

# Biogeography. Lecture 29

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# Outline

## Biogeography of the World

### Biogeography of Indo-Pacific region



# Biogeography of the World

## Biogeography of Indo-Pacific region

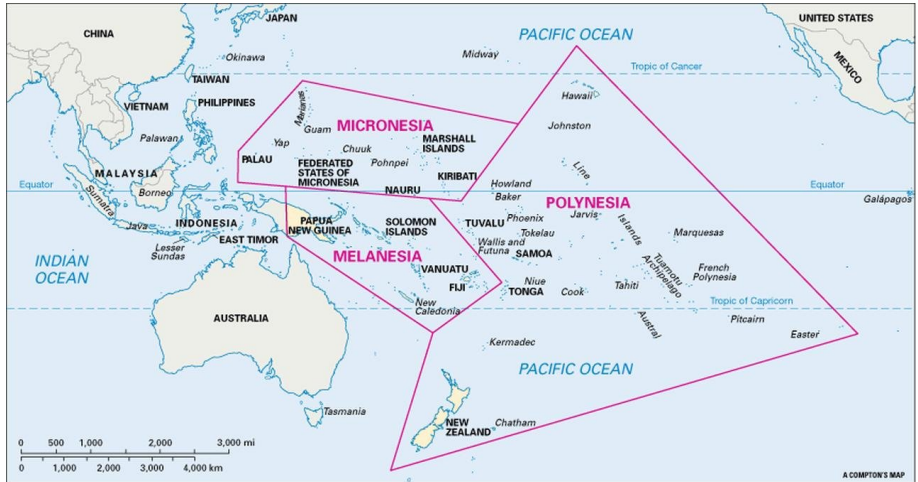




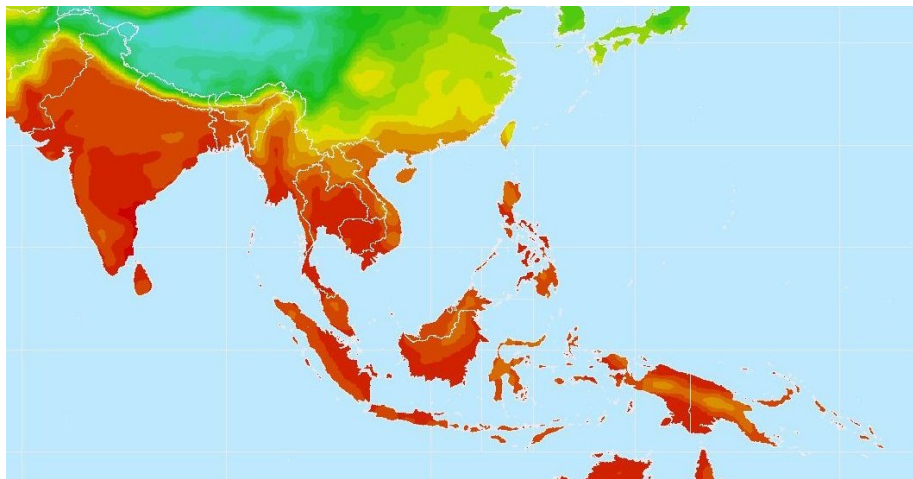
This map illustrates the Pacific Ocean's tectonic structure, highlighting the Pacific Plate and its associated features. Key elements include:

- Tectonic Plates and Basins:** The Pacific Plate is the central focus, with sub-regions labeled as North Pacific Basin, Central Pacific Basin, and East Pacific Basin.
- Fracture Zones:** Major linear features are shown, including the Moulden Fracture Zone, Clarion Fracture Zone, Galapagos Fracture, Marquesas Fracture Zone, and the Archipel des Tuamotu.
- Island Groups and Seamounts:** Numerous island chains and seamounts are labeled, such as the Hawaiian Islands, Line Islands, Phoenix Islands, Cook Islands, and the Iles de la Société.
- Geographic Labels:** The map includes labels for various oceanic features like the Hawaiian Ridge, Line Islands, Phoenix Islands, Cook Islands, and the Iles de la Société.
- Scale and Orientation:** A scale bar at the bottom indicates distances in miles (0 to 1000) and kilometers (0 to 1600). The map is oriented with North at the top.

