

Unnamed Seamounts at the Central Pacific Ocean

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SCUFN21-10.1A

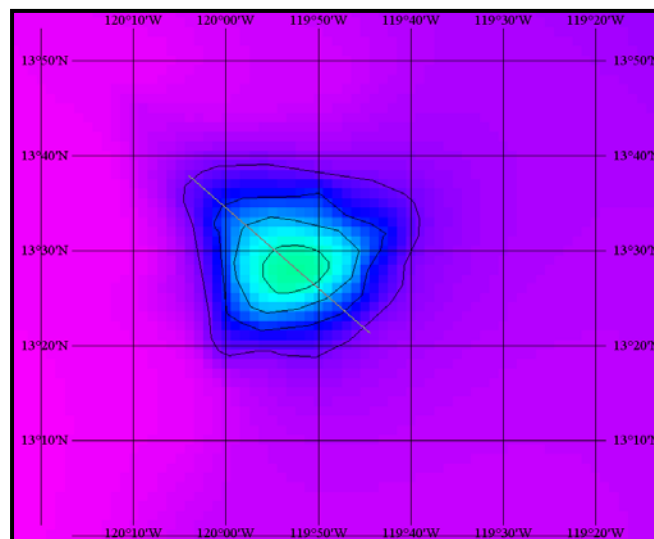
1. Introduction.

A group of 73 seamounts located at the Pacific Ocean were pointed as unnamed. A list with coordinates and general morphological description of those seamounts were submitted to SCUFN as is referred at document SCUFN 19-10.1A. The corresponding verification of positioning and dimensions of each seamount was carried out and the results are presented.

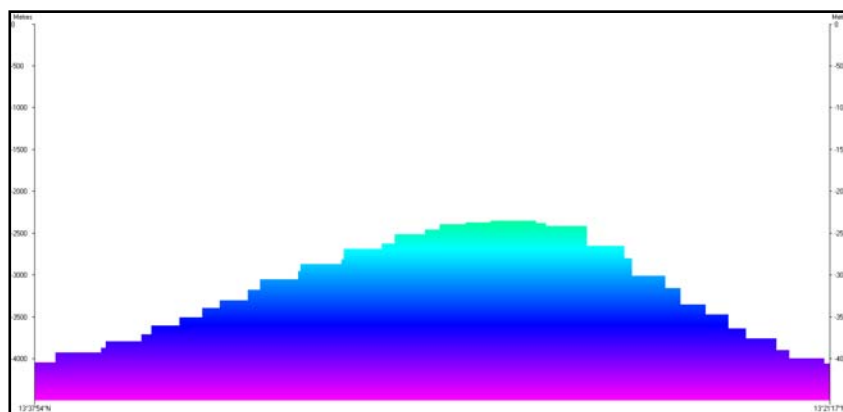
2. Procedure.

The GEBCO Digital Atlas Centenary Edition 2003 was the first tool employed to check out the existence of the seamounts.

A map and a profile of each seamount were made throughout the software interface to visualize and extract data, and thus the general description and the geographical positioning of seamounts were verified. As example, GDA map and profile of seamount N° 52 is showed bellow.

