

Storm eventually dies out after the OCCCLUDED stage

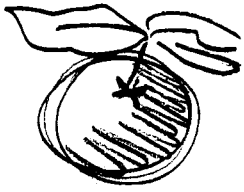
BLUE NORTHERS

Ex: Temp goes from 75° and drops 40° (can happen w/in an hour)



RAIN FALL IN THE TROPICS ⇒ IS MAJORITY CAUSED BY CONVECTIONS

When Florida gets a frost - They pull ORANGES off tree and juice them.



ZONAL FLOW =

STORMS MOVE STRAIGHT ACROSS US FROM W → E
 Thus, COLD in the NORTH WARM in SOUTH

When wind is blowing from SOUTH → = RAIN

When wind is Changing Direction → COLD FRONT PASSES

VIOLENT WEATHER

Thunder storms = HOT and moist AIR

Forced to move up rapidly

can be caused by ⇒

MT'S (Sierra Nevada gets thunder storms all the time ⇒ warm/moist Air comes from GULF of Mexico)

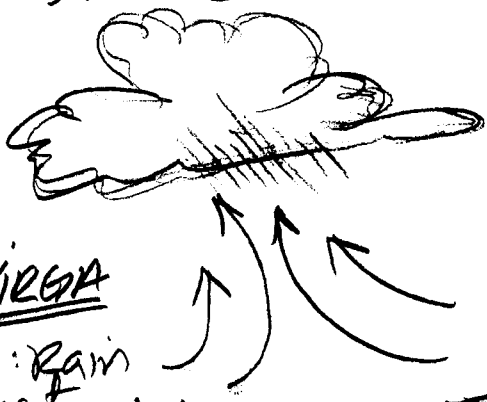
Convection (Sun warms ground → hot Air rises)

Cold fronts → Can also move the Hot Air from ground and cause a lot of violence & regards to winds

19-2

Air that moves into a cloud is spinning thus breaking up electrons in cloud.

STAGE 1



VIRGA
is rain that evaporates before it hits ground

ACCUMULUS STAGE

STAGE 2



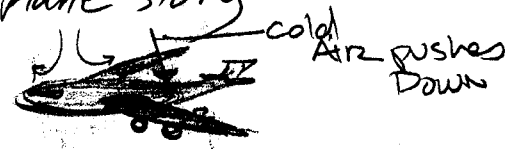
cloud rises up to Troposphere
Anvil = mature thunder cloud

ICE Falls and cold Air sinks DOWN makes a DOWN DRAFT

MATURE STAGE

GUST FRONT is cold Air pushed DOWN onto ground.

Think = Plane story



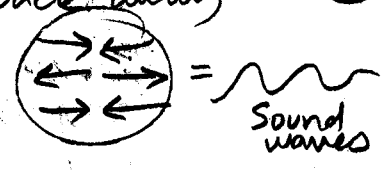
70% of lightning happens within the cloud or jumps from cloud to cloud.

Lightning makes the (thunder) sound

① Vacuum created after lightning Air → zooms back to hole and comes together and bounces back away

Channels open charge created
HAS AS MUCH ENERGY AS SUN

for every 5 sec. → before you hear thunder that is 1 mile



⑤ Storm dies when it runs out of energy

● **BRD** STAGE = DISSIPATING



All Down Drafts

BALL - Lightning can Break windows
and Bounce Around the Room.
- stops - when it loses energy

● **PLASMA**

● **Sheath lightning**
type.

