BIOMES: CONCEPT, TYPES, CHARACTERISTICS AND DISTRIBUTION; DETAIL STUDY OF TROPICAL DESERT BIOMES

BHANWAR VISHVENDRA RAJ SINGH
ASSISTANT PROFESSOR
DEPARTMENT OF GEOGRAPHY, FACULTY OF EARTH SCIENCES,
MOHANLAL SUKHADIA UNIVERSITY, UDAIPUR, INDIA

INTRODUCTION

- Biomes are defined as "the world's major communities, classified according to the predominant vegetation and characterized by adaptations of organisms to that particular environment" (Campbell 1996).
- The importance of biomes cannot be overestimated. Biomes have changed and moved many times during the history of life on Earth.
- More recently, human activities have drastically altered these communities. Thus, conservation and preservation of biomes should be a major concern to all

INTRODUCTION

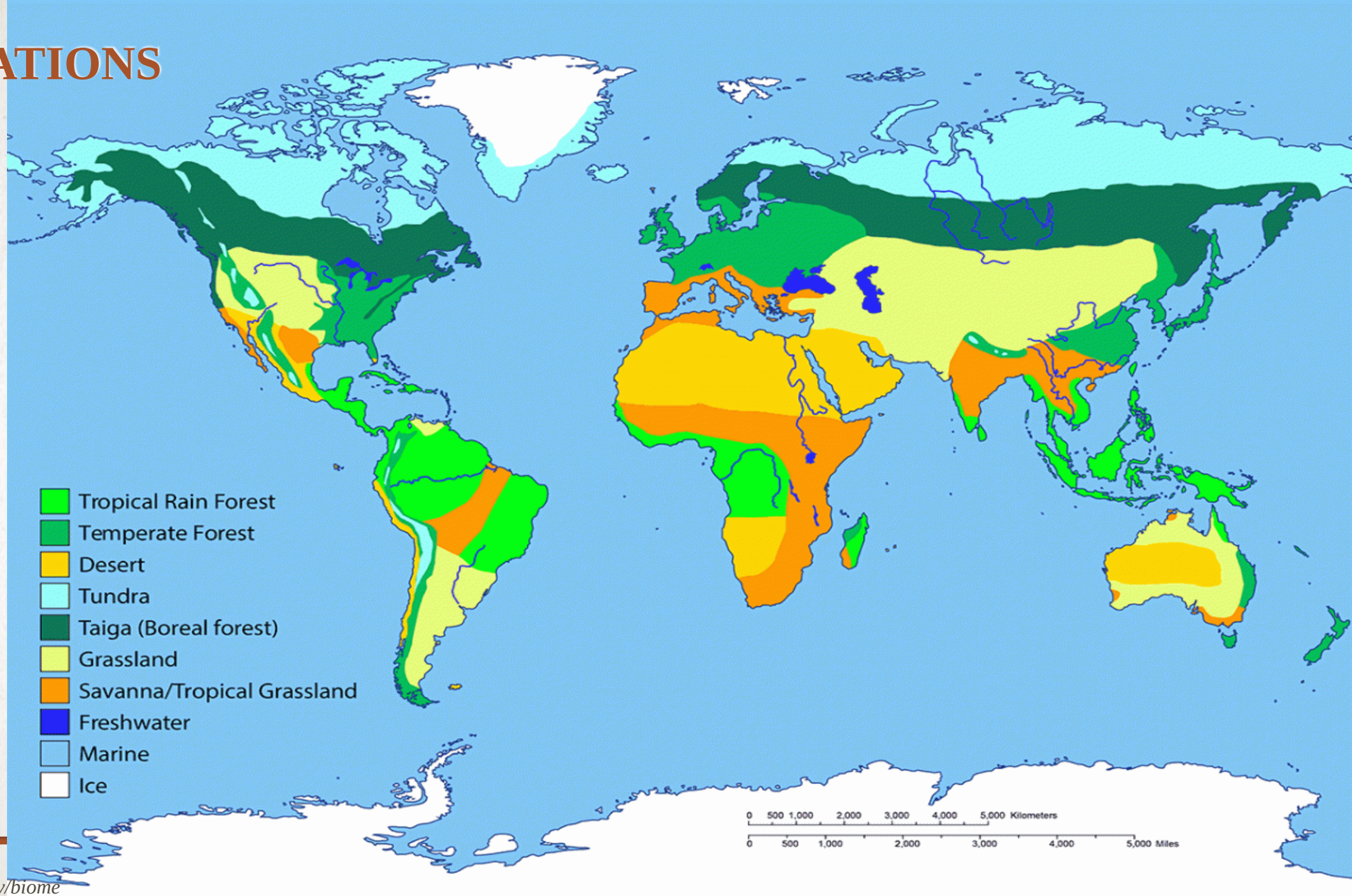
- A biome is an area of the planet that can be classified according to the plants and animals that live in it. Temperature, soil, and the amount of light and water help determine what life exists in a biome.
- A biome is different from an ecosystem. An ecosystem is the interaction of living and nonliving things in an environment. A biome is a specific geographic area notable for the species living there. A biome can be made up of many ecosystems. For example, an aquatic biome can contain ecosystems such as coral reefs and kelp forests.