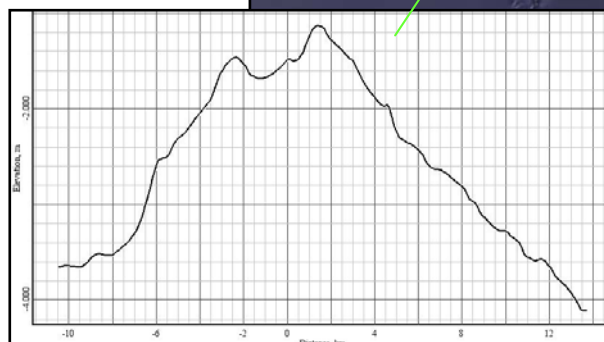
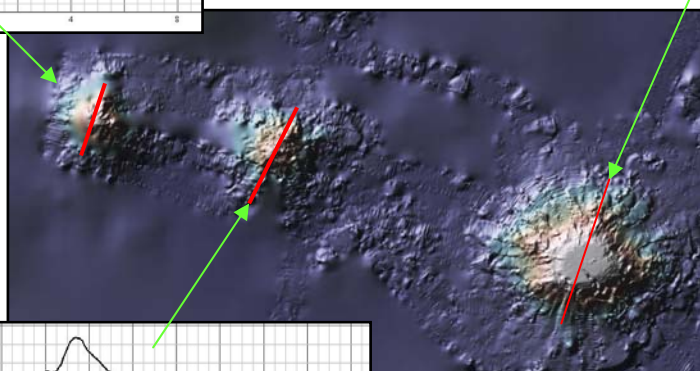
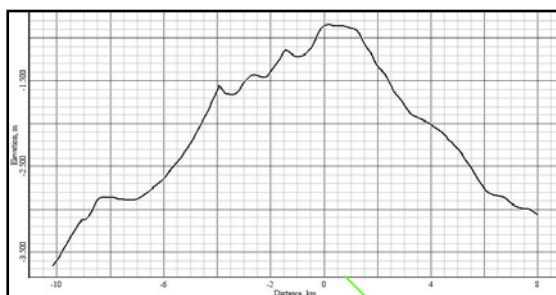
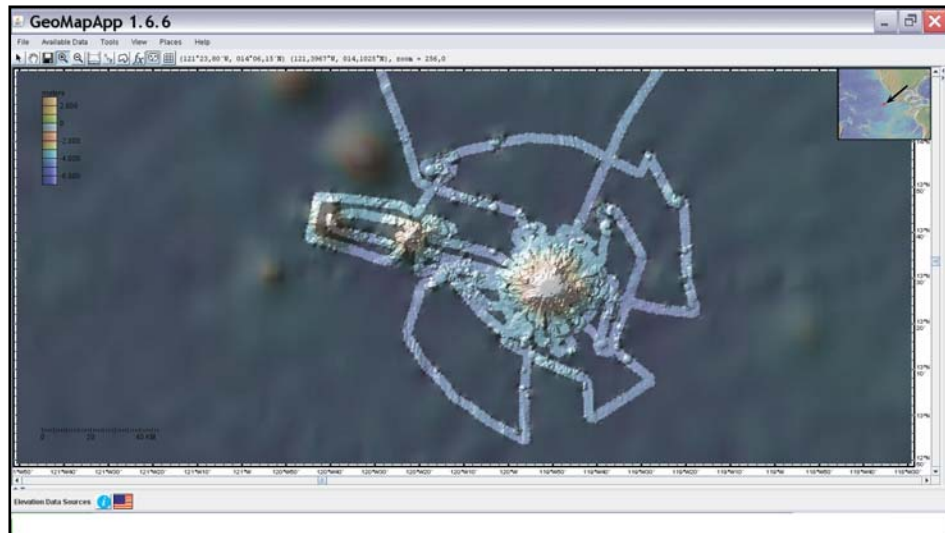


Bathymetric map of Seamount N°52 showing up the location of the profile.