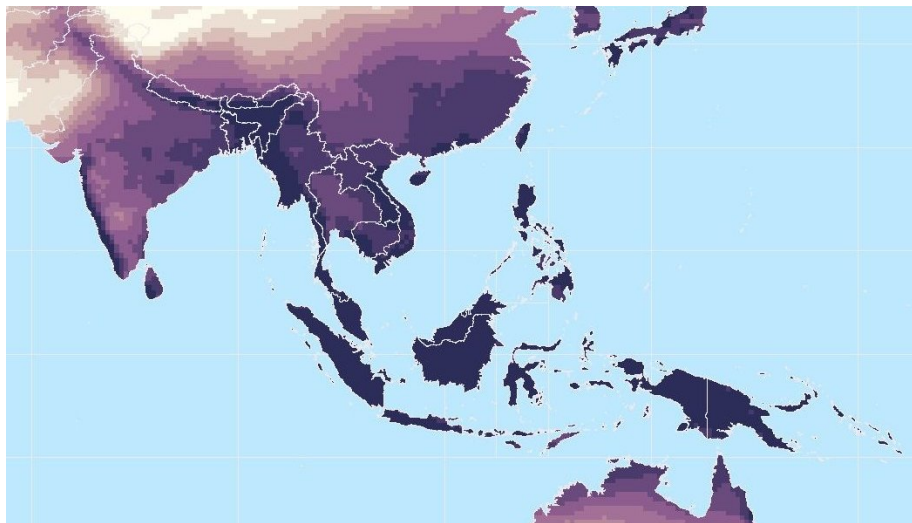
# Oceania cultures



# Indo-Pacific: temperatures

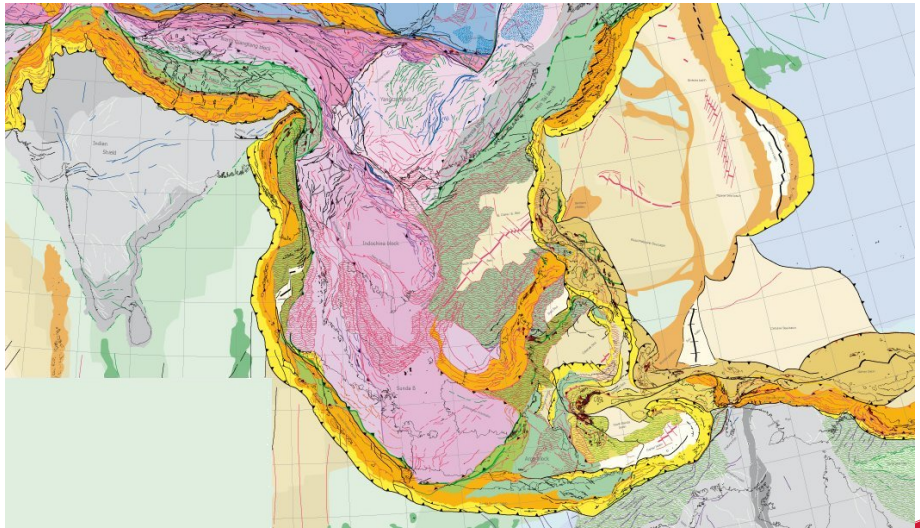


# Indo-Pacific: precipitation

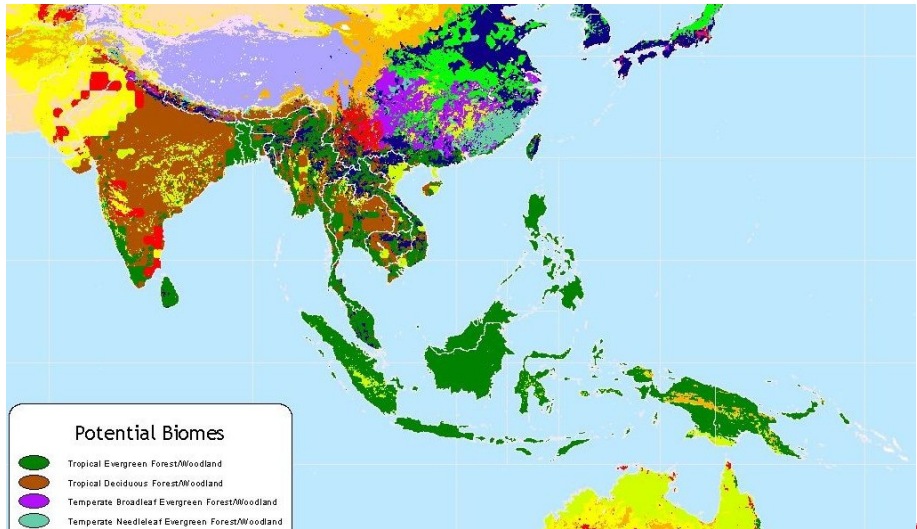




# Indo-Pacific geology: the “giant puzzle”



# Indo-Pacific: potential biomes



# Indo-Pacific: biogeographical regions and Wallace line



# Indo-Pacific: 8 biogeographical regions

1. North India
2. Deccan Plateau and South India
3. Sundaland: Indochina
4. Sundaland: Malay archipelago
5. Wallacea
6. New Guinea and Melanesia
7. Coral Pacific Islands
8. Volcanic Pacific Islands



# Indo-Pacific regions: key features

1. **North India:** Asian lions (*Panthera leo persica*) and tigers (*Panthera tigris*)
  2. **Deccan Plateau and South India:** the most “African” fauna outside of Africa, e.g., Asian elephant (*Elephas maximus*) (smaller ears and less skinny), Indian rhinoceros (*Rhinoceros unicornis*) and multiple species of antelopes like gazelles (*Gazella gazella*); also, many “true” Asian elements like king cobra (*Ophiophagus hannah*), the largest venomous snake.
  3. **Indochina:** domestication center of many animals like cattle (e.g., wild gaur *Bos gaurus*) and chicken, Red Junglefowl (*Gallus gallus*). Terrestrial leeches (Haemadipsidae).
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4. **Malay archipelago:** one of the most species-rich regions of the World. Unique animals: orangutans (*Pongo pygmaeus* and *Pongo abelii*), gibbons (family Hylobatidae), flying lemurs (order Dermoptera), flying lizards (*Draco volans*) and even flying frogs (*Rhacophorus*)! Hornbills (family Bucerotidae, substitute of South American toucans) and scaly anteaters (order Pholidota) are common with African biota. Lots of epiphytes (e.g., orchids) but no bromeliads. Pitcher vine *Nepenthes* (some in symbiosis with tree shrews, order Scandentia) is also specific to the region. Famous island Krakatoa exploded in 1883 is located here, between Java and Sumatra.
