Alfred Wegener

Alfred Wegener was born in Germany on November 1, 1880. During his childhood years, Alfred became interested in the island of Greenland, where exciting new studies of geophysics were being made. He became determined to visit Greenland someday. He even made it a point to build and test his physical endurance so that one day he could endure the harsh climate of the desolate island.

Wegener became an educated man and received his doctorate degree in 1904. He specialized in the area of astronomy and the new science of meteorology, the study of weather. In 1906, his dream came true when a Danish expedition to Greenland invited him to join it as its chief meteorologist. While on the expedition, Wegener discovered a piece of data that bothered him for years to come. The data he collected about the island’s longitudinal location did not match data that had been collected by others in the past.

In 1912, Wegener proposed a theory that at one time all the Earth’s landmasses were joined together, forming one giant supercontinent. He named the giant supercontinent Pangaea, which means “all lands” in Greek. Wegener’s theory, called continental drift, was not well received by other scientists.

While fighting in World War I, Wegener was wounded in 1914. While recuperating, he wrote a book expressing his theory of continental drift. The following year, in 1915, the book titled *Origin of Continents and Oceans* was published. The book was not favorably received.

In 1928, the exclusive American Association of Petroleum Geologists invited Wegener to New York to present his theory. Wegener based his theory on five major pieces of evidence as described below.

1) The shapes of the continents of South America and Africa seem to fit together like the pieces of a jigsaw puzzle. This is especially true when you consider the actual edges of the continents, which extend beneath sea level. (The continental shelves are indicated on the landmass drawings by the dotted lines.)

2) Matching fossils of both plants and animals occur along the east coast of South America and the west coast of Africa.

3) Matching folded mountain belts appear along the east coast of South America and the west coast of Africa.
4) Evidence of ancient climates show that landmasses were once located on different parts of the Earth than where they are located today. For example, glacial deposits are found in the hot, tropical areas of Africa; and coal deposits, which come from lush, tropical swamps, are found under the ice of Antarctica.

5) The data that Wegener collected about the longitudinal location of Greenland did not match the data collected by earlier expeditions. Therefore, Wegener believed Greenland was moving away from the continent of Europe.

After Wegener presented his theory and supporting evidence to the American Association of Petroleum Geologists, he faced strong opposition and ridicule. He received comments such as he was eccentric, preposterous, and lacked common sense. One member even ridiculed Wegener by asking, “What can you expect? He is only a meteorologist!”

After the debate in New York, most of the scientific community dropped Wegener’s theory. However, Wegener became more determined than ever to find answers to his questions. Why did the shapes of South America and Africa fit so well together? How did coal form at the South Pole? How did glaciers exist in a tropical climate in Africa? Wegener continued leading expeditions across the Earth looking for further evidence to support his theory.

In 1930, Wegener returned to Greenland for his fourth visit. Ironically, the meteorologist became stranded in a blizzard and died. In our next lesson, you will learn that Wegener was very close to finding his answer. Actually, he was off by one island. The island of Iceland actually held the answers to some of his questions.

Today, Wegener’s research is accepted in a different light. Even though he did not have all the answers necessary to fully understand the movement of the continents, he did lay the foundation for today’s understanding of our planet’s geophysics. He is now referred to as a scientific hero who was ahead of his time and the “Father of Continental Drift.”