① 3/28/00
GEOG: 1

*** EXAM II on APRIL 4th ***

[3x5 CARD OKAY FRONT BACK] - identify diagrams (etc.)
[NO climate questions] / 100 questions - get ORANGE SCAN TRON

Book Need to Read for FINAL
EARTH ABIDES

- enjoy
- why would Geography teacher have me read this BOOK
- know basic gist of Book



STORMS



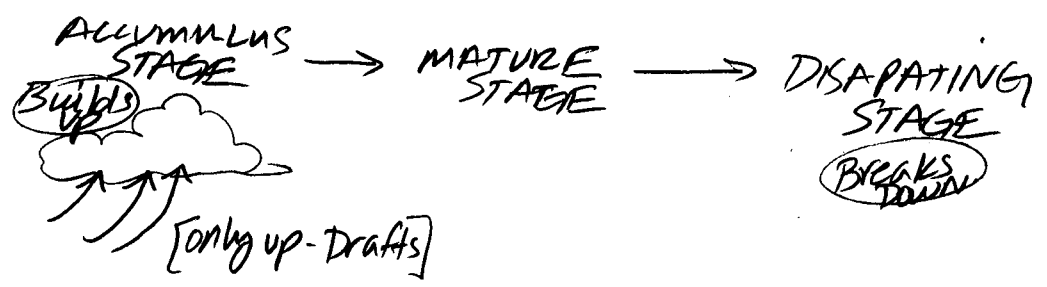
- fueled by H₂O vapor HEAT
- steered by organized jet stream.

Storms that don't have jet stream support, tend to Die off - and vice-versa

COLD front usually on the western side of Storm.
WARM front usually on the eastern side of Storm

If cold front = if one side is colder than the other then its called a Cold occlusion front.

PREVIOUSLY STUDIED STAGES OF THUNDER STORM



CONVECTION Built Thunderstorms ⇒ will Die off when sun goes DOWN.

Cold Front Built Thunderstorms ⇒ Tend to move along the Coast / LAND

2) THUNDERSTORMS

19-5

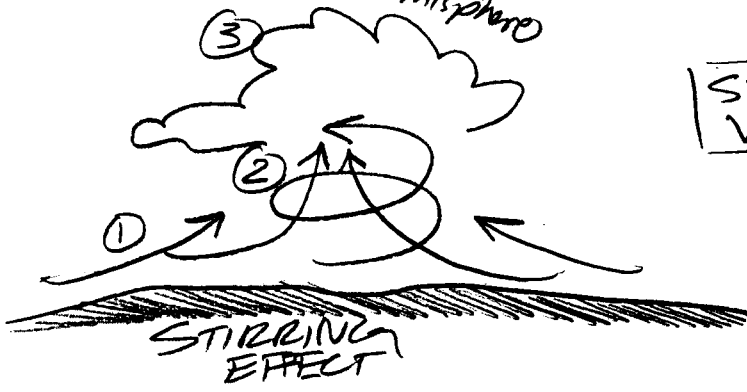
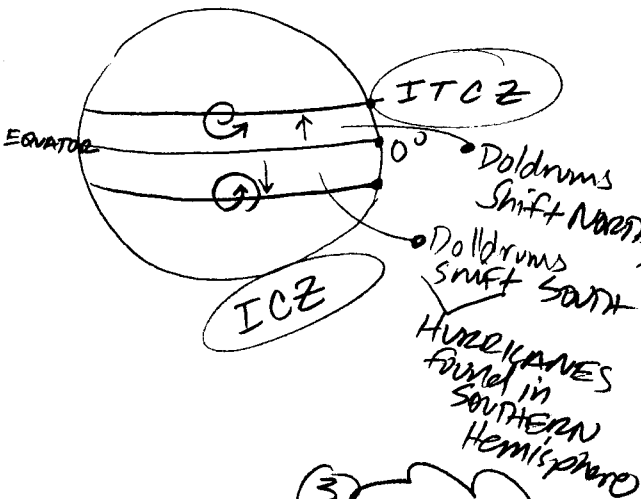
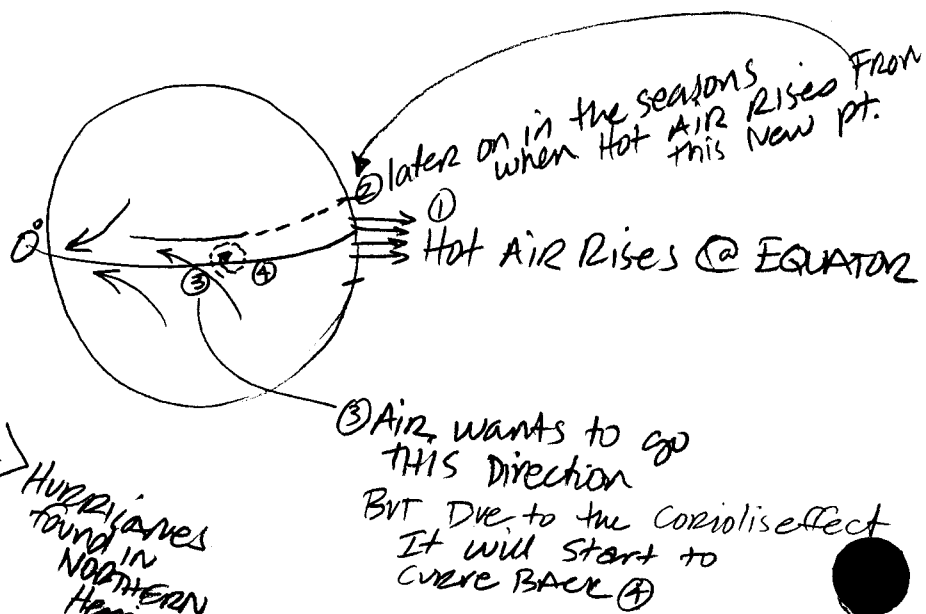
- Frontal Passages
- Stirring

