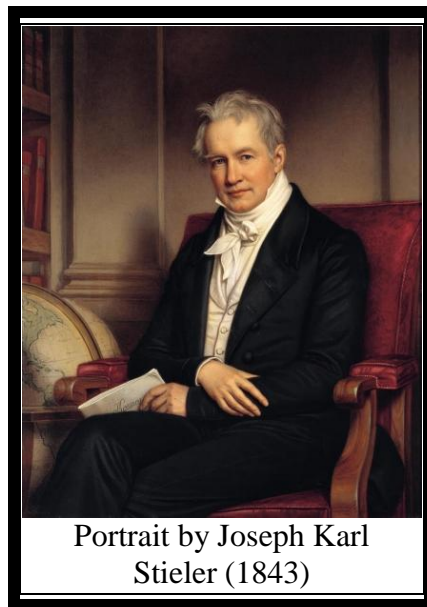


# Alexander von Humboldt

(1770-1859)

Alexander von Humboldt (1770 – 1859) was perhaps the most celebrated European and American scientist and explorer of the first half of the 19<sup>th</sup> century. He was a major German (Prussian) biologist, botanist, explorer, geographer, and philosopher of the Romantic school. His careful and extensive quantitative publications led to the creation of the field of biogeography and, in the 20<sup>th</sup> century, ecology. He was the first serious scientist to observe and publish findings on the concrete ways in which human activity impacts and degrades the Earth's physical environment. In his major synthesizing publication titled *Kosmos* in German, he gave the world the universally recognized term of "cosmos." In this work he demonstrated how the universe is an infinitely interacting entity from the smallest particles to the largest planetary systems. Humboldt had met Simón Bolívar first in Paris and Rome. According to Andrea Wulf in her major biography of Humboldt (*The Invention of Nature: Alexander von Humboldt's New World*, 2016), Bolívar was directly inspired to dedicate himself to the liberation of South America from the Spanish empire. Furthermore, Humboldt was a strong anti-slavery proponent, which attitude influenced Bolívar to include emancipation as part of this social and political program for an independent South America. He visited Mexico, and in 1804 he went to the United States where he met Thomas Jefferson and James Madison. Humboldt admired democracy in the United States but he said that slavery would be a lasting disaster for the full realization of the potential inherent in liberal democracy. Two of his mammoth publications are the five volumes of *Kosmos* (1845-1858) and in two volumes, *Vues des Cordillères et monuments des peuples indigènes de l'Amérique* (1810). He was elected to the following intellectual academies: The American Philosophical Association, New York Historical Society, American Academy of Arts and Sciences, Royal Swedish Academy of Sciences,



Portrait by Joseph Karl  
Stieler (1843)

## FIRST PERIOD: 1770–1799

- 1770 Born in Berlin in a family of titled gentry. Alexander and his brother Wilhelm were given excellent Enlightenment tutors
- 1787 Studied finance at the University of Frankfurt; in 1789 he transferred to Göttingen; he traveled to the Netherlands, France, and England.
- 1790 Humboldt took a scientific excursion on the Rhine River, which resulted in his first scientific publication.
- 1791 In various places in Germany he studied commerce, foreign languages, geology, anatomy, astronomy, and mining. He graduated from the Freiberg School of Mines in 1792, whereby he became a state mining inspector, and on his own initiative he founded a free school for miners.
- 1793 Wolfgang von Goethe met him and the two maintained a lifelong friendship.
- 1794 Humboldt met Schiller and wrote for Schiller's periodical.
- 1795 He went to Switzerland and in 1797 he went to Vienna
- 1796 His mother died.

