

MARITIME AND PORT AUTHORITY OF SINGAPORE SHIPPING CIRCULAR TO SHIPOWNERS NO. 10 OF 2012

MPA Shipping Division 460 Alexandra Road 21st Storey PSA Building Singapore 119963 Fax: 6375-6231 http://www.mpa.gov.sq

11 May 2012

Applicable to: Ship owners, managers, operators, masters, crew members, surveyors, marine fuel suppliers and the Shipping and Bunkering Community.

ENTRY INTO EFFECT OF THE NORTH AMERICAN EMISSION CONTROL AREA UNDER MARPOL ANNEX VI

- 1. This circular reminds the Shipping Community on the entry into effect of the North American Emission Control Area (ECA) under MARPOL Annex VI and urges the Community to take early actions for compliance to the regulations.
- 2. <u>Shipping Circular No. 13 of 2011</u> had drawn the attention of the Shipping Community to the entry into force date of the amendments to MARPOL Annex VI, through Resolution MEPC.190(60), on the designation of the North American ECA. As informed in <u>Shipping Circular No. 19 of 2011</u>, the amendments entered into force on 1 August 2011 and in accordance to Regulation 14.7 of MARPOL Annex VI, the requirements will take effect 12 months immediately following the designation of the ECA (i.e. 1 August 2012).
- 3. From 1 August 2012, all ships operating within the North America ECA shall only use fuel oil with sulphur content not exceeding 1.00% m/m, and from 1 January 2015, fuel with sulphur content not exceeding 0.10% m/m.
- 4. Shipowners and operators are advised to ensure that the <u>absolute</u> sulphur content of fuel oil used onboard ships does not exceed the limits as required under Regulation 14.4 of MARPOL Annex VI. Shipowners are also advised to properly maintain clear entries in the Oil Record Book and ensure the BDN is in good order as documentary proof of vessel's compliance to the requirements. For ships using separate fuel oils to comply with the ECA requirements, proper

changeover procedures for entry into an ECA shall be carried and implemented in accordance to Regulation 14.6 of MARPOL Annex VI.

- 5. Further information on the exact coordinates and maps of the North America ECA can be found at Circular MEPC.1/Circ.723.
- 6. In addition to the North America ECA, the Shipping Community is also advised to take note of the designation of the United States Caribbean Sea ECA, which is expected to enter into force on 1 January 2013, and take effect on 1 January 2014.
- 7. Any queries relating to this circular should be directed to Mr Zafrul Alam (Tel: 6375 6204) or Mr Princet Ang (Tel: 6375 6259).