[Need Extremely WARM & Humid Air]

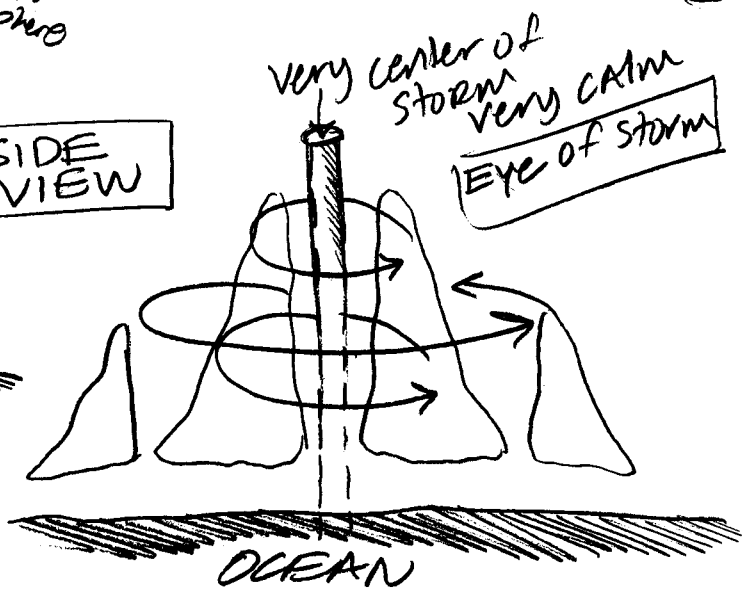
Very few tropical cyclones become HURRICANES