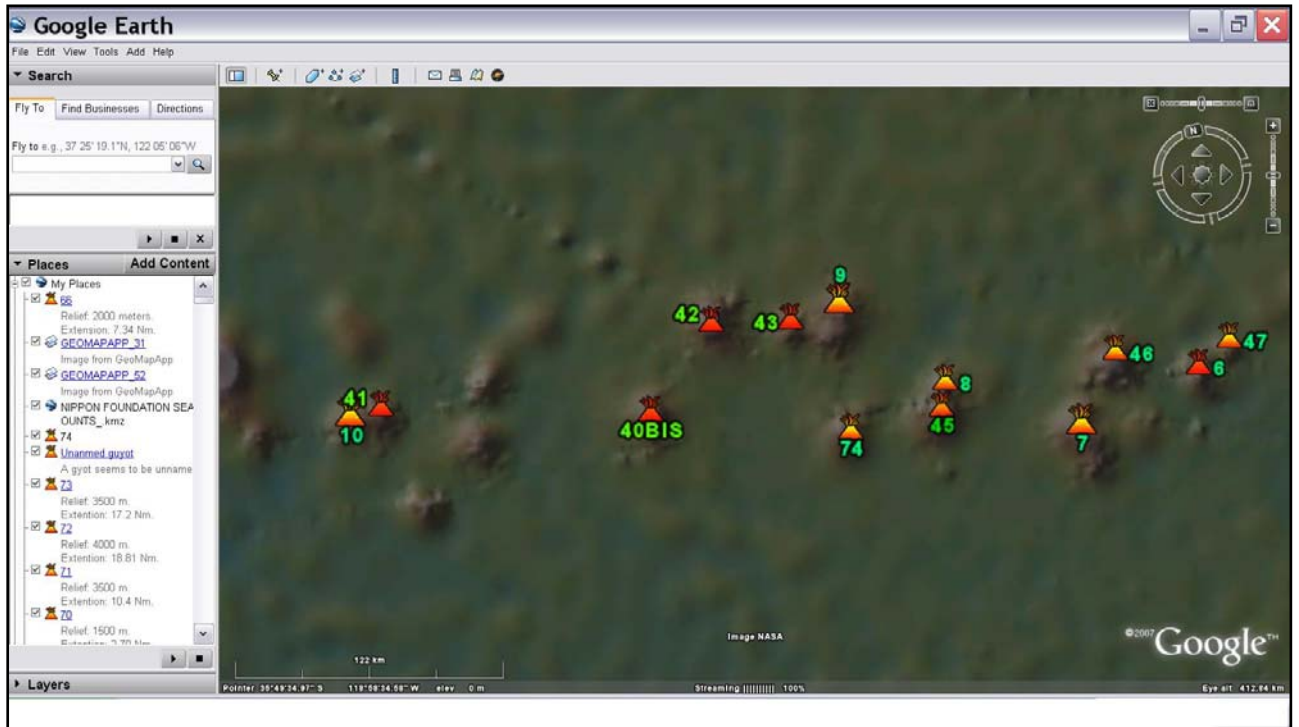


Profile of Seamount N° 52

Later, as useful tool, the GeoMapApp system version 1.6.6 (Lamont Doherty Earth Observatory, University of Columbia) was operated to confirm the location and dimensions of each one of those features. GeoMapApp offers option of bathymetric grid as TOPO_V9.1, as well as swath bathymetry contained in GeoMapApp. Therefore, real information from multibeam allowed verifying the existence and positioning of some of the seamounts, even when that information has low quality resolution. As example, a view of seamounts N°52 and N°54, as well as their respective profiles are showed.



The web based Geographical Information System Google Earth as background and georeferenced viewer was used. The features are mostly grouped about ridges, what made easy get and save grids of them from GeoMapApp as “kmz” extension files. Those grids were placed over the Google Earth map and an icon was assigned to each feature to identify and the description of each one posted as property.



A before version of file kmz of SCUFN gazetteer (Lisa Taylor, 2004) was placed on Google Earth map in order to check which of the reviewed seamounts are already named. A few of them were showed as already named. Sea example in the picture.



3. Conclusions.

The results of the review and verification of the “Unnamed Seamounts in the Central Pacific Ocean” are depicted as comments in the Table of the Appendix 1, which is based on document SCUFN-10.1A from SCUFN 19 and 20 meetings.

Evidences of the most of seamounts which are motive of this “virtual survey” were found and their existence confirmed. It was detected a slightly difference in positioning between GDA and the grid used by GeoMapApp (TOPO_V9). Those seamounts verified in GDA are marked as “OK” with its respective coordinates in TOPO_V9. A few seamounts are already named, as gazetteer “kmz” available indicated, as well as it was detected that some of the seamounts have been submitted twice or with similar coordinates in the original table.

4. References:

1. SCUFN-10.1A from SCUFN 19 and 20 meetings
2. GEBCO DIGITAL ATLAS Centenary Edition 2003.
3. TOPO_V9.1, Smith&Sandwell, August 2007.
4. Smith, W. H. F., and D. T. Sandwell, Global seafloor topography from satellite altimetry and ship depth soundings, *Science*, v. 277, p. 1957-1962, 26 Sept., 1997.
5. GeoMapApp Version 1.6.6, Lamont Doherty Earth Laboratory.
6. Google Earth, version Sept 2007.