CHEONG KENG SOON DIRECTOR OF MARINE MARITIME AND PORT AUTHORITY OF SINGAPORE





4 ALBERT EMBANKMENT LONDON SE1 7SR

Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

Ref. T5/1.01

MEPC.1/Circ.723 13 May 2010

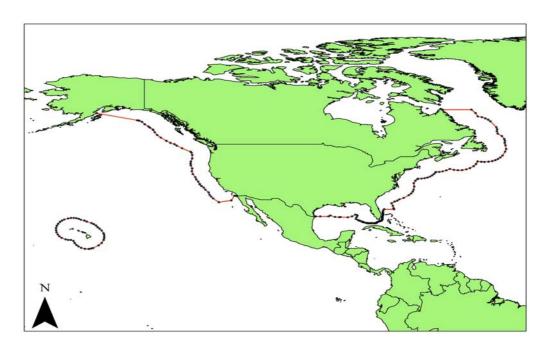
INFORMATION ON NORTH AMERICAN EMISSION CONTROL AREA (ECA) UNDER MARPOL ANNEX VI

- 1 The Marine Environment Protection Committee, at its sixtieth session (22 to 26 March 2010), adopted, by resolution MEPC.190(60), amendments to MARPOL Annex VI to designate the North American Emission Control Area for NO_x , SO_x and particulate matter (amendments to regulation 13, 14 and new Appendix VII).
- 2 MEPC 60 agreed to circulate information on the North American Emission Control Area (ECA) and requested the Secretariat to disseminate the information as an MEPC Circular.
- The new appendix VII to MARPOL Annex VI contains the definition and boundaries with the full coordinates of the North American ECA, which is based on the "North American Datum of 1983/World Geodetic System 1984 (NAD83/WGS84)". Diagrams showing geographical distribution of the North American ECA are set out in annex 1 to this circular, and the full list of coordinates may be found in annex 2 to this circular.
- The above amendments are expected to enter into force on 1 August 2011, upon their deemed acceptance on 1 February 2011.
- In accordance with the provisions of regulation 14.7 of MARPOL Annex VI, ships operating in the North American ECA are exempted from the requirements for SO_x and particulate matter during the first twelve months after entry into force. Therefore, the requirements within the North American ECA for SO_x and particulate matter will be effective on 1 August 2012.
- 6 While ships are operating in the North American ECA, the sulphur content of fuel oil used on board ships shall not exceed 1.00% m/m on and after 1 August 2012, and 0.10% m/m on and after 1 January 2015.
- Ships constructed on or after 1 January 2016 shall comply with the NO_x emission limits specified in regulation 13.5.1.1, when operating within the North American ECA.
- 8 Member Governments are invited to bring this circular to the attention of their Administrations, relevant shipping organizations, recognized organizations, shipping companies and other stakeholders concerned.

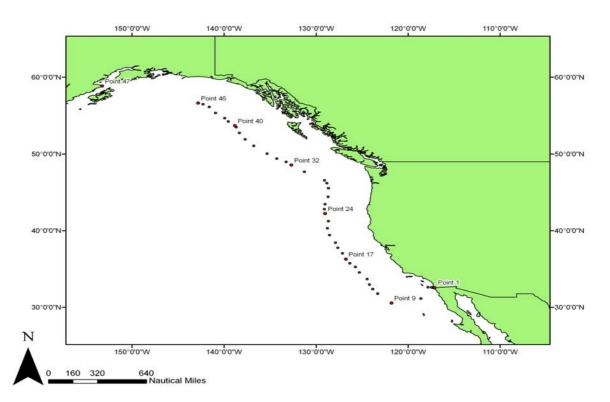
ANNEX 1

GEOGRAPHICAL DISTRIBUTION OF THE NORTH AMERICAN EMISSION CONTROL AREA

1 General view of the North American Emission Control Area

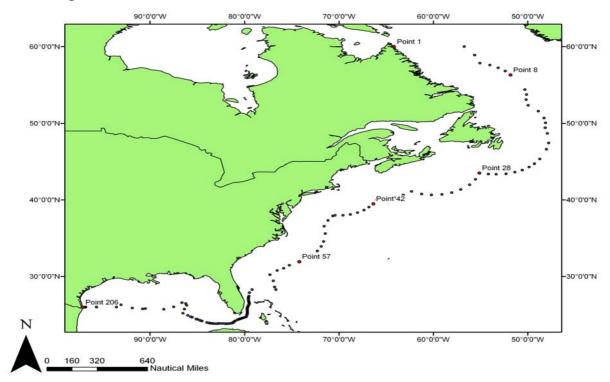


2 Magnified view of the Pacific coast



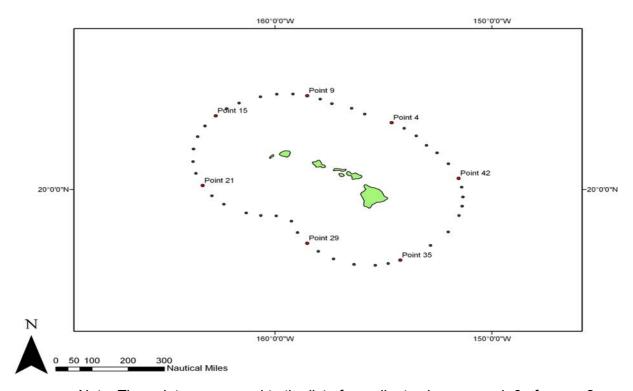
Note: The points correspond to the list of coordinates in paragraph 1 of annex 2.

3 Magnified view of the Atlantic coast and the Gulf of Mexico coast



Note: The points correspond to the list of coordinates in paragraph 2 of annex 2.

4 Magnified view of the Hawaiian Islands



Note: The points correspond to the list of coordinates in paragraph 3 of annex 2.

