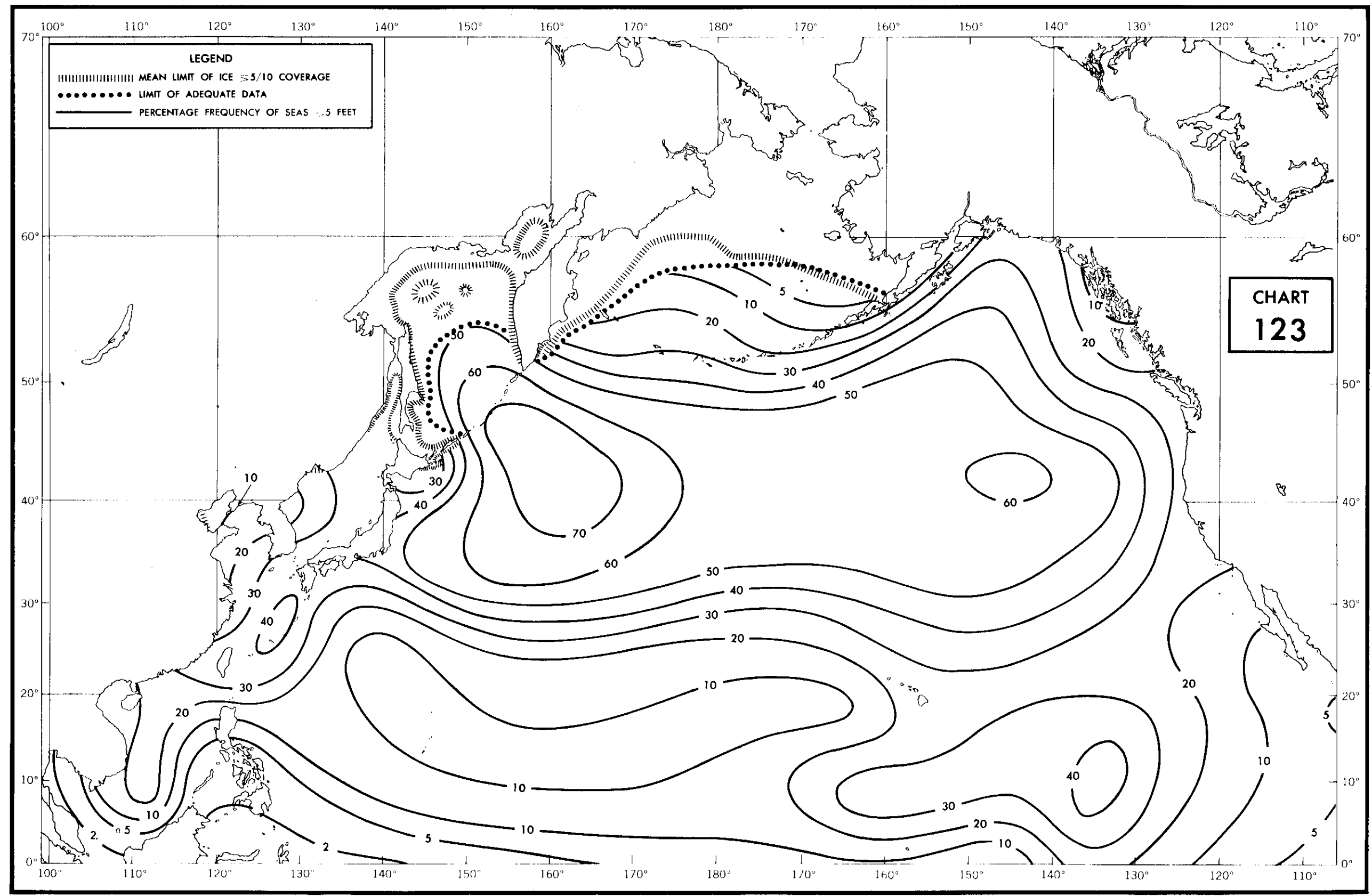


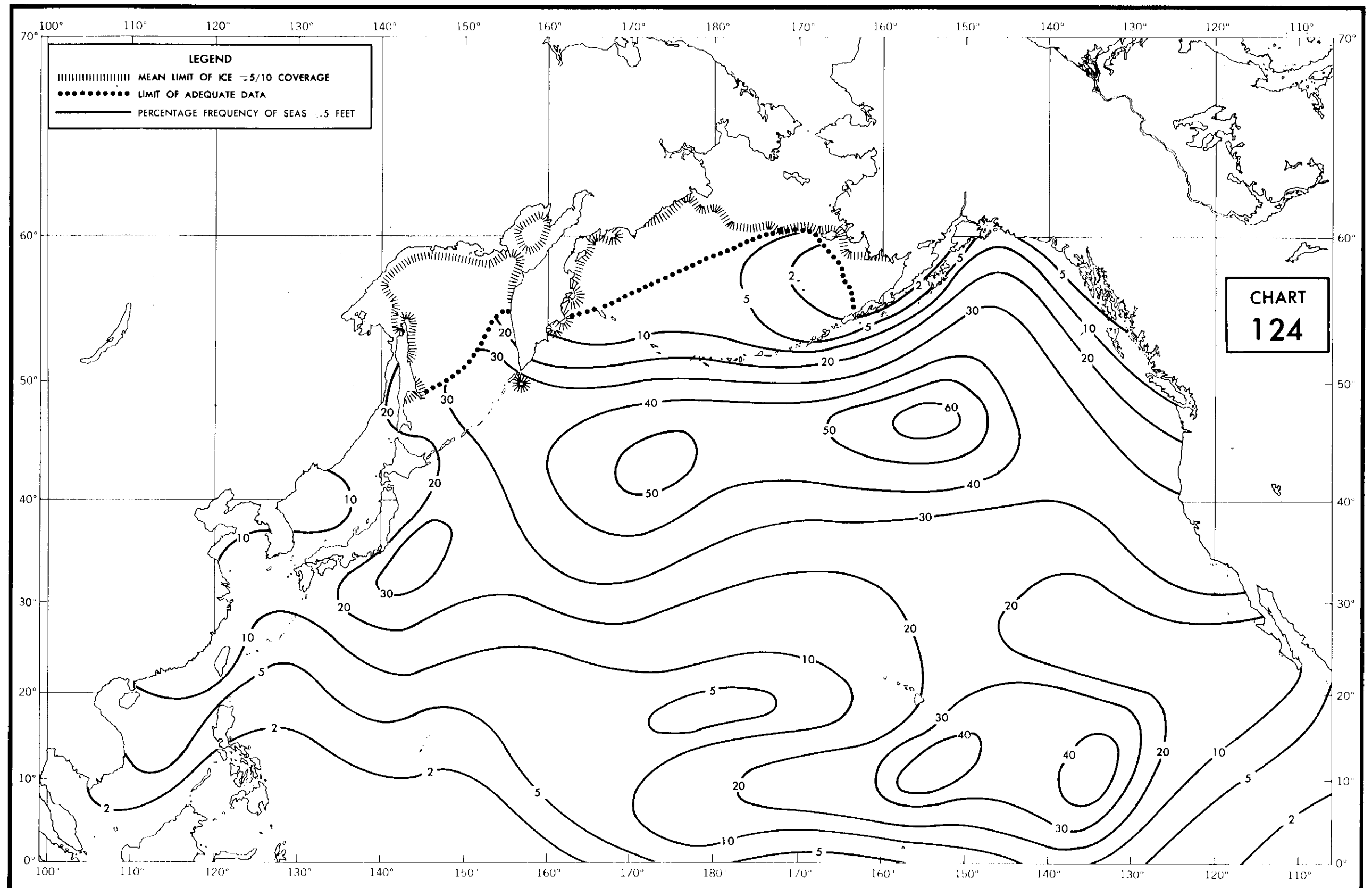
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WINTER



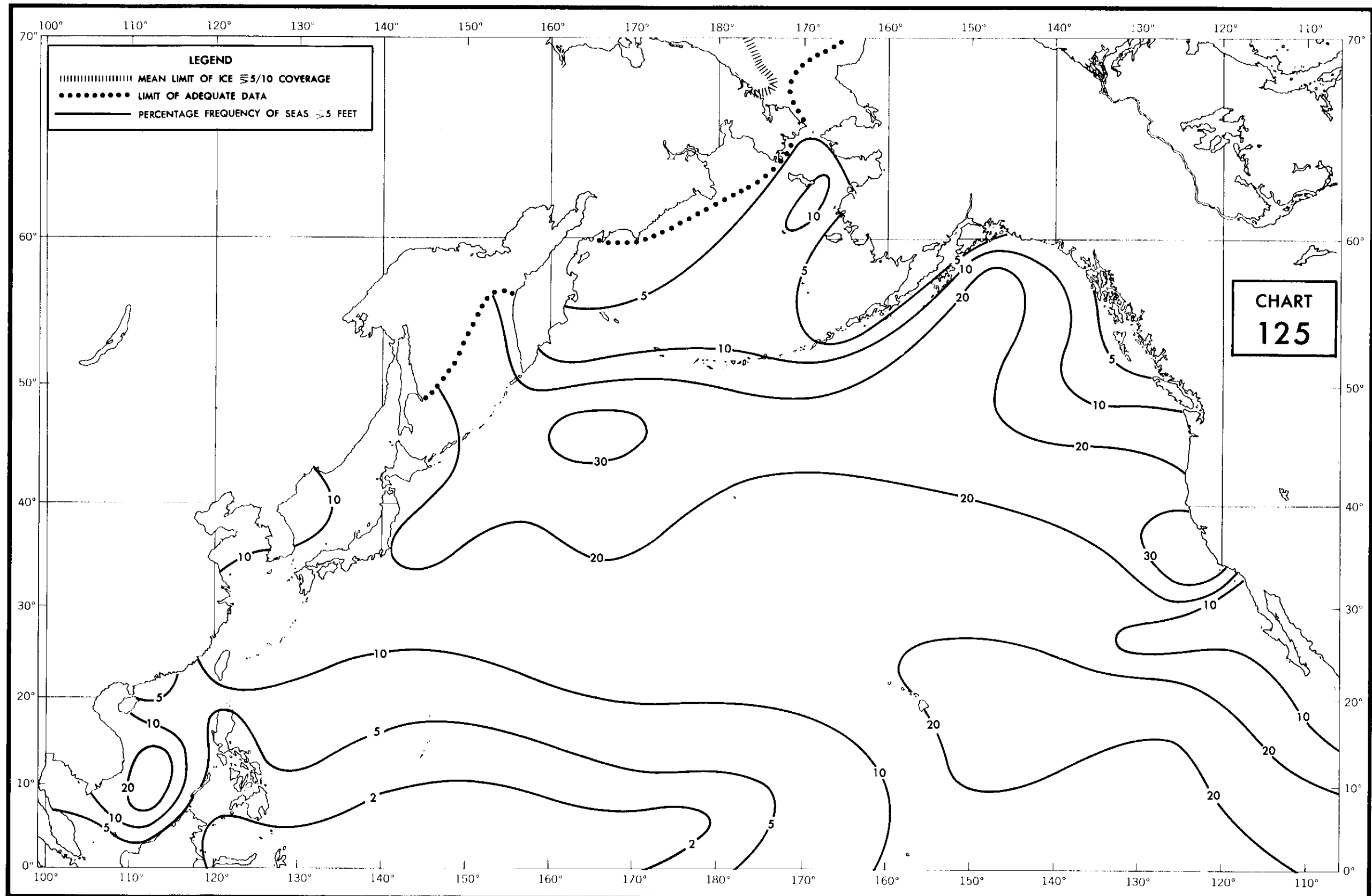
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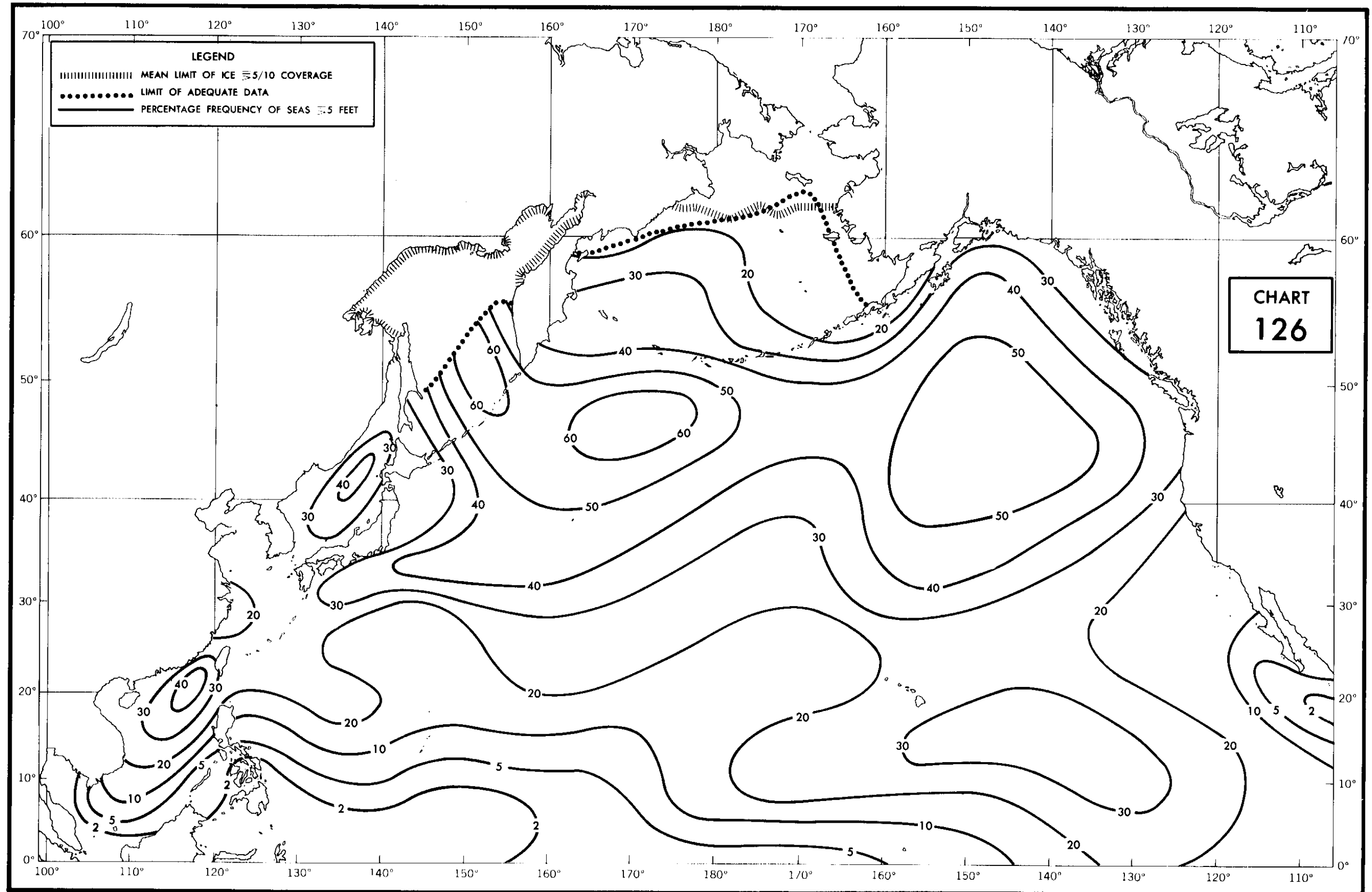
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SUMMER



