U.S. DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

Map of Kamchatka's Active Volcanoes Plotted on Navigational Charts

by

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U.S. GEOLOGICAL SURVEY

Open-File Report 96-286

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## Navigation Charts

Kamchatka's 29 active volcanoes and 3 potentially active volcanoes are plotted on a 1:5,000,000-scale index map and on page-size sections of 1:1,000,000 scale Operational Navigation Charts (ONC E-10 and D-9) published by the U.S. Defense Mapping Agency. These derivative maps are intended to help mitigate the hazard posed by airborne volcanic ash to commercial air traffic across the North Pacific by correctly identifying volcanoes displaying eruptive activity.

#### Note to Pilots

Pilot reports of volcanic activity are a major factor in the mitigation of the airborne ash hazard, particularly in remote regions. These maps are designed to assist pilots in the timely reporting of volcanic eruptions in the North Pacific region by providing an accurate reference to an erupting volcano's location and name. Pilot cooperation is essential to the successful avoidance of airborne ash and we have included a Volcanic Activity Reporting Form (VAR) in this publication to aid in the reporting of eruptions in the region. We thank pilots for their assistance in this endeavor.

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# Table 1. ACTIVE VOLCANOES OF KAMCHATKA

Name	Location	Last Eruption	Elevation				
SECTION North:							
<ol> <li>Sheveluch</li> <li>Klyuchevskoy</li> <li>Ushkovsky</li> <li>Bezymianny</li> <li>Plosky Tolbachik</li> <li>Tolbachik</li> <li>*Ichinsky</li> </ol>	$56^{\circ}39'N$ , $161^{\circ}21'E$ $56^{\circ}03'N$ , $160^{\circ}39'E$ $56^{\circ}04'N$ , $160^{\circ}29'E$ $56^{\circ}58'N$ , $160^{\circ}36'E$ $55^{\circ}49'N$ , $160^{\circ}24'E$ $55^{\circ}30'N$ , $160^{\circ}12'E$ $55^{\circ}40'N$ , $157^{\circ}43'E$	1993 1994 1890 1995 1975-76 1975-76 <i>Unknown</i>	10,768';3,283 m 15,859';4,835 m 12,933';3,943 m 9,453';2,882 m 12,077';3,682 m 2,886'; 880 m 11,877';3,621 m				
SECTION Center:							
<ul> <li>8) Kizimen</li> <li>9) Gamchen</li> <li>10) Komarov</li> <li>11) Kronotsky</li> <li>12) Krasheninnikov</li> <li>13) Kikhpinych</li> <li>14) Uzon</li> <li>15) Bolshoi Semiachik</li> <li>16) Maly Semiachik</li> <li>17) Karymsky</li> <li>18) Dzenzursky</li> <li>19) Zhupanovsky</li> <li>20) Koryaksky</li> <li>21) Avachinsky</li> </ul>	$55^{0}12'N$ , $160^{0}19'E$ $55^{0}58'N$ , $160^{0}42'E$ $55^{0}4'N$ , $160^{0}00'E$ $54^{0}45'N$ , $160^{0}16'E$ $54^{0}35'N$ , $160^{0}14'E$ $54^{0}30'N$ , $159^{0}55'E$ $54^{0}19'N$ , $160^{0}01'E$ $54^{0}08'N$ , $159^{0}40'E$ $54^{0}03'N$ , $159^{0}27'E$ $53^{0}37'N$ , $159^{0}00'E$ $53^{0}35'N$ , $159^{0}08'E$ $53^{0}19'N$ , $158^{0}51'E$	1927-28 Unknown " 1941 Unknown " 1986 1976? 1894 1996 Unknown 1956-57 1956-57 1991	8,151';2,485 m 8,449';2,576 m 6,790';2,070 m 11,572';3,528 m 6,088';1,856 m 5,091';1,552 m 5,303';1,617 m 5,642';1,720 m 5,117';1,560 m 4,874';1,486 m 7,068';2,155 m 9,702';2,958 m 11,336';3,456 m 8,890';2,741 m				
SECTION South:							
<pre>22) Opala 23) Gorely 24) Mutnovsky 25) Ksudach 26) Zheltovsky 27) Iliyinsky 28) Koshelev 29) Kambalny</pre>	$52^{\circ}32'$ N, $157^{\circ}20'$ E $52^{\circ}33'$ N, $158^{\circ}02'$ E $52^{\circ}27'$ N, $158^{\circ}12'$ E $51^{\circ}49'$ N, $157^{\circ}32'$ E $51^{\circ}35'$ N, $157^{\circ}20'$ E $51^{\circ}30'$ N, $157^{\circ}12'$ E $51^{\circ}21'$ N, $156^{\circ}45'$ E $51^{\circ}18'$ N, $156^{\circ}54'$ E	1894 1984 1960-61 1907 1923 1901 1690? Unknown	8,118';2,475 m 5,999';1,829 m 7,616';2,322 m 3,539';1,079 m 6,406';1,953 m 5,176';1,578 m 5,943';1,812 m 7,072';2,156 m				
Other potentially active volcanoes:							

30)Khodutka52°04'N, 157°42'EUnknown6,855';2,090 m31)Kurile Lake51°28'N, 157°06'E"400'; 122 m32)\*Khangar54°45'N, 157°22'E"6,560';2,000 m

Italics: Steaming, last eruption date unknown.

\* Shown on index map only.

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	Date					
SECTION 1 - Transmit to ATC via radio	1. Aircraft Identification			······································		
	2. Position					
	3. Time (UTC)					
	4. Flight level or altitude		······			
	<ol> <li>Position/location of volcanic activity or as</li> </ol>	h cloud				
	6. Air temperature					
	7. Wind		······································			
TION	8. Supplementary Information					
SEC	(Brief description of activity vertical and lateral extent o cloud, horizontal movement growth, etc., as available.)	f the ash				
SECTION 2 - Complete and forward as directed	Mark the appropriate box(s)					
	9. Density of ash cloud	🛛 wispy	moderately dense	very dense		
	10. Color of ash	white     black	🗖 light gray	dark gray		
	11. Eruption	🗆 continuous	intermittent	not visible		
	12. Position of activity	summit multiple	<ul><li>side</li><li>not observed</li></ul>	🗆 single		
	13. Other observed features of eruption	□ lightning □ ash fallout	glow mushroom cloud	large rocks none		
	,14. Effect on aircraft	<ul> <li>communications</li> <li>pitot static</li> <li>none</li> </ul>	<ul> <li>navigation system</li> <li>windscreen</li> </ul>	<ul> <li>engines</li> <li>other windows</li> </ul>		
	15. Other effects	<ul> <li>turbulence</li> <li>ash deposits</li> </ul>	St. Elmo's fire	🗖 fumes		
	16. Other information deemed useful					
<u> </u>	Forward completed form via mail to: Fax to:					

# Volcanic Activity Reporting Form (VAR)

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Global Volcanism Program NHB-119 Smithsonian Institution Washington, DC 20560

Alaska Volcano Obs. (907) 786-7425 As Soon As Possible

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