CLASSIFICATIONS

Major Six biomes such as ……!!!

- Forest
- Grassland
- Freshwater
- Marine
- Desert
- Tundra

CLASSIFICATIONS



https://earthobservatory.nasa.gov/biome

DESERT BIOME

The desert biome covers about one-fifth of Earth's surface. This biome has a layer of soil that can either be sandy, gravelly, or stony, depending on the type of desert. Deserts usually get at most 50 centimeters (20 inches) of rainfall a year, and the organisms that live in deserts are adapted to this extremely dry climate.

Deserts are areas that receive very little precipitation. People often use the adjectives "hot," "dry," and "empty" to describe deserts, but these words do not tell the whole story. Although some deserts are very hot, with daytime temperatures as high as 54°C (130°F), other deserts have cold winters or are cold year-round. And most deserts, far from being empty and lifeless, are home to a variety of plants, animals, and other organisms. People have adapted to life in the desert for thousands of years.

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DESERT

https://earthobservatory.nasa.gov/biome

TYPES OF DESERT BIOME

Desert biomes can be classified according to several characteristics. There are four major types of deserts:

- Hot and dry
- Semiarid
- Coastal
- Cold

Hot, moist air rises into the atmosphere near the Equator. As the air rises, it cools and drops its moisture as heavy tropical rains. The resulting cooler, drier air mass moves away from the Equator. As it approaches the tropics, the air descends and warms up again. The descending air hinders the formation of clouds, so very little rain falls on the land below.

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TYPES OF DESERT BIOME

HOT AND DRY DESERT

The four major North American deserts of this type are the Chihuahuan, Sonoran, Mojave and Great Basin. Others outside the U.S. include the Southern Asian realm, Neotropical (South and Central America), Ethiopian (Africa) and Australian.

The seasons are generally warm throughout the year and very hot in the summer. The winters usually bring little rainfall.

SEMIARID DESERT

The major deserts of this type include the sagebrush of Utah, Montana and Great Basin. They also include the Nearctic realm (North America, Newfoundland, Greenland, Russia, Europe and northern Asia).

The summers are moderately long and dry, and like hot deserts, the winters normally bring low concentrations of rainfall. Summer temperatures usually average between 21-27° C.

https://ucmp.berkeley.edu/exhibits/biomes/deserts.php

TYPES OF DESERT BIOME

COASTAL DESERT

These deserts occur in moderately cool to warm areas such as the Nearctic and Neotropical realm. A good example is the Atacama of Chile.

The cool winters of coastal deserts are followed by moderately long, warm summers. The average summer temperature ranges from 13-24° C; winter temperatures are 5° C or below. The maximum annual temperature is about 35° C and the minimum is about -4° C. In Chile, the temperature ranges from -2 to 5° C in July and 21-25° C in January.

COLD DESERT

These deserts are characterized by cold winters with snowfall and high overall rainfall throughout the winter and occasionally over the summer. They occur in the Antarctic, Greenland and the Nearctic realm. They have short, moist, and moderately warm summers with fairly long, cold winters. The mean winter temperature is between -2 to 4° C and the mean summer temperature is between 21-26° C.

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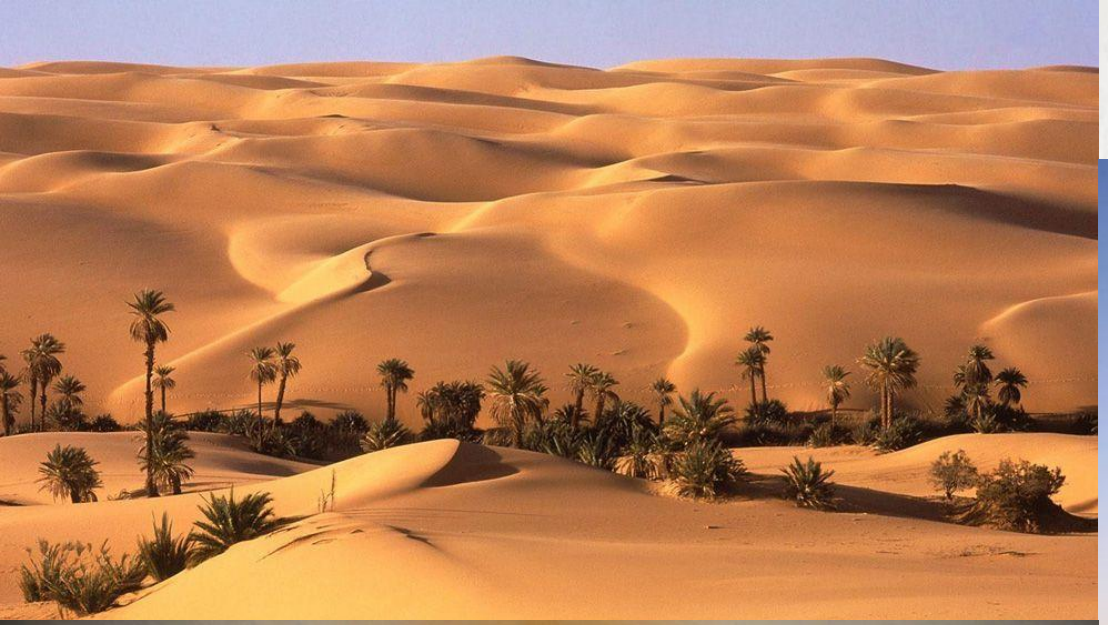

