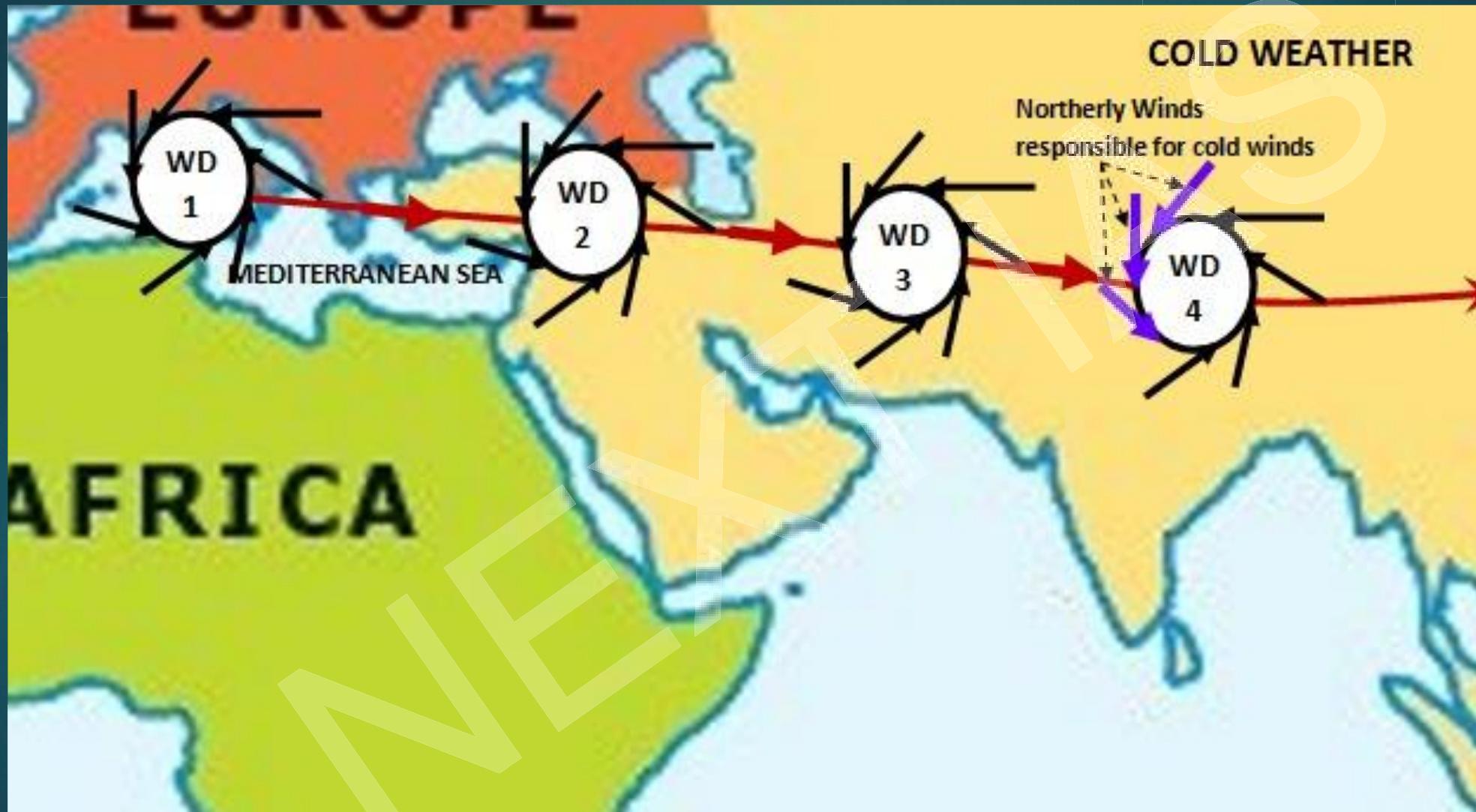
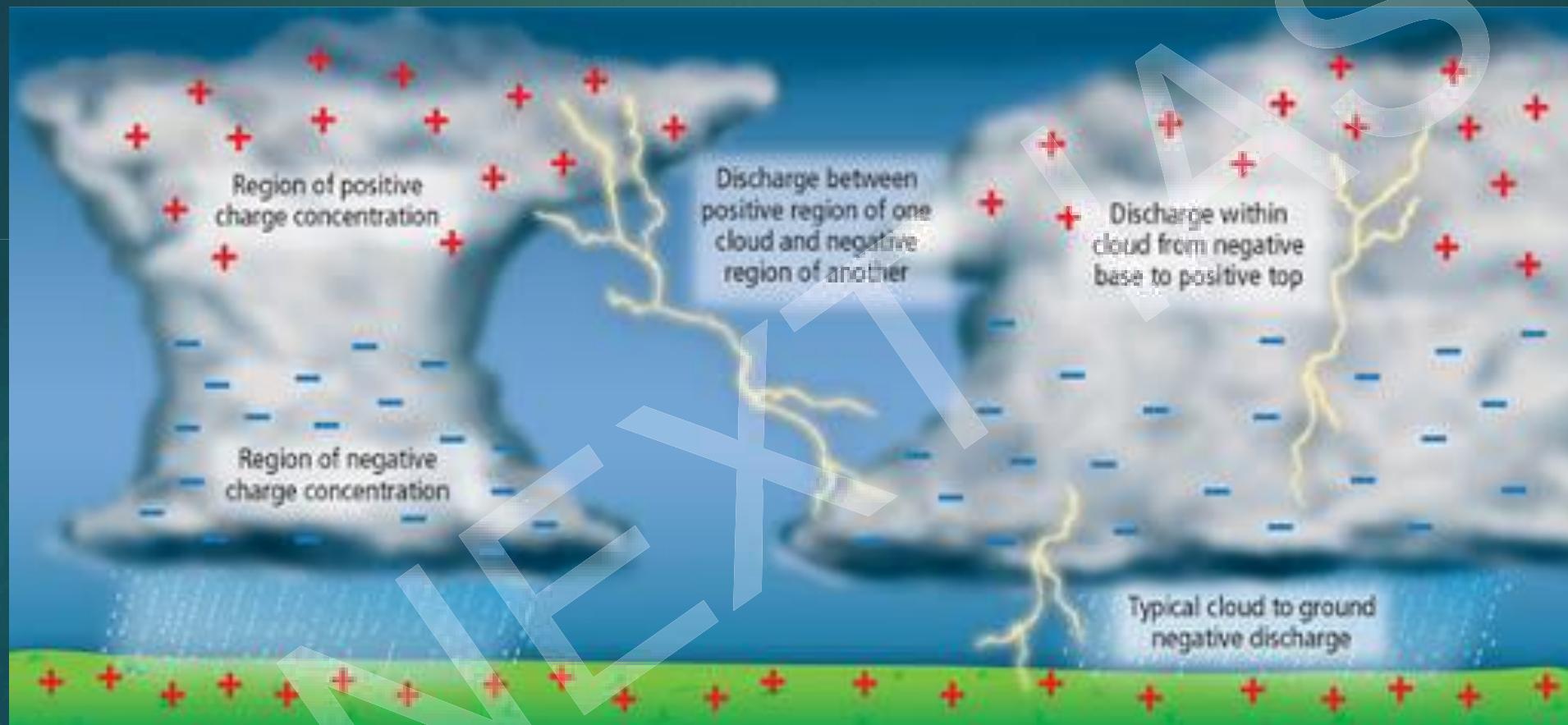
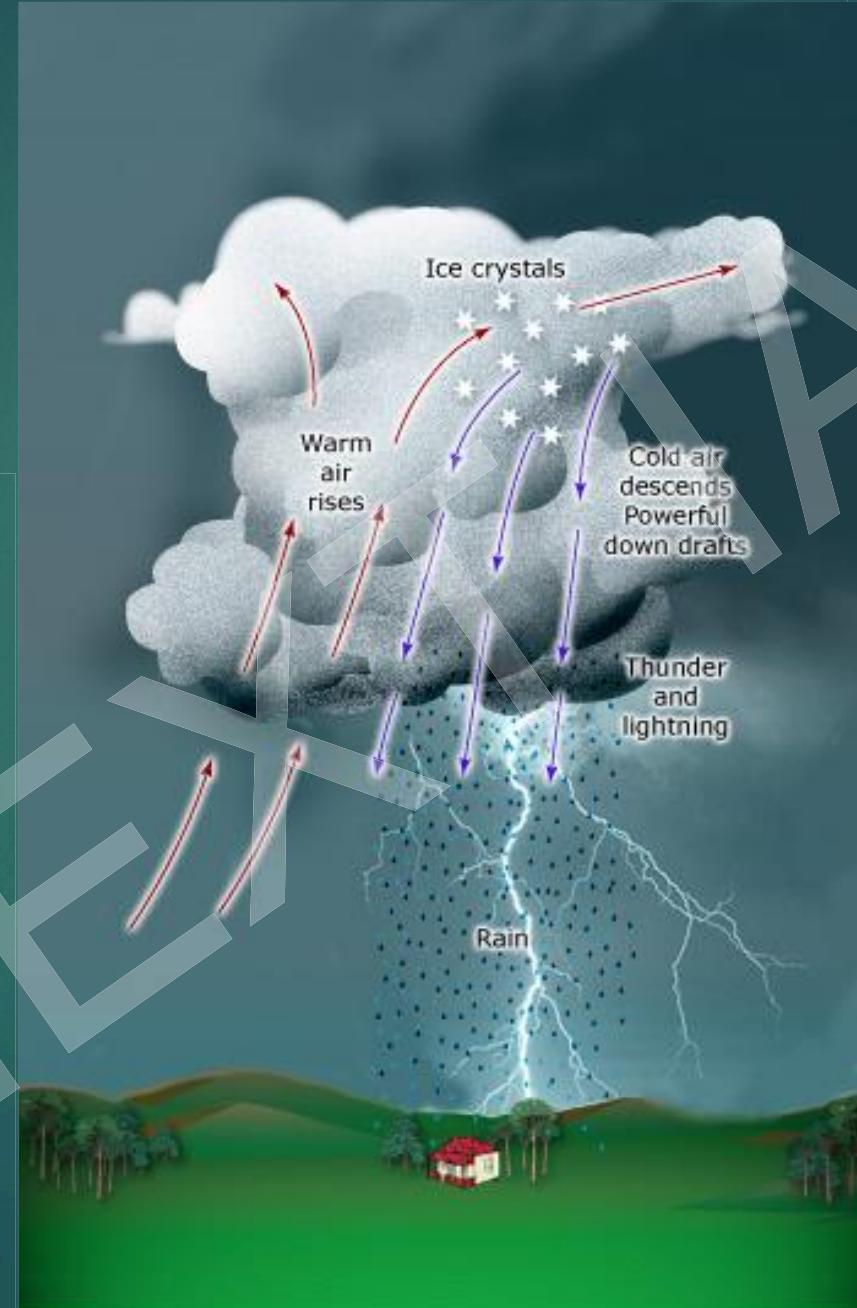