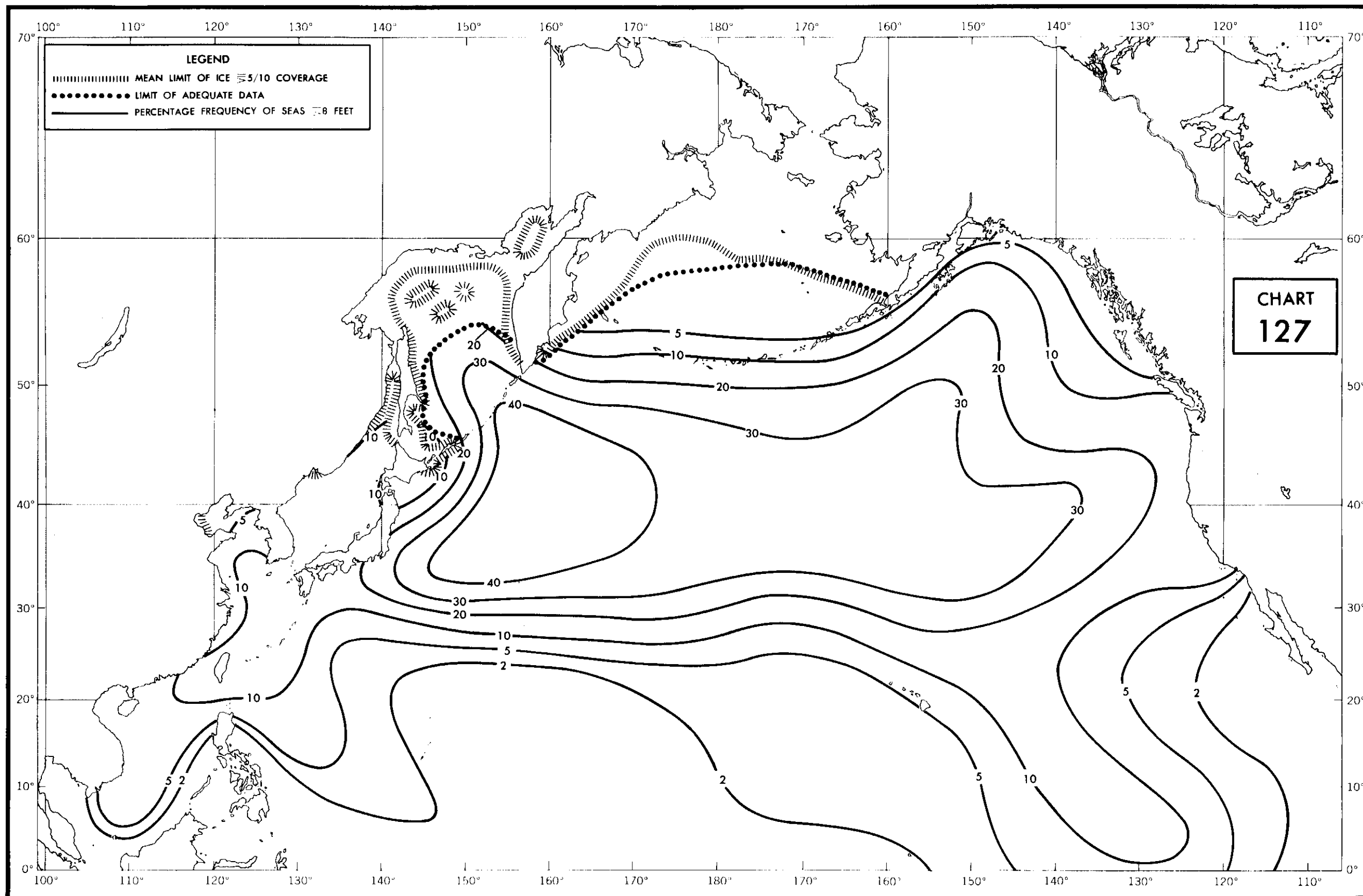
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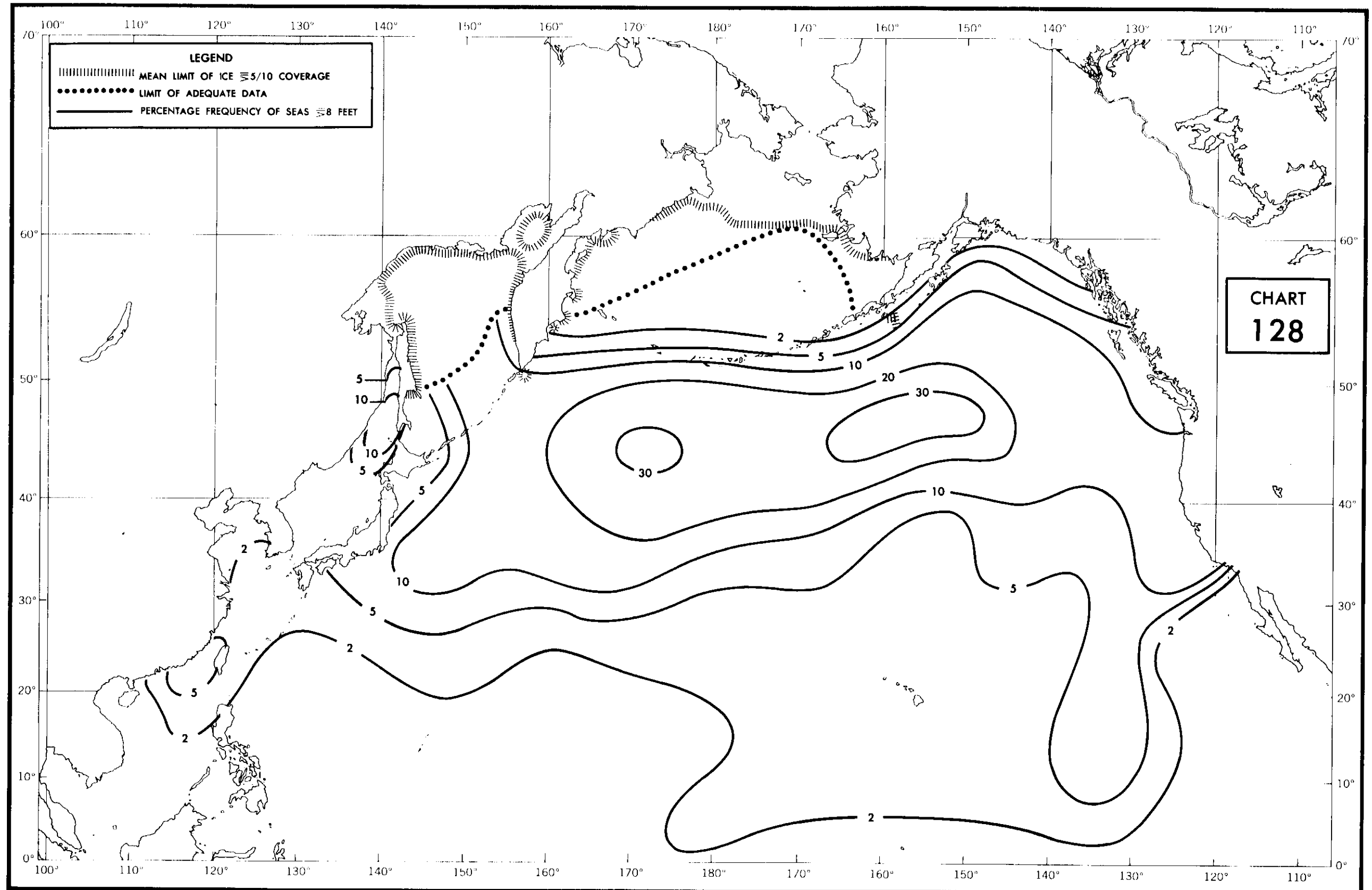
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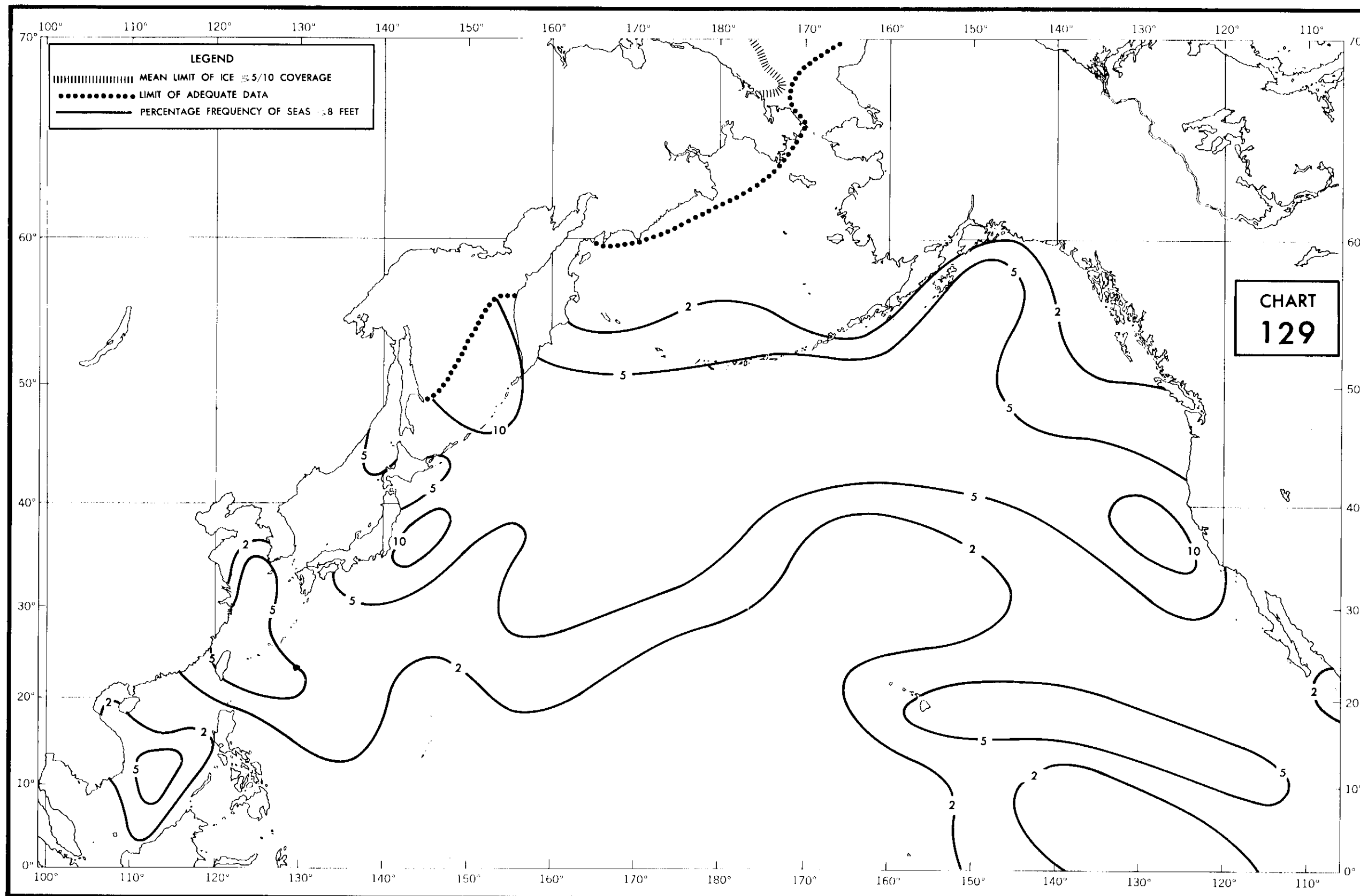
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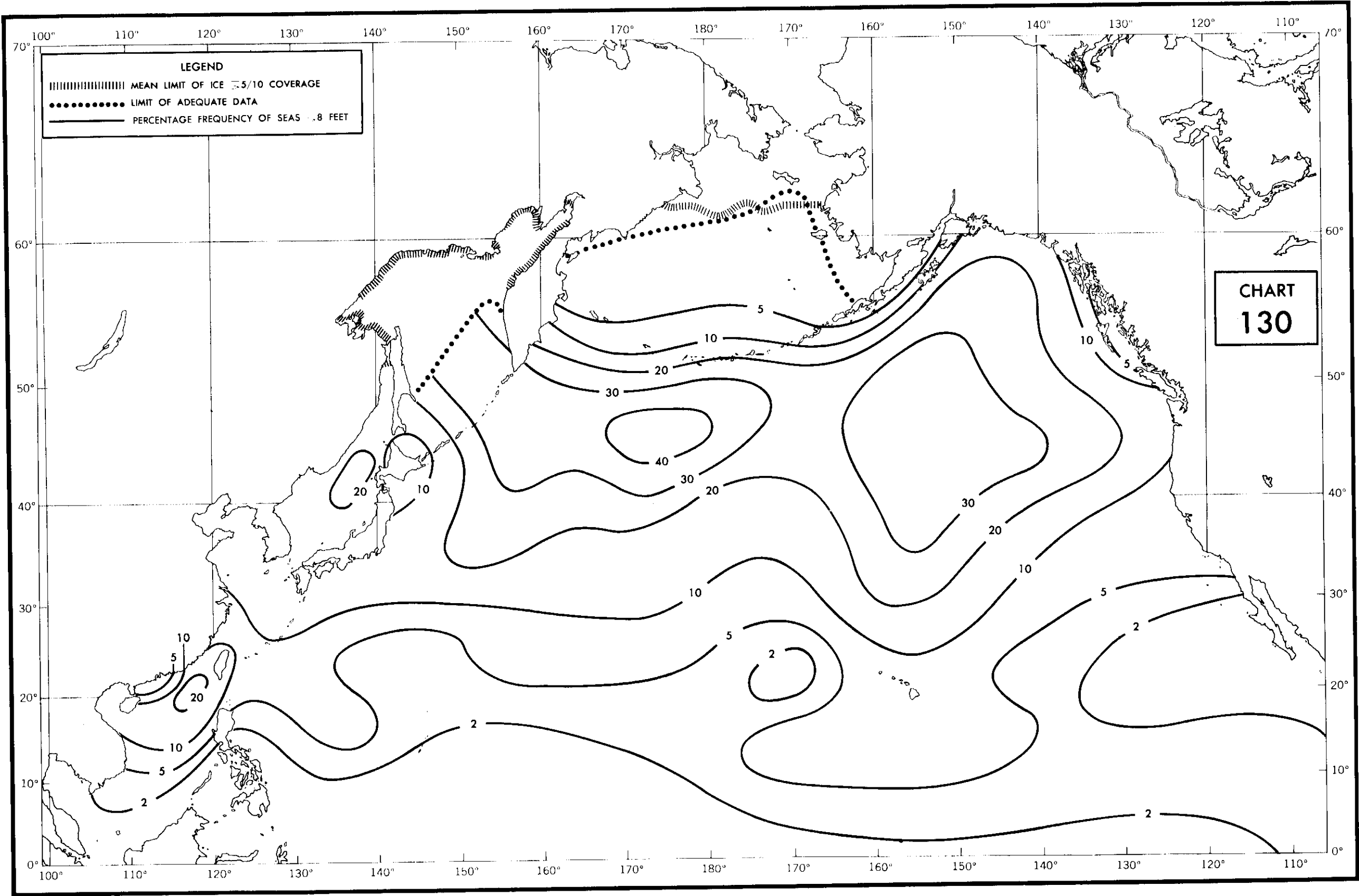
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SUMMER



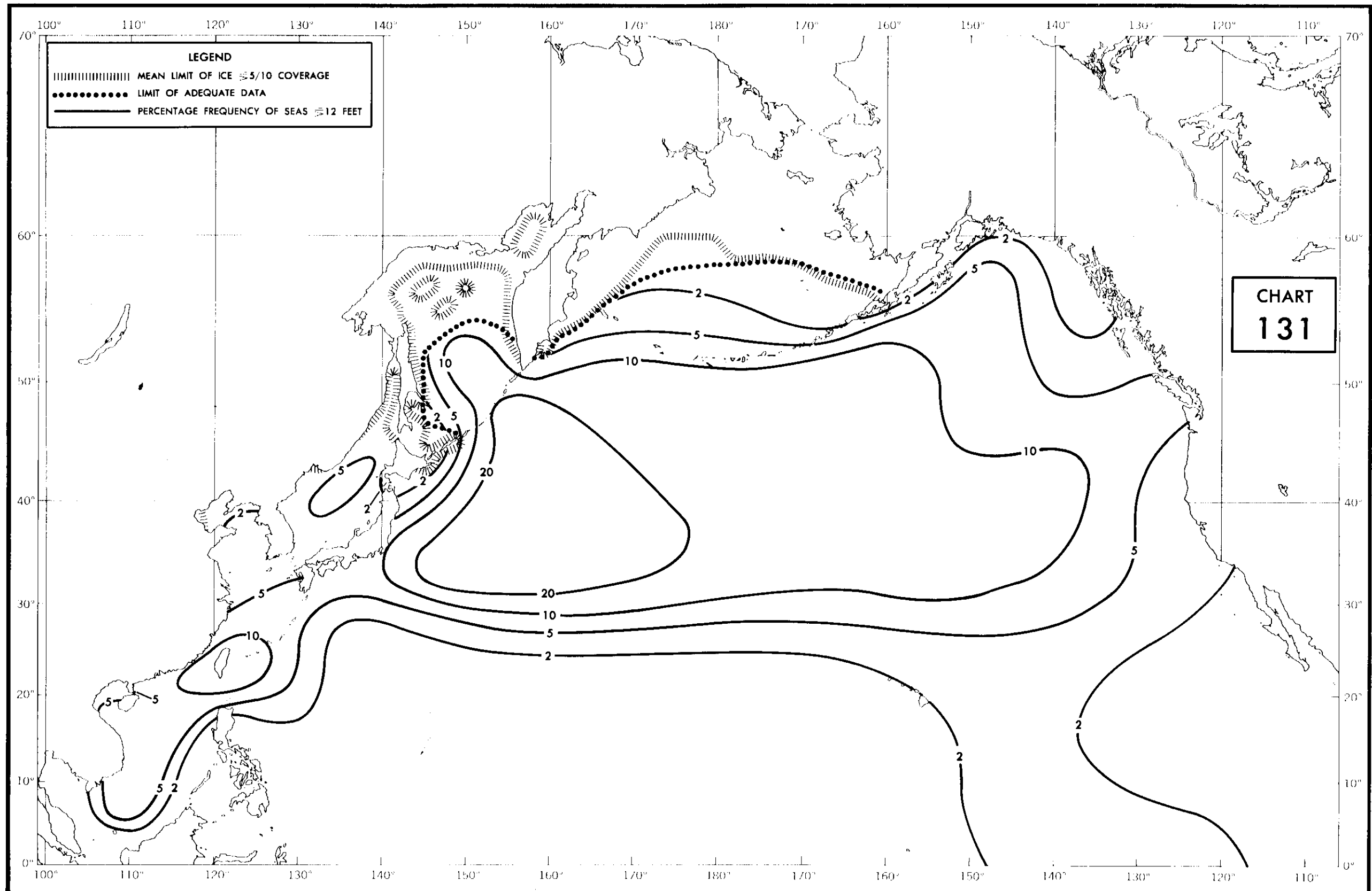
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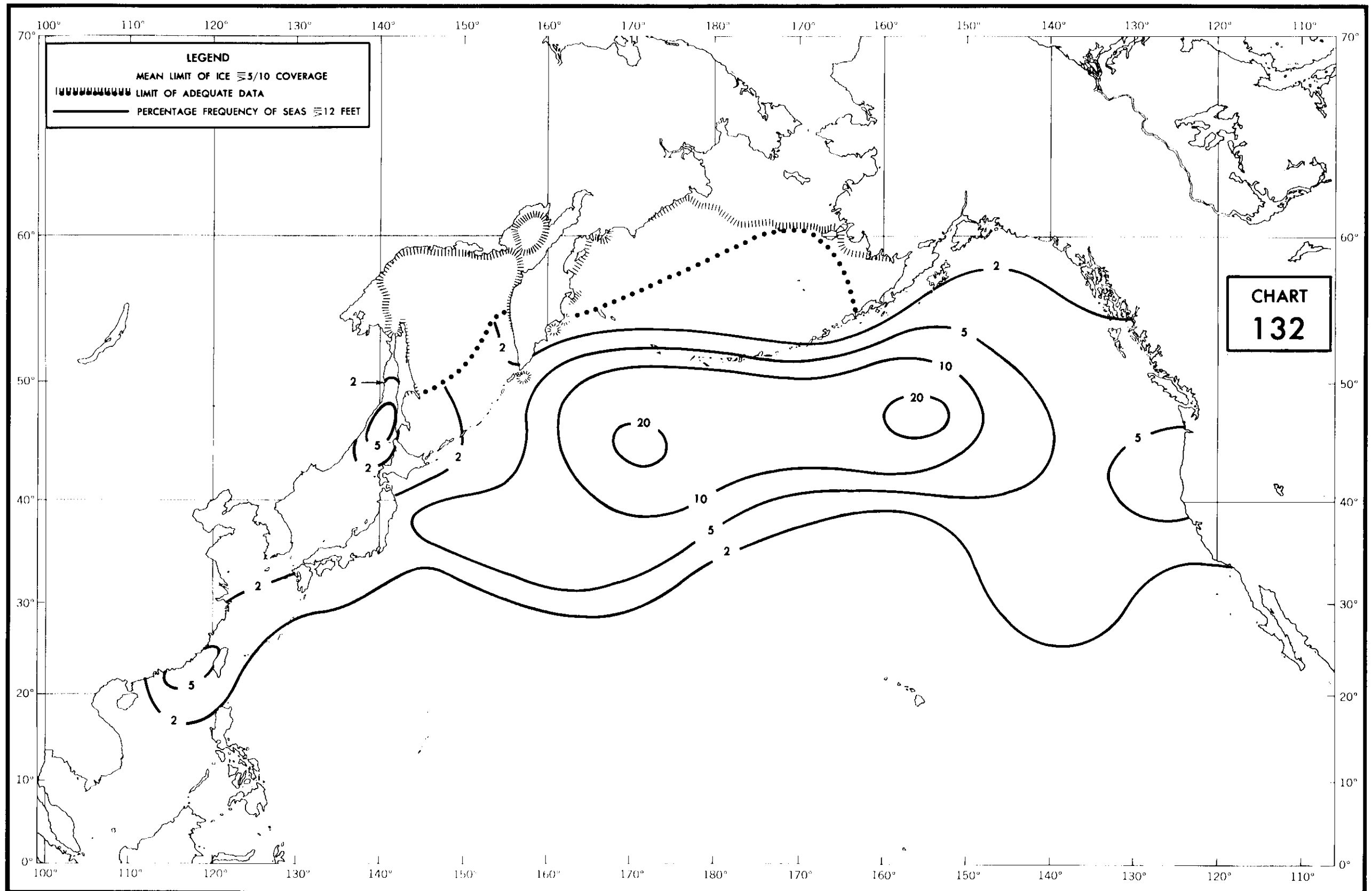
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WINTER



