

# 太平洋東西両縁の火山のタイプの比較研究

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# 1998 Fiscal Year Final Research Report Summary

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## Comparison of types of the volcanoes between the eastern and western marginal regions of Pacific Ocean

Research Project

### Project/Area Number

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09680174

### Research Category

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Grant-in-Aid for Scientific Research (C)

### Allocation Type

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Single-year Grants

### Section

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一般

### Research Field

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自然地理学

### Research Institution

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Kanazawa University

### Principal Investigator

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### Project Period (FY)

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1997 - 1998

### Keywords

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Stratovolcano / Caldera volcano / lava field / Small shield / Pacific Ocean / Subduction zone / Volcanic evolution / Volcano type

### Research Abstract

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Types of the volcanoes between the eastern and western margins of Pacific Ocean have been compared. The studied area has been limited only in the northern Pacific Ocean due to difficulties of getting source data (Topographical maps and aerial photographs). The results are briefly stated as follows :

1)Stratovolcanoes in Japanese islands are generally developed on a definite course of evolution. In Kurile and Philippine also Stratovolcanoes are likely to develop on the similar course. On the other hand various types of stratovolcanoes stand in USA and Mexico. Some of them have rhyolite lava domes and basalt scoria cones which range on a row through the cone summit. Others of them are mainly composed of dacite lava domes covered by basalt-andesite lava flows and pyroclastic materials.

2)Stratovolcanoes in Central America are similar to Japanese ones in the types of the volcano edifices and in evolution.

3)While the calderas are of funnel type in Kurile, Japanese Islands, Philippine and Central America, they are f Valles type in USA and Mexico. It is likely that the funnel type calderas are formed in subduction zone while the Valles type calderas are situated in continental regions.

4)Most of the calderas in Kurile are surrounded by a redial part of a stratovolcano, suggesting that the volcanoes are not caldera volcanoes but stratovolcanoes evolved to the later stage.

5)Basalt lava fields, small shield volcanoes and small stratovolcanoes and widely distributed in USA and Mexico. On the other hand they are less in Central America, Kurile, Japanese Islands and Philippine.

6)Types of volcanoes can be directly restricted by the states near mantle-lower crust boundary (probably field stress and thermal condition) not but by plate moving such as subduction or marginal see spreading.

## Research Products (2 results)

All Other

All Publications (2 results)

[Publications] 守屋以智雄: "環太平洋地域の第四紀火山のタイプ" 地学雑誌. 103. 730-748 (1994)



[Publications] MORIYA,I.: "Types of Quaternary volcanoes along the Circum-Pacific mobile belt" J.Geogr.103-7. 730-748 (1994)



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