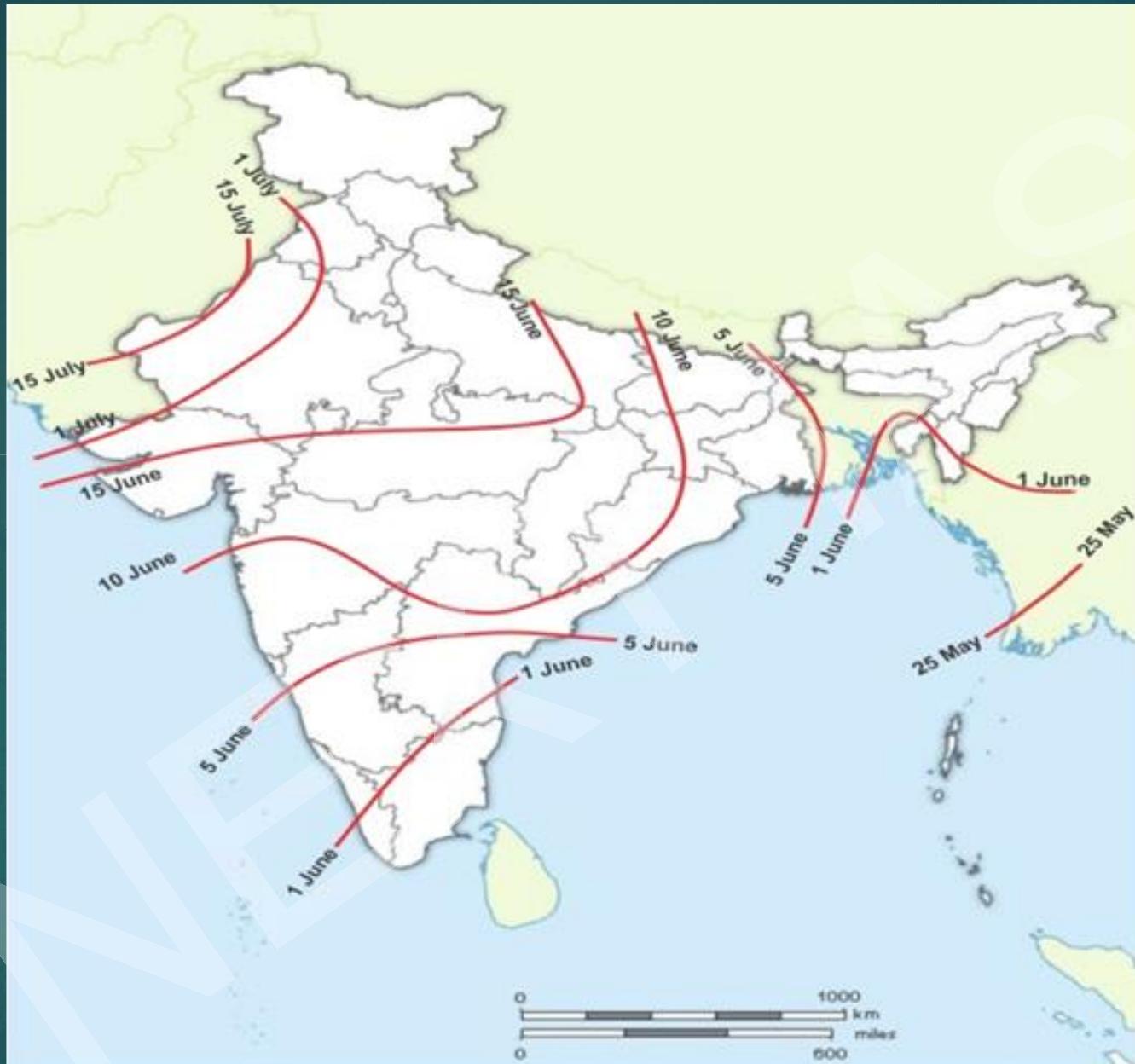


# Indian Geography

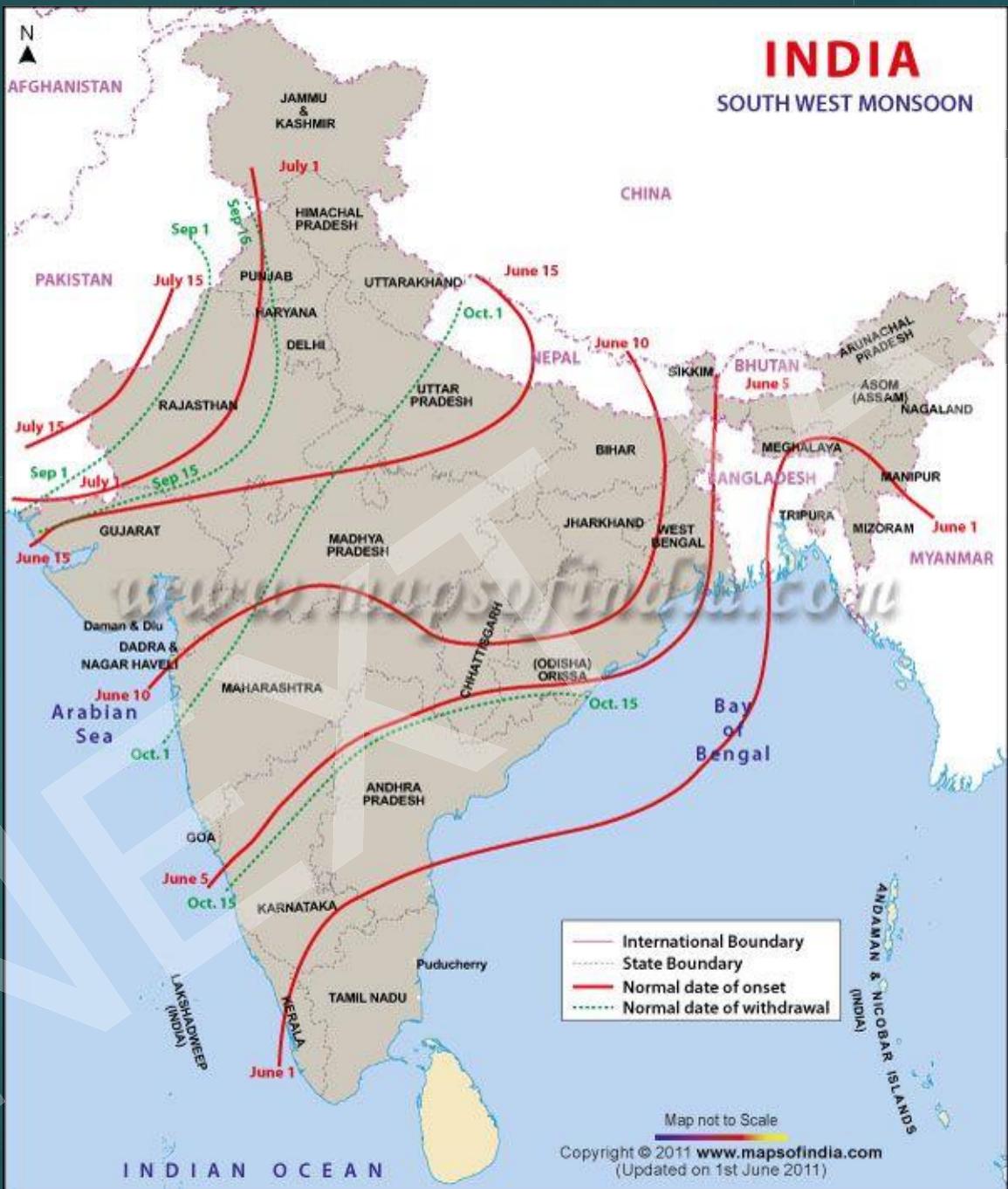


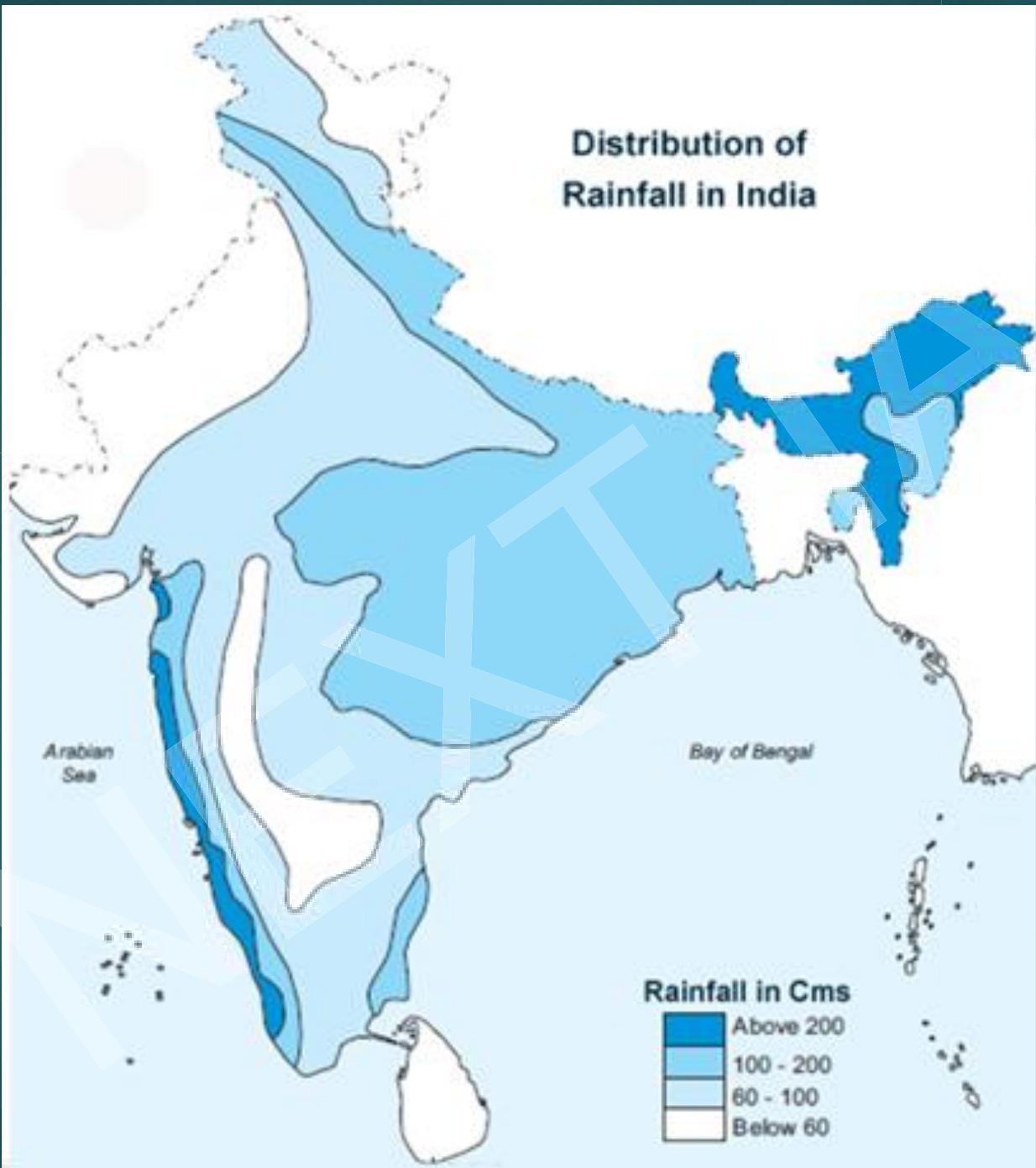




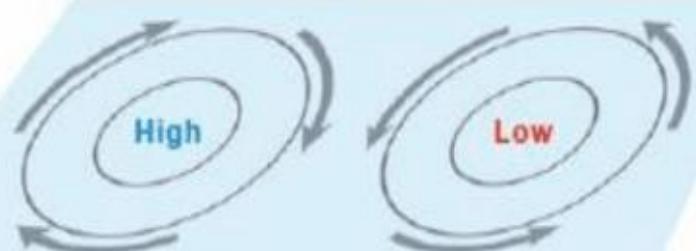


Direction of South West Monsoon in India.





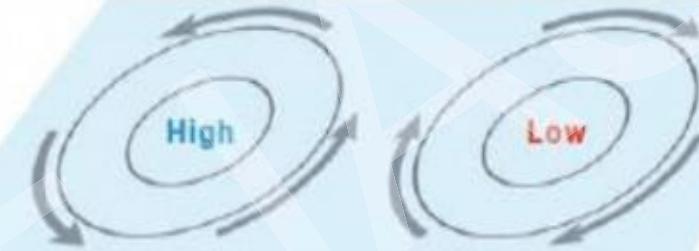
Northern Hemisphere upper-air pattern



Anticyclonic geostrophic  
clockwise flow

Cyclonic geostrophic  
counterclockwise flow

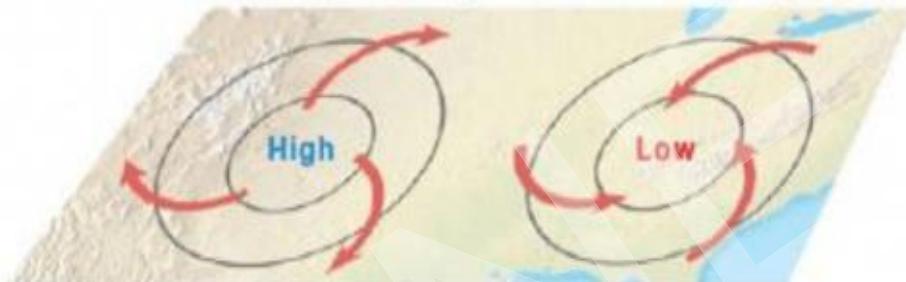
Southern Hemisphere upper-air pattern



Anticyclonic geostrophic  
counterclockwise flow

Cyclonic geostrophic  
clockwise flow

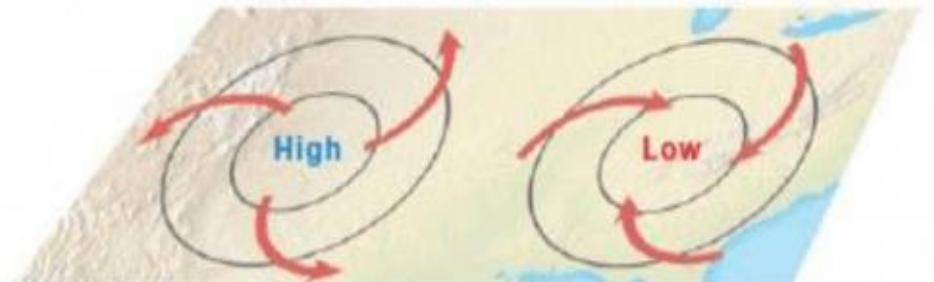
Northern Hemisphere friction-layer pattern



Anticyclonic divergent  
clockwise flow

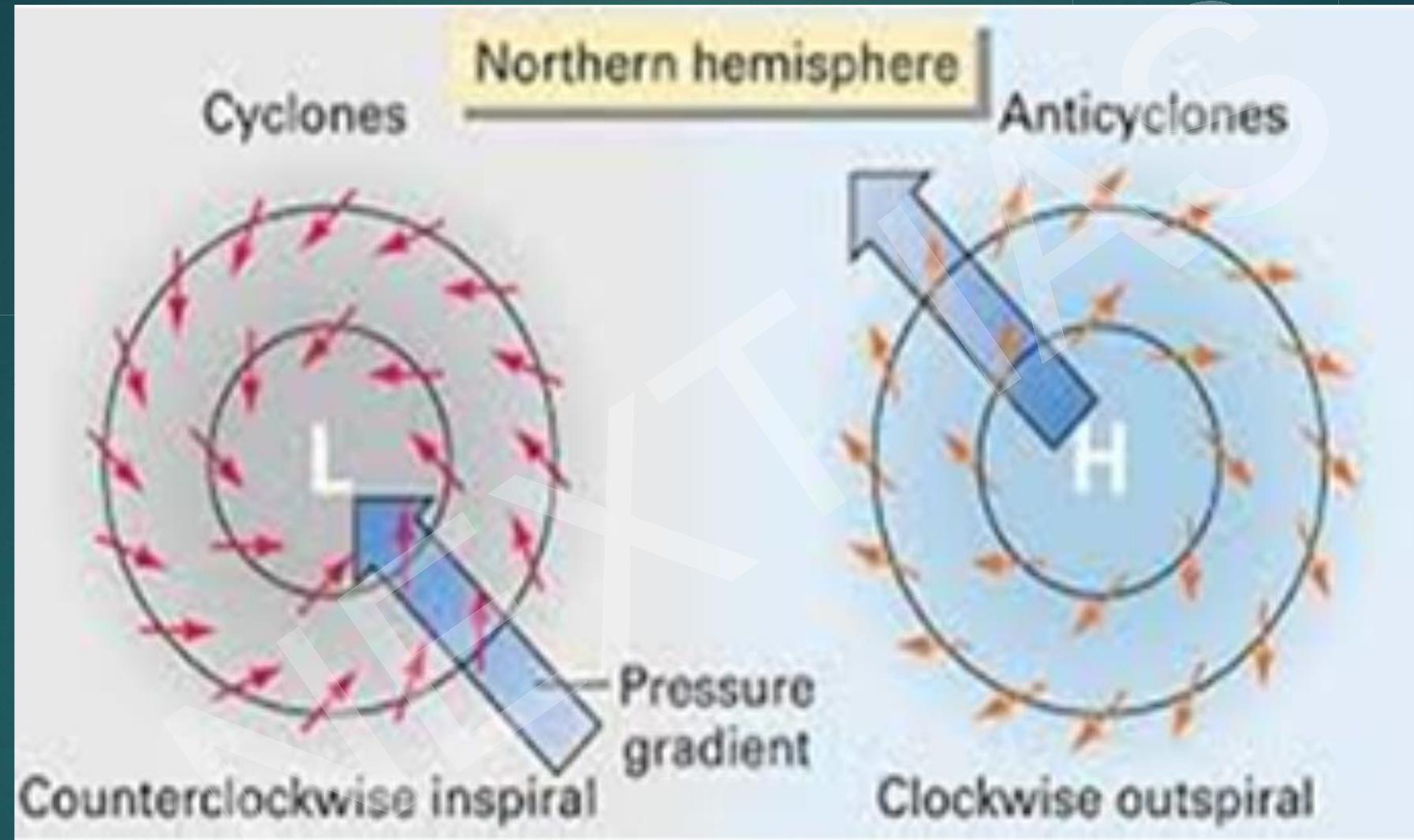
Cyclonic convergent  
counterclockwise flow