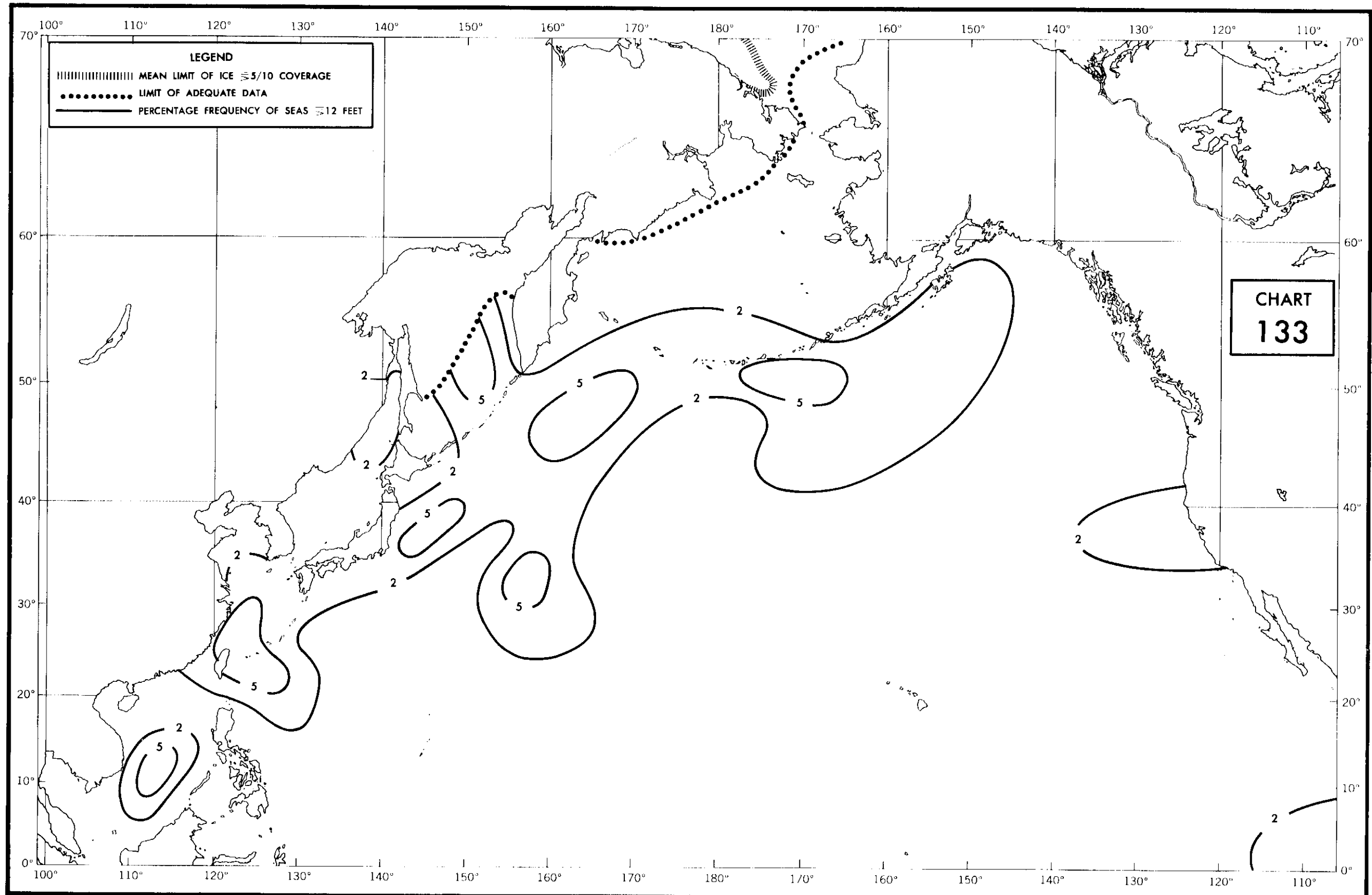
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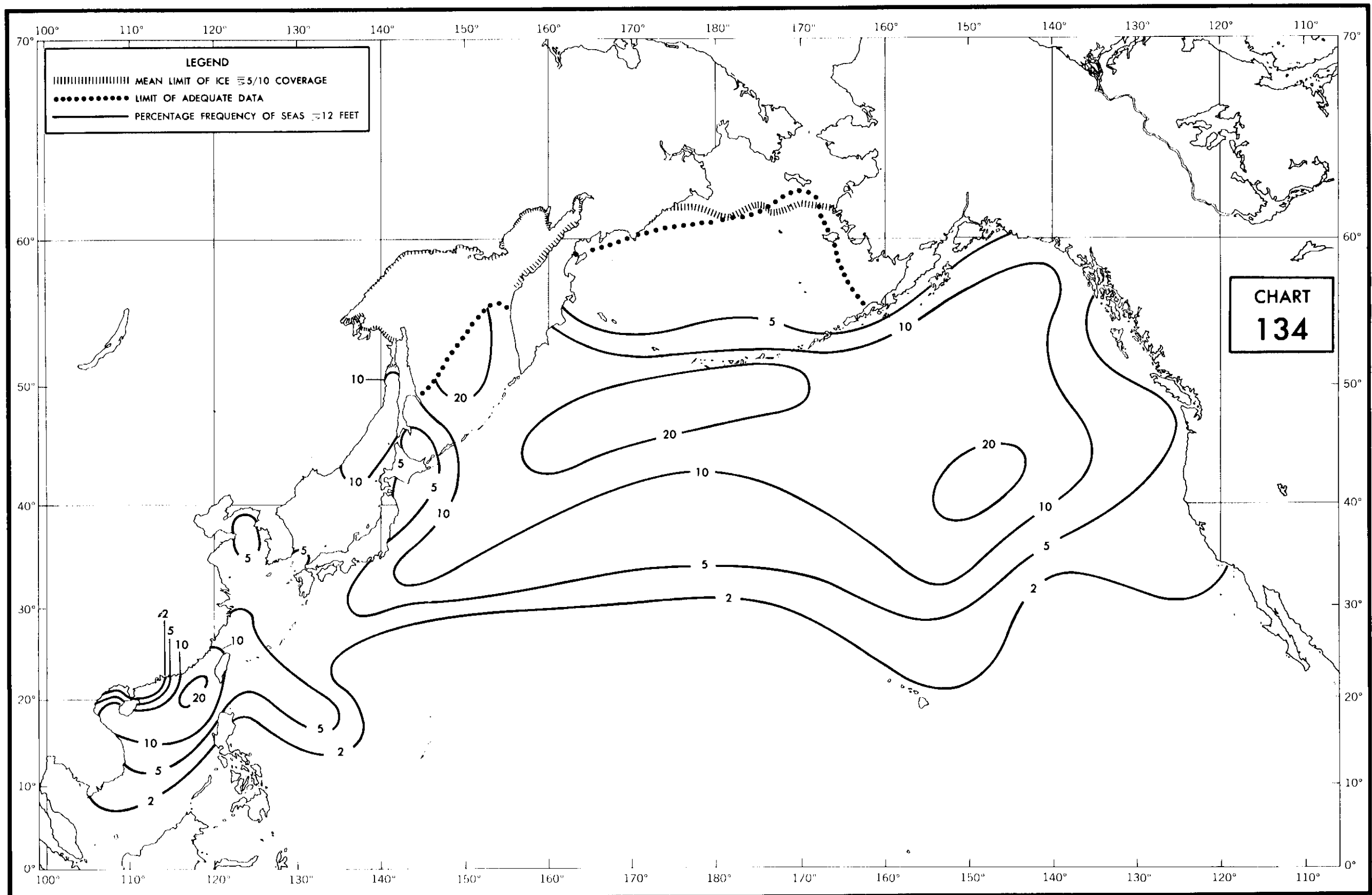
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SUMMER



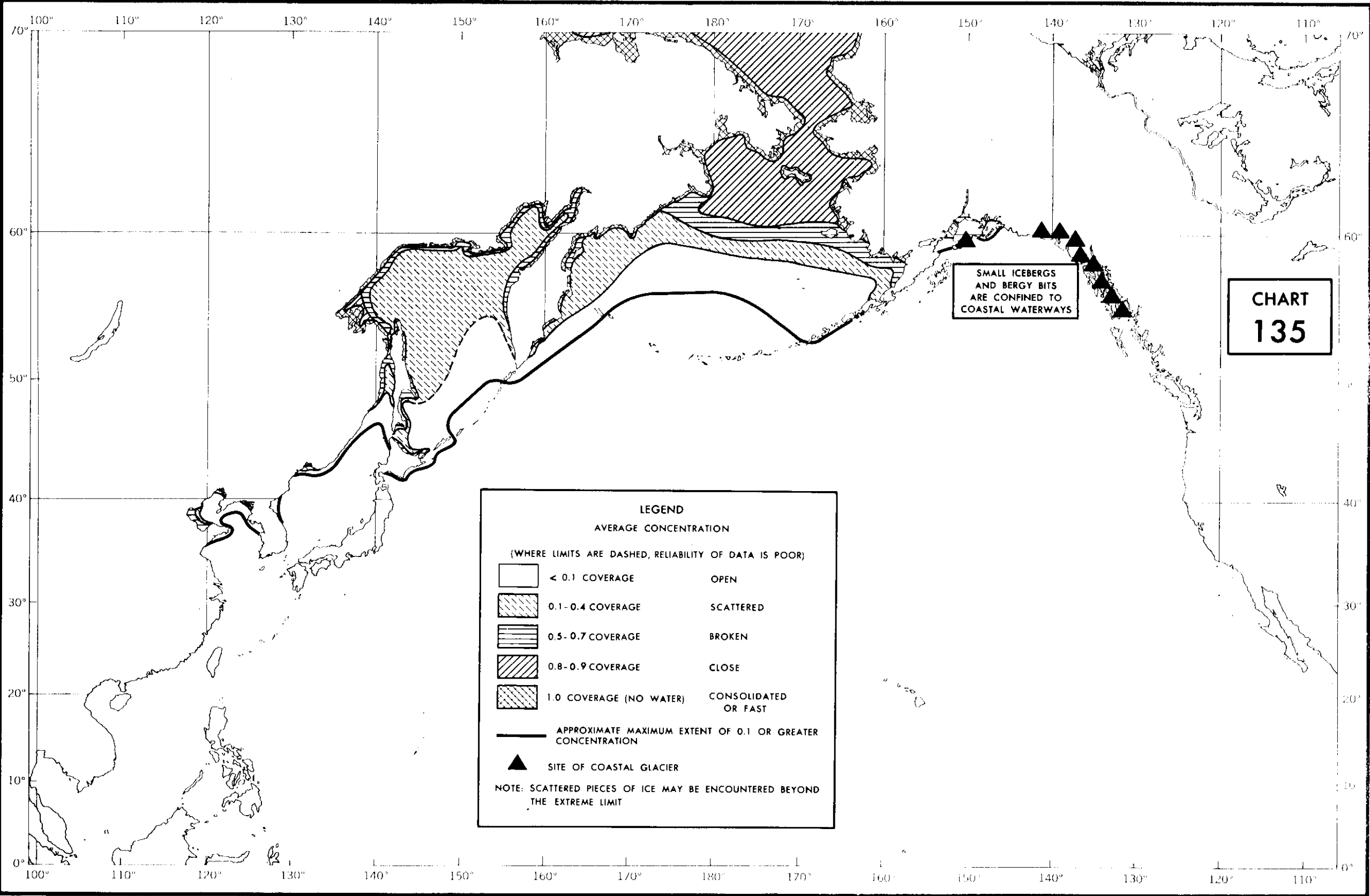
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AUTUMN