ANNEX 2

NEW APPENDIX VII TO MARPOL ANNEX VI

The North American area comprises:

the sea area located off the **Pacific coasts** of the United States and Canada, enclosed by geodesic lines connecting the following coordinates:

POINT	LATITUDE	LONGITUDE
1	32° 32′ 10″ N.	117° 06′ 11″ W.
2	32° 32′ 04″ N.	117° 07′ 29″ W.
3	32° 31′ 39″ N.	117° 14′ 20″ W.
4	32° 33′ 13″ N.	117° 15′ 50″ W.
5	32° 34′ 21″ N.	117° 22′ 01″ W.
	32° 35′ 23″ N.	117° 22' 01' W.
6		
7	32° 37′ 38″ N.	117° 49′ 34″ W.
8	31° 07′ 59″ N.	118° 36′ 21″ W.
9	30° 33′ 25″ N.	121° 47′ 29″ W.
10	31° 46′ 11″ N.	123° 17′ 22″ W.
11	32° 21′ 58″ N.	123° 50′ 44″ W.
12	32° 56′ 39″ N.	124° 11′ 47″ W.
13	33° 40′ 12″ N.	124° 27′ 15″ W.
14	34° 31′ 28″ N.	125° 16′ 52″ W.
15	35° 14′ 38″ N.	125° 43′ 23″ W.
16	35° 43′ 60″ N.	126° 18′ 53″ W.
17	36° 16′ 25″ N.	126° 45′ 30″ W.
18	37° 01′ 35″ N.	127° 07′ 18″ W.
19	37° 45′ 39″ N.	127° 38′ 02″ W.
20	38° 25′ 08″ N.	127° 52′ 60″ W.
21	39° 25′ 05″ N.	128° 31′ 23″ W.
22	40° 18′ 47″ N.	128° 45′ 46″ W.
23	41° 13′ 39″ N.	128° 40′ 22″ W.
24	42° 12′ 49″ N.	129° 00′ 38″ W.
25	42° 47′ 34″ N.	129° 05′ 42″ W.
26	43° 26′ 22″ N.	129° 01′ 26″ W.
27	44° 24′ 43″ N.	128° 41′ 23″ W.
28	45° 30′ 43″ N.	128° 40′ 02″ W.
29	46° 11′ 01″ N.	128° 49′ 01″ W.
30	46° 33′ 55″ N.	129° 04′ 29″ W.
31	47° 39′ 55″ N.	131° 15′ 41″ W.
32	48° 32′ 32″ N.	132° 41′ 00″ W.
33	48° 57′ 47″ N.	133° 14′ 47″ W.
34	49° 22′ 39″ N.	134° 15′ 51″ W.
35	50° 01′ 52″ N.	135° 19′ 01″ W.
36	51° 03′ 18″ N.	136° 45′ 45″ W.
37	51° 54′ 04″ N.	137° 41′ 54″ W.
38	52° 45′ 12″ N.	137 41 34 W. 138° 20′ 14″ W.
	53° 29′ 20″ N.	138° 40′ 36″ W.
39		138° 48′ 53″ W.
40	53° 40′ 39″ N.	
41	54° 13′ 45″ N.	139° 32′ 38″ W.
42	54° 39′ 25″ N.	139° 56′ 19″ W.
43	55° 20′ 18″ N.	140° 55′ 45″ W.
44	56° 07′ 12″ N.	141° 36′ 18″ W.
45	56° 28′ 32″ N.	142° 17′ 19″ W.
46	56° 37′ 19″ N.	142° 48′ 57″ W.
47	58° 51′ 04″ N.	153° 15′ 03″ W.

the sea areas located off the **Atlantic coasts** of the United States, Canada, and France (Saint-Pierre-et-Miquelon) and the **Gulf of Mexico coast** of the United States enclosed by geodesic lines connecting the following coordinates:

POINT	LATITUDE	LONGITUDE
1	60° 00′ 00″ N.	64° 09′ 36″ W.
2	60° 00′ 00″ N.	56° 43′ 00″ W.
3	58° 54′ 01″ N.	55° 38′ 05″ W.
4	57° 50′ 52″ N.	55° 03′ 47″ W.
	57° 35′ 13″ N.	54° 00′ 59″ W.
5		
6	57° 14′ 20″ N.	53° 07′ 58″ W.
7	56° 48′ 09″ N.	52° 23′ 29″ W.
8	56° 18′ 13″ N.	51° 49′ 42″ W.
9	54° 23′ 21″ N.	50° 17′ 44″ W.
10	53° 44′ 54″ N.	50° 07′ 17″ W.
11	53° 04′ 59″ N.	50° 10′ 05″ W.
12	52° 20′ 06″ N.	49° 57′ 09″ W.
13	51° 34′ 20″ N.	48° 52′ 45″ W.
14	50° 40′ 15″ N.	48° 16′ 04″ W.
15	50° 02′ 28″ N.	48° 07′ 03″ W.
16	49° 24′ 03″ N.	48° 09′ 35″ W.
17	48° 39′ 22″ N.	47° 55′ 17″ W.
18	47° 24′ 25″ N.	47° 46′ 56″ W.
19	46° 35′ 12″ N.	48° 00′ 54″ W.
20	45° 19′ 45″ N.	48° 43′ 28″ W.
21	44° 43′ 38″ N.	49° 16′ 50″ W.
22	44° 16′ 38″ N.	49° 51′ 23″ W.
23	43° 53′ 15″ N.	50° 34′ 01″ W.
24	43° 36′ 06″ N.	51° 20′ 41″ W.
25	43° 23′ 59″ N.	52° 17′ 22″ W.
26	43° 19′ 50″ N.	53° 20′ 13″ W.
27	43° 21′ 14″ N.	54° 09′ 20″ W.
28	43° 29′ 41″ N.	55° 07′ 41″ W.
29	42° 40′ 12″ N.	55° 31′ 44″ W.
30	41° 58′ 19″ N.	56° 09′ 34″ W.
31	41° 20′ 21″ N.	57° 05′ 13″ W.
32	40° 55′ 34″ N.	58° 02′ 55″ W.
33	40° 41′ 38″ N.	59° 05′ 18″ W.
34	40° 38′ 33″ N.	60° 12′ 20″ W.
35	40° 45′ 46″ N.	61° 14′ 03″ W.
36	41° 04′ 52″ N.	62° 17′ 49″ W.
37	40° 36′ 55″ N.	63° 10′ 49″ W.
38	40° 17′ 32″ N.	64° 08′ 37″ W.
39	40° 07′ 46″ N.	64° 59′ 31″ W.
40	40° 05′ 44″ N.	65° 53′ 07″ W.
41	39° 58′ 05″ N.	65° 59′ 51″ W.
42	39° 28′ 24″ N.	66° 21′ 14″ W.
43	39° 01′ 54″ N.	66° 48′ 33″ W.
44	38° 39′ 16″ N.	67° 20′ 59″ W.
45	38° 19′ 20″ N.	68° 02′ 01″ W.
46	38° 05′ 29″ N.	68° 46′ 55″ W.
47	37° 58′ 14″ N.	69° 34′ 07″ W.
48	37° 57′ 47″ N.	70° 24′ 09″ W.

POINT	LATITUDE	LONGITUDE
49	37° 52′ 46″ N.	70° 37′ 50″ W.
50	37° 18′ 37″ N.	71° 08′ 33″ W.
51	36° 32′ 25″ N.	71° 33′ 59″ W.
52	35° 34′ 58″ N.	71° 26′ 02″ W.
53	34° 33′ 10″ N.	71° 37′ 04″ W.
54	33° 54′ 49″ N.	71° 52′ 35″ W.
55	33° 19′ 23″ N.	72° 17′ 12″ W.
56	32° 45′ 31″ N.	72° 54′ 05″ W.
57	31° 55′ 13″ N.	74° 12′ 02″ W.
58	31° 27′ 14″ N.	75° 15′ 20″ W.
59	31° 03′ 16″ N.	75° 51′ 18″ W.
60	30° 45′ 42″ N.	76° 31′ 38″ W.
61	30° 12′ 48″ N.	77° 18′ 29″ W.
62	29° 25′ 17″ N.	76° 56′ 42″ W.
63	28° 36′ 59″ N.	76° 47′ 60″ W.
64	28° 17′ 13″ N.	76° 40′ 10″ W.
65	28° 17′ 12″ N.	79° 11′ 23″ W.
66	27° 52′ 56″ N.	79° 28′ 35″ W.
67	27° 26′ 01″ N.	79° 31′ 38″ W.
68	27° 16′ 13″ N.	79° 34′ 18″ W.
69	27° 11′ 54″ N.	79° 34′ 56″ W.
70	27° 05′ 59″ N.	79° 34′ 50° W.
71	27° 00′ 28″ N.	79° 35′ 17″ W.
72	26° 55′ 16″ N.	79° 34′ 39″ W.
73	26° 53′ 58″ N.	79° 34′ 27″ W.
74	26° 45′ 46″ N.	79° 32′ 41″ W.
75	26° 44′ 30″ N.	79° 32′ 23″ W.
76	26° 43′ 40″ N.	79° 32′ 20″ W.
77	26° 41′ 12″ N.	79° 32′ 01″ W.
78	26° 38′ 13″ N.	79° 31′ 32″ W.
79	26° 36′ 30″ N.	79° 31′ 06″ W.
80	26° 35′ 21″ N.	79° 30′ 50″ W.
81	26° 34′ 51″ N.	79° 30′ 46″ W.
82	26° 34′ 11″ N.	79° 30′ 38″ W.
83	26° 31′ 12″ N.	79° 30′ 15″ W.
84	26° 29′ 05″ N.	79° 29′ 53″ W.
85	26° 25′ 31″ N.	79° 29′ 58″ W.
86	26° 23′ 29″ N.	79° 29′ 55″ W.
87	26° 23′ 21″ N.	79° 29′ 54″ W.
88	26° 18′ 57″ N.	79° 31′ 55″ W.
89	26° 15′ 26″ N.	79° 33′ 17″ W.
90	26° 15′ 13″ N.	79° 33′ 23″ W.
91	26° 08′ 09″ N.	79° 35′ 53″ W.
92	26° 07′ 47″ N.	79° 36′ 09″ W.
93	26° 06′ 59″ N.	79° 36′ 35″ W.
94	26° 02′ 52″ N.	79° 38′ 22″ W.
95	25° 59′ 30″ N.	79° 40′ 03″ W.
96	25° 59′ 16″ N.	79° 40′ 08″ W.
97	25° 57′ 48″ N.	79° 40′ 38″ W.
98	25° 56′ 18″ N.	79° 41′ 06″ W.
99	25° 54′ 04″ N.	79° 41′ 38″ W.
100	25° 53′ 24″ N.	79° 41′ 46″ W.
101	25° 51′ 54″ N.	79° 41′ 59″ W.