APPENDIX 1: Unnamed Seamounts in the Central Pacific Ocean

Seamount number	Latitude	Longitude	Relief	Extension (between centre and base of Seamount)	Comment
1	67°38'04" S	165°42'08" W	2000m	5.81 Nautical Miles	Ok. TOPO_V9: 67°28'1.28"S 164°59'33.42"W
2	45°21'13" S	155°18'51" W	2000m	7.03 Nautical Miles	Ok. TOPO_V9: 45° 7'7.04"S; 155°18'15.29"W. Seamount 2 and seamount 4 are the same.
3	45°51'03" S	156°42'15" W	2000m	9.15 Nautical Miles	Ok, TOPO_V9:45°35'5.99"S 156°40'41.55"W. It is in the same location of N°22.
4	45°21' 49"S	155°18'48" W	2000m	4.54 Nautical Miles	Ok. A Seamount is named "Rumyantsev" at 155 45'00" W, 46 16' 59"S
5	45°35'43"S	157°52'10"W	2000m	14.51 Nautical Miles	Ok. TOPO_V9: 45°28'37.25"S 157°38'47.40"W There seems to be two hills separated by 8.2 Nm.
6	35°25'11"S	116°55'47"W	1500m	10.15 Nautical Miles	Ok. TOPO_V9: 35 28'35"S 116 50'54"W
7	35°24'14"S	117°21' 45"W	1500m	5.19 Nautical Miles	Ok.TOPO_V9:35 37'41"S 117 28'47W
8	35°21'00"S	118°06'12"W	3000m	9.72 Nautical Miles	Ok. 35°21'0.00"S 118° 6'12.00"W
9	34°58'02"S	118°32'33"W	2000m	8.45 Nautical Miles	Ok. 34°58'2.00"S 118°32'33.00"W.It has the same location of N° 44
10	35°00'48"S	120°53'46"W	1500m	10.41 Nautical Miles	Ok, TOPO_V9: 35 00'29"S 121 00'27"W
11	26°51'08"S	107°33'39"W	1500m	9.40 Nautical Miles	Ok. 27°59'33.37"S 107°24'51.30"W
12	26°38'01"S	106°19'57"W	1500m	7.23 Nautical Miles	Ok. 26°39'22.01"S 106°10'57.01"W
13	27°32'39"S	105°39'45"W	1000m	6.71 Nautical Miles	Ok 27°30'44.86"S 105°39'40.13"W
14	25°34'09"S	99°06' W	1500m	9.72 Nautical Miles	Ok. 25°36'42.03"S 99° 4'1.78"W
15	25°08'56"S	100°57'29"W	1000m	7.25 Nautical Miles	Ok. 25°10'26.11"S 101° 3'32.18"W
16	43°12'14"S	98°01'17"W	2500m	7.90 Nautical Miles	Ok43°15'1.73"S 98° 2'52.25"W
17	40°42'12"S	165°33'23"W	2000m	15.88 Nautical Miles	Ok. TOPO_V9: 40°38'53.47"S 165°28'15.96"W
18	40°30'25"S	165°51'58"W	1000m	4.01 Nautical Miles	Ok. TOPO_V9: 40°28'23.28"S; 165°45'10.80"W "Valerie" Guyot has been named at 164 15'00"W, 41 30'00"S
19	39 35'09"S	166°51'420"W	1000m	6.1 Nautical Miles	Ok. TOPO_V9: 39°38'24.69"S 166°39'27.41"W