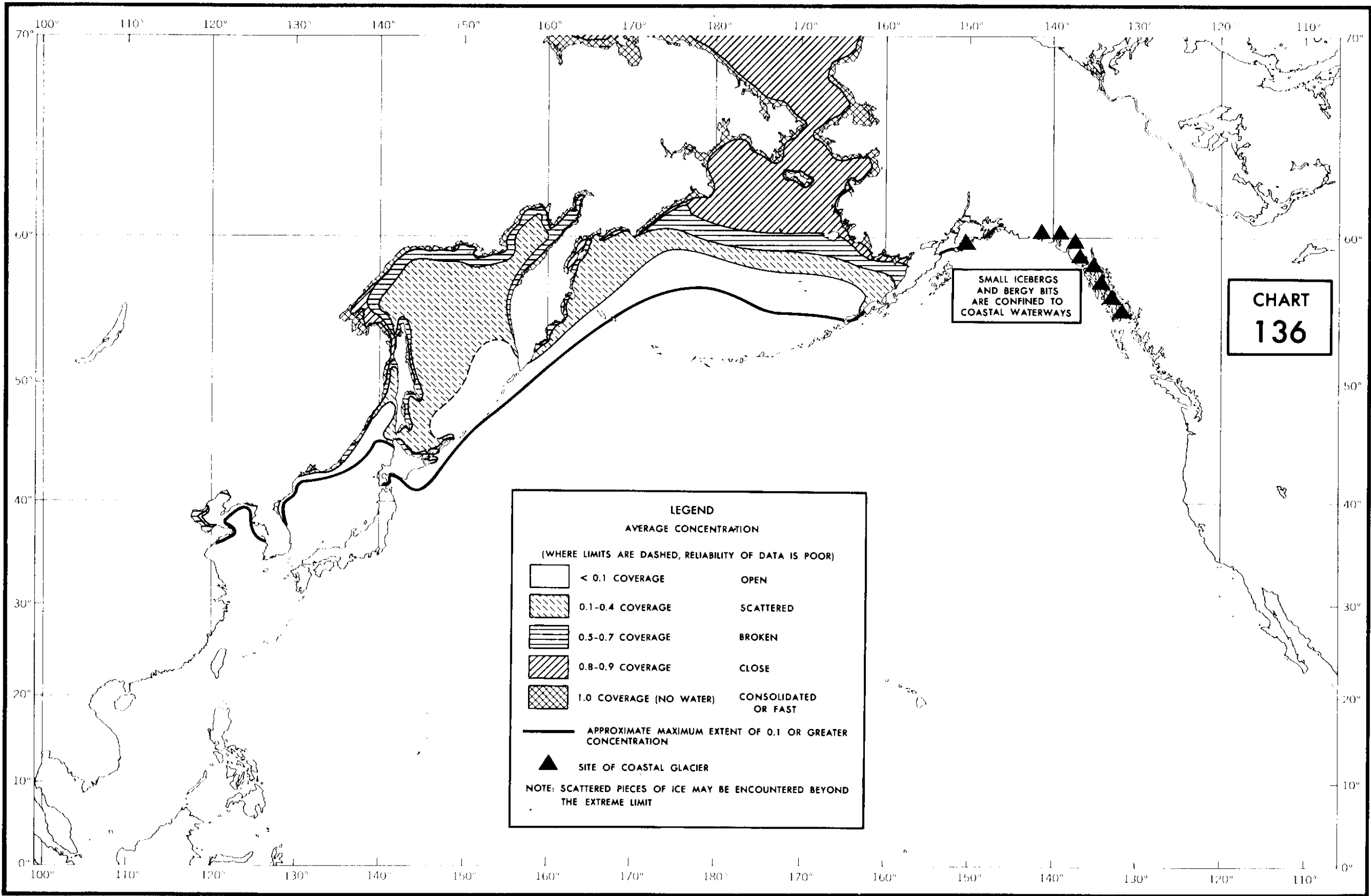
ICE CONCENTRATION AND EXTREMES

JANUARY



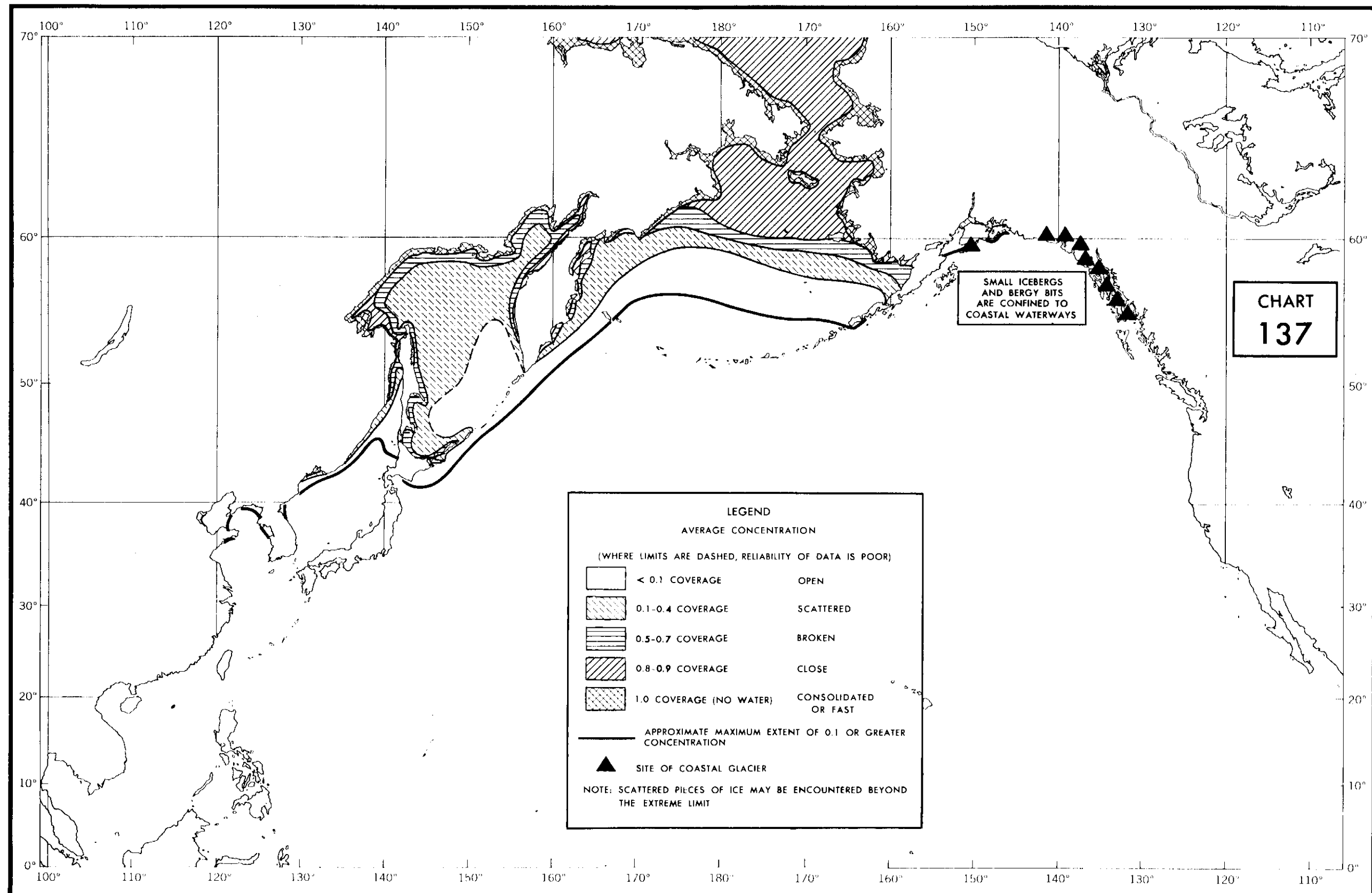
ICE CONCENTRATION AND EXTREMES

FEBRUARY



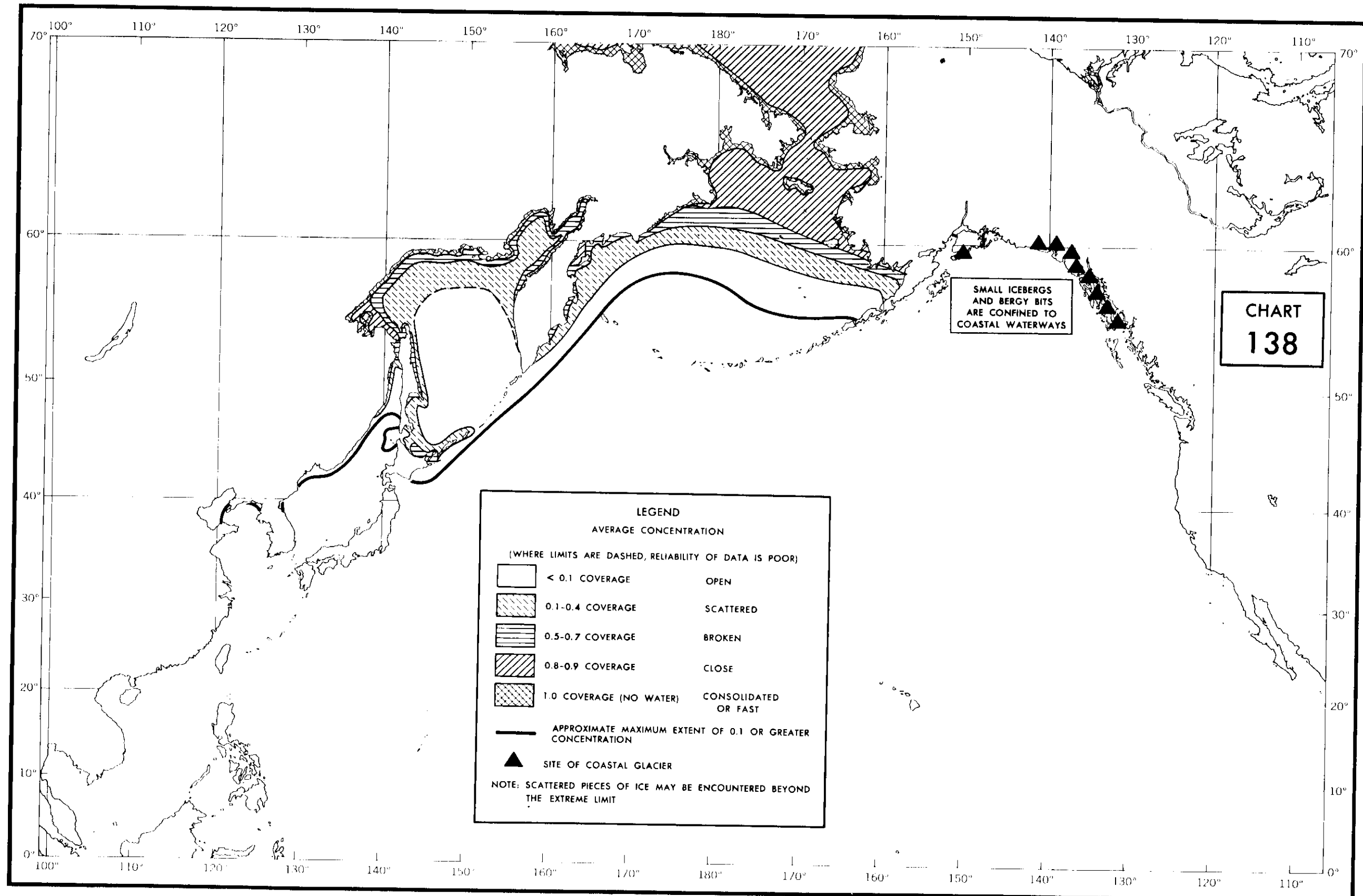
ICE CONCENTRATION AND EXTREMES

MARCH



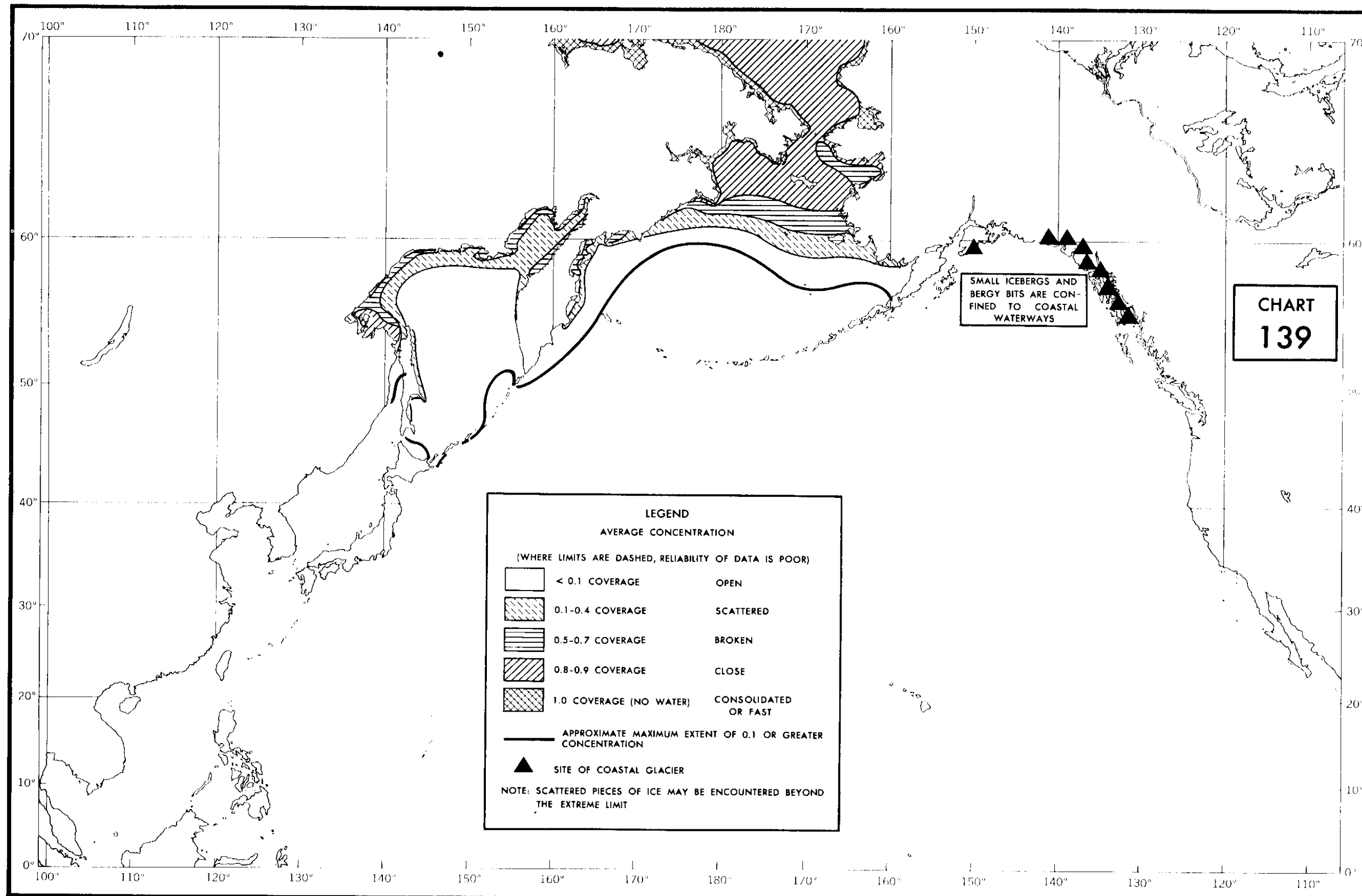
ICE CONCENTRATION AND EXTREMES

APRIL



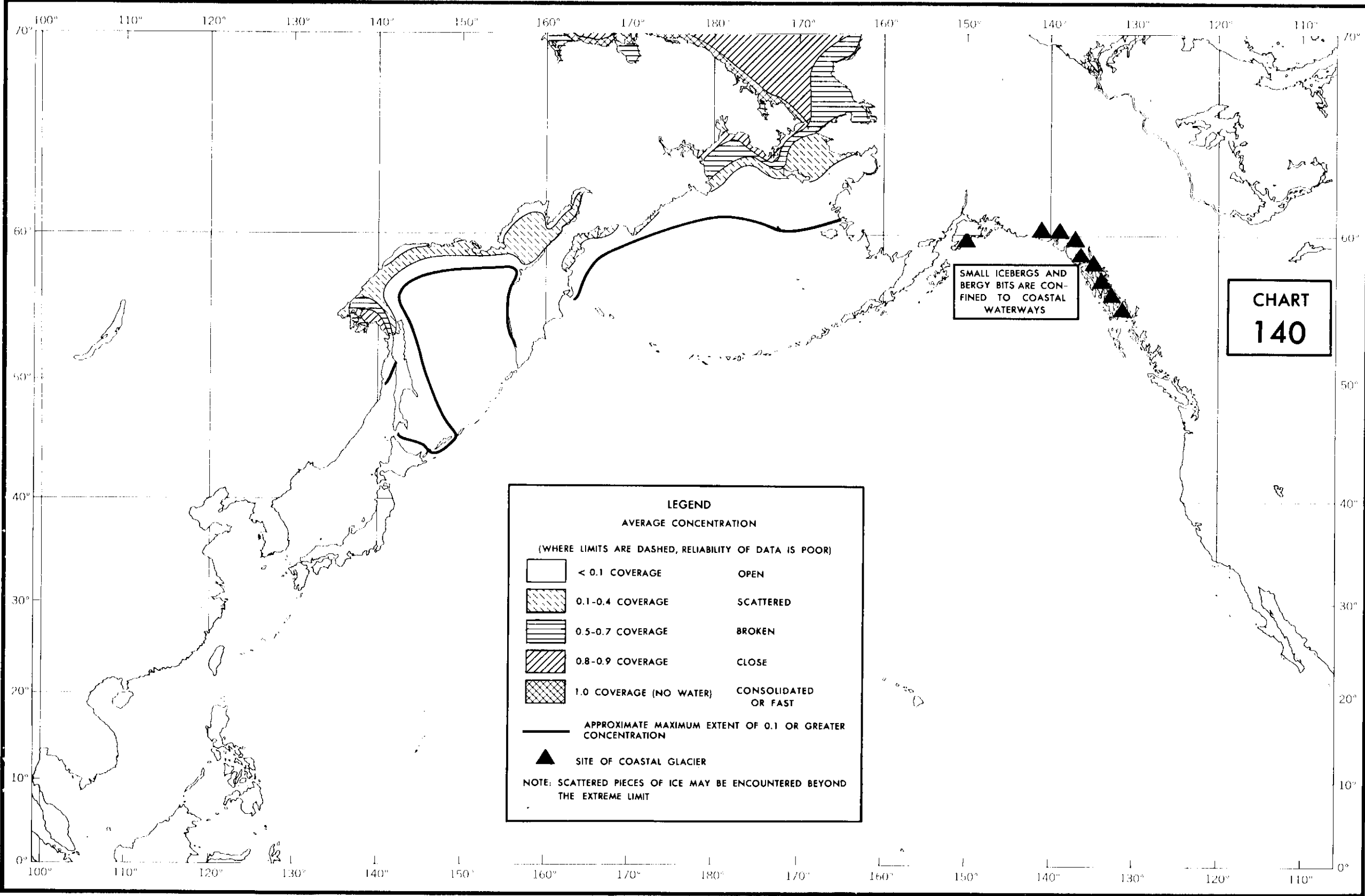
ICE CONCENTRATION AND EXTREMES

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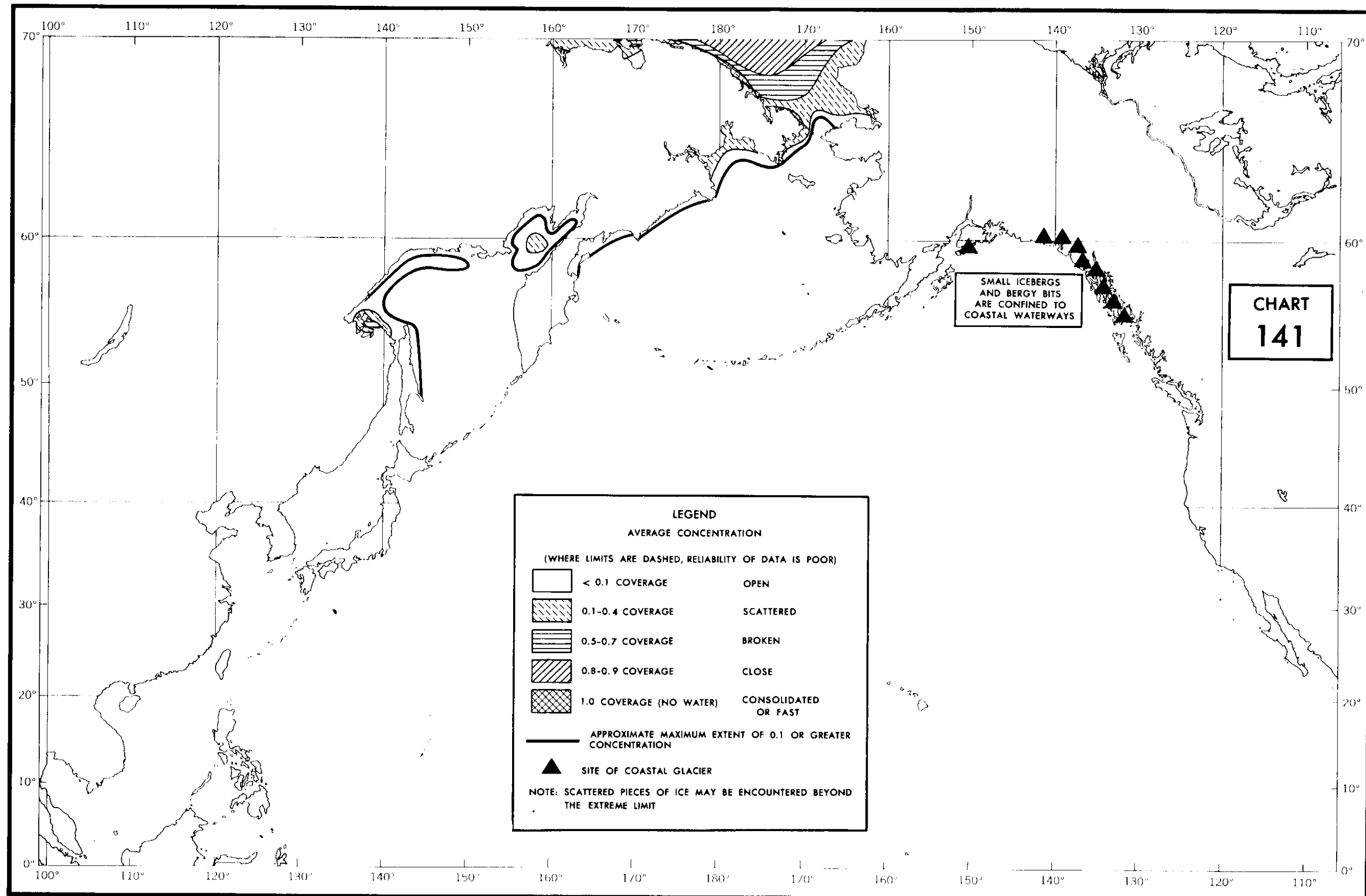
ICE CONCENTRATION AND EXTREMES