POINT	LATITUDE	LONGITUDE
102	25° 49′ 33″ N.	79° 42′ 16″ W.
103	25° 48′ 24″ N.	79° 42′ 23″ W.
104	25° 48′ 20″ N.	79° 42′ 24″ W.
		79° 42′ 24° W.
105	25° 46′ 26″ N.	
106	25° 46′ 16″ N.	79° 42′ 45″ W.
107	25° 43′ 40″ N.	79° 42′ 59″ W.
108	25° 42′ 31″ N.	79° 42′ 48″ W.
109	25° 40′ 37″ N.	79° 42′ 27″ W.
110	25° 37′ 24″ N.	79° 42′ 27″ W.
111	25° 37′ 08″ N.	79° 42′ 27″ W.
112	25° 31′ 03″ N.	79° 42′ 12″ W.
113	25° 27′ 59″ N.	79° 42′ 11″ W.
114	25° 24′ 04″ N.	79° 42′ 12″ W.
115	25° 22′ 21″ N.	79° 42′ 20″ W.
116	25° 21′ 29″ N.	79° 42′ 08″ W.
117	25° 16′ 52″ N.	79° 41′ 24″ W.
118	25° 15′ 57″ N.	79° 41′ 31″ W.
119	25° 10′ 39″ N.	79° 41′ 31″ W.
120	25° 09′ 51″ N.	79° 41′ 36″ W.
121	25° 09′ 03″ N.	79° 41′ 45″ W.
122	25° 03′ 55″ N.	79° 42′ 29″ W.
123	25° 03′ 55′ N. 25° 02′ 60″ N.	79° 42′ 56″ W.
124	25° 00′ 30″ N.	79° 44′ 05″ W.
125	24° 59′ 03″ N.	79° 44′ 48″ W.
126	24° 55′ 28″ N.	79° 45′ 57″ W.
127	24° 44′ 18″ N.	79° 49′ 24″ W.
128	24° 43′ 04″ N.	79° 49′ 38″ W.
129	24° 42′ 36″ N.	79° 50′ 50″ W.
130	24° 41′ 47″ N.	79° 52′ 57″ W.
131	24° 38′ 32″ N.	79° 59′ 58″ W.
132	24° 36′ 27″ N.	80° 03′ 51″ W.
133	24° 33′ 18″ N.	80° 12′ 43″ W.
134	24° 33′ 05″ N.	80° 13′ 21″ W.
135	24° 32′ 13″ N.	80° 15′ 16″ W.
136	24° 31′ 27″ N.	80° 16′ 55″ W.
137	24° 30′ 57″ N.	80° 17′ 47″ W.
138	24° 30′ 14″ N.	80° 19′ 21″ W.
139	24° 30′ 06″ N.	80° 19′ 44″ W.
140	24° 29′ 38″ N.	80° 21′ 05″ W.
141	24° 28′ 18″ N.	80° 24′ 35″ W.
142	24° 28′ 06″ N.	80° 25′ 10″ W.
143	24° 27′ 23″ N.	80° 27′ 20″ W.
144	24° 26′ 30″ N.	80° 29′ 30″ W.
145	24° 25′ 07″ N.	80° 32′ 22″ W.
146	24° 23′ 30″ N.	80° 36′ 09″ W.
147	24° 22′ 33″ N.	80° 38′ 56″ W.
147	24° 22′ 07″ N.	80° 39′ 51″ W.
149	24° 22° 07° N. 24° 19′ 31″ N.	80° 45′ 21″ W.
	24° 19′ 16″ N.	80° 45′ 47″ W.
150		
151	24° 18′ 38″ N.	80° 46′ 49″ W.
152	24° 18′ 35″ N.	80° 46′ 54″ W.
153	24° 09′ 51″ N.	80° 59′ 47″ W.
154	24° 09′ 48″ N.	80° 59′ 51″ W.