## SECOND PERIOD: 1799–

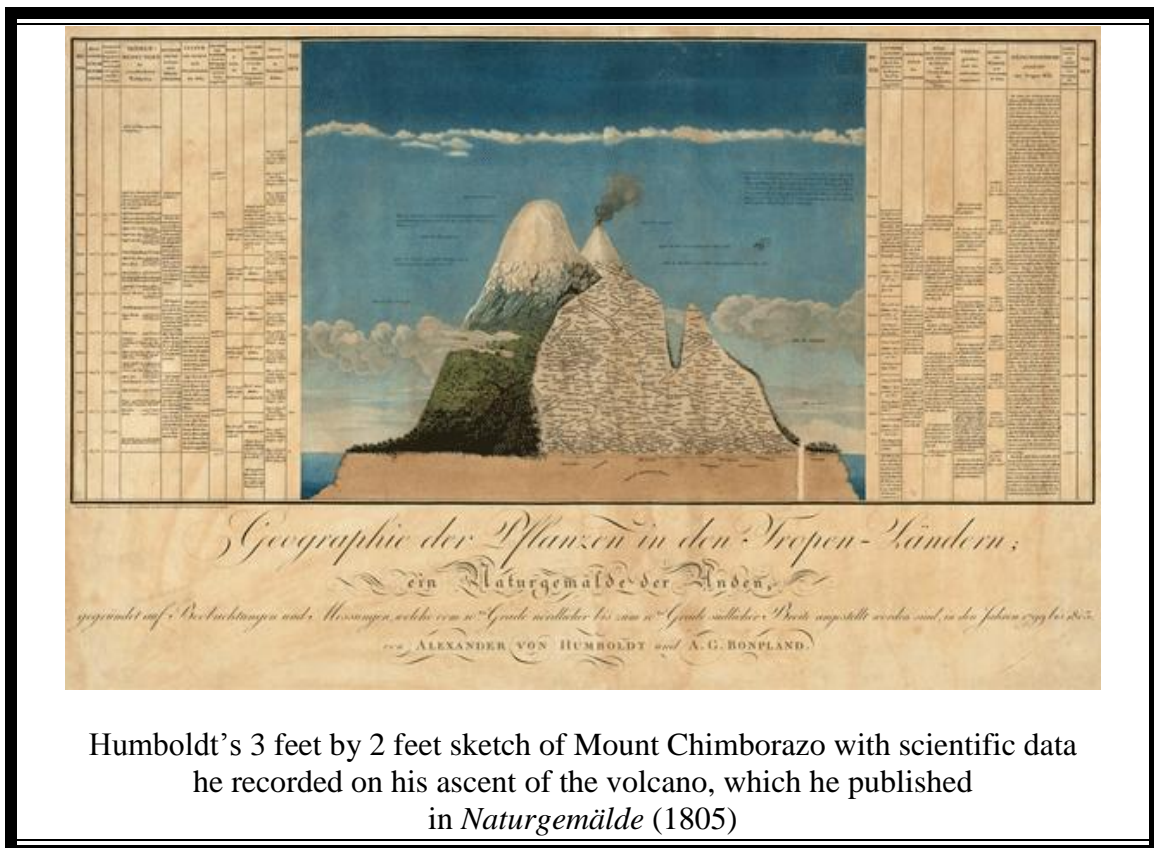
- 1799–1804 Humboldt travelled throughout northern South America and Mexico, where he conducted detailed scientific research and description. Humboldt had met Simón Bolívar first in Rome and Paris.
- 1799 He went to Paris trying to join French scientific voyages; however, instead of support from France he and his scientific companion Bonpland went to Madrid, where they got authorization to go to the Spanish empire in the Americas.  
On the stop in the Canary Island of Tenerife he climbed the volcano Teide. From there he sailed to Cumaná, Venezuela.  
Humboldt climbed a peak near Caracas with Andrés Bello, who was one of Latin America's greatest Romantic writers in addition to being Simón Bolívar's tutor.
- 1800 Humboldt explored 1,725 miles of the Orinoco River and its tributaries in four months. In the Aragua valley in Venezuela, he observed that human mismanagement and massive introduction of the indigo plant had destroyed the ecosystem. Humboldt is the first major scientist to prove that human activity causes climate change.
- 1801 Humboldt left Venezuela for Cuba, where he gathered data on Cuba's flora, fauna, mining, population, demographics, technology, commerce, and agriculture. He published his findings in *Essai politique sur l'île de Cuba* in 2 volumes (Paris, 1828).

Then he sailed to Cartagena, Colombia (then the Viceroyalty of Nueva Granada).

He walked from Cartagena on the coast to Bogotá to meet the famed Spanish-Colombian botanist José Celestino Mutis. Then he walked from Bogotá to Quito (capital of Ecuador after independence) taking measurements of the flora along the way. He climbed all the volcanic peaks around Quito including Pichincha and Cotopaxi (over 19,000 feet high) to the 14,500 foot level.

1802

Humboldt climbed and studied Chimborazo, 90 miles SW of Quito, to the elevation of 19,286 feet, which at the time was the world record climb, although it was a thousand feet below the summit. He described it as a “monstrous colossus.” Andrea Wulf (2016) says this about Humboldt’s realization on Chimborazo: “Everything he had ever observed fell into place. Nature, Humboldt realized, was a web of life and a global force. He was, a colleague later said, the first to understand the everything was interwoven as with ‘a thousand threads.’ *This new idea of nature was to change the way people understood the world*” (p. 87; emphasis added).