JUNE



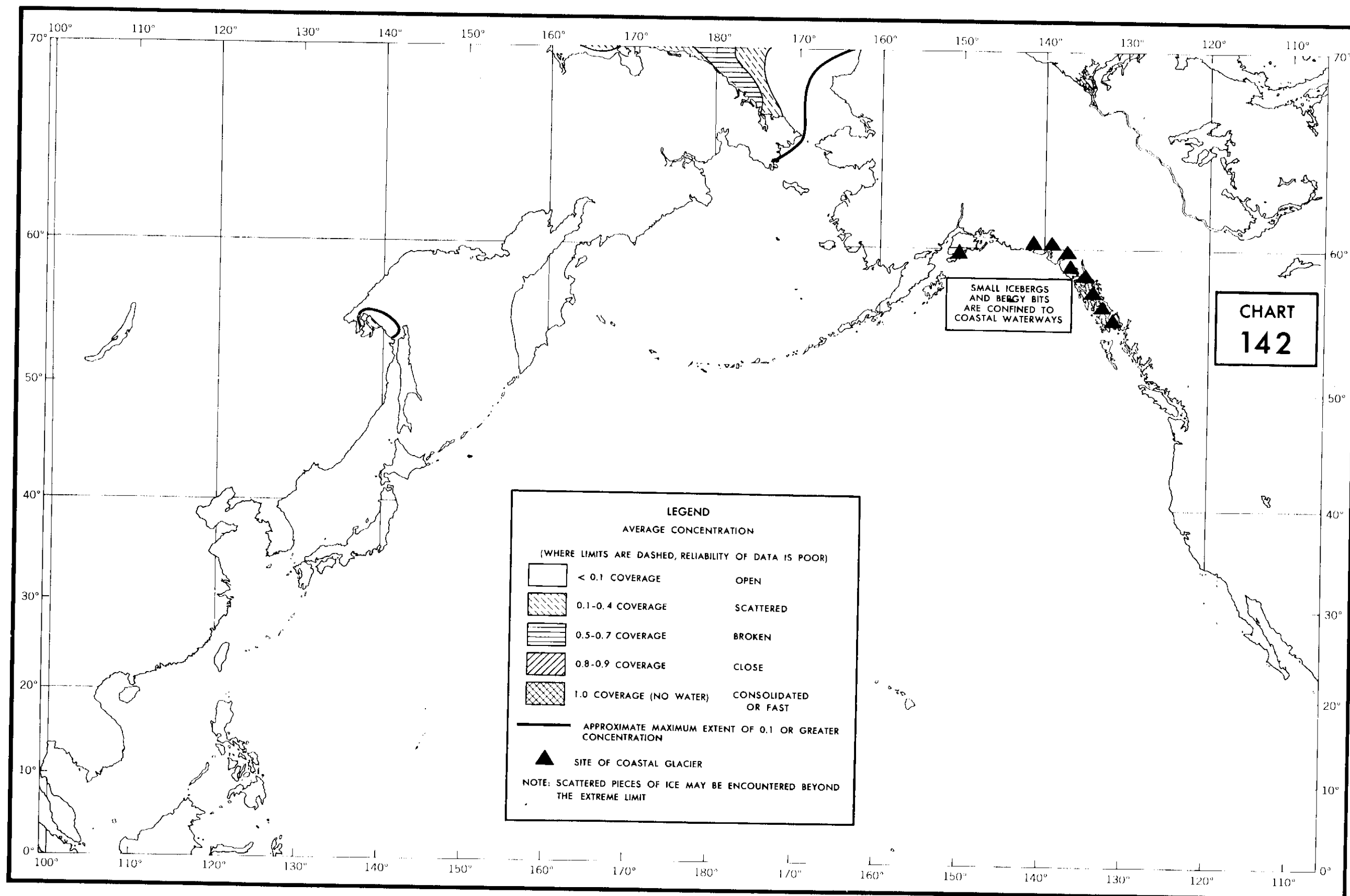
ICE CONCENTRATION AND EXTREMES

JULY



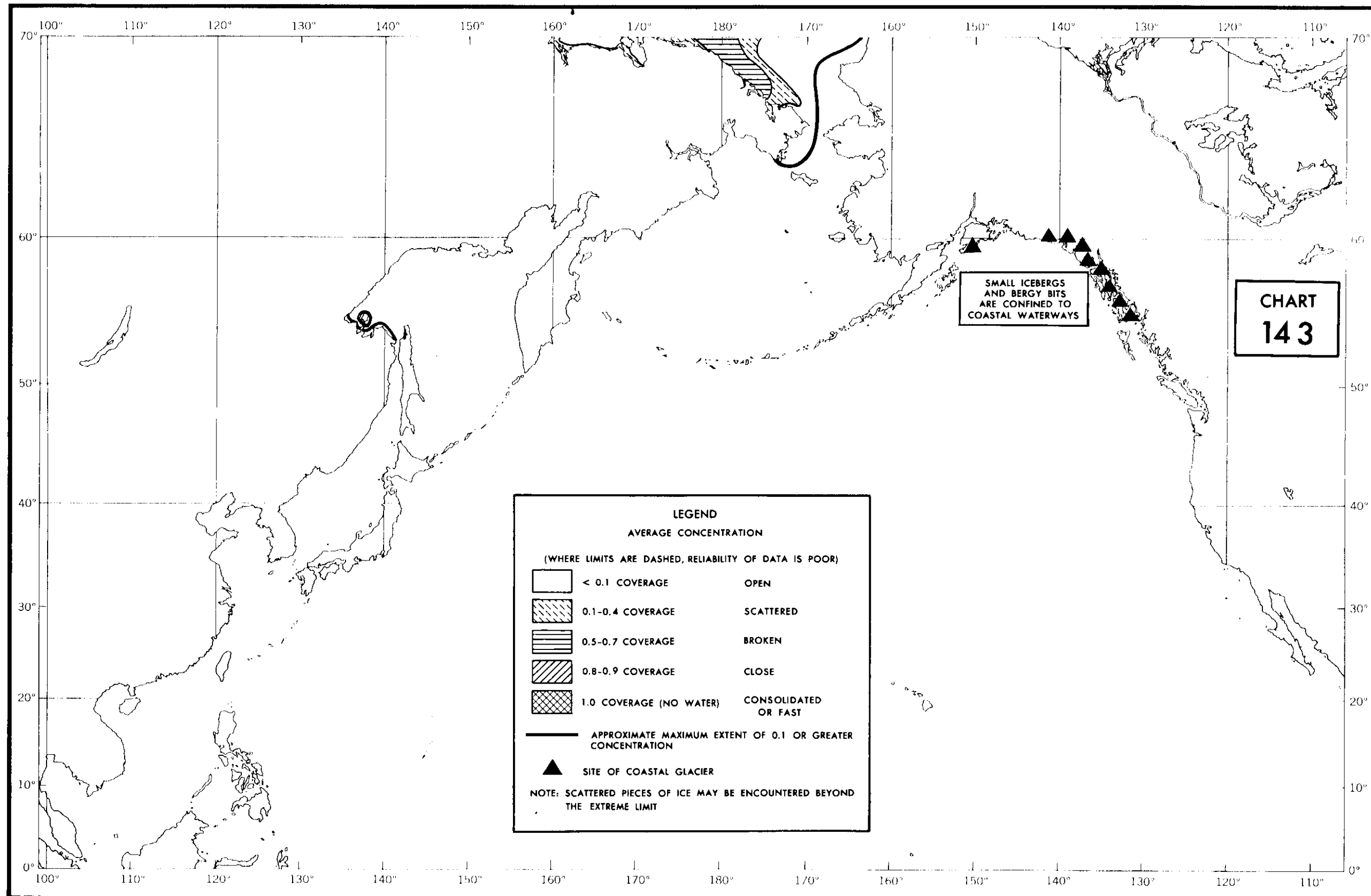
ICE CONCENTRATION AND EXTREMES

AUGUST



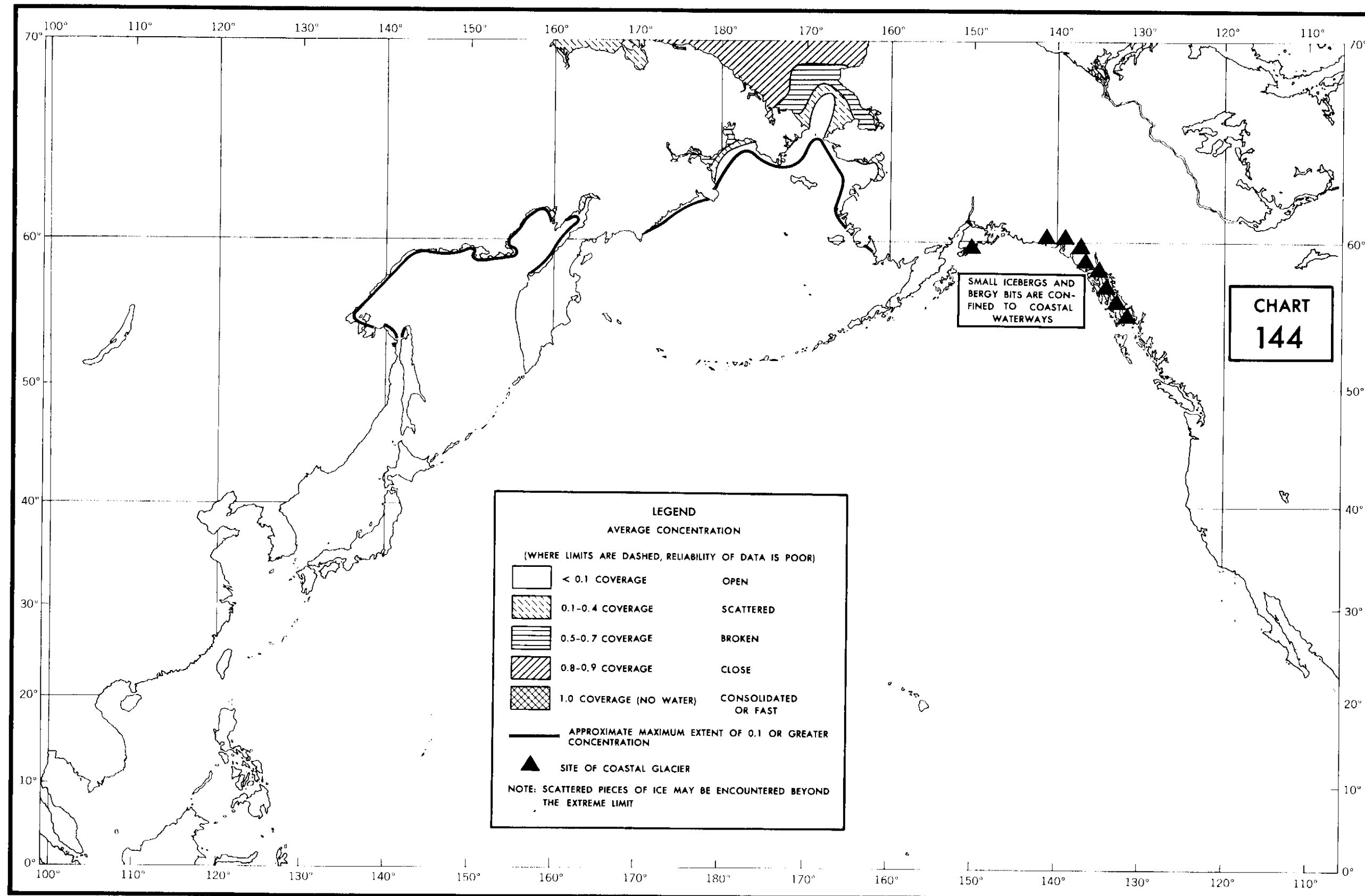
ICE CONCENTRATION AND EXTREMES

SEPTEMBER



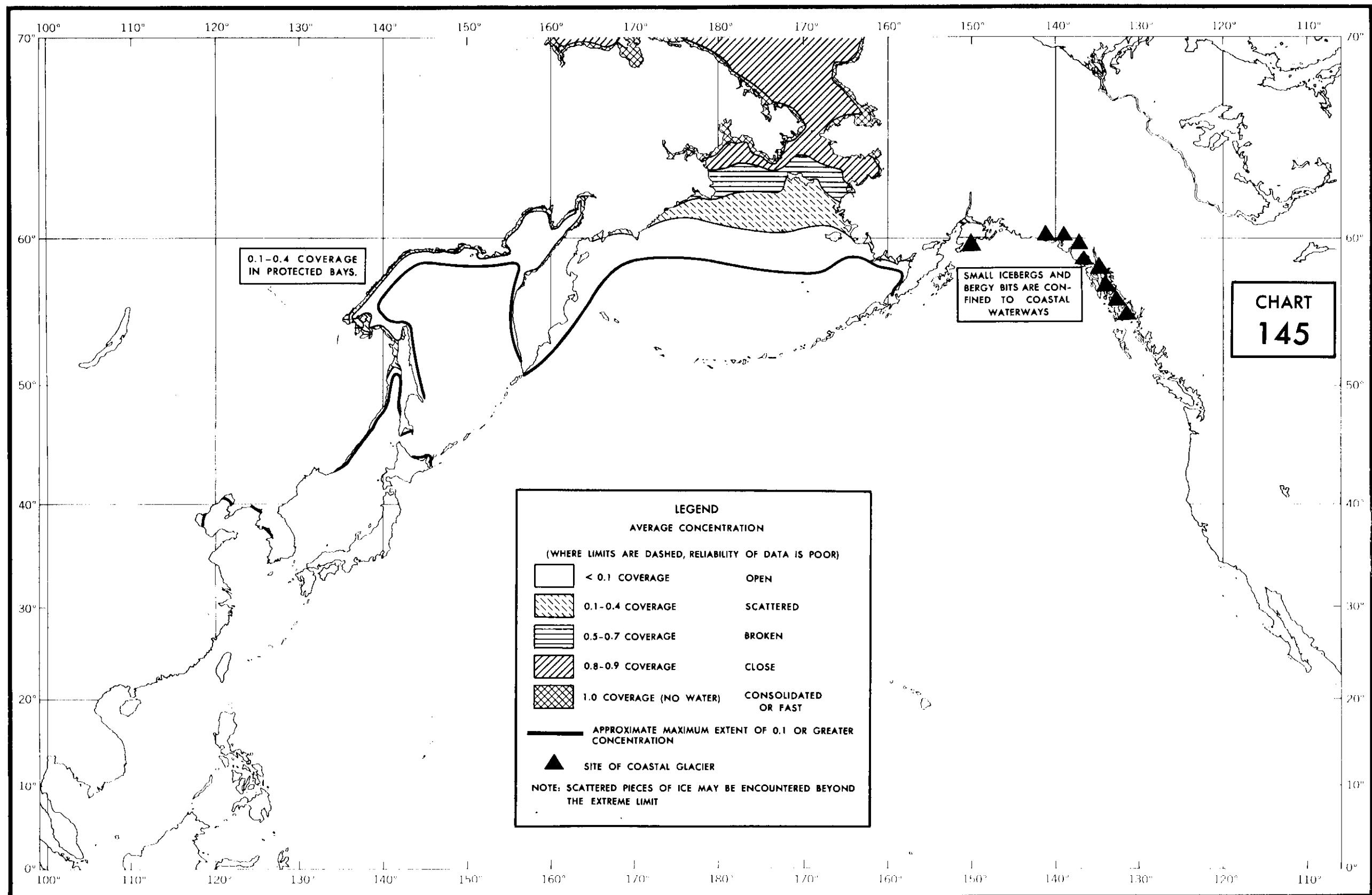
ICE CONCENTRATION AND EXTREMES

OCTOBER



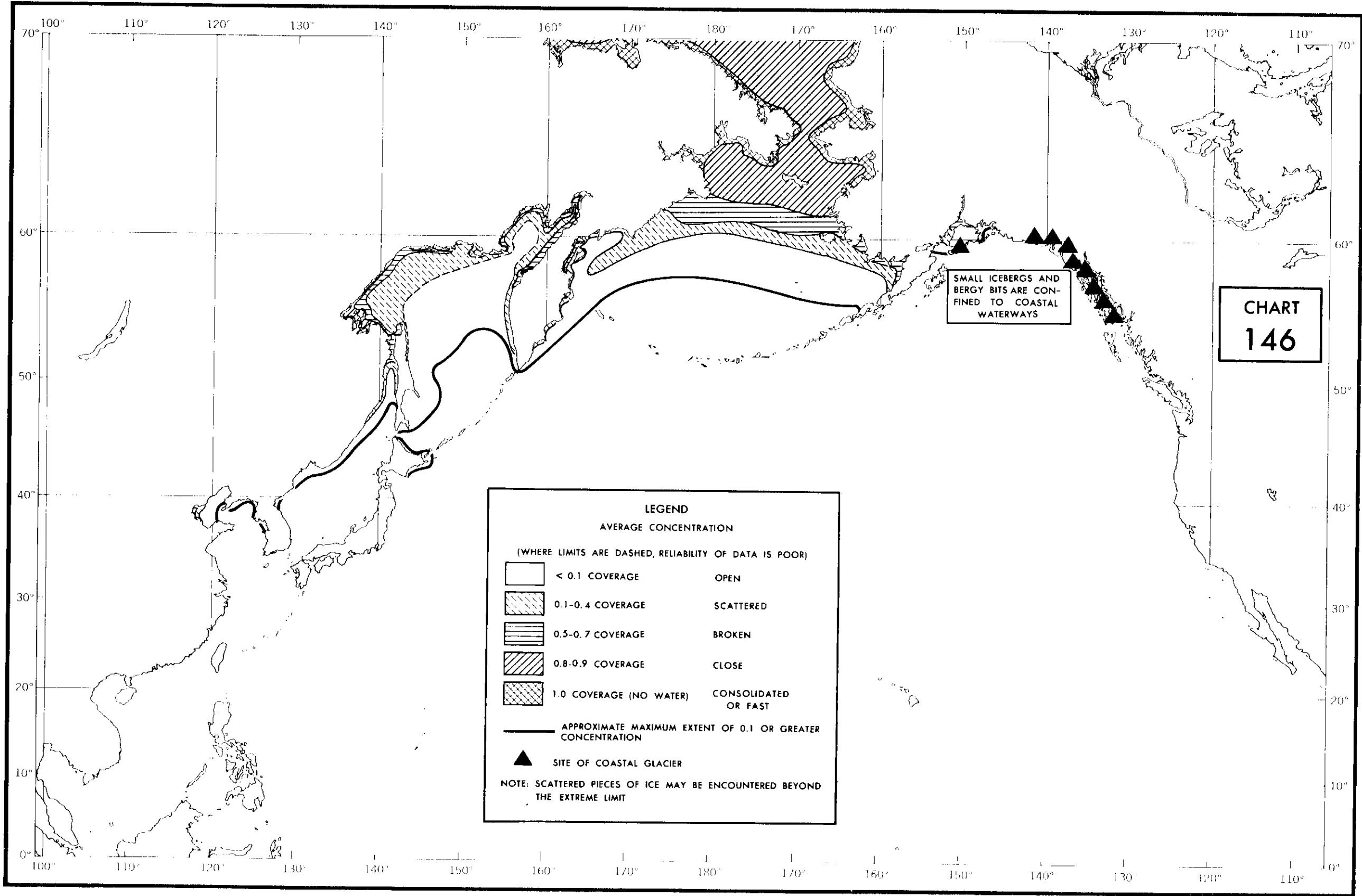
ICE CONCENTRATION AND EXTREMES

NOVEMBER



ICE CONCENTRATION AND EXTREMES

DECEMBER



FREEZEUP AND BREAKUP DATES

AVERAGE ICE CONDITIONS
UNITED STATES: GULF OF ALASKA

LOCATION	LAT.	LONG.	FREEZEUP	BREAKUP	YEARS OF RECORD
Anchorage	61°10' N	149°55' W	24 Nov.	22 Mar.	15
Juneau	58°18' N	134°25' W	Generally ice free	Generally ice free	-
Kasilof	60°23' N	151°18' W	3 Dec. (1)	13 Apr. (1)	13
Kenai	60°33' N	151°16' W	Dec. (1)	Late Mar. (1)	4
Kodiak	57°50' N	152°25' W	Generally ice free	Generally ice free	-
Seward	60°07' N	149°27' W	Generally ice free (2)	Generally ice free (2)	-
Sitka	57°03' N	135°20' W	Generally ice free	Generally ice free	-
Valdez	61°07' N	146°16' W	Generally ice free (2)	Generally ice free (2)	-
Whittier	60°46' N	148°43' W	Generally ice free	Generally ice free	-

- (1) Dates averaged for winters when ice closed ports; may remain open throughout winter in mild years.
(2) Occasional fast ice in January to March.

AVERAGE ICE CONDITIONS
UNITED STATES: BERING SEA

LOCATION	LAT.	LONG.	FREEZEUP	BREAKUP	YEARS OF RECORD
Adak	51°54' N	176°39' W	Generally ice free	Generally ice free	-
Atka	52°12' N	174°12' W	Generally ice free	Generally ice free	-
Attu	52°56' N	173°14' W	Generally ice free	Generally ice free	-
Bethel	60°48' N	161°45' W	28 Oct.	13 May	23
Dillingham	59°01' N	158°31' W	8 Nov.	5 May	15
Dutch Harbor	53°54' N	166°31' W	Generally ice free (1)	Generally ice free (1)	-
Egegik	58°12' N	157°30' W	15 Dec.	21 Apr.	6
Gambell	63°50' N	171°36' W	1 Dec.	16 May	9
Golovin	64°33' N	163°02' W	9 Nov.	17 May	7
Hooper Bay	61°29' N	166°08' W	16 Nov.	26 May	3
Kanakauak	59°00' N	158°31' W	22 Nov.	6 May	5
Kiska Harbor	51°58' N	177°34' W	Generally ice free	Generally ice free	-
Koyuk	64°55' N	161°10' W	Early Nov.	20 May	3
Kwinhagak	59°45' N	161°52' W	18 Nov.	28 Apr.	5
Little Diomed	65°45' N	168°55' W	Nov. (2)	May (2)	-
Moses Point	64°42' N	161°52' W	Mid-Oct. (2)	May (2)	-
Naknek	58°44' N	157°02' W	12 Nov.	11 Apr.	4
Nome	64°31' N	165°27' W	20 Nov.	27 May	29
Northeast Cape	63°17' N	168°42' W	Mid-Nov. (2)	Early June (2)	-
Nunivak	60°05' N	166°20' W	1 Dec.	20 May	2
Platinum	59°01' N	161°46' W	20 Nov.	22 May	7
Prince of Wales, Cape	65°36' W	168°05' W	Early Nov. (2)	Mid-June (2)	-
Romanzov, Cape	61°47' N	166°02' W	Mid-Nov. (2)	Mid-June (2)	-
St. Michael	63°29' N	162°01' W	9 Nov.	1 June	19
Savoonga	63°45' N	170°20' W	28 Nov.	30 May	7
Shemya Island	52°43' N	174°10' E	Generally ice free	Generally ice free	-
Solomon	64°33' N	164°24' W	27 Oct.	16 May	4
Teller	65°18' N	166°20' W	9 Nov.	29 May	12
Umnak	53°10' N	168°20' W	Generally ice free	Generally ice free	-
Unalakleet	63°52' N	160°47' W	21 Oct.	16 May	11
Wales	65°38' N	168°04' W	29 Nov.	3 June	11

- (1) Occasional fast ice
(2) Estimated

AVERAGE ICE CONDITIONS
U.S.S.R.: NORTHWEST PACIFIC AND BERING SEA

LOCATION	LAT.	LONG.	FIRST ICE	FREEZEUP	BREAKUP	LAST ICE	MAXIMUM THICKNESS (INCHES)
Anadyr'	64°45' N	177°29' E	Oct.			Late May - Early June	
Anadyr, Gulf of	64°00' N	178°00' W	Early Oct.			Late June	
Anapka	60°01' N	163°55' E	Nov. to Early Dec.			Early July	
Avachinskaya Guba (Secondary Bay)	52°56' N	158°16' E	Early Dec.			Late Apr. - Early May	18
Bering, Mys	65°00' N	175°53' W	Late Nov. - Early Dec.			Apr. June	
Chaplina, Mys	64°25' N	172°15' W	Oct.			Early July	
Dashova, Bukhta	51°42' N	173°15' E	Nov.	Late Nov. - Early Dec.		May	
Kalyuzh'	51°29' N	159°11' E	Nov.			Late Mar. - Early Apr.	
Kamchatka	56°15' N	162°10' E	Early Nov.	Early Nov.	Mid-May	Early May	
Kamchatskiy Zaliv	55°15' N	162°21' E	Mid-Nov.			Late Mar.	
Karaga, Bukhta	59°05' N	163°00' E	Dec.			Late Apr.	
Karaginakiy Ostrov	58°40' N	164°00' E	Dec.			June	
Karaginakiy Zaliv	58°55' N	164°00' E	Late Nov.	Late Dec. - Early Jan.	Late Apr.	Early July	
Kazarmenny, Mys	54°56' N	166°15' E	Occasional drift			May or June	
Kichiga	59°48' N	161°24' E	Nov.				
Komandorskiye Ostrova	45°00' N	167°00' E	No fast ice				
Korfa, Zaliv	60°00' N	165°45' E	Late Oct. - Early Nov.			Late May	
Kreata, Zaliv	66°00' N	179°15' W	Mid-Nov.			Mid-June	
Kromotakiy, Zaliv	54°12' N	160°36' E	Mid-Nov.			Late Apr.	
Lavrentiya, Zaliv	57°40' N	171°05' W	Late Oct.			Late June - Early July	
Lilke, Prout	59°00' N	163°25' E	Early Nov.	Dec.		June	
Mayaknyy, Mys (Offshore)	59°45' N	163°25' E	Early Nov.			Mar.	
Mechi	59°45' N	163°25' E	Early Nov.			Early Apr.	