POINT	LATITUDE	LONGITUDE
155	24° 08′ 58″ N.	81° 01′ 07″ W.
156	24° 08′ 30″ N.	81° 01′ 51″ W.
157	24° 08′ 26″ N.	81° 01′ 57″ W.
158	24° 07′ 28″ N.	81° 03′ 06″ W.
159	24° 02′ 20″ N.	81° 09′ 05″ W.
160	23° 59′ 60″ N.	81° 11′ 16″ W.
161	23° 55′ 32″ N.	81° 12′ 55″ W.
162	23° 53′ 52″ N.	81° 19′ 43″ W.
163	23° 50′ 52″ N.	81° 29′ 59″ W.
164	23° 50′ 02″ N.	81° 39′ 59″ W.
165	23° 49′ 05″ N.	81° 49′ 59″ W.
166	23° 49′ 05″ N.	82° 00′ 11″ W.
167	23° 49′ 42″ N.	82° 09′ 59″ W.
168	23° 51′ 14″ N.	82° 24′ 59″ W.
169	23° 51′ 14″ N.	82° 39′ 59″ W.
170	23° 49′ 42″ N.	82° 48′ 53″ W.
171	23° 49′ 32″ N.	82° 51′ 11″ W.
171	23° 49′ 24″ N.	82° 59′ 59″ W.
173	23° 49′ 52″ N.	83° 14′ 59″ W.
173	23° 51′ 22″ N.	83° 25′ 49″ W.
175	23° 52′ 27″ N.	83° 33′ 01″ W.
176	23° 54′ 04″ N.	83° 41′ 35″ W.
177	23° 55′ 47″ N.	83° 48′ 11″ W.
178	23° 58′ 38″ N.	83° 59′ 59″ W.
179	24° 09′ 37″ N.	84° 29′ 27″ W.
180	24° 13′ 20″ N.	84° 38′ 39″ W.
181	24° 16′ 41″ N.	84° 46′ 07″ W.
182	24° 23′ 30″ N.	84° 59′ 59″ W.
183	24° 26′ 37″ N.	85° 06′ 19″ W.
184	24° 38′ 57″ N.	85° 31′ 54″ W.
185	24° 44′ 17″ N.	85° 43′ 11″ W.
186	24° 53′ 57″ N.	85° 59′ 59″ W.
187	25° 10′ 44″ N.	86° 30′ 07″ W.
188	25° 43′ 15″ N.	86° 21′ 14″ W.
189	26° 13′ 13″ N.	86° 06′ 45″ W.
190	26° 27′ 22″ N.	86° 13′ 15″ W.
191	26° 33′ 46″ N.	86° 37′ 07″ W.
192	26° 01′ 24″ N.	87° 29′ 35″ W.
193	25° 42′ 25″ N.	88° 33′ 00″ W.
194	25° 46′ 54″ N.	90° 29′ 41″ W.
195	25° 46′ 54′ N. 25° 44′ 39″ N.	90° 29° 41° W. 90° 47′ 05″ W.
196	25° 44′ 59′ N. 25° 51′ 43″ N.	91° 52′ 50″ W.
197	25° 17′ 44″ N.	93° 03′ 59″ W.
198	25° 59′ 55″ N.	93° 33′ 52″ W.
199	26° 00′ 32″ N.	95° 39′ 27″ W.
200	26° 00′ 32′ N.	96° 48′ 30″ W.
201	25° 58′ 32″ N.	96° 55′ 28″ W.
202	25° 58′ 15″ N.	96° 58′ 41″ W.
202	25° 57′ 58″ N.	97° 01′ 54″ W.
203	25° 57′ 41″ N.	97 01 34 W. 97° 05′ 08″ W.
205	25° 57′ 24″ N.	97° 08′ 21″ W.
206	25° 57′ 24″ N.	97 08 21 W. 97° 08′ 47″ W.
200	ZU UI ZA IN.	∂I UU ≒I VV.

