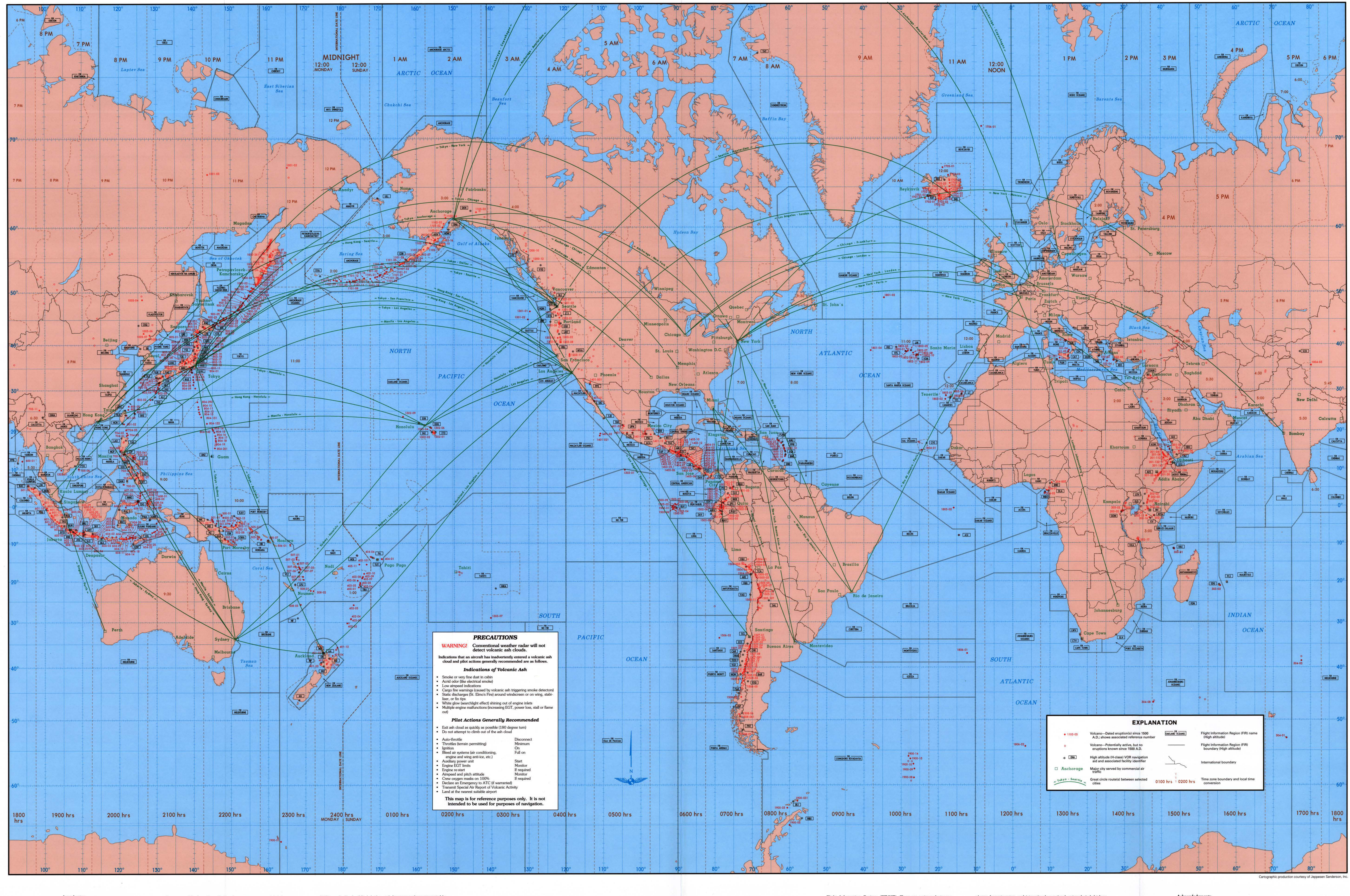


Volcano and Navigation Aid Cross-Reference List - Continued. Multiple columns listing volcano names, ICAO codes, and navigation aid details across various regions like Europe-Africa, New Zealand, etc.



PRECAUTIONS
WARNING: Conventional weather radar will not detect volcanic ash clouds.
Indications that an aircraft has encountered a volcanic ash cloud and pilot actions generally recommended are as follows.

Indications of Volcanic Ash
• Smoke or very fine dust or color
• Acrid odor like electrical insulator
• Low altitude turbulence
• Engine or airframe icing

Introduction
This map shows the location of 1,330 volcanoes active in the last 10,000 years, together with selected aeronautical navigation aids and great circle routes.
Because it is difficult to adequately chart the origin, position, and global movement of an ash cloud using conventional aeronautical enroute charts, participants at the First International Symposium on Volcanic Ash and Aviation Safety (Cleveland, 1976) held in July 1976 in Seattle, Washington, agreed that a computer designed global chart was the most efficient way to show the global aspect of volcanic ash clouds and their relation to commercial aviation.

Volcanic Phenomena and Ash Clouds
Active volcanoes are typically concentrated in belts or chains along the edges of several continents, such as the western margin of the Americas, or in island chains such as the Indonesian, Japan, the Kuriles, and the Aleutians.
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EXPLANATION
• 1100 hrs Volcano - Dated eruptions since 1900
• 1200 hrs Volcano - Potentially active, but no eruptions known since 1900
• 1300 hrs High altitude (3+ class) VOR navigation aid and associated facility identifier
• 1400 hrs Flight Information Region (FIR) name
• 1500 hrs Flight Information Region (FIR) boundary (high altitude)

ACTIVATION AFFILIATIONS
U.S. Geological Survey, Reston, Virginia 20192
Jeppesen Sanderson, Inc., Englewood, Colorado 80155
International Civil Aviation Organization, Montreal, Quebec, Canada H3C 7B7

WORLD MAP OF VOLCANOES AND PRINCIPAL AERONAUTICAL FEATURES

By Thomas J. Casadevall, Theodore B. Thompson, and Tom Fox 1999

