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## Multiple-Volcano Scenario

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## Chapter 8

## **Multiple-Volcano Scenario**

Various Internet postings and discussions have asserted that multiple concurrent volcanic eruptions would be necessary to sufficiently explain 3<sup>rd</sup> Nephi events. These all seem to assume that volcanic activity has to account for all of the destruction under the Volcano-Only scenario. They have asserted that because of the geographic size of the Sorenson model of the Book of Mormon area that more than one volcano is needed. Recent eruptions such as the 1793 San Martín eruption have demonstrated that one volcanic eruption centrally located in the Isthmus has sufficient ashfall dispersion to blanket most or all of the land northward and land southward, so the 3<sup>rd</sup> Nephi description of darkness does not require multiple volcanic eruptions. Even a volcano that is not centrally located could provide ashfall dispersion similar to a centrally located volcano if wind conditions were right. The ground destruction described in 3<sup>rd</sup> Nephi does not require multiple volcanic eruptions either, as it has been established that a regional earthquake is necessary in addition to a volcano to adequately account for the ground destruction.

However, it is certainly possible that the 3<sup>rd</sup> Nephi volcanic activity could have involved more than one volcano. Concurrent eruption of volcanoes is a somewhat rare event, and in the case of the Book of Mormon descriptions, all eruptions would have to start and end within a 3-day window.

Interaction between eruptions of separate volcanoes is a documented event (Miklius and Cervilli, 2003; Gudmundsson and Andrew, 2007). The phenomenon of earthquakes triggering volcanic eruptions is clearly established, and in one instance the eruption of two volcanoes was triggered simultaneously in Kamchatka (Zobin and Levina, 1998). On January 11, 2013, four volcanoes on the Kamchatka peninsula were observed simultaneously erupting (Kamchatka VERT, 2013). The Kamchatka volcanoes are not linked by common magma chambers, so their eruptions are geologically independent of each other.

While not an essential element of the 3<sup>rd</sup> Nephi description, multiple simultaneous eruptions would no doubt increase the ash cloud "mists of darkness" event. It would also increase the potential geographic area where certain cities may be located that experienced destruction due to volcanic events. It is a theory that will be difficult to verify, as it is difficult to pinpoint historical eruptions into a given century, let alone a 3-hour period on a particular day. In any event, it can be left open as a possibility based on known volcanic behavior.