**Alexander von Humboldt – Biography**

Standing in stark contrast to scientists who are remembered for their individual discoveries, Prussian-born Alexander von Humboldt’s legacy emphasizes a holistic view of Earth’s systems. The first of its style, his nature writing created networks of scientific facts to draw attention to ecosystem complexity while still inviting readers to understand nature as a sensory experience. Humboldt used these connections to explain subtle ecological relationships, such as how a forest controls soil erosion or the consequences if monoculture replaced that same forest. As the 250th anniversary of his birth approaches on Sept. 14, scientists continue to use Humboldt’s interdisciplinary style of thinking to address the complicated links between people and the environment.

His work as a naturalist and explorer still thrives at the Alexander von Humboldt Foundation, a German fellowship program with more than 30 potential sponsorships that has funded the work of more than 50 Nobel Prize winners and extends to more than 140 countries. The University of Florida is home to 26 recipients of the Foundation’s research award fellowships.

**Achievements and Notable Facts**

• Humboldt is often considered the first scientist to note the effects of human-caused climate change.

• During his time, Humboldt was one of the most well known men in Europe, perhaps second only to Napoleon Bonaparte.

• Scientists who study how living organisms are distributed throughout an ecosystem, today called biogeography, are using concepts pioneered by Humboldt in 1806.

• Humboldt is credited with the discovery of the weakening of Earth’s magnetic force between the poles and the equator. His discovery was accepted by the Paris Institute in 1804.

• Humboldt collected about 60,000 plant specimens during his time in South America, discovering thousands of new species and genera.

• Humboldt and his colleagues held the world record for their more than 19,000-foot ascent of the volcano Chimborazo in Ecuador until 1831 when French chemist Jean-Baptiste Boussingault made an attempt at the peak and surpassed Humboldt’s record. At the time, Chimborazo was considered the tallest peak on Earth.

• On Chimborazo, Humboldt noticed how plants and animals changed with elevation and climate. He was the first naturalist to conceive how life forms are organized into zones determined by climate.

• As the son of a Prussian nobleman, Humboldt became a mine inspector and eventually the mine director in the Prussian city of Bayreuth. Humboldt began his early investigations into the magnetism of rocks here, but also worked to improve miners’ working conditions.

• Humboldt was no stranger to carrying out experiments on himself, beginning with his investigations into muscular irritability in 1797.

• The Humboldt Current, which flows north along the west coast of South America, was named for Humboldt when he took its measurements for the first time and published his findings as part of his five-volume series “Cosmos: A Sketch of a Physical Description of the Universe.”Humboldt published “Cosmos”later in his life, over a span of more than 10 years, while working as a king’s chamberlain in Prussia after his travels had exhausted his funds.

• Although the Inca had been using bat guano as fertilizer for hundreds of years, Humboldt was the first to bring it to Europe. Guano eventually created a gigantic industry for itself in the Western world, even resulting in a trade deal between Britain and Peru rivaled by legislature in the U.S. allowing explorers to claim guano from any uninhabited island until the resource was depleted.

• In addition to being called the “father of environmentalism,” Humboldt is also considered the “father of temperature” for his diagram of average temperatures across the globe that was first published in 1817. He completed the diagram in 1829 with meteorological data collected in Central Asia, where Humboldt spent two years at the request of the czar of Russia. Today, this isothermal map is the foundation of comparisons between climates in various countries.

• Humboldt continued working until he was 90, stopping only weeks before he died. The final volume of “Cosmos”was published after his death.

• Georg Forster, a German naturalist who traveled with Captain Cook, had a considerable influence in shaping Humboldt’s interest in the tropics.

• In 1799, Humboldt recorded the first observation of the Leonid meteor shower that scientists later used to confirm the timing of its peak – now considered to be every 33 years.

**Sources and Additional Reading**

• Learn more about fellowships offered by the [Humboldt Foundation](https://www.humboldt-foundation.de/web/home.html).

• Learn more about [Alexander von Humboldt](https://library.humboldt.edu/humco/archives/BaronProfile.htm) via the university archives of Humboldt State University in California.

• Read a National Geographic [interview](https://news.nationalgeographic.com/2015/09/150913-humboldt-south-america-nature-book-talk-simon-worrall-andrea-wulf-darwin-orinoco/) with Humboldt biographer Andrea Wulf.

• Listen to a Science Friday [radio story](https://www.sciencefriday.com/segments/the-explorations-of-alexander-von-humboldt-climate-change-detective/) on Humboldt, featuring biographer Andrea Wulf.