the sea area located off the coasts of the **Hawaiian Islands** of Hawai'i, Maui, Oahu, Moloka'i, Ni'ihau, Kaua'i, Lāna'i, and Kaho'olawe, enclosed by geodesic lines connecting the following coordinates:

POINT	LATITUDE	LONGITUDE
1	22° 32′ 54″ N.	153° 00′ 33″ W.
2	23° 06′ 05″ N.	153° 28′ 36″ W.
3	23° 32′ 11″ N.	154° 02′ 12″ W.
4	23° 51′ 47″ N.	154° 36′ 48″ W.
5	24° 21′ 49″ N.	155° 51′ 13″ W.
6	24° 41′ 47″ N.	156° 27′ 27″ W.
7	24° 57′ 33″ N.	157° 22′ 17″ W.
8	25° 13′ 41″ N.	157° 54′ 13″ W.
9	25° 25′ 31″ N.	157° 34° 13° W. 158° 30′ 36″ W.
	25° 31′ 19″ N.	159° 09′ 47″ W.
10		
11	25° 30′ 31″ N.	159° 54′ 21″ W.
12	25° 21′ 53″ N.	160° 39′ 53″ W.
13	25° 00′ 06″ N.	161° 38′ 33″ W.
14	24° 40′ 49″ N.	162° 13′ 13″ W.
15	24° 15′ 53″ N.	162° 43′ 08″ W.
16	23° 40′ 50″ N.	163° 13′ 00″ W.
17	23° 03′ 20″ N.	163° 32′ 58″ W.
18	22° 20′ 09″ N.	163° 44′ 41″ W.
19	21° 36′ 45″ N.	163° 46′ 03″ W.
20	20° 55′ 26″ N.	163° 37′ 44″ W.
21	20° 13′ 34″ N.	163° 19′ 13″ W.
22	19° 39′ 03″ N.	162° 53′ 48″ W.
23	19° 09′ 43″ N.	162° 20′ 35″ W.
24	18° 39′ 16″ N.	161° 19′ 14″ W.
25	18° 30′ 31″ N.	160° 38′ 30″ W.
26	18° 29′ 31″ N.	159° 56′ 17″ W.
27	18° 10′ 41″ N.	159° 14′ 08″ W.
28	17° 31′ 17″ N.	158° 56′ 55″ W.
29	16° 54′ 06″ N.	158° 30′ 29″ W.
30	16° 25′ 49″ N.	157° 59′ 25″ W.
31	15° 59′ 57″ N.	157° 17′ 35″ W.
32	15° 40′ 37″ N.	156° 21′ 06″ W.
33	15° 37′ 36″ N.	155° 22′ 16″ W.
		153° 22° 16° W. 154° 46′ 37″ W.
34	15° 43′ 46″ N.	
35	15° 55′ 32″ N.	154° 13′ 05″ W.
36	16° 46′ 27″ N.	152° 49′ 11″ W.
37	17° 33′ 42″ N.	152° 00′ 32″ W.
38	18° 30′ 16″ N.	151° 30′ 24″ W.
39	19° 02′ 47″ N.	151° 22′ 17″ W.
40	19° 34′ 46″ N.	151° 19′ 47″ W.
41	20° 07′ 42″ N.	151° 22′ 58″ W.
42	20° 38′ 43″ N.	151° 31′ 36″ W.
43	21° 29′ 09″ N.	151° 59′ 50″ W.
44	22° 06′ 58″ N.	152° 31′ 25″ W.
45	22° 32′ 54″ N.	153° 00′ 33″ W.