LOCATION	LAT.	LONG.	FIRST ICE	FREEZEUP	BREAKUP	LAST ICE	MAXIMUM THICKNESS (INCHES)
Olyutorskiy, Zaliv	54°29' N	161°40' E	Early Dec.			Early June	
Petropavlovsk	60°15' N	168°10' E	Occasional drift			Mid-Apr. - Mid-June	
Kamchatskiy	53°01' N	158°39' E	Mid-Nov.			May	
Providentia, Bukhta	64°25' N	171°24' W	Late Sep.			Late Apr.	
Raynaya, Guba	52°58' N	158°40' E	Late Nov. - Early Dec.			Late June	
Sarannaya, Bukhta	52°45' N	158°11' E	Mid-Dec.			Late May	
Sibir', Gavan'	60°28' N	160°11' E	Mid-Dec.			Apr.	
Skobleva, Gavan'	60°25' N	160°17' E	Late Oct.			Mid-June	
Skrytaya, Gavan'	60°26' N	160°05' E	Late Oct.			June	
Uda, Zaliv	59°58' N	165°57' E	Late Nov. - Early Dec.			Apr. - Late Apr.	
Uka	57°50' N	162°06' E	Late Nov.			Early July	
Ust-Kamchatsk	56°15' N	162°40' E	Late Dec. - Early Jan.			Late June - Early July	
Vivik	60°14' N	165°26' E	Late Oct.			Early May	
Zhupanova, Mys	53°41' N	159°55' E	Late Dec.			June	

AVERAGE ICE CONDITIONS
U.S.S.R.: SEA OF OKHOTSK

LOCATION	LAT.	LONG.	FIRST ICE	FREEZEUP	BREAKUP	LAST ICE	MAXIMUM THICKNESS (INCHES)
Aniva, Zaliv	46°16' N	142°48' E	Nov.			Late Apr.	
Ayan, Zaliv	56°27' N	138°07' E	Late Oct. - Early Nov.	Late Nov.	Mid-Apr.	Late June	10
Ayan, Zaliv (Offshore)	56°27' N	138°07' E	Late Nov.			Apr.	
Baydukov, Ostrov	53°19' N	141°28' E	Mid-Nov.			Mid-June	
Baykal, Zaliv	53°10' N	142°25' E	Nov.			July	
Bol'shaya	52°46' N	156°12' E	Early Dec.			Mid-Apr.	
Bol'shaya	54°14' N	155°48' E	Dec. (Drift)			Feb. or Mar.	
Vorovskaya	52°57' N	156°16' E	Nov. (Drift)			Apr. May	
Bol'sheretskii	55°00' N	137°42' E	Nov.			Late May - Early June	
Ostrov	54°22' N	141°11' E	Late Nov.			Mid-May	
Chayvo	54°43' N	135°18' E	Late Oct. - Early Nov.	Late Dec. - Early Jan.		July	
Chumikan, Mys	47°21' N	142°48' E	Dec.			May	
Dlinak	61°57' N	160°22' E	Mid-Oct.			Apr.	
Gixiga	61°10' N	158°00' E	Late Oct. - Early June	Late Nov.		Early June	
Gixiginskaya Guba	51°55' N	156°40' E	Mid-Nov.			May	
Golyan	55°40' N	155°16' E	Dec. (Drift)			Apr.	
Icha	45°00' N	148°00' E	Mid-Jan. (Drift)			Late Apr.	
Izurup, Ostrov	51°11' N	150°44' E	Jan.			Apr.	
Karshat'maya	52°50' N	140°31' E	Nov.			June	
Khanpanga, Mys	52°06' N	156°14' E	Early Nov.			Early May	
Khayryyevyy, Mys	53°28' N	156°02' E	Early Dec.			Early Apr.	
Kichik	46°27' N	142°21' E	Nov.			May	
Kirilovo	46°38' N	142°46' E	Late Nov.			May	
Korakov	50°45' N	156°12' E	Jan.			May	
Kovayevskaya	56°07' N	161°57' E	Dec.			Early May	
Krygersa, Bukhta	61°58' N	160°22' E	Oct.			June	
Kurika	53°03' N	141°55' E	Late Oct.			June	
Langry	56°44' N	150°10' E	Nov.			June	
Murushchaya	53°17' N	142°50' E	Late Oct. - Early Nov.			June	
Muskal'ov, Farvater	59°24' N	148°30' E	Late Oct. - Early Nov.			Mid-June	
Motitskiy, Zaliv	51°43' N	143°21' E	Late Nov.			Mid-May	
Navil', Reyd	49°12' N	150°40' E	Mid-Nov.			Mid-June	
Nagayeva, Bukhta	61°55' N	159°05' E	Nov.			Apr.	
Nayaklanakaya Guba	51°40' N	148°15' E	Nov.			Early July	
Nikolaya, Zaliv	51°54' N	141°10' E	Nov.			May	
Nyaykiy Zaliv	55°14' N	155°11' E	Dec.			Early Mar.	
Obukovina	59°12' N	152°00' E	Early Nov.			Early to Mid-June	
Odyan, Zaliv	53°13' N	143°00' E	Nov.			Early June	
Okha	59°23' N	143°18' E	Mid-Nov.			Late May - Early June	

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FREEZEUP AND BREAKUP DATES

AVERAGE ICE CONDITIONS
U.S.S.R.: SEA OF OKHOTSK (CONT'D)

LOCATION	LAT.	LONG.	FIRST ICE	FREEZEUP	BREAKUP	LAST ICE	MAXIMUM THICKNESS (INCHES)
Ol'ekiy Reyd	59°11'N	151°18'E	Early to Mid-Nov.	Mid-Nov.	Mar.	Apr.	63
Opala	51°58'N	156°30'E	Late Nov.			Late Mar.	
Oskernaya	51°28'N	156°29'E	Mid-Jan.			Apr.	39
Palana	59°03'N	159°48'E	Mid-Nov.			Apr.	
Paramushir, Ostrov	50°25'N	155°50'E	Late Dec. (Drift)				
Penzhina	62°28'N	165°18'E		Early Nov.	Late Apr.-Early May	June	60
Penzhinskaya Guba	61°00'N	162°00'E	Nov.		May	June	24
Perivolochnyy, Zaliv	59°30'N	154°18'E	Nov.		May	June	39
Poronay	49°13'N	143°08'E	Late Nov.			Mid-Apr.	
Rechnoy, Zaliv	59°21'N	151°45'E	Early Nov.			Early to Mid-June	
Sakhalinskiy Zaliv	51°45'N	141°30'E	Late Oct.	Mid-Nov.	June	July	
Severnyy Zaliv	54°22'N	142°25'E				Late June-Early July	
Severo-Kuril'sk	50°40'N	156°08'E	Jan.			May	
Shantarakiye Ostrova	45°00'N	137°36'E	Late Oct.-Early Nov.	Early Dec.	Early June	Early July	
Shantarakiye More	54°41'N	137°15'E	Nov.	Early Dec.	Early June	July	60
Shelakhova, Zaliv	59°45'N	158°00'E	Nov.			Early July	
Sinushir, Ostrov	46°58'N	152°02'E	Late Mar. (Drift)			Apr.	60
Spafar'yeva, Ostrov	59°10'N	149°03'E	Early to Mid-Nov.			Mid-June	
Tauyok	59°43'N	149°16'E	Nov.		May	Early June	39
Tauyskaya Guba	59°20'N	150°20'E	Nov.		Early May	Mid-June	
Tigil'	58°03'N	158°12'E	Mid-Oct.			Late Apr.	
Tomari-Aniva, Mys	46°36'N	142°47'E	Jan.			Late Mar.	3
Tugurskiy Zaliv	54°00'N	137°00'E	Late Oct.-Early Nov.			Late Mar.	
Uda	54°42'N	135°14'E		Late Oct.	Mid-May	Early July	
Udakaya Guba	54°50'N	135°45'E	Early Nov.		Mid-May	Mid or late June	
Ul'banskiy Zaliv	54°38'N	137°45'E		Probably Nov.	June		
Ul'beys	59°25'N	144°26'E	Early Dec.	Late Oct.	Mid-May		
Urki, Reyd	53°14'N	143°05'E	Late Nov.			Mid-May	
Ust'-Roi'sheretsk	52°48'N	156°14'E				Apr.-May	
Ust'-Penzhino	62°30'N	165°10'E				June	
Ust'-Tigil'	58°01'N	158°12'E	Nov.	Dec.		May	
Viliga	61°36'N	158°54'E	Nov.	Jan.		Apr.	
Voyampolka	58°30'N	159°10'E	Early Dec.			Early Apr.	
Yama	59°15'N	154°14'E	Oct.	Nov.	May	June	39
Yamak	59°15'N	154°10'E	Early to Mid-Nov.				
Yamakaya Guba	59°40'N	154°25'E	Nov.	Late Dec.-Early Jan.	Late May-Early June		39
Yushnyy, Mys	57°45'N	156°45'E	Late Nov.			Early Apr.	
Zav'yaloova, Ostrov	59°03'N	150°17'E	Dec.		Late May	June	

AVERAGE ICE CONDITIONS
U.S.S.R.: SEA OF JAPAN (INCLUDING TATAR STRAIT) (CONT'D)

LOCATION	LAT.	LONG.	FIRST ICE	FREEZEUP	BREAKUP	LAST ICE	MAXIMUM THICKNESS (INCHES)
Larionova, Mys	43°05'N	131°50'E	Late Nov.		Late Mar.	Late Apr.-Early May	
Meikovodnaya, Bukhta	42°50'N	133°37'E	Early Dec.			Early Mar.	48
Milyutina, Mys	49°02'N	140°20'E	Early Nov.		Apr.	Apr.	
Muneron, Ostrov	46°15'N	141°15'E	Jan.	None	None	Mar.	
Musnlova, Bukhta	51°14'N	140°40'E	Early Nov.		Mid-Mar.	Mid-May	
Mozir, Mys	50°03'N	142°10'E	Early Dec.			Mid-Apr.	30
Murav'inyy, Zaliv	43°15'N	132°20'E	Dec.	Jan.		Apr.	
Nakato, Mys	51°21'N	140°47'E	Early Nov.		Mid-Mar.	Mid-May	12
Nakhodka	42°48'N	132°52'E	Late June			Apr.	
Nakhodka, Bukhta	42°47'N	132°52'E	Early Dec.			Mid-Apr.	
Nayezdnik, Bukhta	42°44'N	132°24'E	Jan.	Generally ice free		Apr.	24
Nazimova, Bukhta	42°58'N	130°47'E	Late Nov.		Mid-Feb.	Apr.	
Nazimova, Mys	46°40'N	141°51'E	Early Jan. (Drift Ice)			Late Mar.	
Nevel'sk	48°59'N	140°17'E	Late Nov.			Mid-May	
Nikolaya, Mys	53°08'N	140°44'E	Early Nov.	Mid-Nov.	Mid-May	Late May-Early June	35
Nikolayevsk-na-Amure	43°30'N	135°12'E	Jan.			Mar.	
Niznennyy, Mys	42°39'N	130°51'E	Nov.	Late Dec.	Late Feb.	Apr.	24
Novgorodskaya, Bukhta	41°14'N	132°02'E	Late Nov.		Early Apr.	Mid-Apr.	
Okeanskaya	43°45'N	135°18'E	Mid-Dec.		Mid-March	Early Apr.	18
Ol'ga	43°42'N	135°14'E	Late Dec.			Mid-Apr.	24
Ol'gi, Zaliv	43°42'N	135°14'E	Late Dec.			Apr.	
Ol'gi, Zaliv (Offshore)	44°47'N	136°05'E	Early Dec.			Late Mar.	
Oprichnik, Zaliv	48°51'N	141°55'E	Nov.			Late Mar.	
Orlova, Mys	42°49'N	131°44'E	Dec.			Mar.	More than 12
Ostrovnoy, Mys	42°35'N	130°48'E	Dec.			Apr.	
Pallady, Reyd	43°04'N	131°57'E	Dec.			Apr.	
Patroki, Bukhta	43°12'N	131°42'E	Early Dec.			Apr.	
Paschanyy, Poluostrrov	42°40'N	132°00'E	Dec.			Mar.	24
Petra Velikogo, Zaliv	43°21'N	134°48'E	Late June			Early Mar.	
Pkhusun, Bukhta	44°44'N	136°22'E	Early Dec.			Late Mar.	
Plastun, Bukhta	42°39'N	130°54'E	Late Dec. (Drift Ice)		Mar.	Late Mar.	
Pon'yeta, Zaliv	42°41'N	133°02'E	Early Feb. (Drift Ice)			Early Mar.	
Povorotnyy, Mys	42°54'N	134°55'E	Early Dec.			Late Mar.	
Preobrazheniya, Bukhta	52°52'N	141°15'E	Early Nov.	Late Nov.	Mid-May	Late May	54
Prunge, Mys	42°39'N	131°28'E	Jan.	Dec.		Mar.	9
Rimaskogo-Korsakova, Ostrov	41°00'N	131°48'E	Dec.			Mid-Apr.	30
Russkiy, Ostrov	44°46'N	136°22'E	Dec.			Late Apr.	
Rynda, Zaliv							

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AVERAGE ICE CONDITIONS
U.S.S.R.: SEA OF JAPAN (INCLUDING TATAR STRAIT)

LOCATION	LAT.	LONG.	FIRST ICE	FREEZEUP	BREAKUP	LAST ICE	MAXIMUM THICKNESS (INCHES)
Abrek, Bukhta	42°56'N	132°24'E	Early Dec.		Mar.	Early Mar.	6
Aghevo	50°34'N	142°05'E	Dec.			Apr.	
Aleksandri, Zaliv	54°15'N	138°00'E	Nov.			Mid-June	
Aleksandrovsk							
Sakhalinskiy	50°54'N	142°10'E	Late Nov.	Late Dec.	Mid-Mar.	Late Apr.	54
Amerika, Zaliv	42°48'N	132°57'E	Late Dec.			Mid-to Late Mar.	
Amurskiy Liman (Center)	52°50'N	141°10'E	Early Nov.	Mid-Nov.		Late May	60
Amurskiy Zaliv (Center)	43°10'N	131°50'E	Nov. (Drift Ice)	Late Dec.	Late Mar.	Apr.	36
Amurskiy Zaliv (East Side)	43°10'N	131°50'E	Nov.				36
Amurskiy Zaliv (West)	43°10'N	131°50'E	Nov.				24
Andreeva, Bukhta	40°13'N	140°10'E	Early Dec.			Early May	
Ashol'd, Ostrov	42°45'N	132°20'E	Late Dec.			Early Mar.	
Ashol'd, Ostrov	42°45'N	132°20'E	Late Dec.			Apr.	
Bukhina, Bukhta	43°03'N	131°47'E	Dec.				
Baargina, Mys	43°03'N	131°48'E	Mid-Dec.	Jan.	Mid-Feb.	Mar.	
Baydukov, Ostrov	53°17'N	141°28'E	Early Nov.	Mid-Dec.	Early to Mid-May	Late May	
Belkina, Mys	45°50'N	137°41'E	Early Dec.			Late Mar.	
Boena, Mys	49°14'N	140°11'E	Early Dec.			Mid-or Late Apr.	
Boofor Vostochnyy							
Boofor	43°04'N	131°52'E	Dec.	Early Jan.	Mar.	Apr.	
Byrysa, Mys	42°52'N	131°29'E	Dec.			Apr.	
Bychki, Mys	49°45'N	140°30'E	Early Dec.			Late Apr.	
Chakhov	47°26'N	141°59'E	Jan.			Mar.	
Chikhacheva, Ostrov	43°42'N	135°18'E	Mid-Dec.				
Chikhacheva, Zaliv	51°25'N	140°50'E	Early Nov.	Mid-Dec.	Early Apr.	Late May	42
Chikhacheva, Zaliv (Offshore)	51°25'N	140°50'E	Late Nov. (Drift Ice)	Mid-Feb.	Early Mar.	Early May	30
Datta, Mys	49°19'N	140°27'E	Early Dec.			Late Apr.	
De-Kastri	51°28'N	140°47'E	Mid-Nov.		Apr.	May	
Dzhakore, Mys	52°19'N	141°18'E	Early Nov.	Late Nov.	Mid-May	Early June	45
Ekspedititsi, Bukhta	42°40'N	130°45'E	Late Nov.	Late Dec.	Late Mar.	Apr.	At least 24
Fredarika, Bukhta	51°24'N	140°43'E	Dec.		Mar.	Early Apr.	
Furugel'ma, Ostrov	42°28'N	130°56'E	Dec.			Mar.	
Gamova, Mys	42°33'N	131°12'E	Mid-Dec.			Late Mar.	
Gaydamak, Bukhta	42°52'N	132°41'E	Dec.			Apr.	
G'inskii	47°59'N	142°13'E	Late Dec.			Apr.	
Kholsk, Port	47°03'N	142°03'E	Mid-Dec.			Early May	12
Kopli	48°33'N	140°10'E	Early Dec.				
Krasnyy Partizan, Mys	48°58'N	140°23'E	Mid-Dec.			Early May	
Kloster-Kamp, Mys	51°26'N	140°50'E	Late Nov.-Early Dec.		Late Mar.	Apr.	
La Perouse Strait	45°45'N	142°00'E	Mid-Jan.			Mid-Mar.	