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Seamount number	Latitude	Longitude	Relief	Extension (between centre and base of Seamount)	Comment
20	39°08'05"S	167°23'41"W	1500m	17.1 Nautical Miles	Ok TOPO_V9: 39°10'28.14"S; 167°26'48.68"W
21	43°35'23"S	161°30'58"W	1500m	10.42 Nautical Miles	Ok, TOPO_V9: 43°37'59.61"S 161°29'38.55"W
22	45°50'52"S	156°45'55"W	1000m	6.09 Nautical Miles	Ok, TOPO_V9: 45°34'52.21"S 156°41'5.56"W
23	45°21'41"S	155°18'48"	1000m	5.39 Nautical Miles	Ok. TOPO_V9: 45°21'19.10"S 155°13'3.47"W
24	25°32'48"S	99°02'57"W	2500m	15.59 Nautical Miles	Ok, It is in the same location of N°14. 25°36'42.03"S 99° 4'1.78"W
25	25°04'44"S	98°29'42"W	1000m	8.19 Nautical Miles	Ok. TOPO_V9: 25° 6'47.60"S; 98°31'10.60"W The following seamounts may be part of the Sala and Gómez Ridge
26	24°55'03"S	98°11'57"W	1000m	7.6 Nautical Miles	Ok. TOPO_V9: 24°58'39.68"S 98°13'12.16"W
27	24°56'20"S	97°36'27"W	1000m	11.42 Nautical Miles	Ok. TOPO_V9: 24°53'15.58"S 97°40'2.90"W
28	25°56'27"S	100°42'26"W	1500m	21.61 Nautical Miles	Ok. TOPO_V9: 26° 0'47.27"S; 100°39'43.11"W
29	26°56'41"S	100°46'14"W	1500m	7.51 Nautical Miles	Ok. TOPO_V9: 26°53'43.01"S; 100°43'23.62"W
30	25°59'58"S	100°01'36"W	2000m	8.79 Nautical Miles	Ok. TOPO_V9: 26° 3'43.17"S; 99°59'44.29"W
31	24°40'16"S	85°26'06"W	2500m	10.97 Nautical Miles	Ok. TOPO_V9: 24°40'16.00"S 85°26'6.00"W
32	23°59'51"S	84°42'06"W	1500m	10.34 Nautical Miles	Ok. TOPO_V9: 23°59'36.29"S 84°42'33.20"W
33	25°08'09"S	100°56'46"W	2000m	10.54 Nautical Miles	Ok. TOPO_V9: 25°11'36.99"S 100°52'36.56"W
34	34°58'46"S	132°31'16"W	1500m	10.81 Nautical Miles	Ok, TOPO_V9: 34°58'46.00"S 132°31'16.00"W. It is part of the seamounts group named FOUNDATION.
35	34°08'05"S	128°59'07"W	1000m	7.02 Nautical Miles	Ok. TOPO_V9: 34°10'32.04"S 129° 2'46.45"W
36	34°51'42"S	127°39'41"W	2000m	14.64 Nautical Miles	Ok, TOPO_V9:34°51'42.00"S 127°39'41.00"W
37	34°56'51"S	126°00'34"W	2000m	14.15 Nautical Miles	Ok, TOPO_V9:34°57'18.43"S 126° 0'29.13"W
38	36°14'04"W	125°07'39"W	1500m	19.7 Nautical Miles	Ok, TOPO_V9:36° 8'5.97"S 125°13'56.03"W
39	34°57'13"S	126°00'30"W	2000m	12.01 Nautical Miles	Ok, TOPO_V9:34°57'18.43"S 126° 0'29.13"W It is in the same location that N° 37

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Seamount number	Latitude	Longitude	Relief	Extension (between centre and base of Seamount)	Comment
40	36°13'28"S	125°07'50"W	1000m	11.37 Nautical Miles	Ok, TOPO_V9:36° 8'5.97"S 125°13'56.03"W It is in the same location that N°38
41	34°59'39"S	120°53'54"W	1000m	12.25 Nautical Miles	Ok, TOPO_V9:34°59'39.00"S 120°50'52.70"W
40	35°21'24"S	119°38'05"W	1500m	10.71 Nautical Miles	Ok, TOPO_V9: 35°14'33.60"S 119°33'11.24"W. Renumbered as 40BIS .
42	34°56'21"S	119°10'25"W	2000m	11.65 Nautical Miles	Ok, It is already named as F.I. Baranov Seamount.
43	34°56'35"S	118°47'34"W	1000m	6.7 Nautical Miles	Ok, TOPO_V9: 34°59'23.75"S 118°47'28.02"W
44	34°57'40"S	118°32'25"W	2000m	8.75 Nautical Miles	Ok, N°44 and N°9 are in the same place: 34°58'2.00"S 118°32'33.00"W
45	35°21'21"S	118°06'22"W	2500m	5.34 Nautical Miles	Ok, TOPO_V9:35°27'10.02"S 118° 8'46.00"W
46	35°24'06"S	117°21'31"W	1500m	7.43 Nautical Miles	Ok, TOPO_V9:35°21'29.69"S 117°14'51.86"W
47	35°25'56"S	116°55'20"W	1000m	5.53 Nautical Miles	Ok, TOPO_V9:35°23'28.91"S 116°40'27.74"W
48	25°32'57"S	117°37'12"W	1000m	11.2 Nautical Miles	Ok, TOPO_V9:25°34'24.48"S 117°36'57.78"W
49	15°03'50"S	97°30'06"W	1000m	6.52 Nautical Miles	Ok
50	0°00'43"S	150°38'51"W	1500m	11.58 Nautical Miles	Ok.
51	6°32'55"N	154°08'45"W	1000m	4.75 Nautical Miles	Ok, TOPO_V9:6°54'8.72"N 154°24'32.45"W
52	13°28'00"N	119°53'18"W	1500m	10.65 Nautical Miles	Ok, TOPO_V9:13°27'6.45"N 119°50'31.70"W
53	13°33'30"N	122°15'45"W	1000m	8.51 Nautical Miles	Ok, TOPO_V9:13°33'54.42"N 122°15'27.55"W
54	13°32'34"N	120°47'13"W	1000m	5.3 Nautical Miles	Ok, TOPO_V9:13°41'42.95"N 120°40'20.47"W
55	22°27'04"N	125°18'06"W	1500m	15.14 Nautical Miles	Ok, TOPO_V9: 22°23'22.34"N 125°22'50.50"W. N°55=N°58
56	27°29'04"N	141°19'30"W	1500m	11.86 Nautical Miles	Ok, TOPO_V9:27°29'30.62"N 141°13'11.32"W
57	24°22'14"N	126°21'32"W	1500m	22.53 Nautical Miles	Ok.
58	22°26'13"N	125°17'48"W	1500m	18.77 Nautical Miles	Ok, TOPO_V9:22°23'22.34"N 125°22'50.50"W