Southern Hemisphere friction-layer pattern

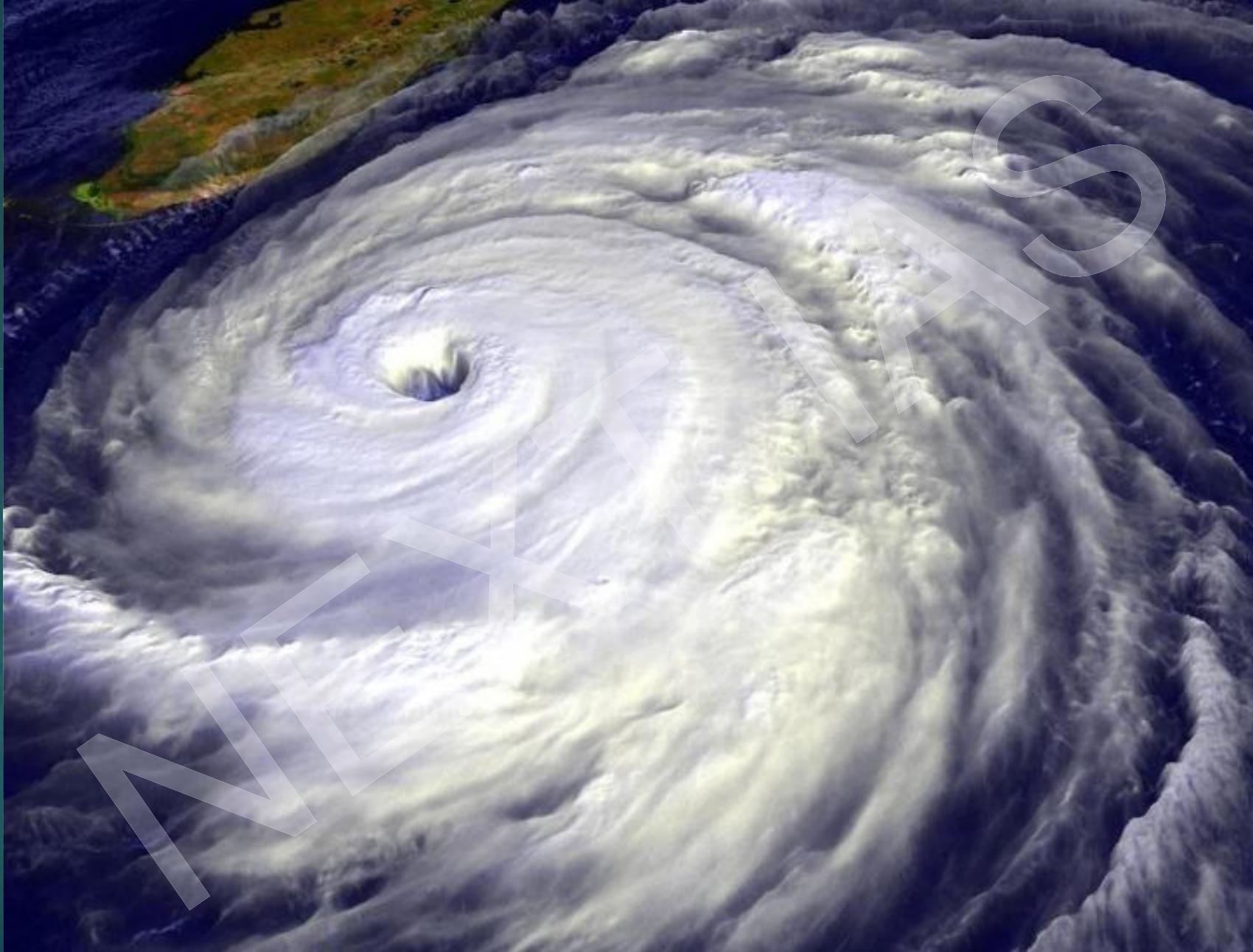


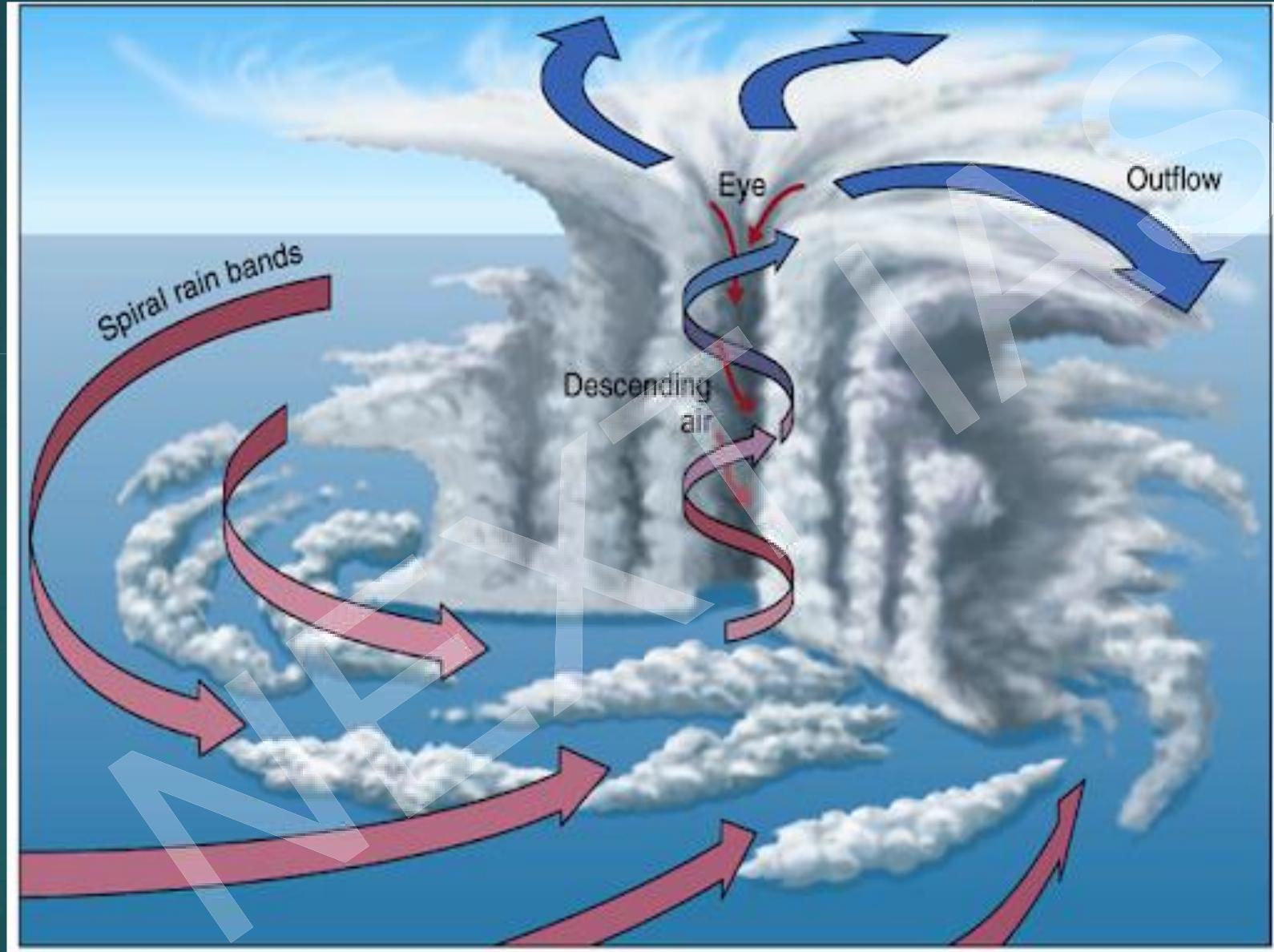
Anticyclonic divergent  
counterclockwise flow