AVERAGE ICE CONDITIONS
U.S.S.R.: SEA OF JAPAN (INCLUDING TATAR STRAIT) (CONT'D)

LOCATION	LAT.	LONG.	FIRST ICE	FREEZEUP	BREAKUP	LAST ICE	MAXIMUM THICKNESS (INCHES)
Sedimi, Bukhta	43°00'N	131°31'E	Early Dec.			Mid-Apr.	
Shirokaya Pad'	50°14'N	142°09'E	Early Dec.			Apr.	
Siziman, Bukhta	50°43'N	140°27'E	Early Dec.			Late Apr.	
Skrypleva, Ostrov	43°02'N	131°57'E	Dec.	Jan.	Early Feb.	Mar.	21
Slavyanskiy, Zaliv	42°55'N	131°23'E	Early Dec.	Late Dec.	Mar.	Mid-Apr.	42
Suvetskaya Gavan'	49°01'N	140°18'E	Mid-Nov.		Late Mar.-Early Apr.	Late May	
Strel'ok, Zaliv	42°53'N	132°05'E	Late Dec.-Early Jan.			Early Mar.	
Sudzhukhe, Bukhta	42°50'N	131°40'E	Early Dec.	Jan.		Early Apr.	30
Sukhodol, Bukhta	43°11'N	132°22'E	Early Dec.	Late Nov.	Mid-Apr.	Mid-to Late Apr.	
Suyfun	43°20'N	131°49'E	Nov.			Late Mar.	
Tadushli, Bukhta	44°09'N	135°40'E	Early Dec.	Mid-Nov.	Mid-May	June	
Tatar Strait	50°00'N	141°00'E	Nov.			Late Mar.	
Terney, Bukhta	45°01'N	136°42'E	Early Dec.			Late Mar.	
Tetyukhe	44°21'N	135°50'E	Jan.			Late Mar.	
Tokarevskogo, Mys	45°05'N	131°51'E	Late Nov.-Early Dec.	Late Dec.	Mar.	Apr.	27
Uglegorak	49°05'N	142°02'E	Early Dec.			Late Mar.	12
Uspeniya, Bukhta	42°50'N	134°44'E	Early Dec.			Early Mar.	
Usuriyskiy, Zaliv	43°00'N	132°12'E	Late Dec.-Early Jan.			Mid-Apr.	30
Valentin, Bukhta	43°07'N	134°20'E	Early Dec.			Early Mar.	
Vanina, Bukhta	49°05'N	140°18'E	Early Dec.			Late Apr.	
Veseliy Yar	43°54'N	135°28'E	Late Nov.			Apr.	24
Vialkhu, Zaliv	51°36'N	141°55'E	Nov.			Late Apr.	
Vladimira, Zaliv	43°54'N	135°30'E	Early Dec.	Mid-Dec.	Mid-Feb.	Early Apr.	24
Vladivostok	43°08'N	131°54'E	Early Dec.		Mar.	Early to Mid-Apr.	39
Vostok, Zaliv	42°50'N	132°44'E	Early Dec.	Late Dec.		Early Mar.	
Voyevoda, Bukhta	43°00'N	131°47'E	Dec.			Mid-Apr.	
Vozvrashcheniya	49°59'N	142°08'E	Mid-Dec.	Dec.	Mid-Mar.	Early Apr.	
Yegorova, Mys	44°48'N	136°27'E	Dec.			Mar.	
Yevataliya, Bukhta	43°27'N	134°59'E	Late Jan.			Early Mar.	
Zhunkiyer, Mys	50°54'N	142°07'E	Early Dec.	Late Dec.	Early Mar.	Late Apr.	51
Zlotoy, Mys	47°19'N	139°00'E	Mid-Nov.			Late Mar.	

FREEZEUP AND BREAKUP DATES

AVERAGE ICE CONDITIONS JAPAN

LOCATION	LAT.	LONG.	FIRST FAST ICE	FIRST DRIFT	FREEZEUP	BREAKUP	LAST ICE	MAXIMUM THICKNESS (INCHES)	
Abashiri-Wan	44° 00 N	144° 30 E	Dec.	Mid-Jan	Dec.	Jan.	Mid-Apr.	60	
Abashiri-Kō	44° 01 N	144° 17 E	Dec.	Mid-Jan			Late Apr.		
Akkeshi-Kō	43° 02 N	144° 54 E	Early Feb.	Mid-Feb.		Early Mar.	Late Apr.		
Goyomai-Kaikyo	43° 24 N	145° 50 E		Early Feb.			Late Mar.-Mid-Apr.		
Itakodate Wan	41° 48 N	140° 40 E	L o c a l	i c e o n r a r e o c c a s i o n s					
Hamanaka Wan	43° 07 N	145° 10 E	None	Late Feb.			Early Apr.		
Hanasaki-Byōchi	43° 16 N	145° 35 E	None	Late Feb.			Apr.		
Hokkaido (Northern Coast)	45° 30 N	143° 00 E	Dec.	Early Jan	Jan.	Mar.	Late Apr.-Early May		
Hokkaido (Eastern Coast)	43° 30 N	145° 15 E	Dec.				Apr.		
Hokkaido (Western Coast)	44° 00 N	141° 45 E	D r i f t i c e i n n o r t h e r n p o r t i o n,				J a n. -- A p r.		
Hokkaido (Southern Coast, Eastern Part)	43° 00 N	144° 30 E	Dec.	Mid-Jan.-Early Feb.			Late Mar.-Mid-Apr.		
Hokkaido (Southern Coast, Western Part)	42° 30 N	142° 00 E	Jan.		None	None	Mar.		
Ishikara-Gawa	43° 15 N	141° 23 E	Mid-Nov.		Mid-Dec.	Mid-Feb.	Mar.		
Kushiro-Kō	42° 59 N	144° 22 E	Early Dec.	Early Mar.		Late Mar.	Late Apr.		
Mombetsu Kō	44° 21 N	143° 22 E	Dec.	Early Jan.			Late Apr.		
Muroran Kō	42° 21 N	140° 59 E	Feb.				Feb.		
Nemuro-Kaikyō	44° 00 N	145° 20 E	Late Nov.	Early Feb.	Dec.	Mar.	Early May-Late Apr.		
Nemuro-Kō	43° 20 N	145° 35 E	Mid-Dec.	Feb.	Early Jan.	Late Mar.	Late Apr.		
Notsuke-Suidō	43° 35 N	145° 25 E	Dec.	Feb.	Dec.		Late Apr.		
Rishiro-Tō	45° 11 N	141° 15 E		Jan.			Mar.		
Rumoi-Kō	43° 57 N	141° 38 E	D r i f t i c e o n r a r e o c c a s i o n s						
Sakanoshita-Wan	45° 21 N	141° 38 E					Apr.		
Saroma Kō	44° 08 N	143° 50 E	Dec.		Dec.	Apr.	May		
Shiretoko Misaki	44° 21 N	145° 20 E	Dec.	Jan.			Apr.		
Sōya Misaki	45° 31 N	141° 56 E	Dec.	Early Jan.			Late Apr.		

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AVERAGE ICE CONDITIONS KOREA

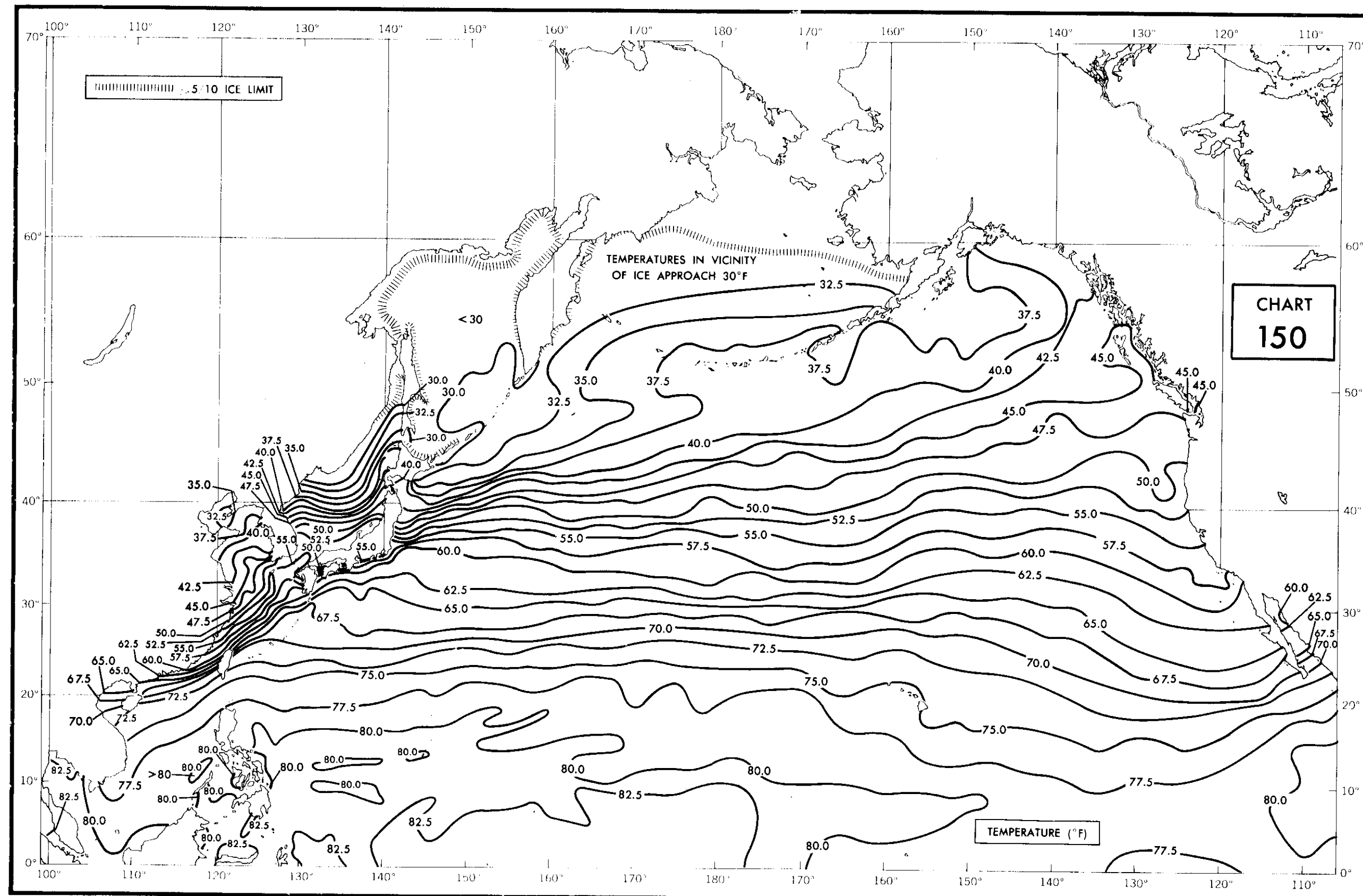
LOCATION	LAT.	LONG.	FIRST ICE	BREAKUP	LAST ICE	MAXIMUM THICKNESS (INCHES)
Korea Bay	39°00 N	124°00 E	Dec. (Grease)		Mar.	2-6
Kul-P'o	39°59 N	128°11 E	Dec. (Grease)		Mar.	24
Mayang-Do	40°00 N	128°12 E	Dec. (Grease)		Mar.	24
Najin-Man	42°08 N	130°15 E	Occasional ice			
Sajin-Man	42°00 N	130°01 E	Generally ice free			
Sinp'o-Hang	40°01 N	128°12 E	Dec. (Grease)		Mar.	
Sinuiju	40°06 N	124°24 E	Early Dec. (Drift)	Early Mar.	Apr.	
Sōsura-Hang	42°17 N	130°36 E	Late Dec. (Drift)		Late Mar.	
Tumen River	42°18 N	130°41 E	Early Dec. (Drift)	Early Mar.	Apr.	
Wōnsan	39°10 N	127°26 E	Dec. (Grease)		Mar.	
Wōnsan-Hang	39°10 N	127°26 E	Late Nov. (Drift)	Mid-March	Late Mar.	

AVERAGE ICE CONDITIONS CHINA

LOCATION	LAT.	LONG.	FIRST ICE	LAST ICE	MAXIMUM THICKNESS (INCHES)
Liaotung, Gulf of	40°30 N	121°30 E	Mid-Nov. (Grease)	Late Mar.	2-6
Po Hai	38°30 N	120°00 E	Mid-Nov. (Grease)	Late Mar.	2-6
Ta-Ku	38°59 N	117°41 E	Dec. (Grease)	Mar.	2-6