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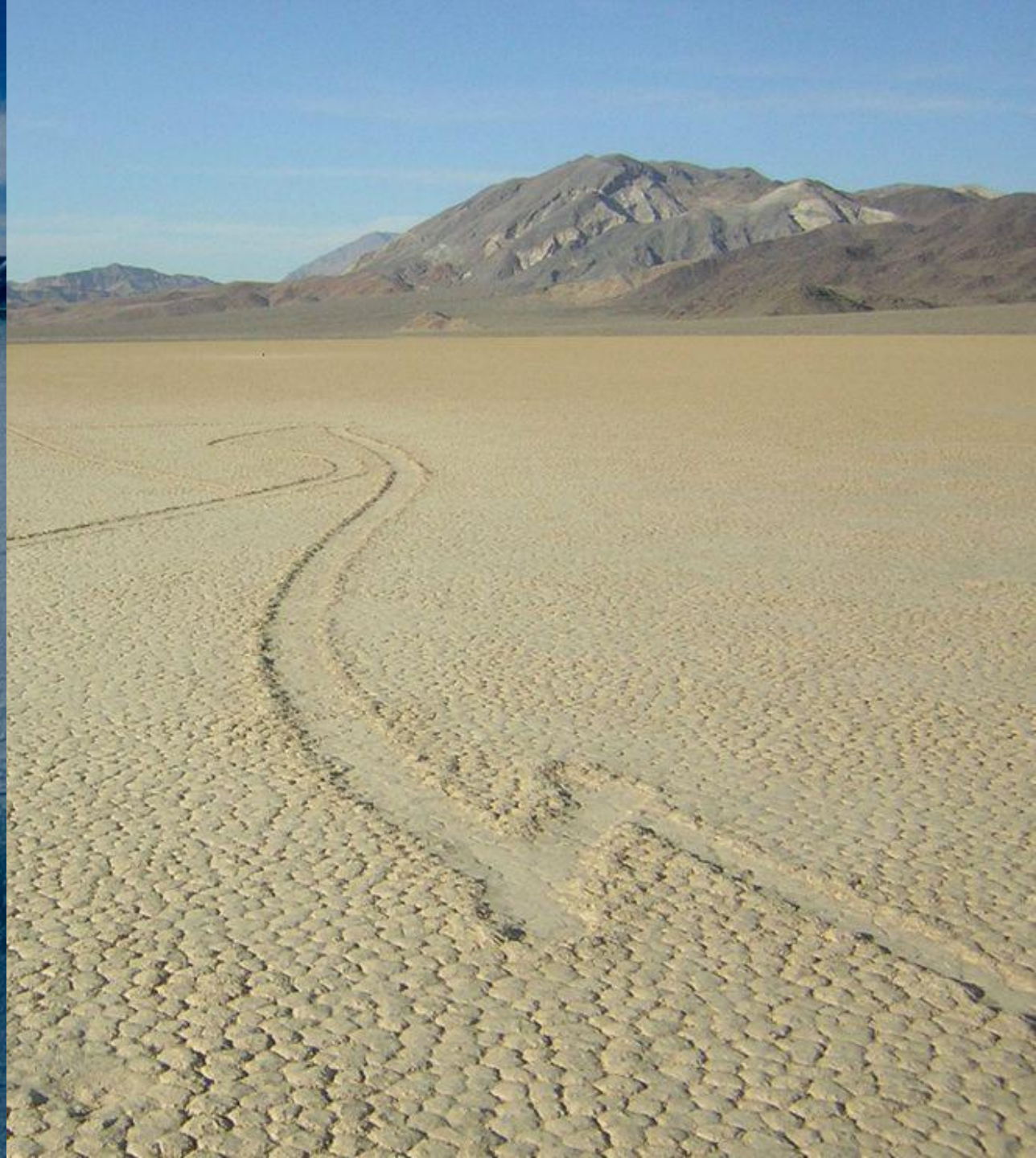

FOOD CHAIN OF DESERT BIOME

Trophic Level	Desert Biome
Producer (Photosynthetic)	Cactus
Primary Consumer (Herbivore)	Butterfly
Secondary Consumer (Carnivore)	Lizard
Tertiary Consumer (Carnivore)	Snake
Quaternary Consumer (Carnivore)	Roadrunner

CONSERVATION OF BIOME

- Because we share the world with many other species of plants and animals, we must consider the consequences of our actions.
- Over the past several decades, increasing human activity has rapidly destroyed or polluted many ecological habitats throughout the world.
- It is important to preserve all types of biomes as each houses many unique forms of life. However, the continued heavy exploitation of certain biomes, such as the forest, freshwater, and marine, may have more severe implications.

THANK YOU