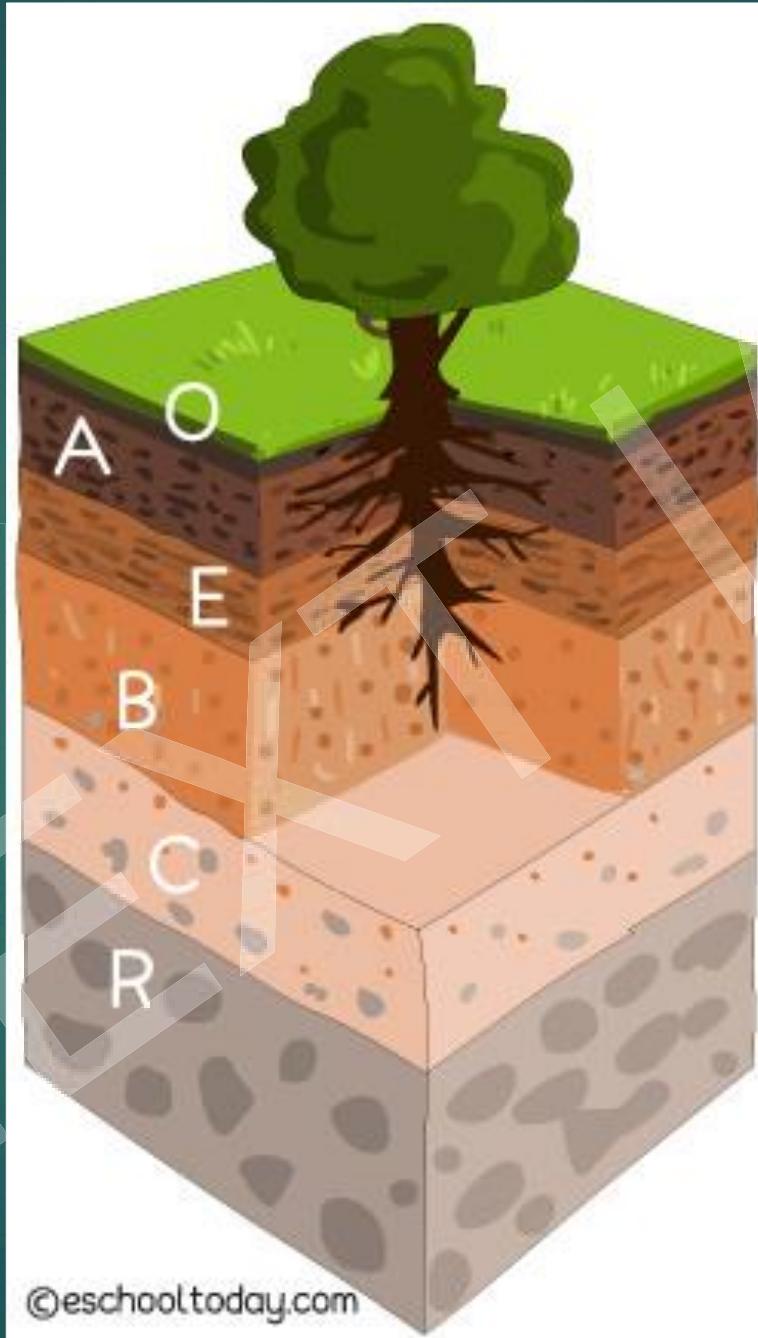
Cyclonic convergent  
clockwise flow

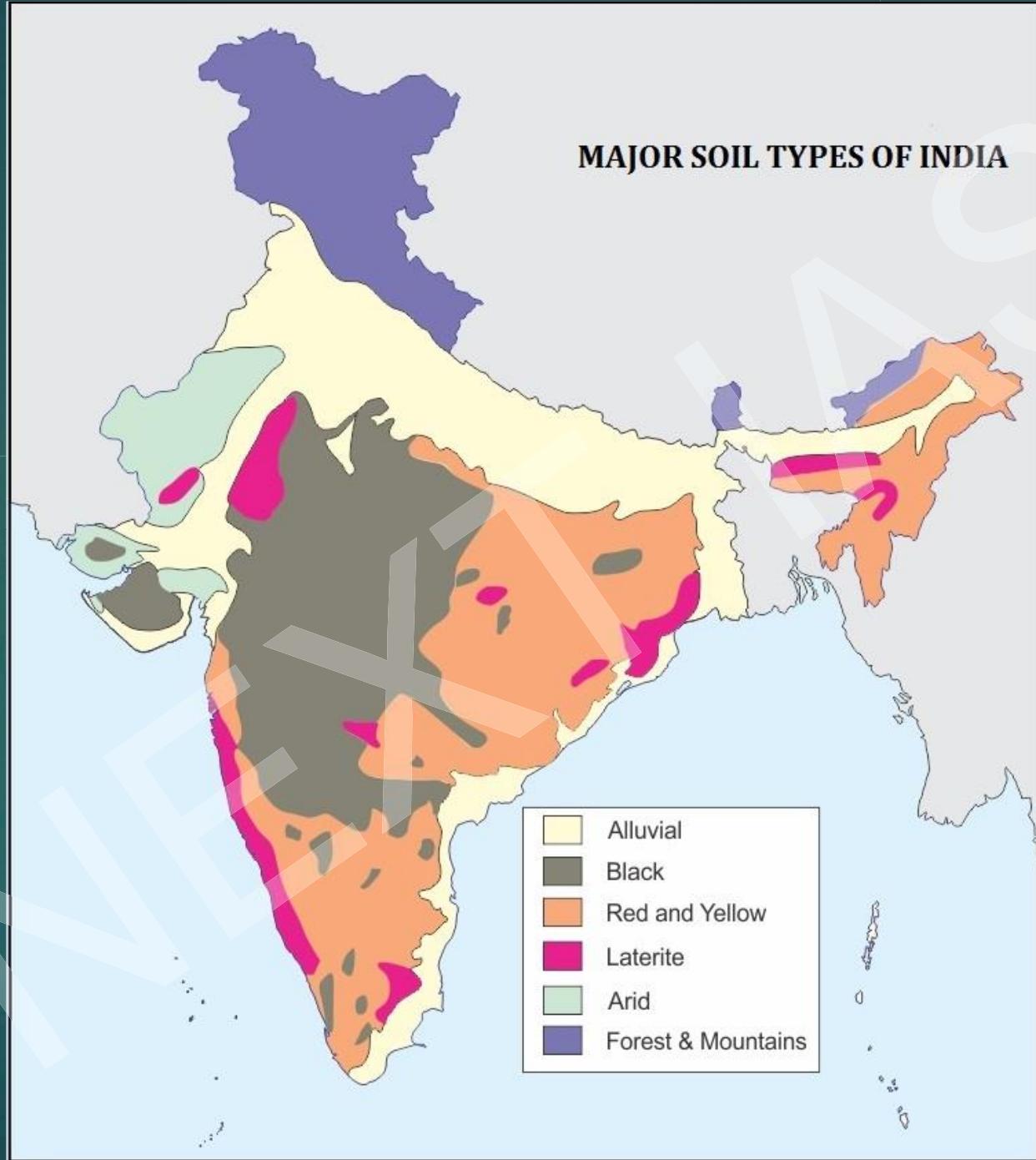


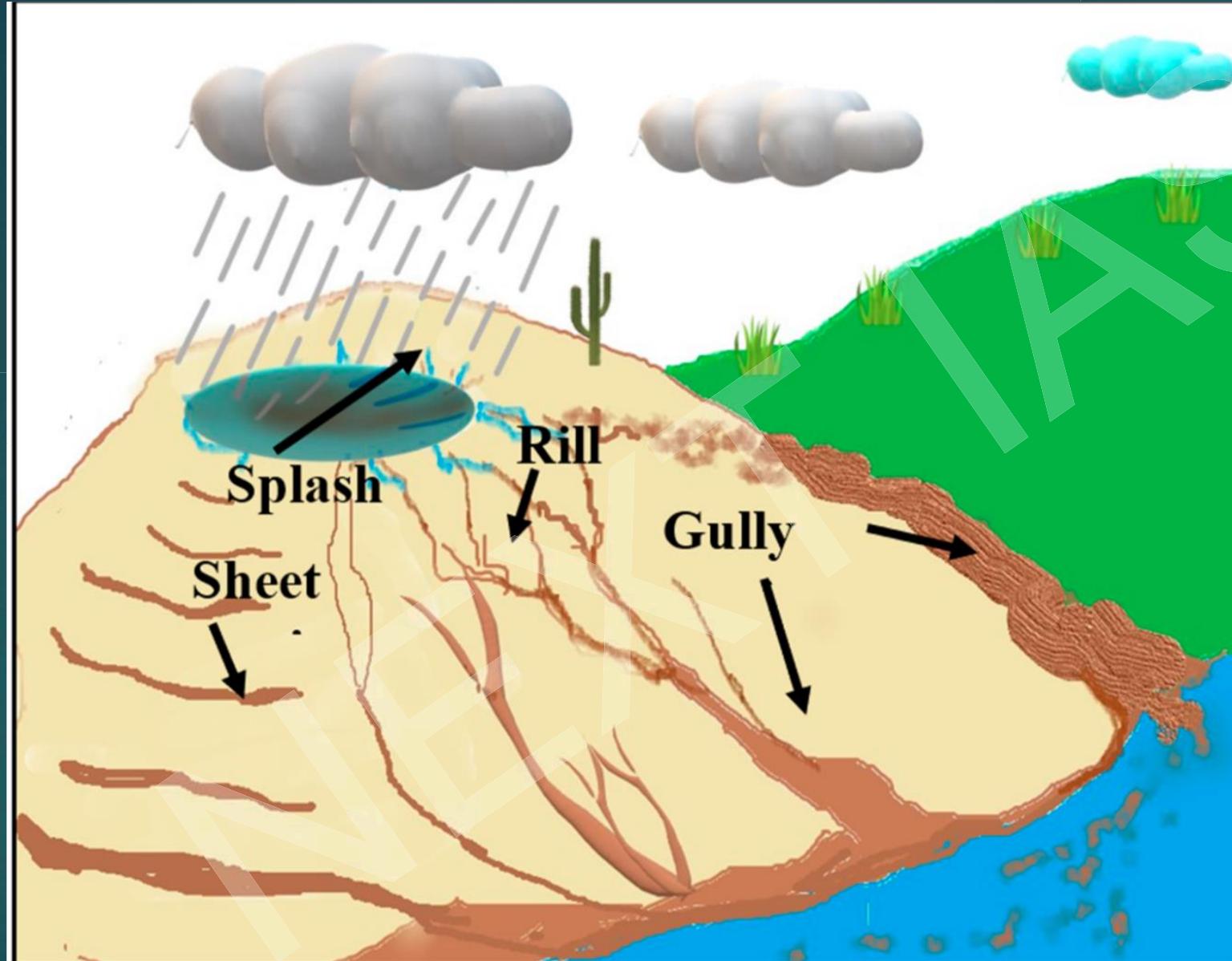
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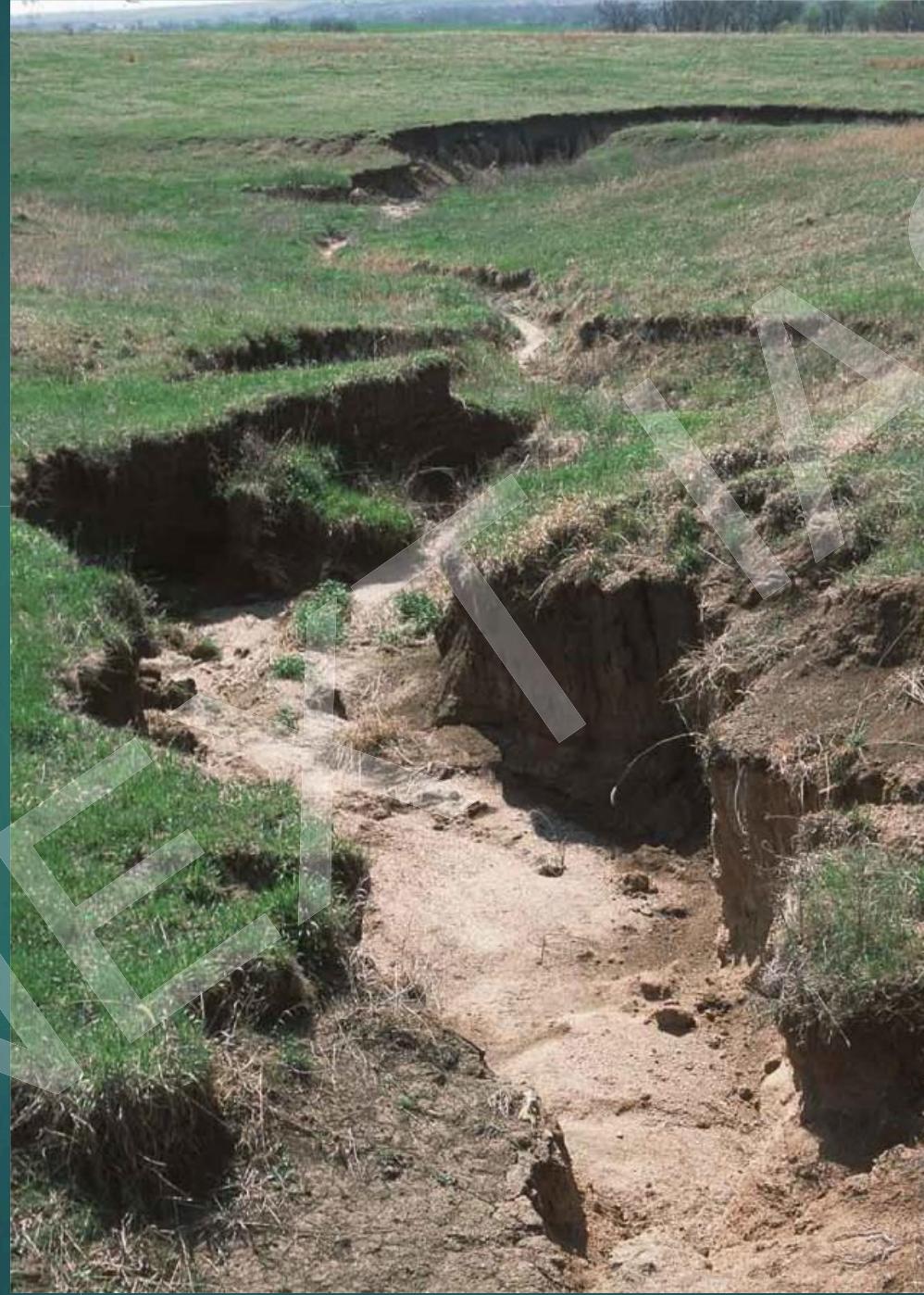








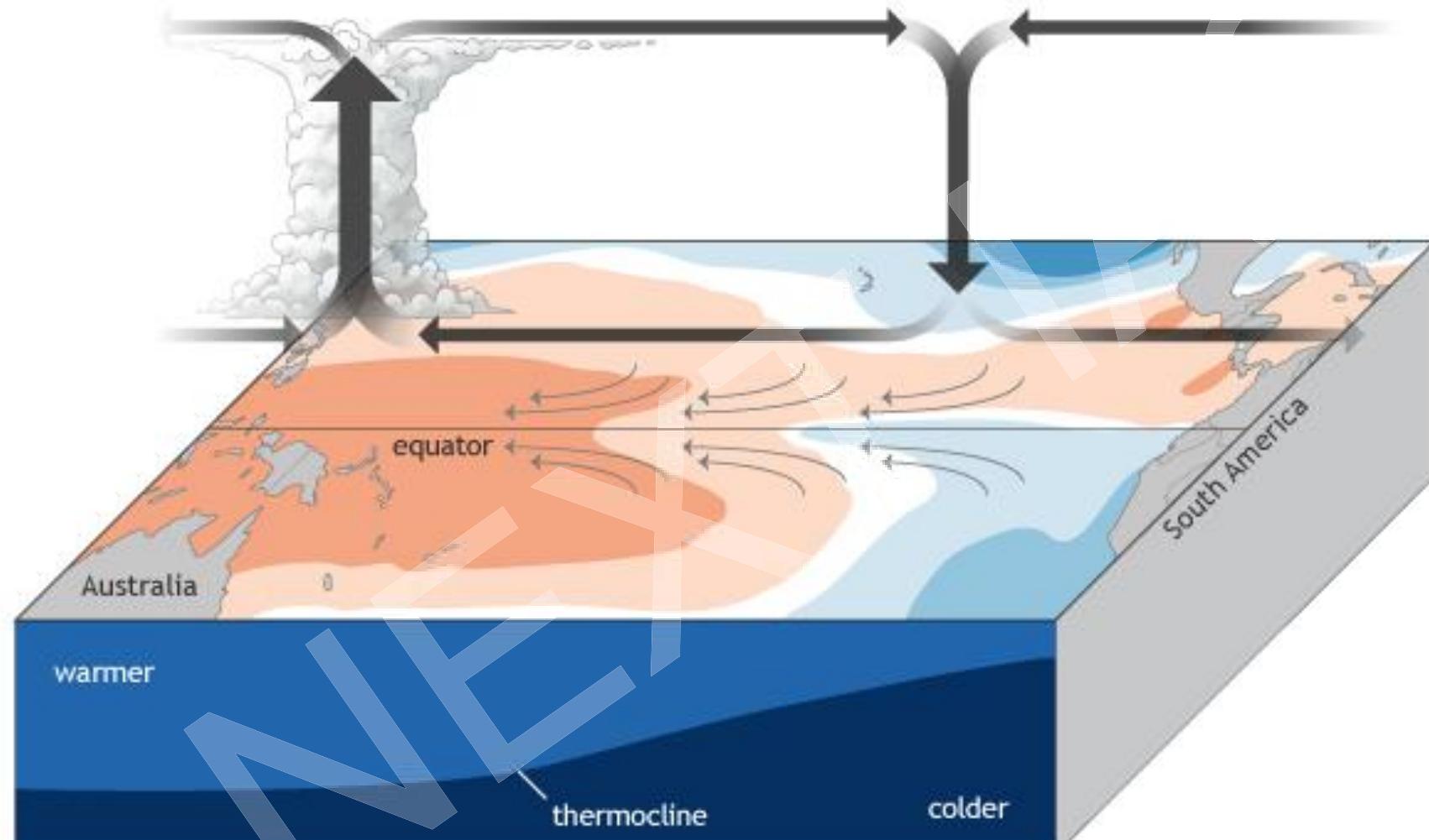




## Atmosphere-ocean feedbacks during El Niño-Southern Oscillation

Neutral

16

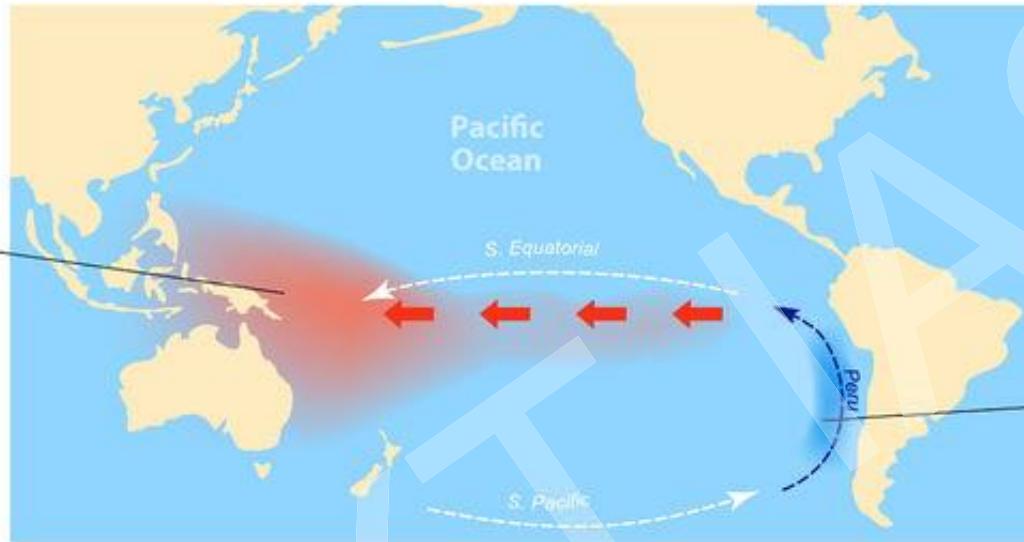


NOAA Climate.gov

# THE EL NIÑO PHENOMENON

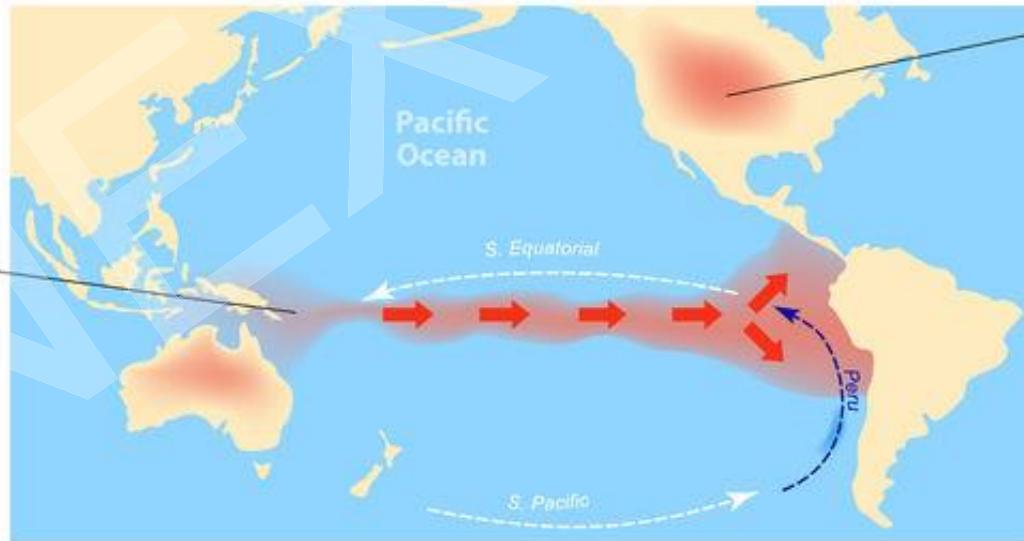
## NORMAL YEAR

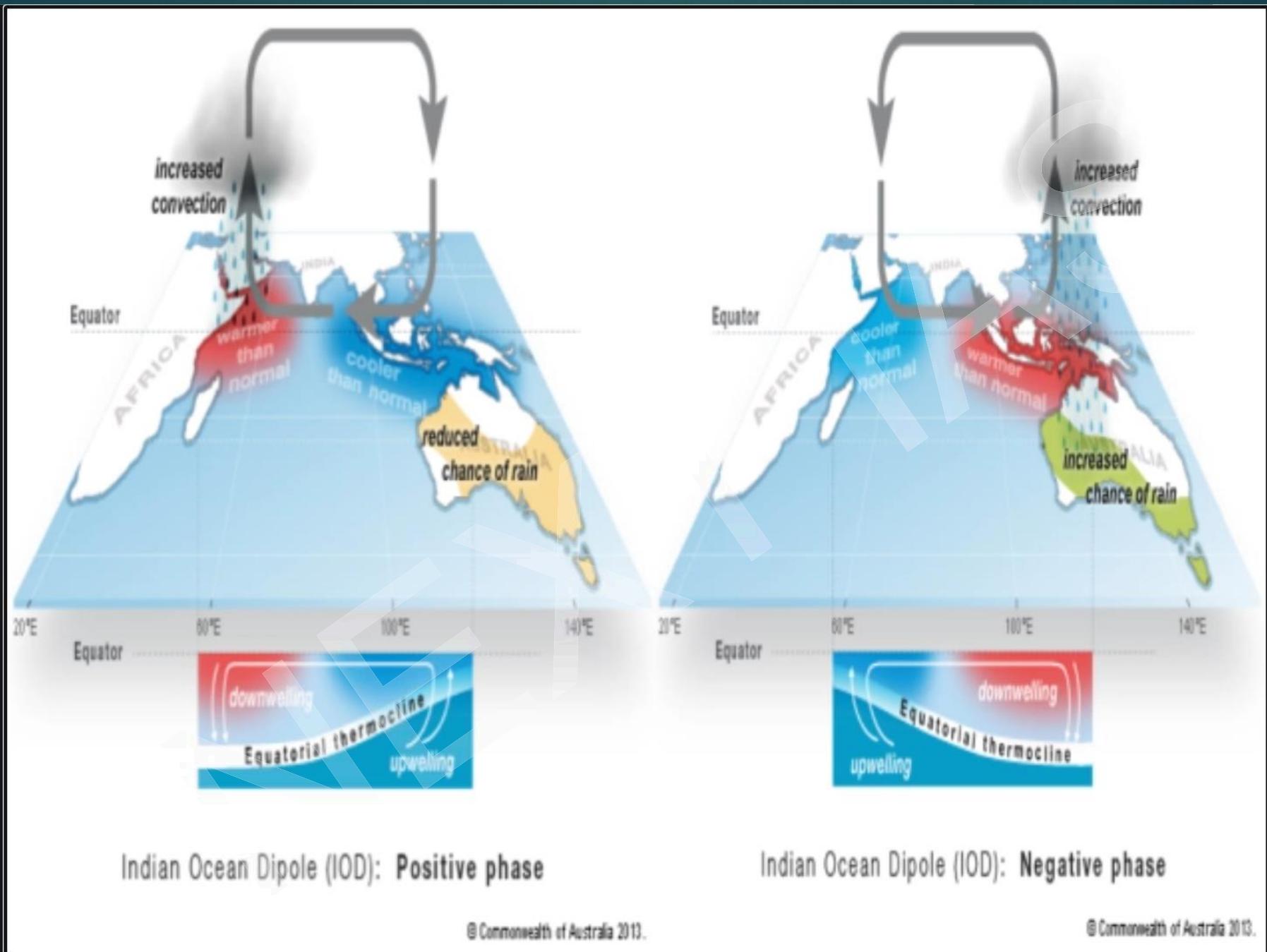
Equatorial winds gather warm water pool toward the west.