HURRICANES

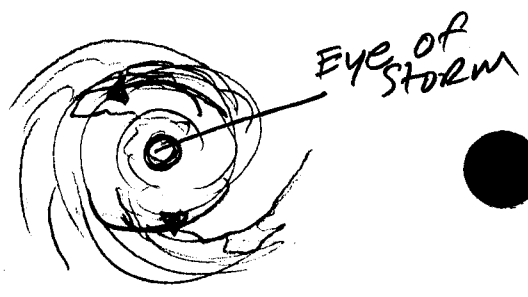
Are seasonal



SIDE VIEW



OVER HEAD



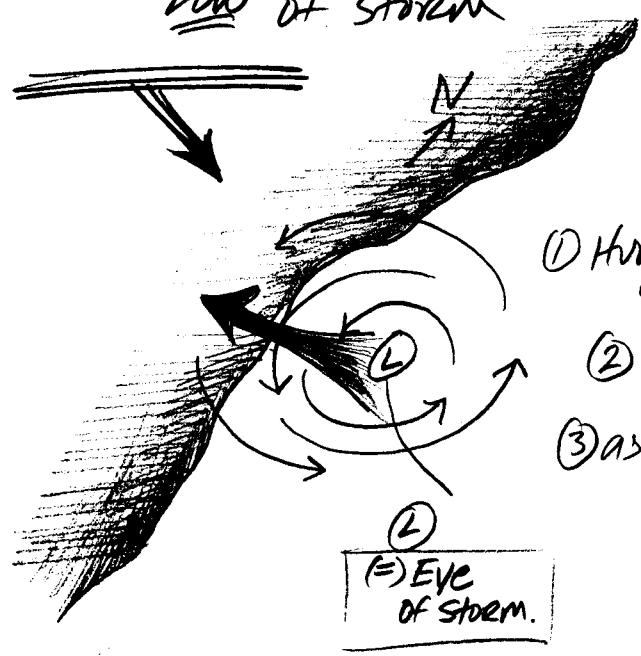
As HURRICANE RUNS OVER COLD water - it loses its energy and start to die off

Vise-versa
IF HURRICANE travels over warm water It amplifies the strength of storm.

③/ If Hurricane moves onto LAND → It produces lg. Amounts of Rain.

↳ HURICANES → CAUSE MAJOR DAMAGE to Cities/areas NEAR COAST.

WIND TRAVELS COUNTER CLOCKWISE AROUND LOW OF STORM



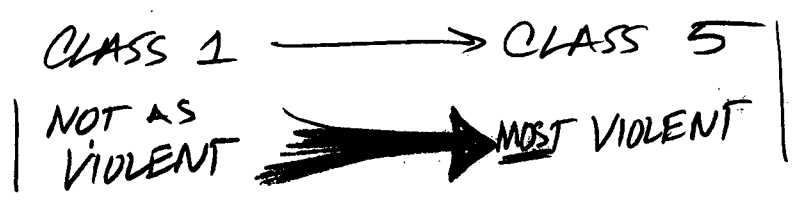
- ① Hurricane coming on to LAND
- ② Higher waves are found NORTH OF eye of storm.
- ③ as well as. HUGE STORM WAVE FLOODINGS.

< EL NIÑO tends to Reduce # of Hurilanes of Atlantic >
< LA NIÑA tends to INCREASE # of Hurilanes of Atlantic >

HURICANES

Considered when wind speeds exceed 73 mph.

[5-STAGES]

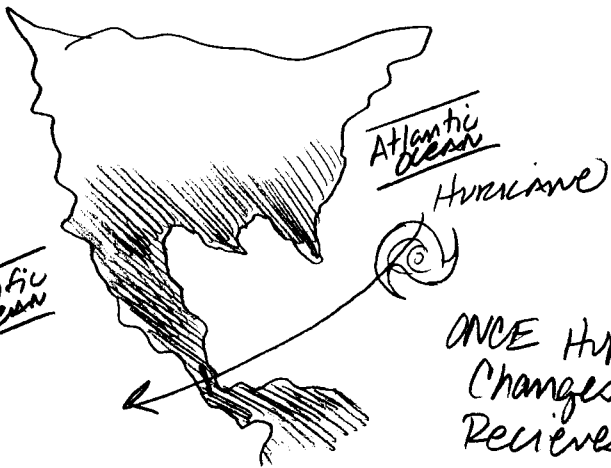


Floodings → Cause the Greatest \$\$\$ in Damage

Storm gets a Name → once it hits speeds of 35+ mph & it's considered TROPICAL CYCLONE.

Retired Names = meaning that the Tropical Cyclone Storm (Hurricane) that is So powerful.

NAMES → Rotate btwn. ♀ & ♂ and work their way through the Alphabet beginning w/ A @ the 1st of the Hurricane Season.