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Seamount number	Latitude	Longitude	Relief	Extension (between centre and base of Seamount)	Comment
59	26°02'42"N	121°47'27"W	1500m	8.23 Nautical Miles	Ok. A seamount <i>province</i> has been named at 26 00'00"N, 124 00'00"W. TOPO_V9:26° 0'36.79"N 121°46'24.23"W
60	25°02'38"N	121°45'47"W	1500m	8.21 Nautical Miles	There are not seamounts at these coordinates
61	25°02'38"N	121°45'47"W	1000m	7.62 Nautical Miles	There are not seamounts at these coordinates, but there is one at 25°02'38"N 121°45'47"E.
62	23°08'23"N	154°28'22"W	1500m	8.06 Nautical Miles	Ok, TOPO_V9:23°11'35.14"N 154°26'51.34"W
63	24°53'14"N	157°06'26"W	1000m	9.05 Nautical Miles	Ok, TOPO_V9:24°53'31.21"N 157° 4'37.60"W
64	41°28'31"N	155°29'42"W	2000m	28.16 Nautical Miles	There is not seamount at these coordinates.
65	27°08'32"N	152°17'47"E	2500m	8.45 Nautical Miles	Ok. TOPO_V9; 27° 8'54.12"N 152°24'25.10"E
66	25°38'18"N	153°22'15"W	2000m	7.34 Nautical Miles	There is not seamount at these coordinates, tut here is one at 25°38'27.10"N 153°19'21.22"E and it is plotted as 66Bis at Google Earth file.
67	26°29'16"N	152°10'46"E	3000m	13.13 Nautical Miles	Ok, TOPO_V9: 26°29'31.55"N 152°10'35.40"E
68	25°49'21"N	149°36'56"E	2000m	10.95 Nautical Miles	Ok, TOPO_V9: 25°51'39.79"N 149°39'28.69"E, named as Seri Seamount
69	25°14'42"N	152°42'23"E	1500m	3.81 Nautical Miles	Ok 25°12'43.87"N 152°43'17.44"E
70	24°47'16"N	152°00'37"E	1500m	2.70 Nautical Miles	Ok.
71	27°56'07"N	147°37'51"E	3500m	10.4 Nautical Miles	Ok., 27°58'41.20"N 147°39'15.47"E it is already named as Kikyō Seamount an it is part of the group named Aki-No-Namakusa Seamounts
72	27°02'30"N	148°38'55"E	4000m	18.81 Nautical Miles	Ok, it is named as Choyo Seamount. A guyot seems to be unnamed at 18 20'27"N, 148 13'50"E (There is not a guyot over there)
73	19°13'05"N	152°43'20"E	3500m	17.2 Nautical Miles	Ok.