Humboldt’s 3 feet by 2 feet sketch of Mount Chimborazo with scientific data he recorded on his ascent of the volcano, which he published in *Naturgemälde* (1805)

- 1803–1804 He visited Mexico, where he gathered vast amounts of information on Mexican cartography, mines, canals, and pre-Hispanic cultures. He was most impressed with Mexico City, about which—the largest city in the Americas—he said: “No city on the new continent, without even excepting those of the United States, can display such great and solid scientific establishments as the capital of Mexico.” He published his findings about Mexico in *Essai politique sur le royaume de la Nouvelle Espagne* (Paris, 1811).
- 1804 From Mexico he sailed to Cuba where he picked up all his specimens from his earlier research. In Cuba he documented how Cubans had cut down forests for massive planting of sugar cane. Since Cuba produced, even then, little more than sugar, he said that “the island would starve” (Wulf, p. 104). Wulf: “Humboldt was the first to relate colonialism to the devastation of the environment” (105). Later, he was given Mexican citizenship (1827), and in 1859, Mexican President Benito Juárez gave him Mexico’s highest honor, a “hero of the nation” (*benemérito de la nación*).
- Then he went to the United States where he met Thomas Jefferson and James Madison. Since President Jefferson and his aides were seeking as much information as possible about Cuba, Mexico, and the Spanish empire in the Americas, they were happy to speak at length with Humboldt. Since Humboldt was all about science and communication for the sake of advancing human knowledge—not, strictly speaking, international politics, about which, nevertheless he was most aware and even deeply concerned—he shared all his knowledge with the Americans. Humboldt gave Jefferson 19 pages extracted from his notes and 2 pages specifically on the US-Mexican border region. Humboldt admired American democracy, but he abhorred slavery, for which he criticized Jefferson personally. Furthermore, he was the king of Prussia’s royal chamberlain.

### THIRD PERIOD: 1799–1857

- 1804 He returned to Europe, settling in Paris, due to this city’s preeminence in science.
- He met Simón Bolívar in Paris. (Earlier, in Caracas, he had met Bolívar’s sisters and the Venezuelan genius Andrés Bello. In their conversations, according to Wulf, “Humboldt argued that while the colonies might be ripe for a revolution, there was no one to lead them. Bolívar, though, told him that the people would be as ‘strong as God’ once they had decided to fight. Bolívar was beginning to think about the possibility of a revolution in the colonies [...]. Years later, though, Humboldt

would fondly remember his encounter with Bolívar as ‘a time when we were making vows for the independence of the New Continent’” (p. 118).

In July, Humboldt, Bolívar, and Simón Rodríguez travelled through the Alps and continued on in Rome. When Humboldt, Rodríguez, and Bolívar climbed the Monte Sacro hill outside Rome, Bolívar “vowed that he would liberate Venezuela [...] the seeds of South America’s liberation were germinating” (Wulf, 123).

- 1809 Publication of the Spanish translation in Francisco José de Caldas’ journal in Bogotá of Humboldt’s *Essay on the Geography of Plants* (1807 in German), in which he publicized the spectacular variety of Latin American plants. From this date onward Humboldt has remained famous throughout Latin America.
- 1810 Publication of the first part of *Vues des Cordillères et monumens des peuples indigenes de l’Amérique*.
- 1812 Bolívar used Humboldt’s excellent maps of northern South America as he began his guerrilla campaign against the occupying Spanish army.
- 1815 In Bolívar’s famous “Letter from Jamaica” he referred to Humboldt as the greatest authority on Latin America.
- 1827 He returned to Berlin, where he lived the rest of his life.
- 1829 Scientific expedition to Russia of 9,614 miles from the Neva to the Yenesei.
- 1832 Charles Darwin, on his breakthrough scientific trip to South America, carried with him Humboldt’s seven volume-work *Personal Narrative of Travels to the Equinoctial Regions of the New Continent*, translated into English (London), and first published in Paris (1815-1826). Darwin said that this work by Humboldt and Humboldt’s scientific work were the reason why he was on the Beagle: “My admiration of his famous narrative (part of which I almost know by heart), determined me to travel in distant countries, and led me to volunteer as a naturalist in her Majesty’s ship Beagle” (Wulf, 218).
- 1845–1858 Publication of the four main volumes of Humboldt’s *magnum opus*, *Kosmos*. (A fifth appeared posthumously in 1862.) This work is his compendium of all the environments of the planet and beyond throughout the universe. About this work, Humboldt said: “The mad frenzy has seized me of representing in a single work the whole material world” (Wulf, 235).

#### FINAL PERIOD: 1857–1859

- 1857 He suffered a minor stroke, but his health declined thereafter.
- 1859 He died in Berlin and was buried in a family cemetery in Tegel next to his brother Wilhelm and his sister-in-law Caroline.

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