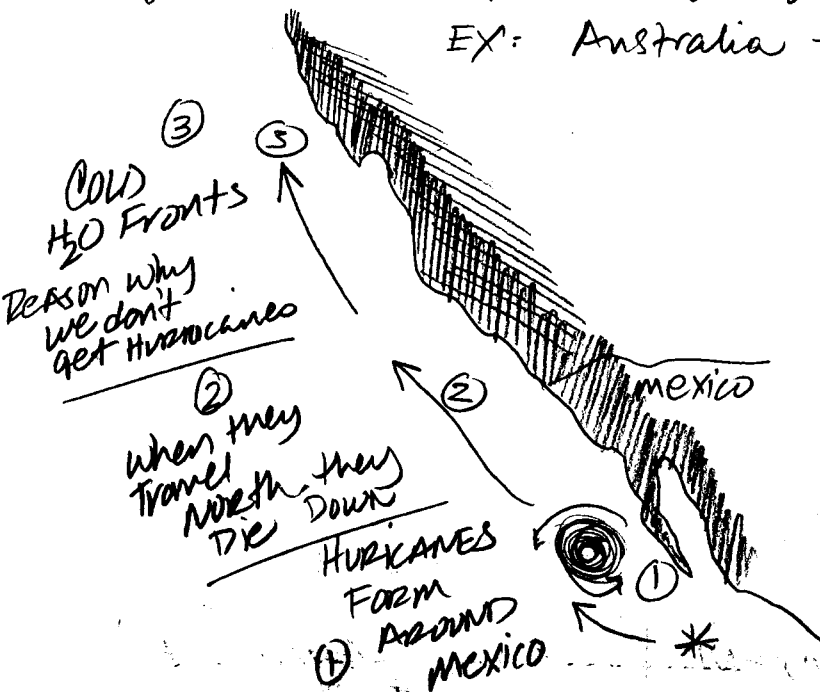
ONCE HURICANE CHANGES OCEANS IT RECEIVES A NEW NAME.

Typhoon is SAME AS a Hurricane → BUT name is changed when it crosses the International Date Line.
< Thus, a Typhoon is heading for Japan >

Cyclones — also HAVE their own LOCAL NAMES

EX: Australia → call it "Willy-Willy"

HURICANES — CAN SPON a Tornado



WATER SPOUT → is when funnel touches H₂O
FUNNEL CLOUD → until it touches the ground → then called TORNAADO

TORNADO — can pack winds up to 300 mph.

19-8

Are formed By all that has been previously Discussed.

CAN BE CAUSED BY

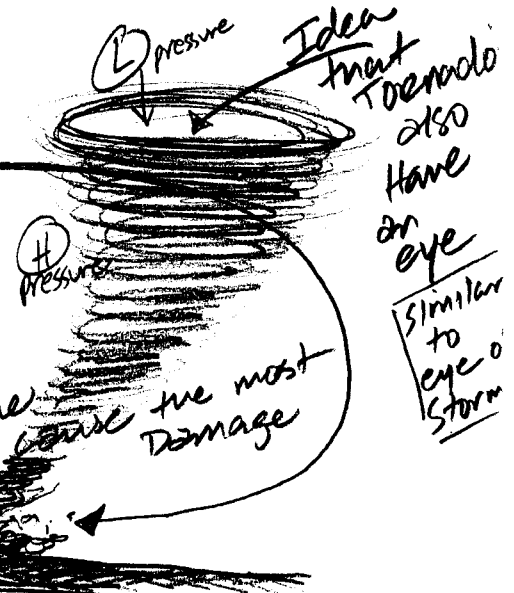
- Cold fronts
- Hurricanes
- Tropical cyclones
- orographic lifting

Russia and Australia
Also have tornados
like U.S.

TORNADO ALLEY = Area located Across Mid Area of U.S. Spun more TORNADOS than anywhere else in the world.