  5. **Wallacea:** border between Sundaland and Sahul; islands which have never been connected with Asia (some of them like Sulawesi are disputable) and therefore “steppstones to Australia”. Most famous is Komodo, the island of Komodo dragon (*Varanus komodoensis*), the largest terrestrial reptile (up to 3.1 m)
  6. **New Guinea and Melanesia:** have multiple Australian elements like echidna (*Zaglossus*) but also placental mammals (like Muridae, mice) and endemic groups (like birds of paradise, family Paradisaeidae).
  7. **Coral Pacific Islands:** very poor soils and consequently poor biota
  8. **Volcanic Pacific Islands like Hawaii:** recently radiated flora and ornithofauna (like Hawaiian honeycreepers, Drepanididae) and relatively poor terrestrial fauna.



# For Further Reading



## Sundaland.

<http://en.wikipedia.org/wiki/Sundaland>



## Oceania.

<http://en.wikipedia.org/wiki/Oceania>



## A. Shipunov.

*Biogeography* [Electronic resource].

2014—onwards.

Mode of access: [http://ashipunov.info/shipunov/school/biol\\_330](http://ashipunov.info/shipunov/school/biol_330)



## A. Shipunov.

*Introduction to Biogeography and Tropical Biology* [Electronic resource].

2017—onwards.

Mode of access: [http://ashipunov.info/shipunov/school/biol\\_330/intr\\_biogeogr\\_trop\\_biol/intr\\_biogeogr\\_trop\\_biol.pdf](http://ashipunov.info/shipunov/school/biol_330/intr_biogeogr_trop_biol/intr_biogeogr_trop_biol.pdf)



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