, move to change and create land erosion.

*idea of Being = SAND BLASTED

Like Glaciers were restricted to higher altitudes
Winds — to change land and create landforms will occur on areas with a lack of vegetation

THE RESIDUAL WIND LANDFORMS ARE sometimes called "Mushroom Rocks."

1. Rock
2. Wind Blowing
3. Most erosion occurs at the base of the rock.

Hamada
sand carried in wind, polish the surface of the rock
process = S: Hamada

Idea of Desert Varnish = when it rains minerals dissolve into the rock
when it dries H2O evaporated and minerals get brought on surface of rock
**DESSERT PAVEMENT**

1. Wind blows across surface and picks up small particles of dirt (etc.)
2. Over time, rocks are now exposed
3. New surface called Desert Pavement
4. Wind can't pick up small particles

**Sand Dunes**

- Depositional landform made by the wind
- Wind shapes the sand, "sweeps" sand gets carried away by wind
- Sand Dunes are always being reshaped and they also migrate

**Types**

1. Strong wind blows
2. Gentle wind blows
Angle of REPOSE = 38° → any steeper and the sand won't stay.

BARCHANE DUNE

How do you stop a DUNE from migrating?
- Need to plant vegetation on top of the dune to stabilize it.

Ice plant and grass work well.

STATIONARY DUNES → occur in areas where the sand dunes stay in one place → cuz, winds change blowing directions.

WAVES

EROSION makes sea caves & clefts

WHAT MAKES WAVES

1. Wind energy → transduces into the OCEAN.

2. Energy flows forward, not land down!

3. Liquid state (H₂O)
Volcanic activity

Coral Reef

Waves banner against Coral Reef

Transfer O₂ to Coral

Mountain subsides and
Due to rain and erosion

Barrier Reef

Water inside the Barrier Reef is called Lagoon

Unconformable Contact

Examples: Sand and solid rock
Geological time is broken up

Coral Reef is dying due to:

* Sea of Stars

- Starfish are eating Coral Reefs

* Pollution - Also

** VIDEO (NOTES) **

"BEACHES AND HOW THEY ARE FORMED"

Felspar and Quartz = tiny grains make up the beaches in California

1) Streams carries Rock Debris and carries it out to the ocean
2) When wave washes up onto shore = it picks up hundreds of thousands
Carries them away and reshapes the sand

SEASON will change the effect/appearance of the beach.

Summer: smaller waves, not as strong

Winter: larger, more powerful wave

LONG SHORE WAVE

Waves come onshore at an angle and bend

LONG SHORE TRANSPORT

sand gets carried down

Wind moves C NEW

sand gets carried and moves to the south

Think of as a river of sand
Sand moves in toward harbor.

1. Wave coming in

2. Pier

3. Creates a sand spit and soon will block the harbor mouth.

4. To get rid of the piling up of soil, they DREDGE.

Beaches will tend to end near canyons (submerged surf zone).

Surface of ocean:

Sand flows down the canyon.

Canyon drop down.

Lecture notes:

Bird's eye view:

H₂O more salty

creates sand spit

H₂O less salty

eventually created a sand bar.

Marine stack:

Over time
Called a Tombolo

A sand bar that stretches from the beach/coast out to a stack

May get covered up during high tide (up H2O)

Locally here in Santa Cruz
Final Exam Orange (Scantron) THURS, MAY 13th

Also - Have T & F (or) Essay Format

Sand Spit connects to a Headland and moves toward South.

Demography:

- Studying Populations of Human Beings

- What is physical Geography?
  Refer to Notes @ Beginning of Class

#5 of People

Today's Earth's population 6.0 Billion

(Think of Doubling Rate)

- Agricultural Discovery Technology
  Estimated around 5 B.C.
  Pop. 5 million

About every 1000 yrs. the earth's population doubles

As population increases, more and more; the doubling rate time span in years decreases

1850 - 1930 - Double Rate

Current = Today's Doubling Rate is 37 years

Jay Curve

EARTH ABDIRES Book written in mid 40s

Author shows you how people have simplified the ecosystems for the other Animals.

Thus, if people disappear what happens

population

As population increases, sometimes disease will be brought over

1900

50

weak chain sequence

time

Thus, if people disappear what happens
Outbreak crash sequences occur frequently with all animals. Think of ants.

Doubling Rate

Developing Nations = 1 year/30 yrs (Doubling Rate)
- Indonesia = 21 yrs
- Kenya = 28 yrs.
- El Salvador = 19 yrs
- Costa Rica = 20 yrs.

Technology Advance
Nations

Double Rate is around 50 years - 80 yrs.

Economically cheaper to raise fewer kids

Countries - least able to provide food
- Birth control
- Culture

Population grows as long as the birth rate exceeds the death rate.

3 Solutions to problem -
1. Death Rate Solution
2. Birth Rate Solution
3. Combo of Both above
Food & People

- Idea: What did you have for dinner last night?
- Nearly 1/2 the people who die are children, ages 6 or under.
- Grain = takes more grain to get 1 lb. of meat
- Eutrophication = means over fed.
- IDEA
  Green Revolution
  Genetic alteration of plants.

- Only 10 countries export food - out of the 170 countries

How many people can we feed? 
- On avg. only 1 billion.
- Is Earth capable of supporting today's population?

- Book - good EX. of how geographers think.

Air pollution
- Majority caused by cars.
- Power plants = oil, coal, gas.

- Nuclear power plant + thermal pollution
- Clear cutting also causes pollution (pesticides?)

Idea: Alice in Wonderland
- Mad Hatter = metal mercury found in the stiffening of hats.
DDT - very bad for birds makes eggshells so thin bird embryos die ends up in food chain

Longshore transport 
transport collection of sand as well as what ever is within the sand

[VIDEO] "Welcome to HELL"

East Germany - Bitterfeld Town, one of world's most polluted areas. Result of Environmental Chemical Production Places.

Sulfur Dioxide - cause acid rain and lung damage

10 yrs. Drop line @ Cabrillo