## EL NIÑO YEAR

Easterly winds weaken. Warm water to move eastward.

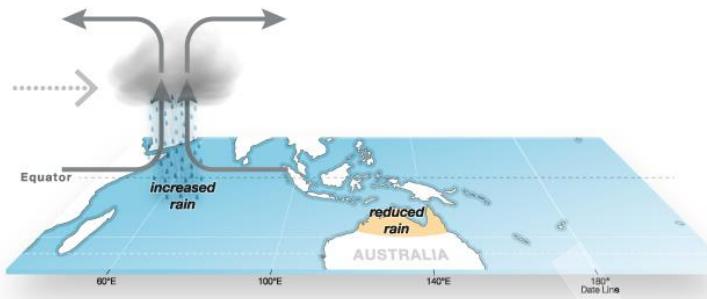




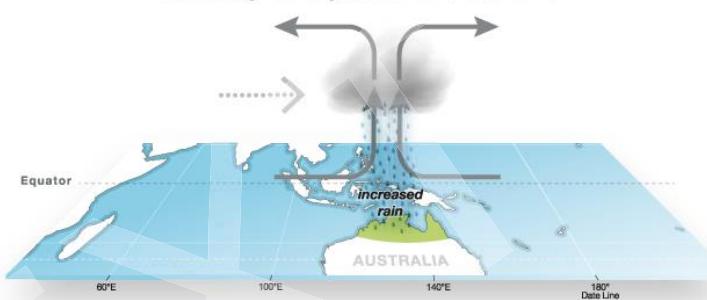
IS

## Madden-Julian Oscillation (MJO)

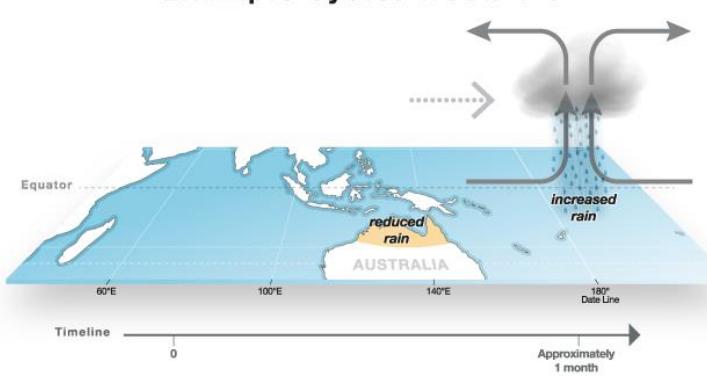
### Example cycle: Week 1

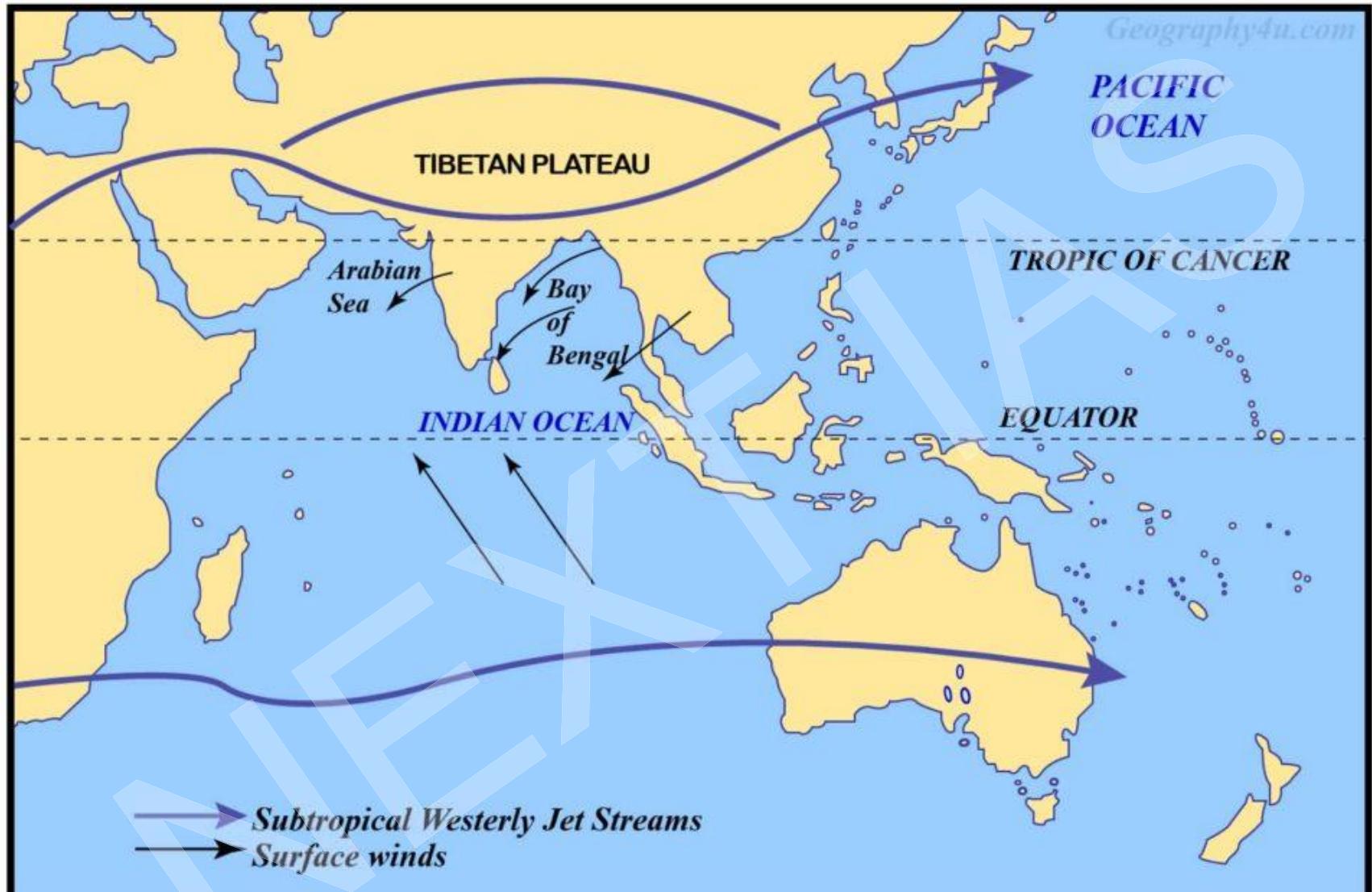


### Example cycle: Week 2-3



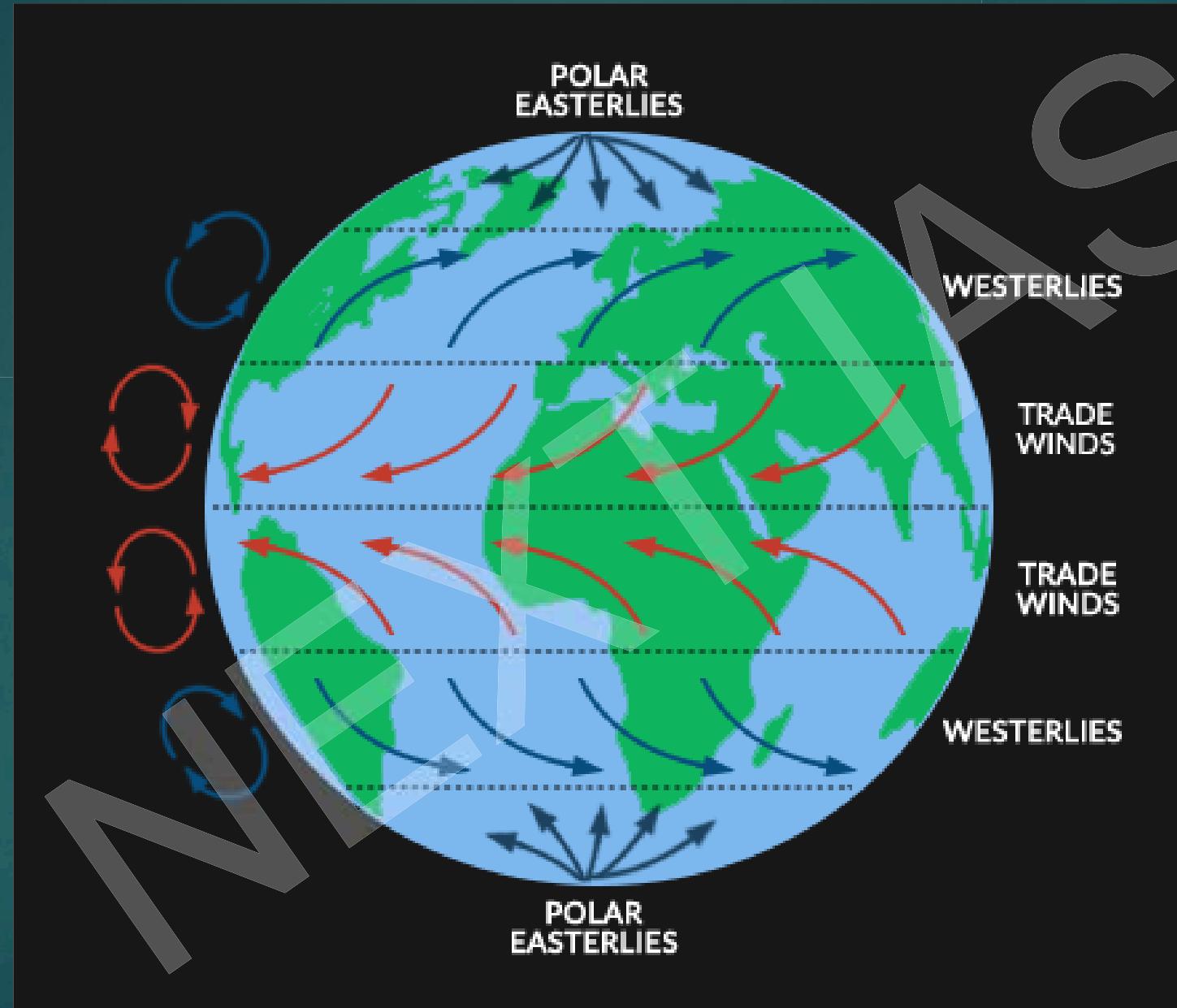
### Example cycle: Week 4-5





*Atmospheric Conditions over the Indian Subcontinent in the Month of January*