* MOST Destructive Part of a tornado is the Flying material



STORMS TEND TO OCCUR in the after noon. Peak period = 5pm - 7pm

FUJITA SCALE [F.1 → 5]

F.1 ⇒ winds of 35 mph+

F.5 ⇒ winds exceeding speeds of 300+

DOPPLER RADAR — can tell you how fast air is coming toward you and how fast it is traveling away you

[HOOKED ECHO]

MOBILE HOME PARKS — NOT VERY safe

NOTES AFTER EXAM II



D 3.30.00



INFO ON FINAL <from today till Final Exam>

19-9

- Besides where they are born
- Extra-tropical Cyclones → made up of fronts
- Tropical - All one air mass - cyclones [mT]
Hurricanes

REVIEW ⇒ Electromagnetic Spectrum → up to Notes 3.28.00

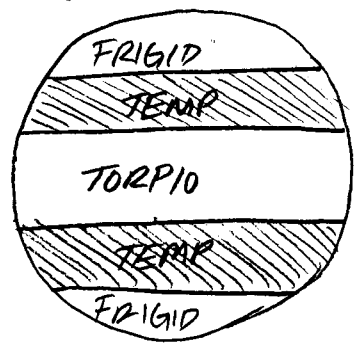
- Latent Heat → phase change → 4th way to transfer energy.

- Very Heavy Storms → Heavy Rain fall  you will see ice crystal
- BUT, -  Cloud can still Rain w/out ice crystals

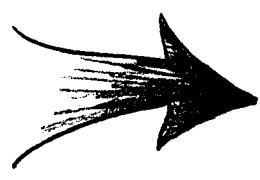
◦ CLIMATE → Ⓕ: long term weather. 20-1

<GREEK> libraries → literally means SLOPE OF THE SUN

500 B.C.



By 4th century greeks



KNOW:

- circumference
- diameter
- ° of tilt of axis
- seasons
- (etc.)

Western world = DARK AGE up until the 1500's (AD)
DOGMA / SUPERSTICIOUS

By 1492 America was discovered

Galileo - invented the thermometer in 1609

100 years later ... and ...

1643 - Barometer was invented

1735 - Hadley talked about CELLS - weather

1800 - (around) People began to explore the world in a weather sense

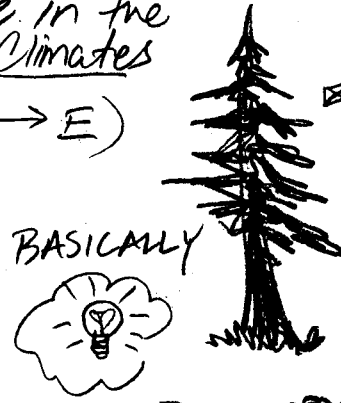
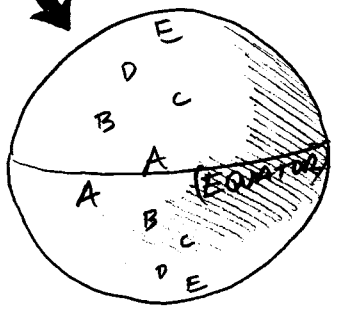
- Darwin
- Humbolt. → carried a Barometer w/ him and charted down info
- IN 1817 → he made maps of worlds
- Alexander Van Humbolt → wrote Book "Cosmos" (7 books in set)

< Descriptive Climate tology ⇒ describe what you see (etc) >

1900's - Köppen → began to make Classification of world climates [MAPS] (Koeppen)

SOME IDEA AS TO WHAT ITS LIKE TO BE in the PARTICULAR climates

RANGE (A → E)



Plants tell you alot about the climate

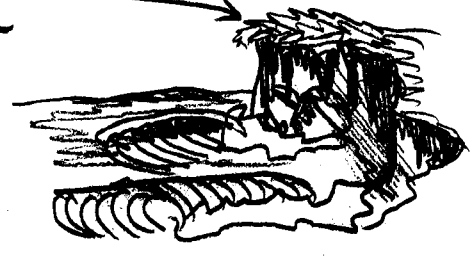
Redwood trees = Damp, moist
Oak trees/dry = Hotter/dryer
Grasses

Iceplants = Can't take cold temp



BIOSPHERE/BIOGEOGRAPHY

Distribution of animals over different areas - will also shed light as to what the climate is like



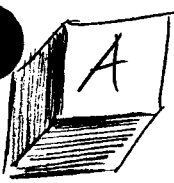
3)

RANGE (A → E)

Distiguous Trees = ♂ : tree drops leaves.

