

Ecosystems and Biomes ▪ *Section Summary***Biogeography****Guide for Reading**

- How has the movement of the continents affected the distribution of species?
- What are three ways that dispersal of organisms occurs?
- What factors can limit the distribution of a species?

Different species of organisms live in different parts of the world. The study of where organisms live is called **biogeography**. In addition to studying where different species live today, biogeographers also study how these species spread into different parts of the world.

One factor that has affected how species are distributed is the motion of Earth's continents. The very slow motion of the continents is called **continental drift**. About 225 million years ago, all the continents were part of one large land mass. After millions of years of slow drifting, the continents have moved to their present locations. This has affected the development of species that were carried along with the continents.

The movement of organisms from one place to another is called **dispersal**. **Dispersal can be caused by wind, water, and living things, including humans.** Wind disperses seeds, the spores of fungi, and many small, light organisms. Water disperses floating objects and any organisms that are on them. Seeds are dispersed when an organism eats them and then deposits them somewhere else in its wastes. Water birds can carry algae or fish eggs from one pond to another. Some seeds have sticky burs that cling to organisms, which carry the seeds to a new place. Humans also disperse other species. As people move from place to place, they take organisms with them—sometimes intentionally and sometimes accidentally. Species that have naturally evolved in an area are referred to as native species. When an organism is carried into a new location by people, it is referred to as an **exotic species**.

The same species of organisms are not distributed throughout the world. **Three factors that limit dispersal of a species are physical barriers, competition, and climate.** Physical barriers include water, mountains, deserts, and canyons. Because these barriers are hard for most organisms to cross, they limit the movement of organisms.

When an organism enters a new area, it must compete for resources with the species already there. If the existing species are thriving, they may outcompete the new species. In this case, competition is a barrier to dispersal. However, if the new species is more successful than the existing species, it may displace the native species.

Differences in climate can limit dispersal. **Climate** is the typical weather pattern in an area over a long period of time. Climate is largely determined by temperature and precipitation. Species are adapted to survive in areas with specific climate conditions. Places with similar climates tend to have species that occupy similar niches.