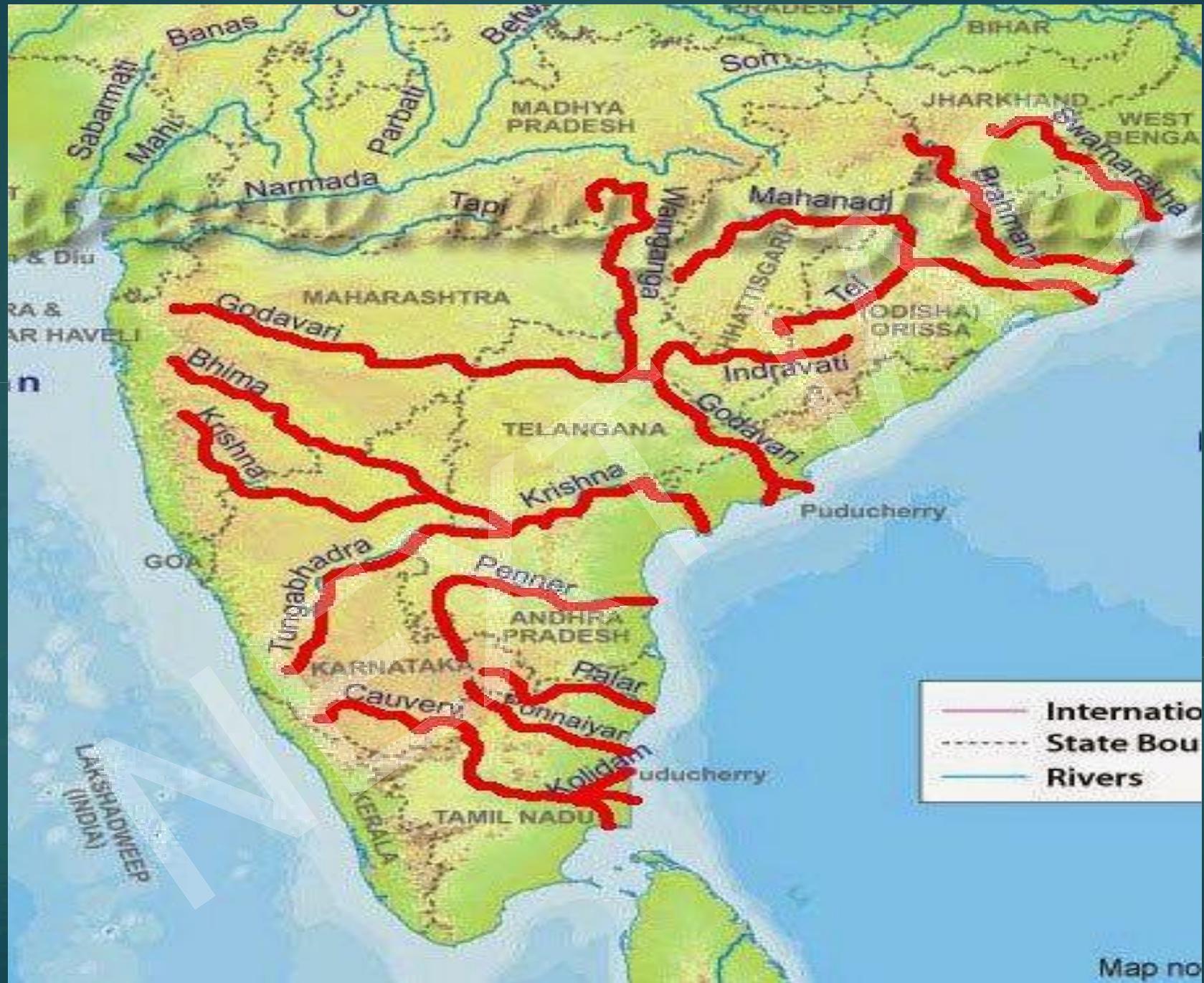




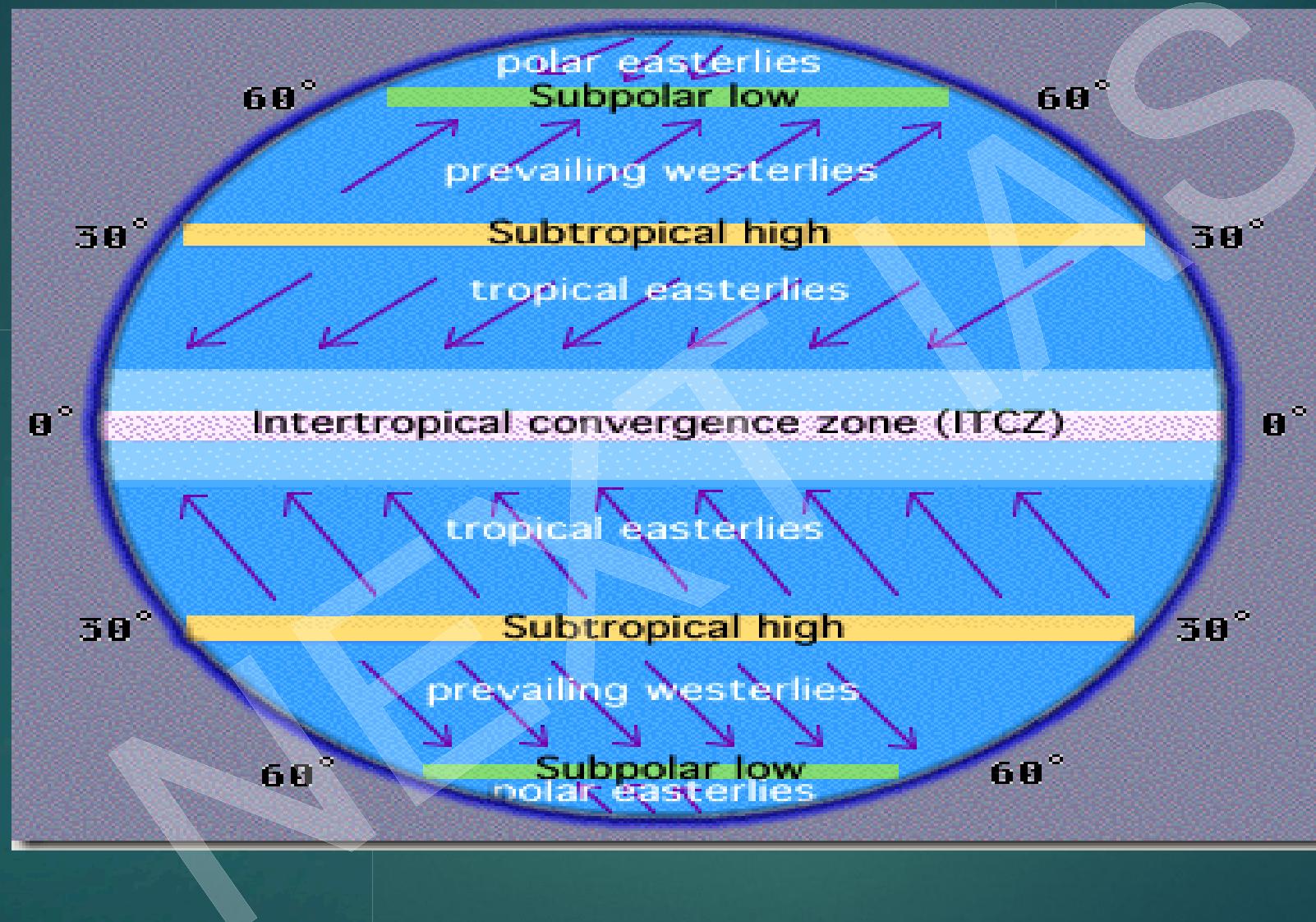


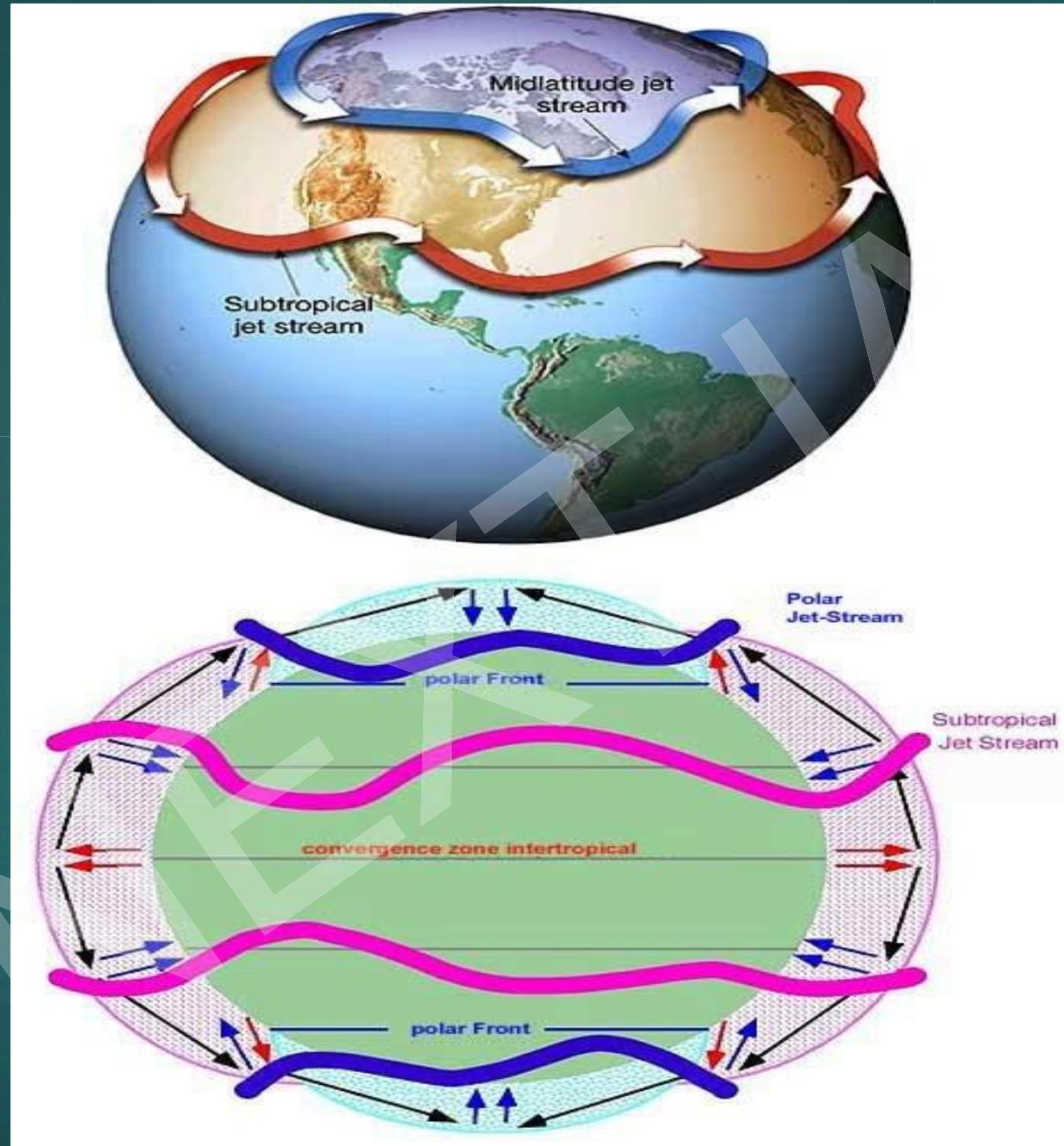




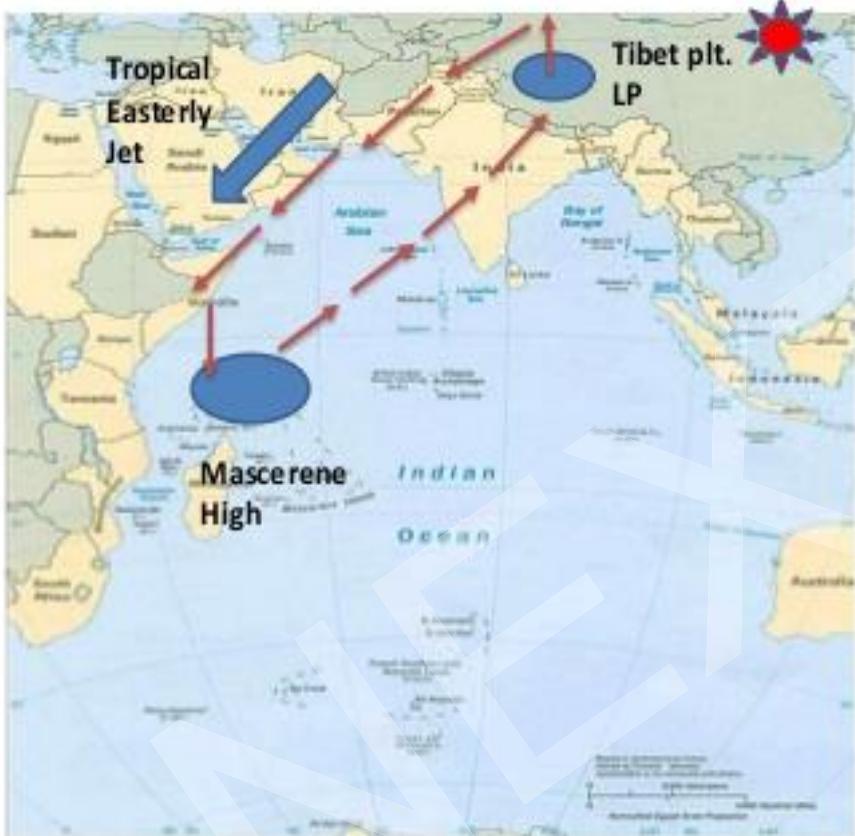




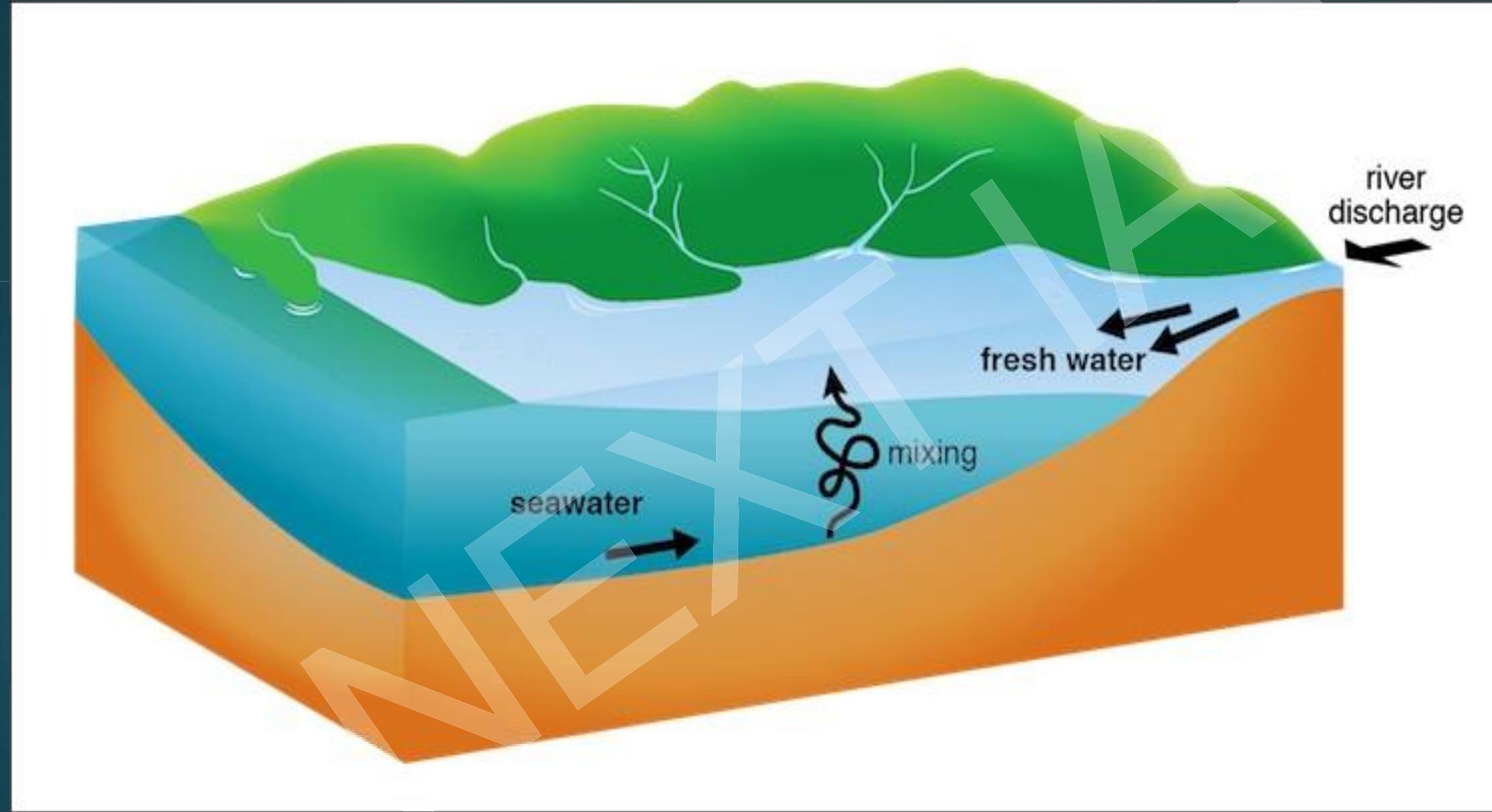




## Tropical Easterly Jet (TEJ)



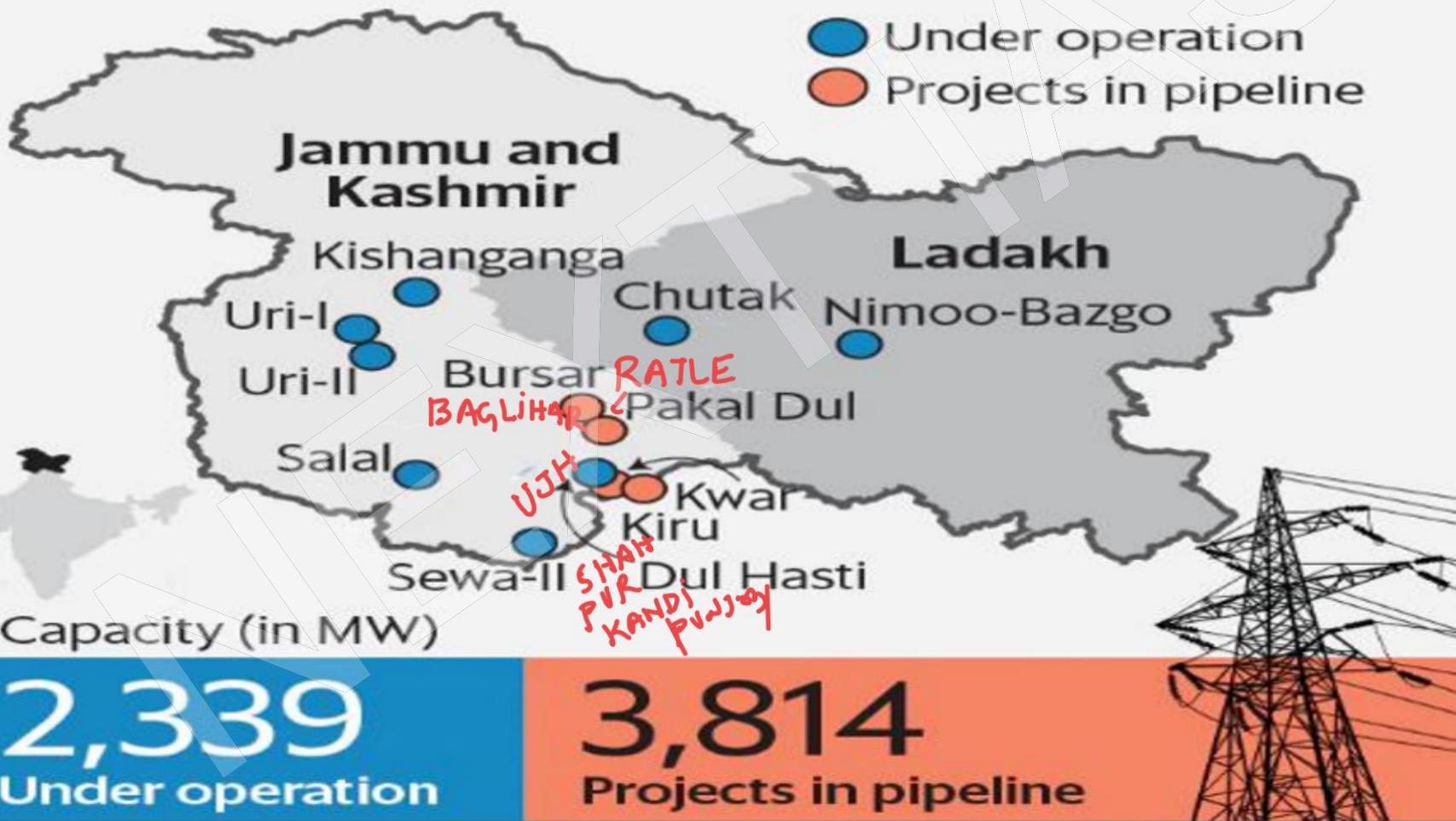
- Northward movement of the sun in summer
- Heating of Tibetan plt –LP
- Rising of the air
- Create TEJ above Tibet – move towards Mascarene High
- Strengthen Mascarene High pressure cell