Reasons why leaves drop >

1. Cold
2. Photosynthesis 20-3
3. Drought
4. If tree is Dead.



(HADLEY CELLS)

→ Are the Tropics (near the equator)

- In tropics All Rain is produced by convection
- Seasons Don't exist
- Coldest time of year/day just before SUN RISE.
- Hot/Humid majority of time.
- more varieties of BUGS ⇒ Thus, BUGS carry Diseases, so more Diseases
- A lot more # of BUGS.
- monominus

TWO TYPES OF A CLIMATES

one type - is where it rains all the time very wet.
 usually it rains around 3pm. →

TROPICAL WET

Because that's when it heats up the most. And rains cuz of convection.

- TONIC WATER → made people get NOT SO SICK to Disease
- Gin made from juniper Bushes



- Trees found are Evergreen Hardwood
THUS → trees grow very tall and thick

TROPICAL FOREST →

< there may be as many as 100 different types of trees



most medicines we get are from the rainforest.

Not enough light shines thru. thus, → no vegetation on ground

GRASS HAS A HIGHER ALBEDO than the Forest
thus, ↓ decreases temp°

7) (cont)

20-4

2ND TYPE of [A] Climate

TROPICAL
WET
and DRY

= For 2 months it doesn't Rain.
Thus, trees Drop leaves / some trees
go Dormant

↳ Wet/Dry tropics = land is not as Fertile

The wettest Place on Earth is Kawi
(Alkali Rain forest)

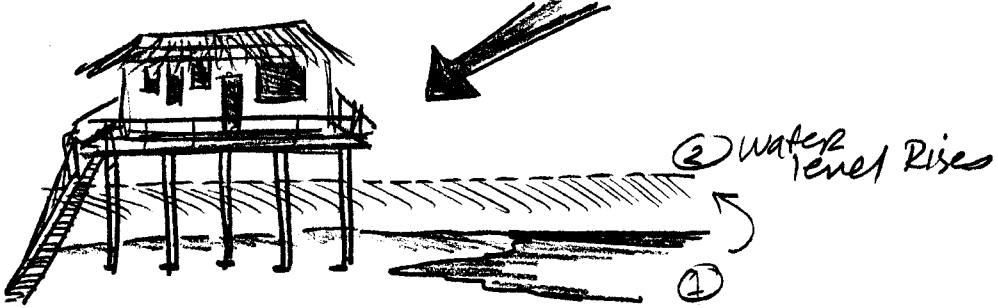
Next would be India which Receives 400+ inches
of Rain a Year.

speed Hike
need to be there
before 10 am

• During the Summer In the
Wet/Dry tropics ⇒ IT RAINS

• During the Winter In the
Wet Dry tropics ⇒ IT'S DRY (Dry season
⇒ NO Rain)

- Because it's so wet → People tend to Build
Houses up on Stilts



[B]

Deserts of the World — found on either
Side

[Hot Desert
Step Desert] 2 types of Deserts.

HOW TO
MAKE
A
DESERT

[IF the potential for Evaporation exceeds the potential
for precipitation]

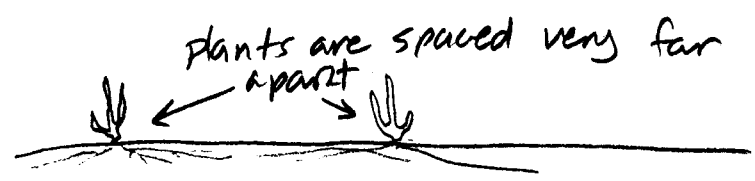
HOT Deserts ⇒ Very Very Dry if potential
for evaporation exceeds the potential for precy

5)

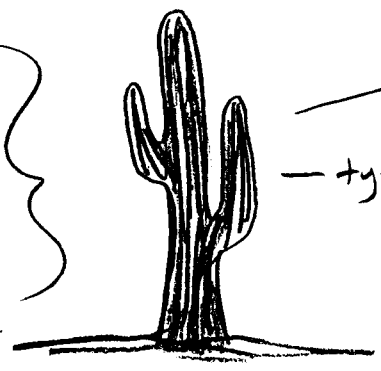
20-5

Found in the B climates are Xerophytes

↳ means ξ : any plant that holds water



During the end of the Raining period they weigh lot because they store water.



