Aceh’s climate is almost entirely tropical, with the coastal plains averaging 82 °F (28 °C), the inland and mountain areas averaging 79 °F (26 °C), and the higher mountain regions, 73 °F (23°C). The area's relative humidity ranges between 70 and 90 percent. There is a dry season (June to September), influenced by Australian continental air masses, and a rainy season (December to March) resulting from mainland Asia and Pacific Ocean air masses. Western Sumatra has rainfall measuring more than 78 inches (2,000 millimeters) per year.

Banda Aceh, the capital, lies at the mouth of the Krong Aceh and Krong Daroy rivers where they enter the Indian Ocean, and is the administrative and trading center of this mountainous region. The main local agricultural product is rice.