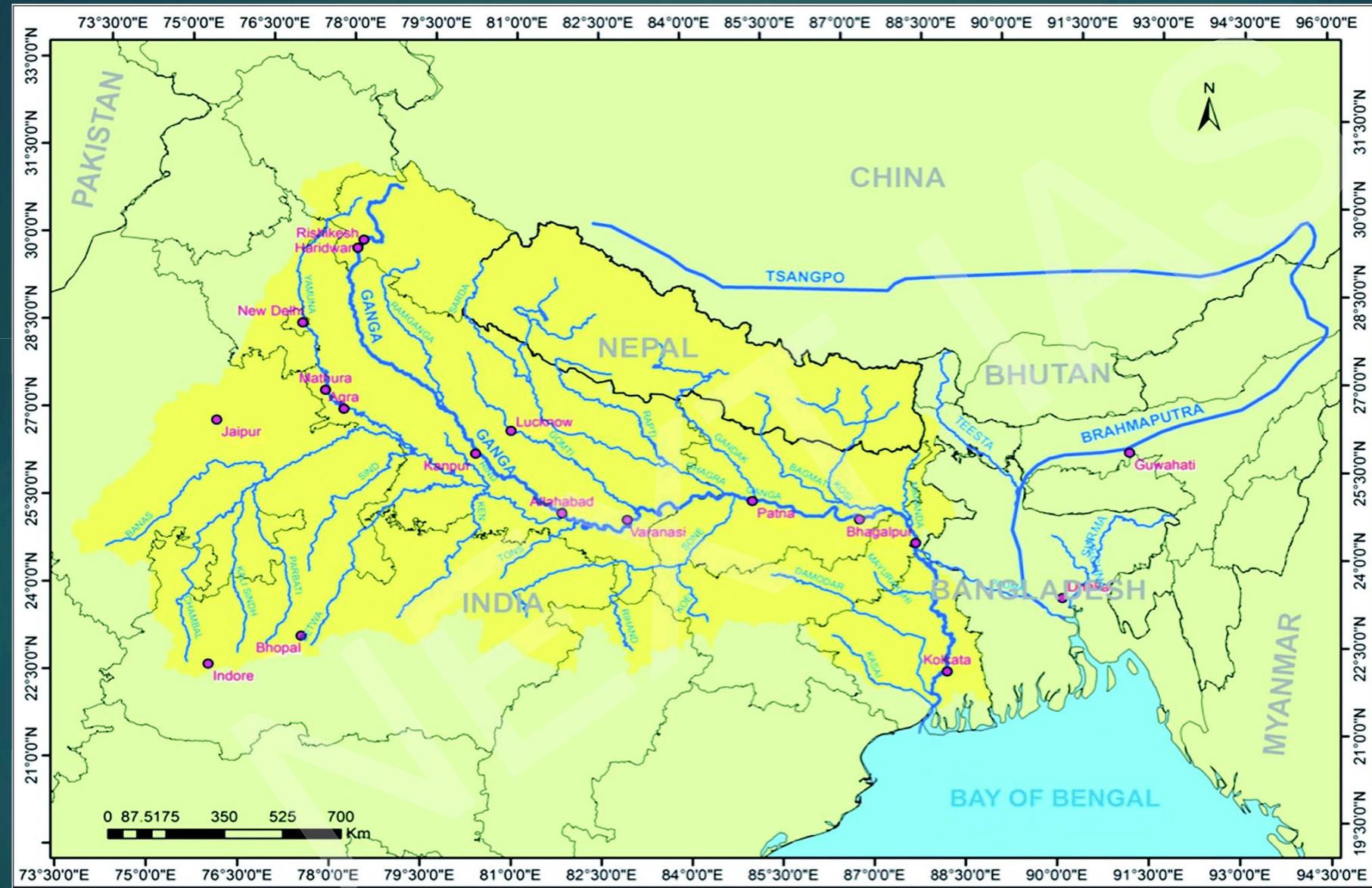


# Power play

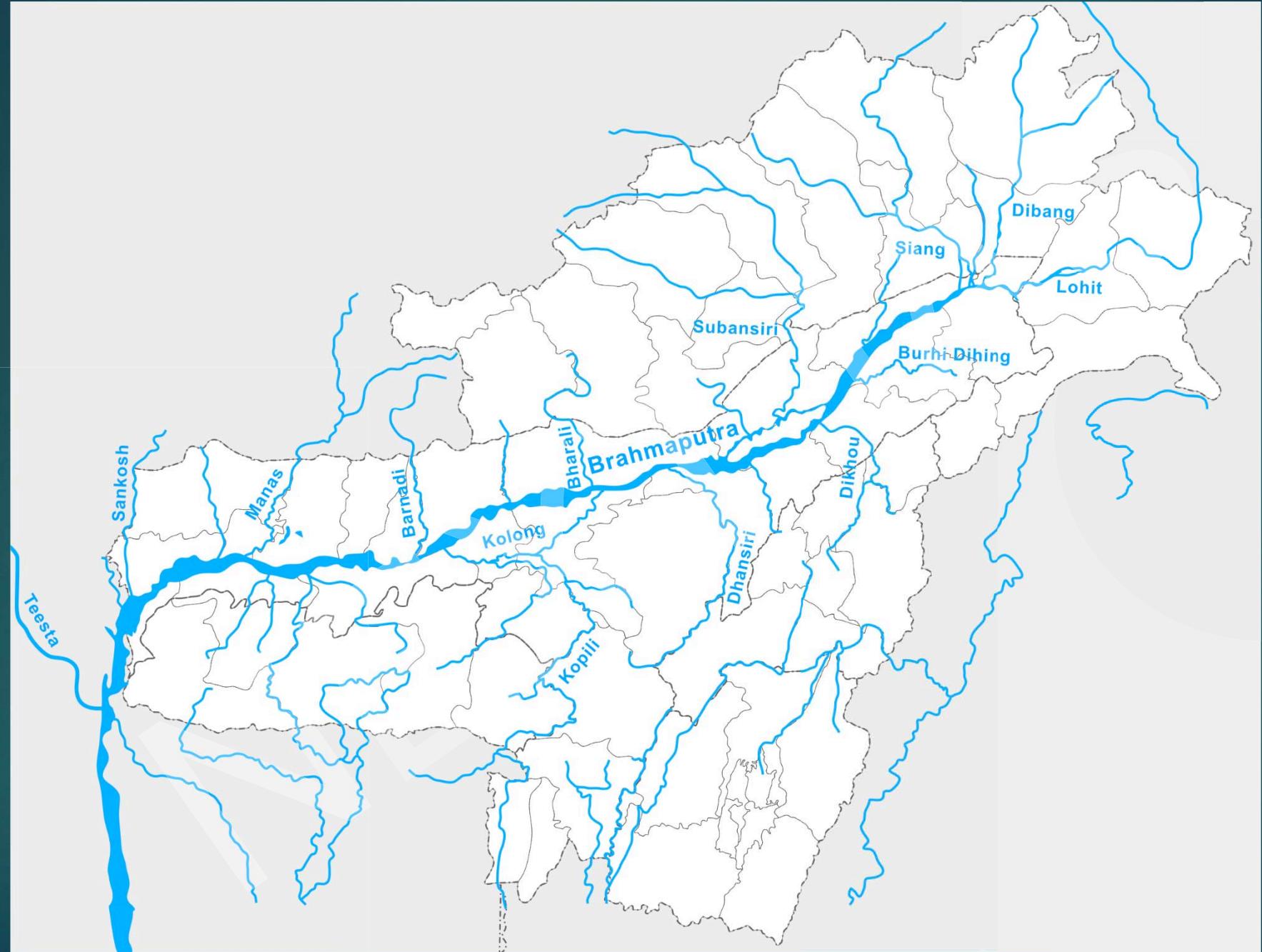
NHPC has been present in J&K for around 40 years and has invested ₹20,778.38 cr. Going forward, the plan is to build hydropower projects totalling 3,814MW.