— type of Cactus called Saguaro

WAY PLANTS STAY ALIVE

1. Xerophytes Stores water
2. Hibernates Goes Dormant
3. Plants also multiply. Rapidly Reproduce

o Joshua Tree - Yucca tree.

Joshua tree (Sonora Desert →) Go IN SPRING OR FALL.

How do Animals survive Desert.

• DATE SHAKE - In Indio (Indio, CA)

[- EARLY morning @ Desert is Very Cold.]

1. Critters are majority All Nocturnal (more alive @ Night) in Desert

2.

- MAJOR CAUSE OF PRECIPITATION IN DESERT → is caused w/ Convection.

Climate History / Climate Classification

Climate = long term.

- weather is unique to the day
- Climate = May determine

Köppen - used vegetation for his first Map. Classification

Today - they take an Average temp° of 30 years.

- And that determines Classification A, B, C, D, E, F?

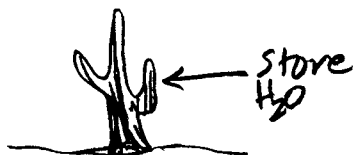
pink salmon [A] Climate's Biogeography - is a good indicator of vegetation.

TROPICS -

- wet tropics
- dry tropics (< 2 months or more dry)

[B] potential for Evaporation Exceeded

→ Berndt's of DRY Air - Deserts have the Greatest Daily RANGE (< hot → cold) of temp° (< Night - Day)



agave - Joshua tree

Yellow - Very Dry. - plants very far apart

Yellow Brown - Step Desert / Not as Dry. - same plants as

→ Pine Nuts come from this Area

Yellow Area → But, more of them per sq. Area.

< Death Valley - Summer >

- Desert in Place - Has alot of Salt in it. - This acts like a dry sponge that takes a long time to...

3)

Desert -

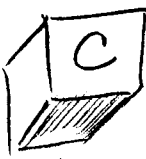
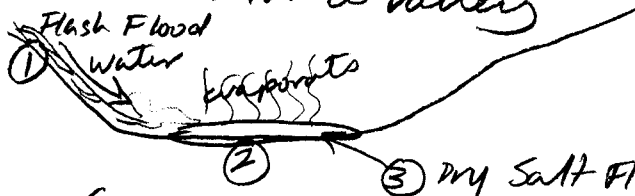
20-7

- ① Quality in WASHES (Flash Flood) is not very good.
- ② Water - evaporates and leaves mineral salts deposits.

- Dry Salt Bed.

Playa - little flat ridges called Salt Flats.

(Playa Lake) or Salt Flat ← located in a valley



SUBTROPICAL CLIMATES (MARGOTHEMAL)

found BROWN: Colds of poles / WARM of tropics

- major precipitation is caused by frontal ascent Cold fronts, warm fronts
- Rain comes as
- Extra Tropical Storms bring Rain.

Most of these climates are located NEAR OCEANS w/ cold fronts

⇒ much more water in air.

- Humidity attracts BULBS
↑ types and ↑ quantity

□ Lt. Green = Rains All the time
located on the EAST side of continents → also on warm ocean currents. Subtropical Humid

□ DK. Green = Mediterranean Climates

- California = is different in that we don't get Rain in Summer

CAL.

- Lacks High Humidity
- winters aren't as HARSH
- Dry summer.
- Rich soil
- Cold Cal. Current
⇒ less chance of HURRICANES (Extra)
- Good at growing Cotton.
- Extra. tropical Fronts (cyclones) BRING CA. Rain.

□ Coco-Brown -
Rains in Summer / not-winter

Lt. Green

- subtropical Humid Climates
- ALot of HURRICANES

21 = Test