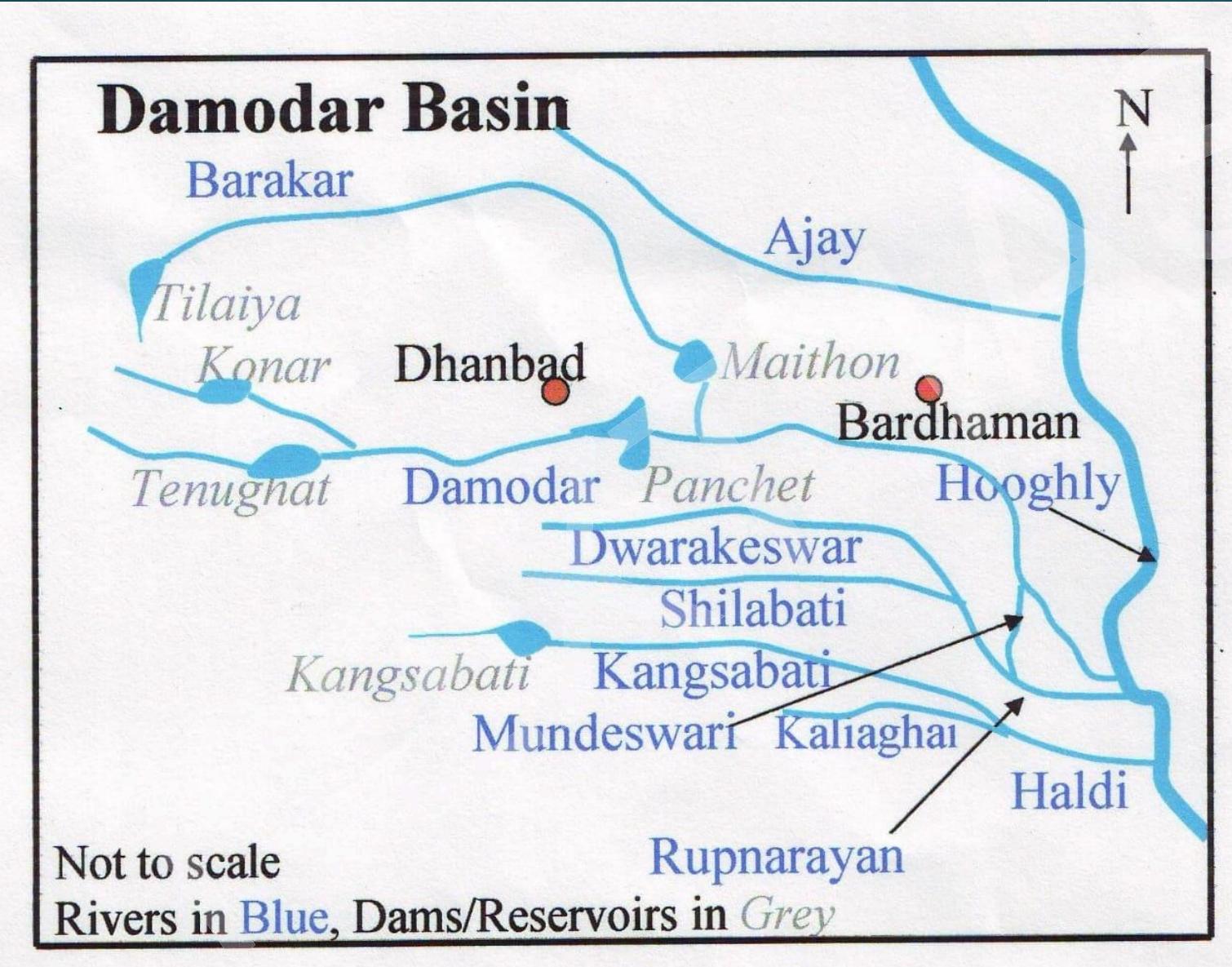










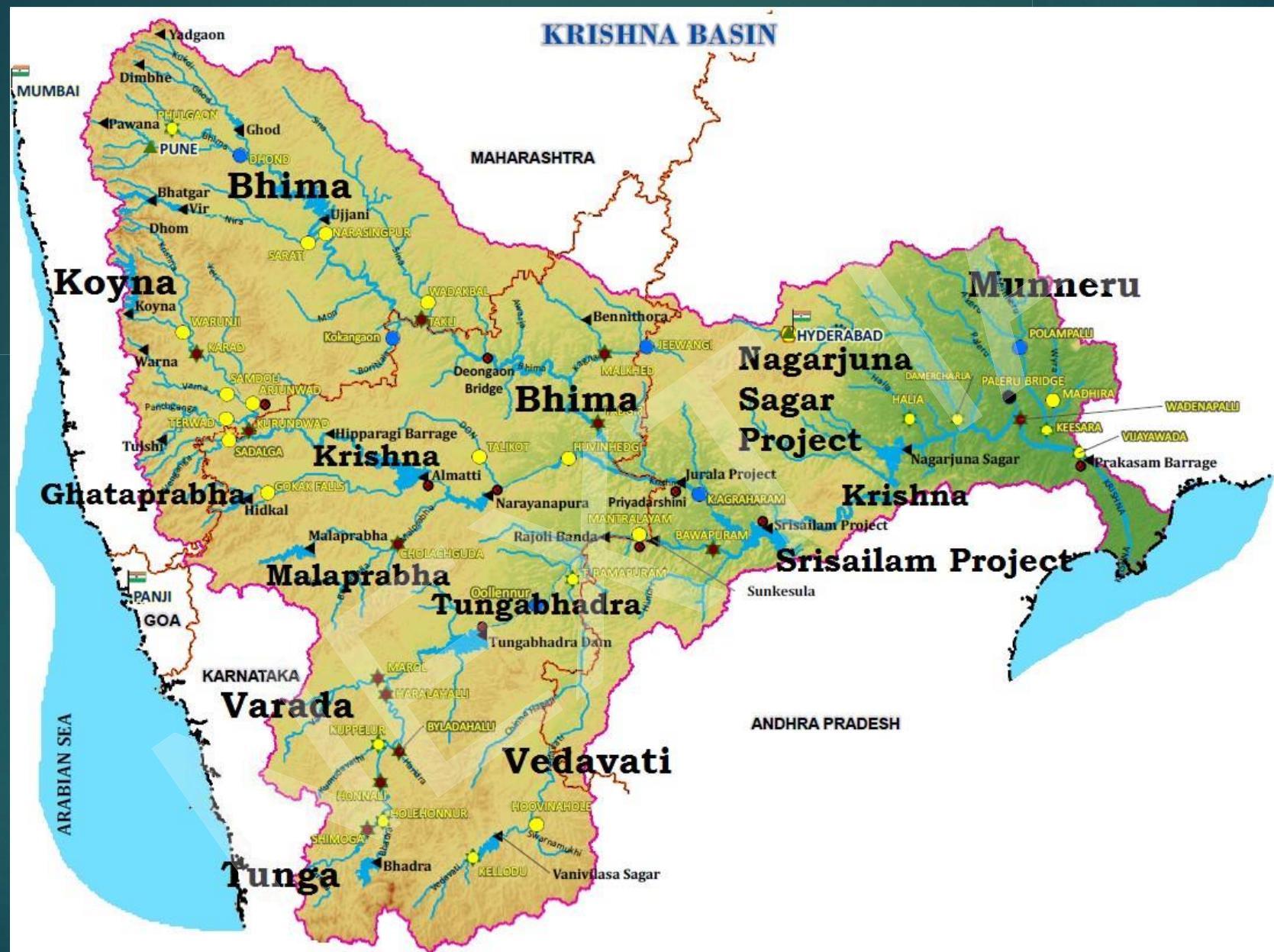




## GODAVARI BASIN

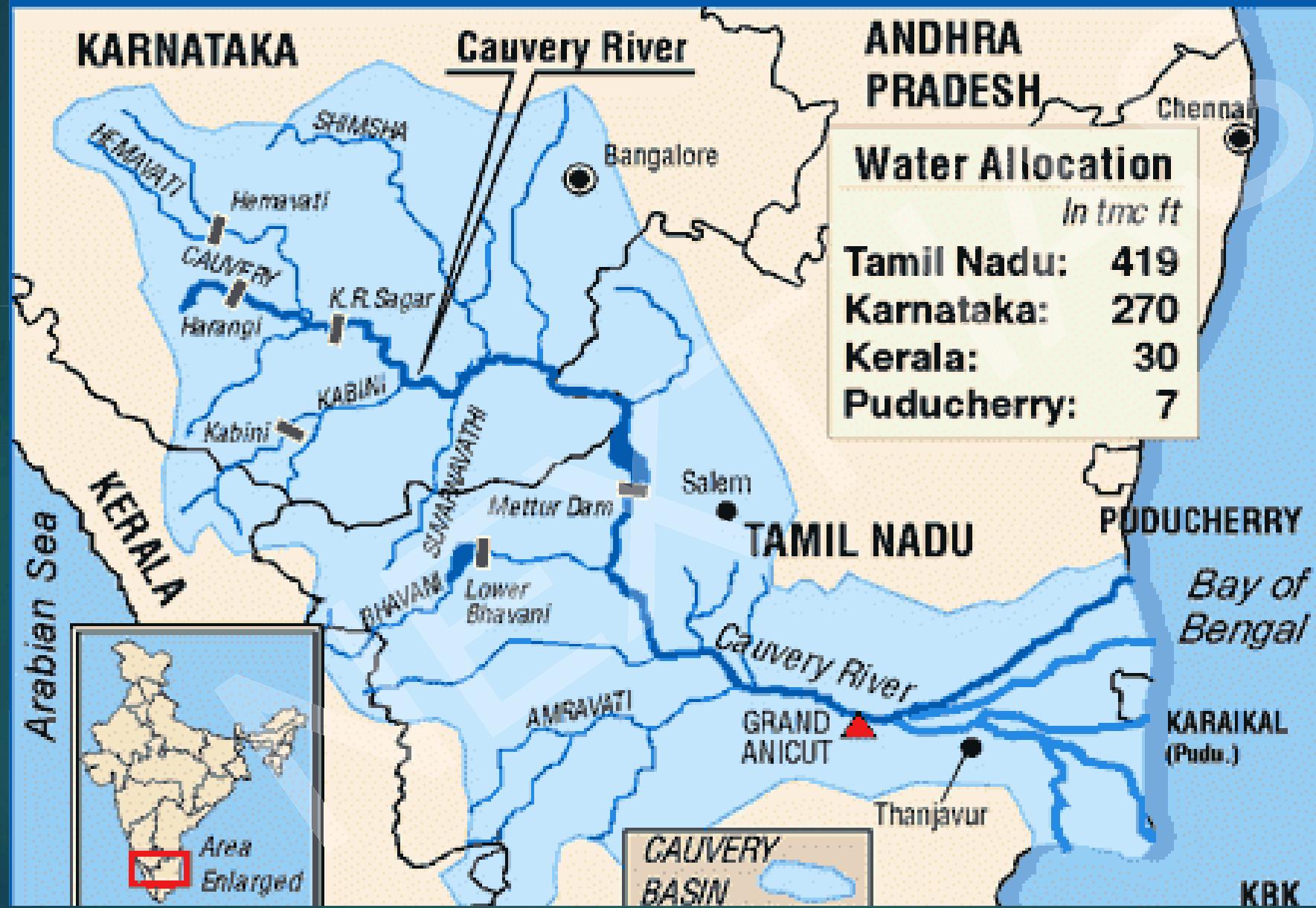
41

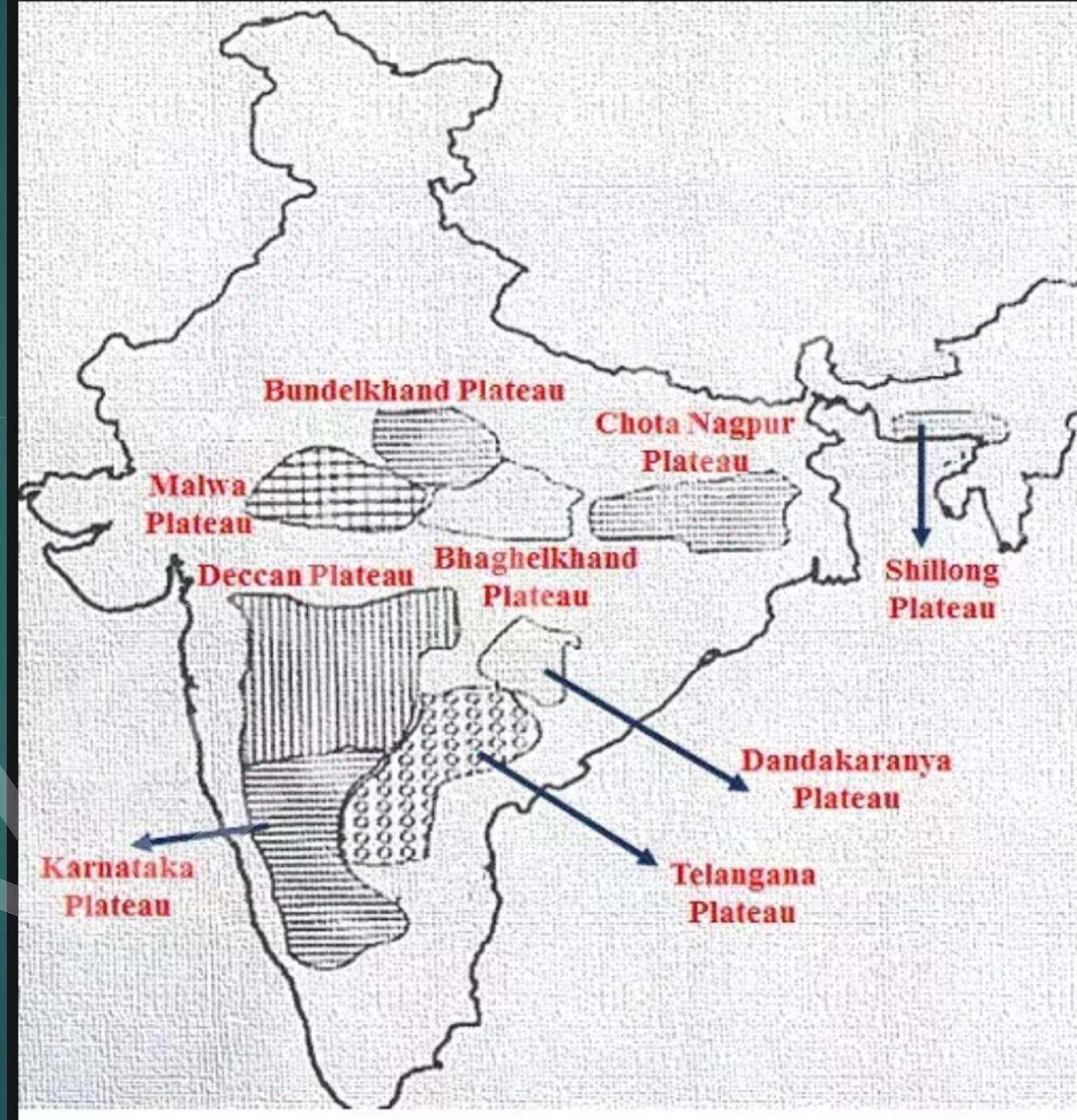


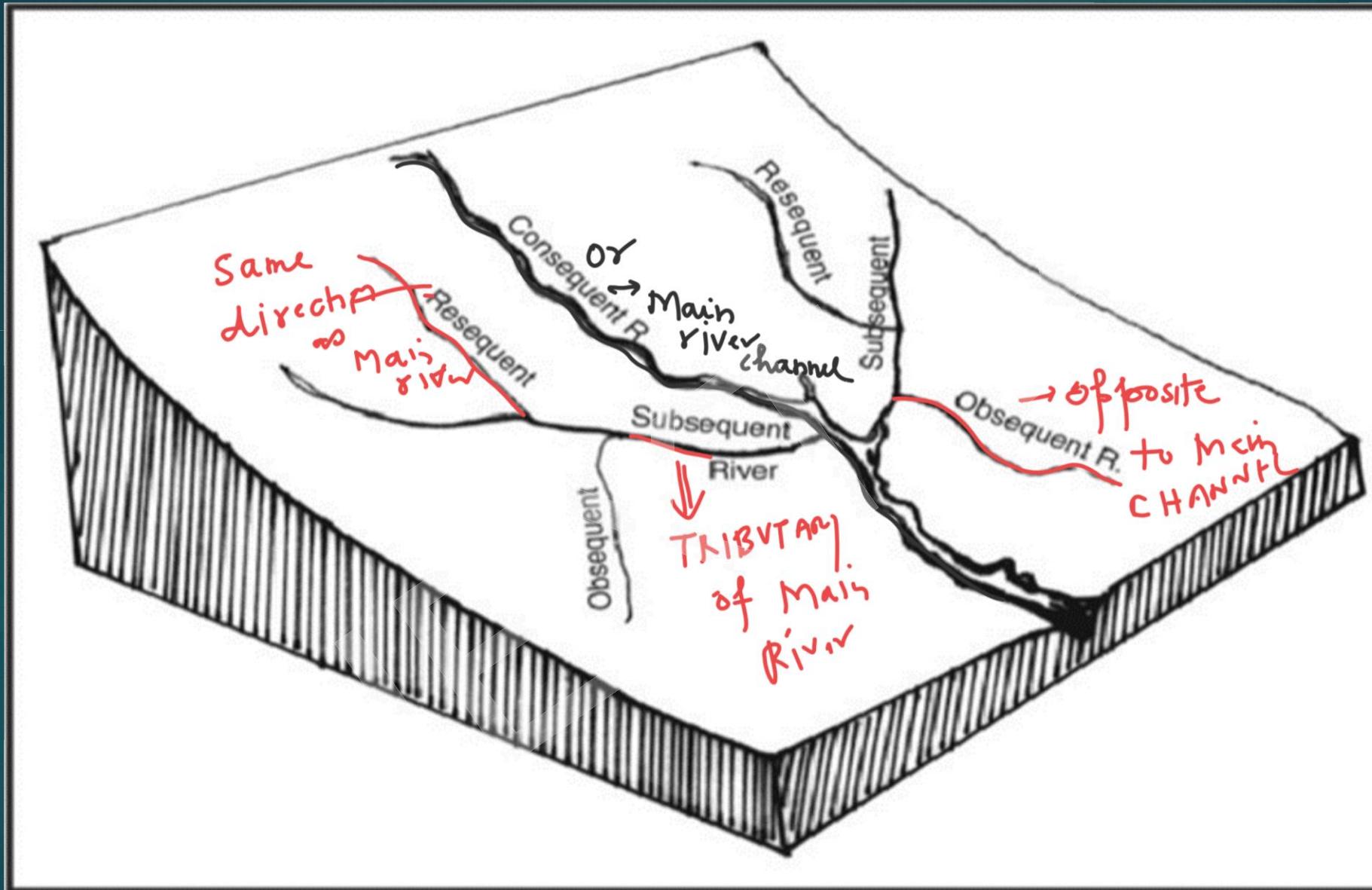


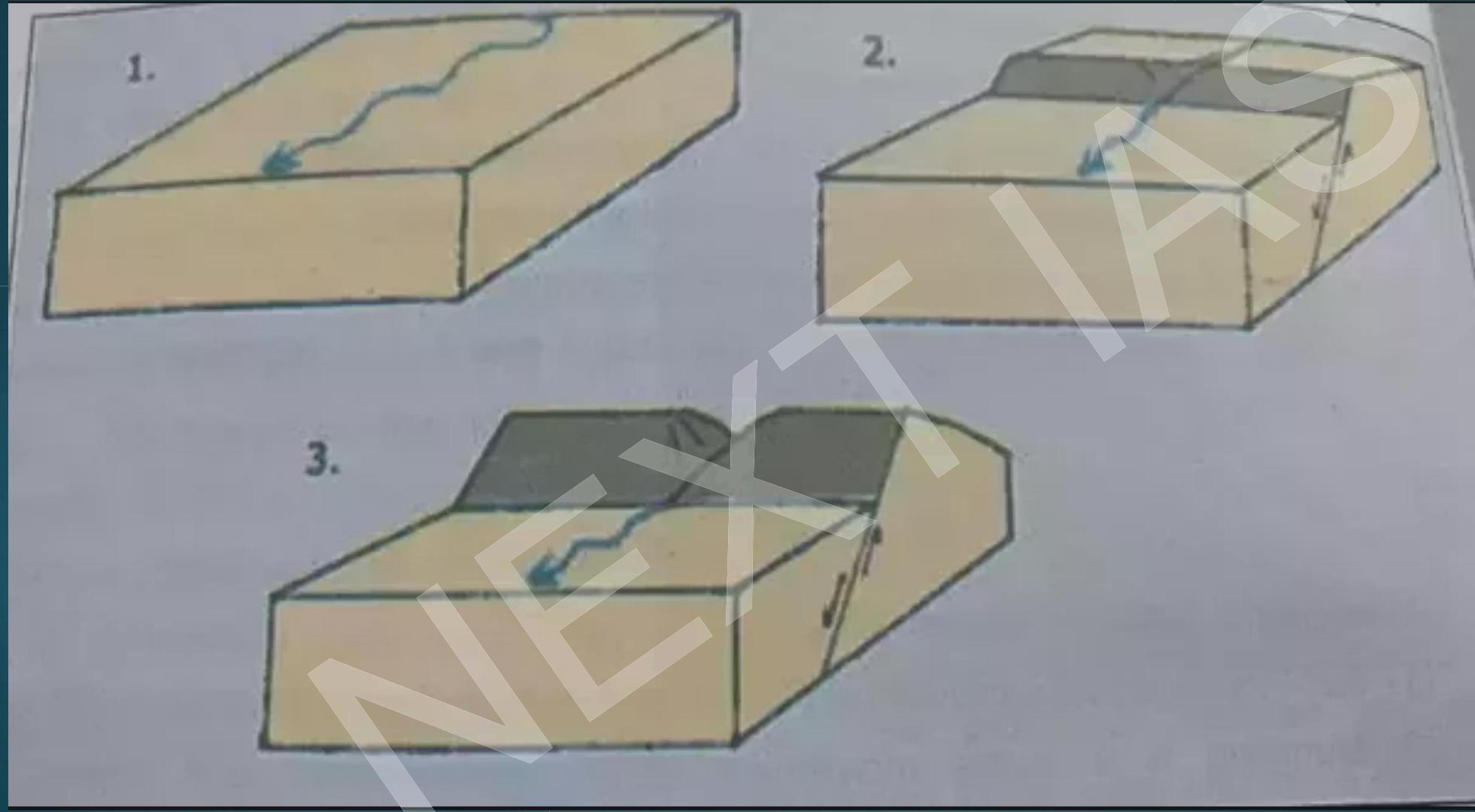
# Cauvery Water Disputes Tribunal Award

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# Drainage patterns