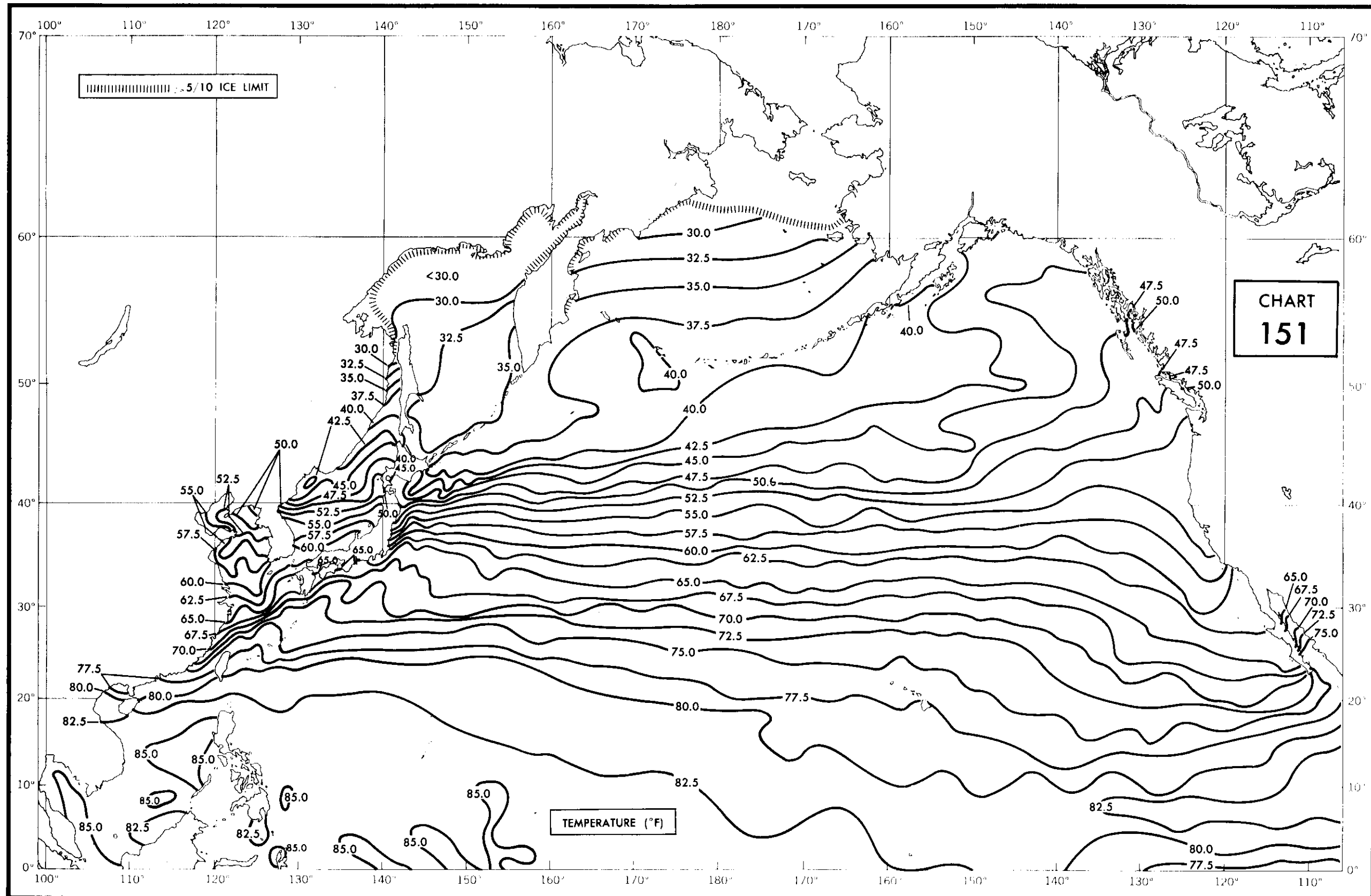
SEA TEMPERATURE

FEBRUARY



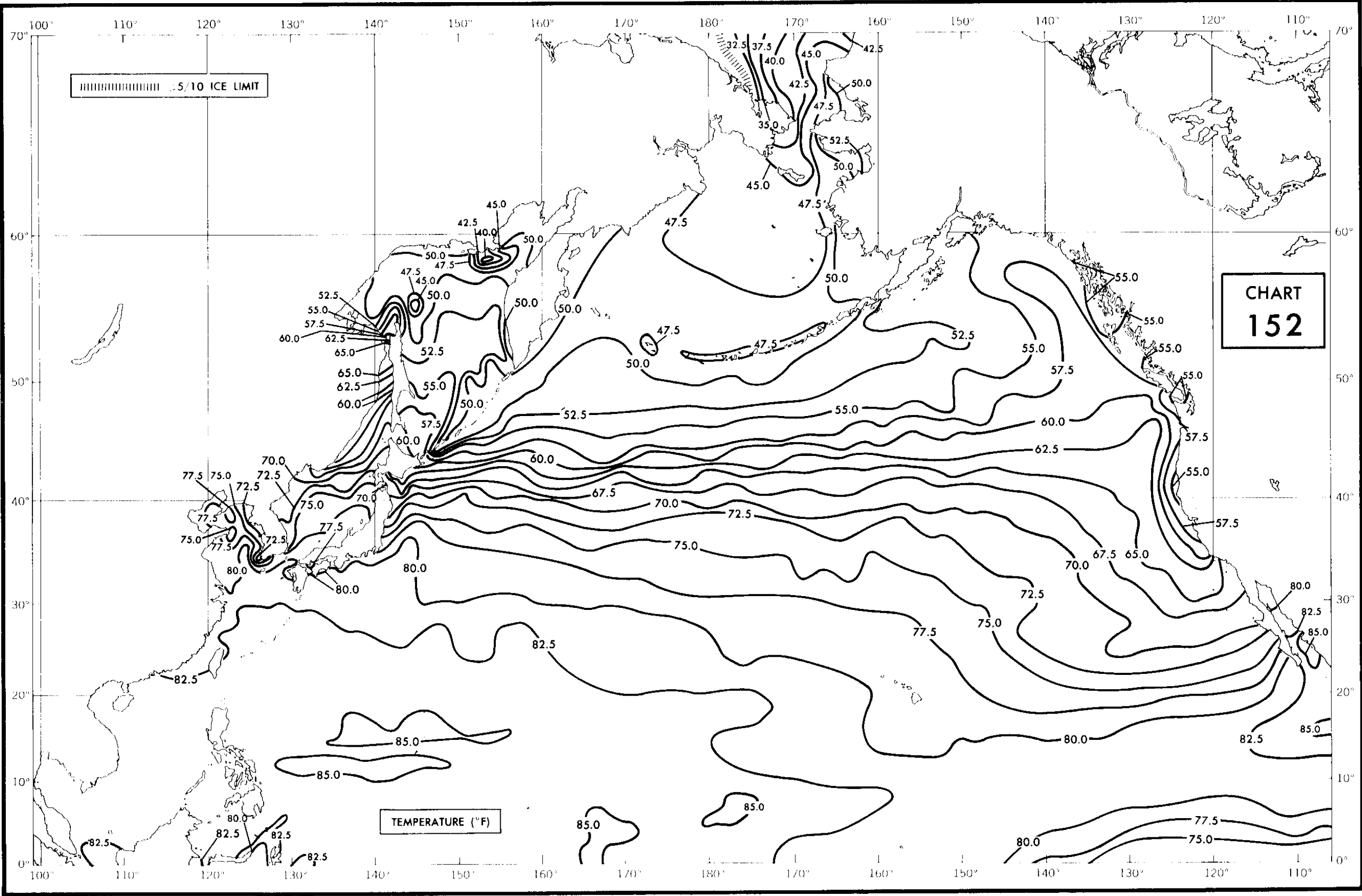
SEA TEMPERATURE

MAY



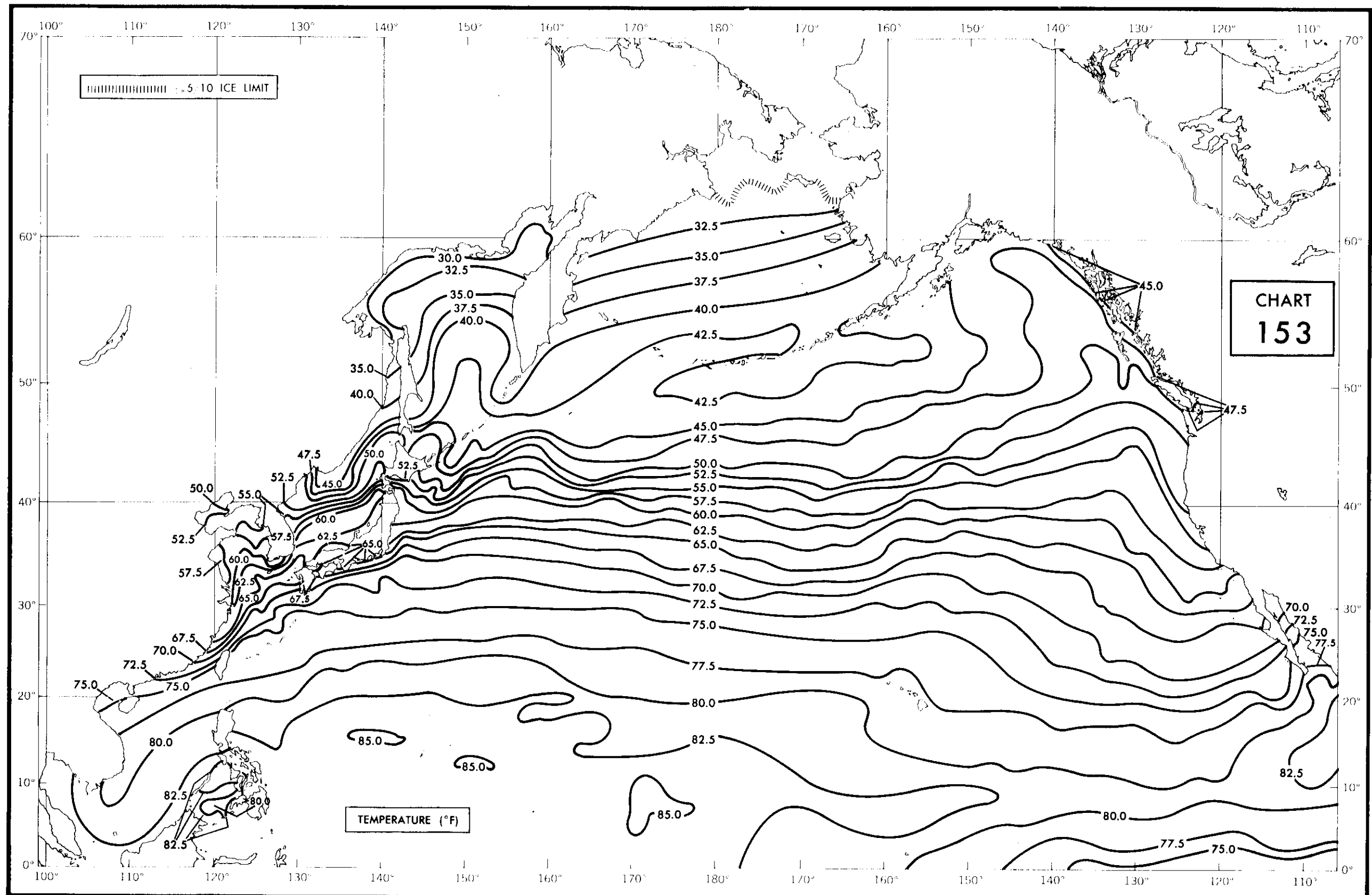
SEA TEMPERATURE

AUGUST



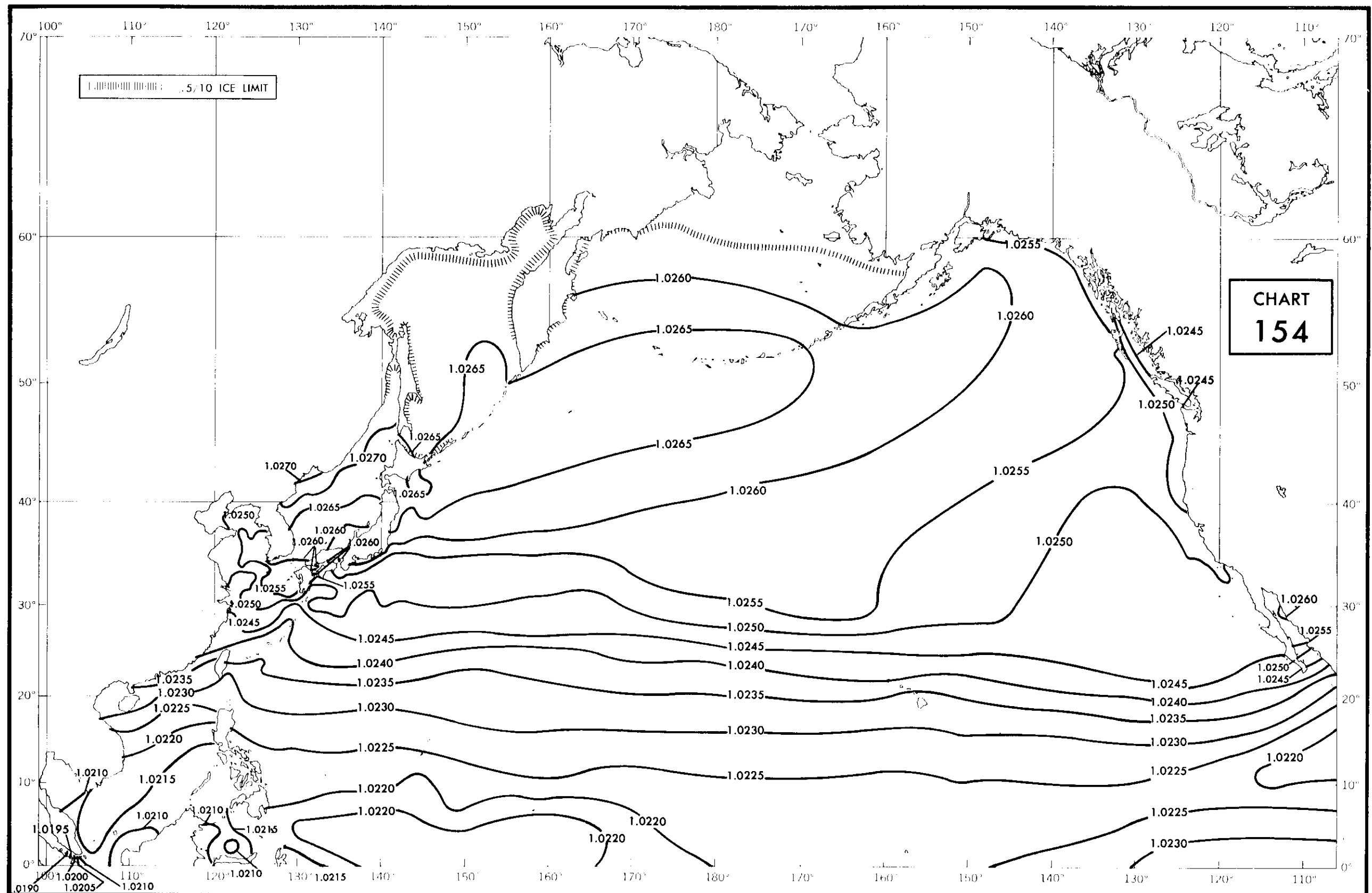
SEA TEMPERATURE

NOVEMBER



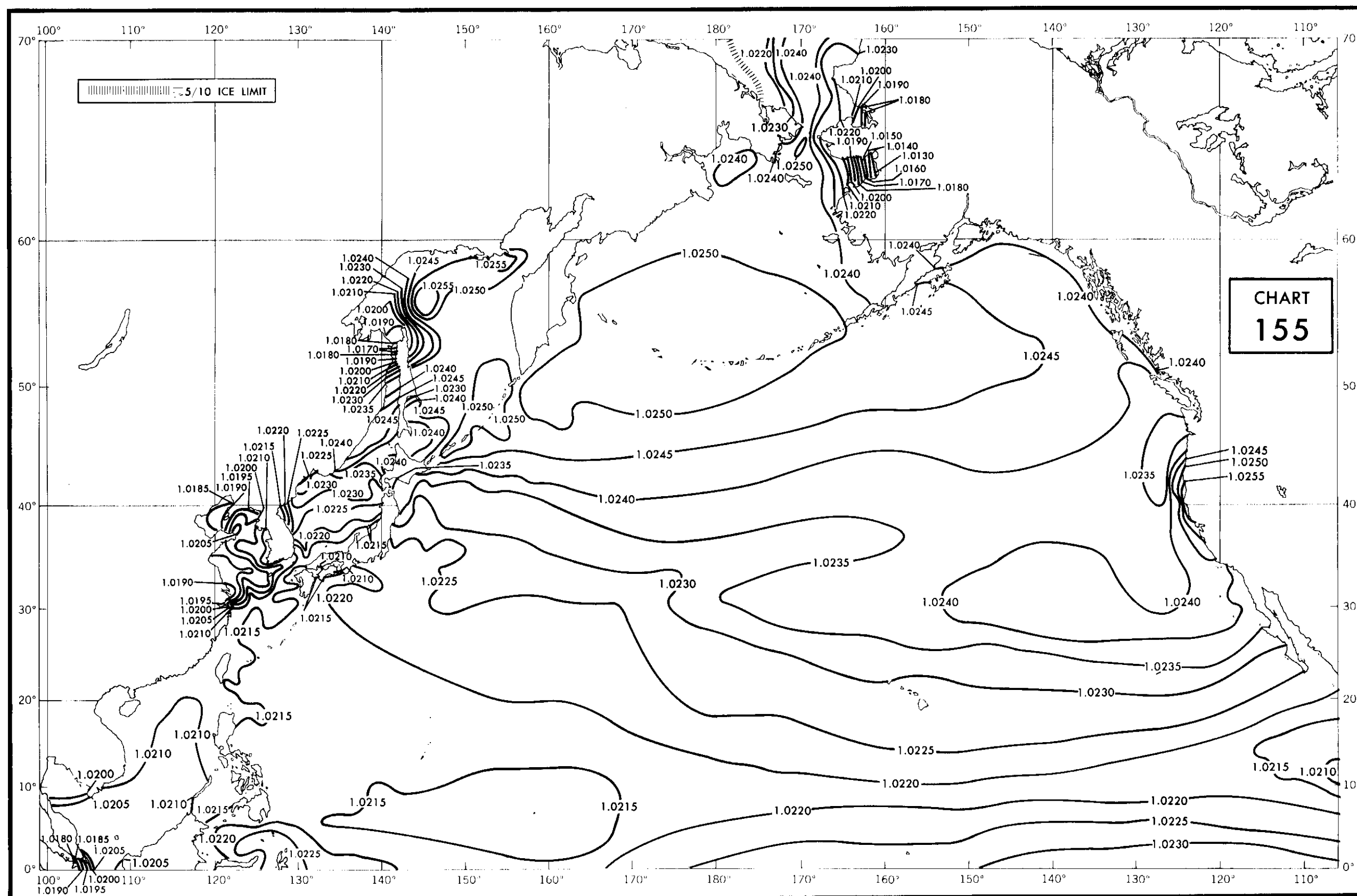
DENSITY

FEBRUARY



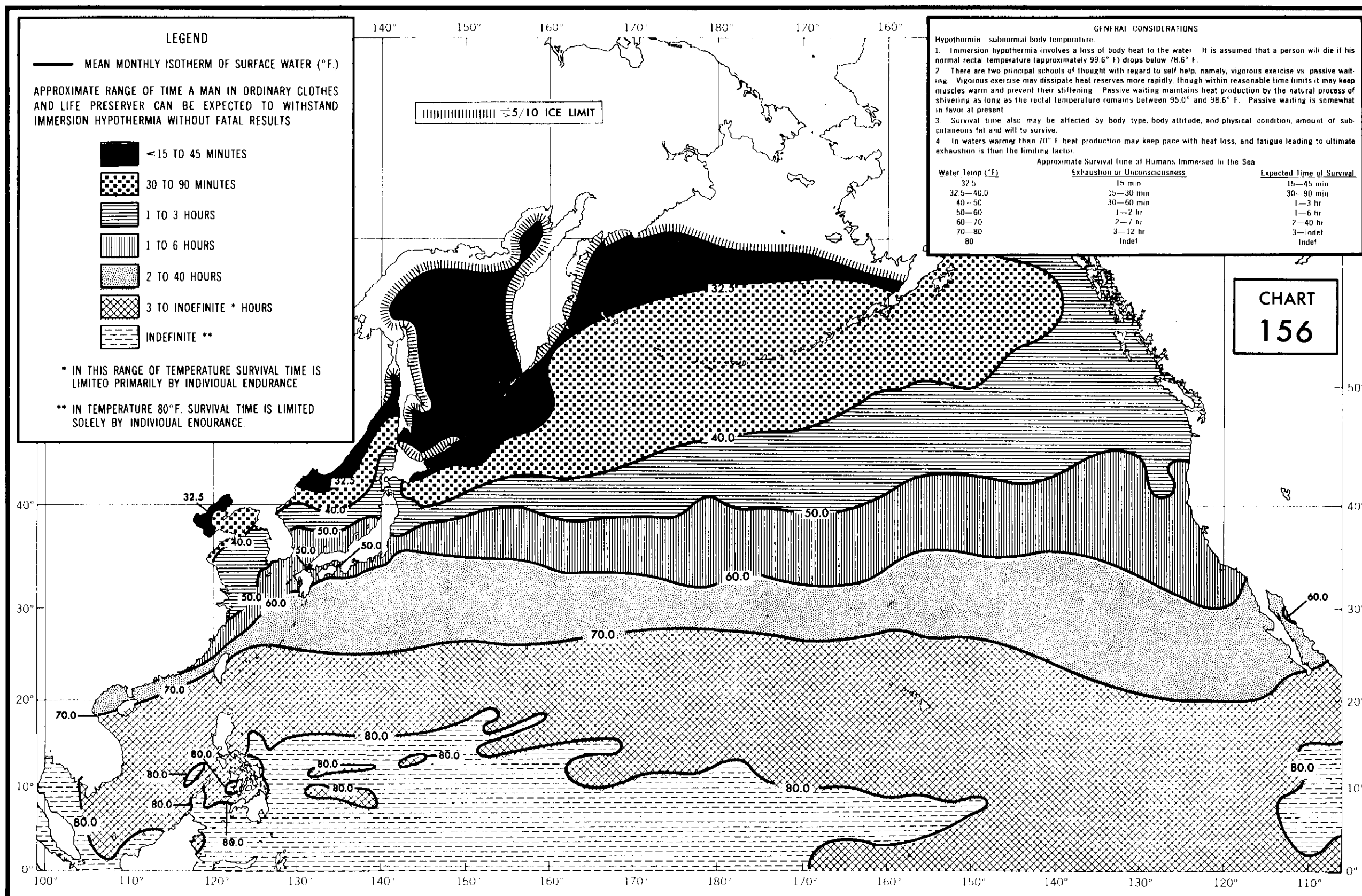
DENSITY

AUGUST



IMMERSION HYPOTHERMIA

JAN.-FEB.-MAR.



IMMERSION HYPOTHERMIA

APR.-MAY-JUNE

LEGEND

MEAN MONTHLY ISOTHERM OF SURFACE WATER (°F.)

APPROXIMATE RANGE OF TIME A MAN IN ORDINARY CLOTHES AND LIFE PRESERVER CAN BE EXPECTED TO WITHSTAND IMMERSION HYPOTHERMIA WITHOUT FATAL RESULTS

<15 TO 45 MINUTES

30 TO 90 MINUTES

1 TO 3 HOURS

1 TO 6 HOURS

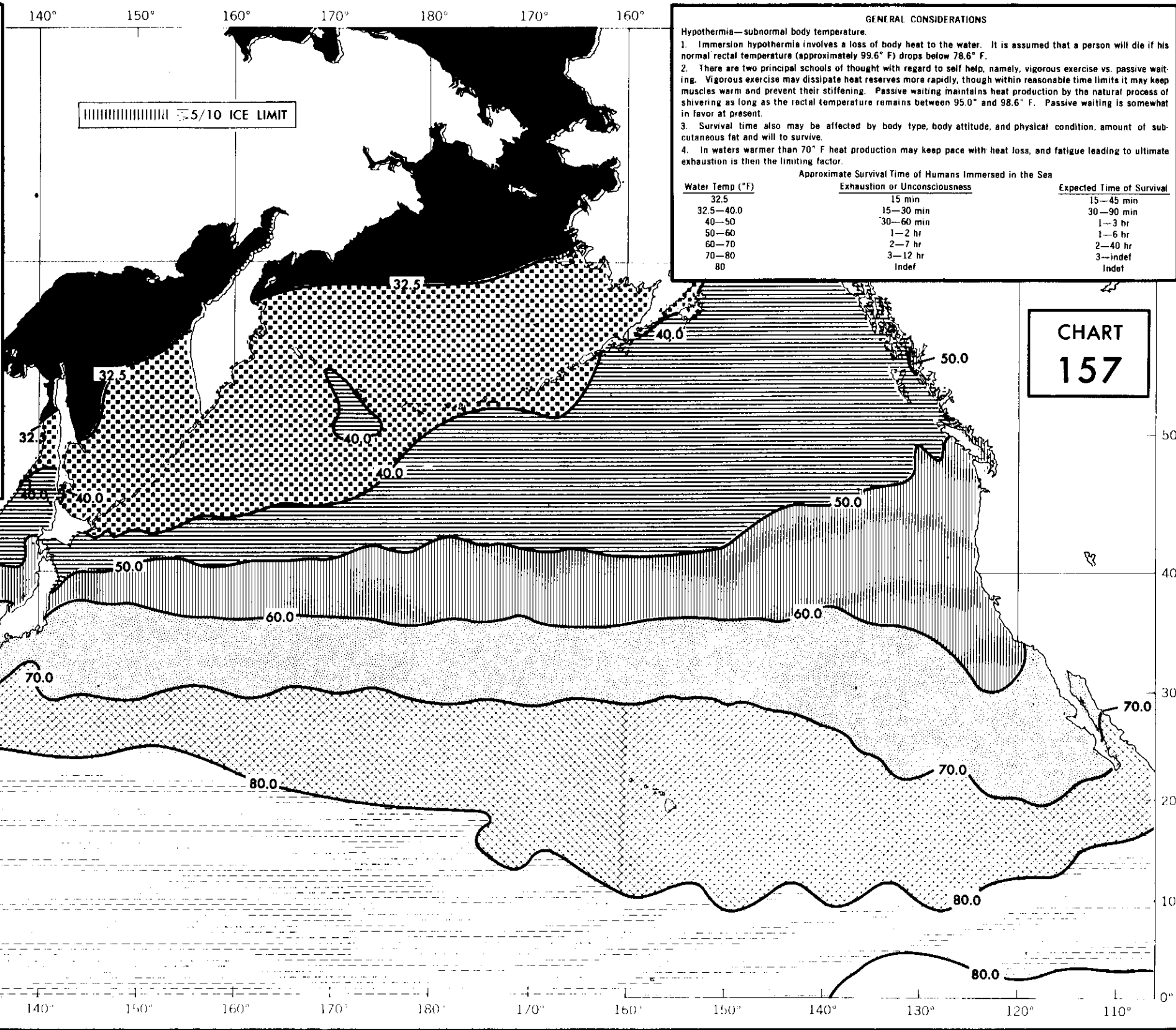
2 TO 40 HOURS

3 TO INDEFINITE * HOURS

INDEFINITE **

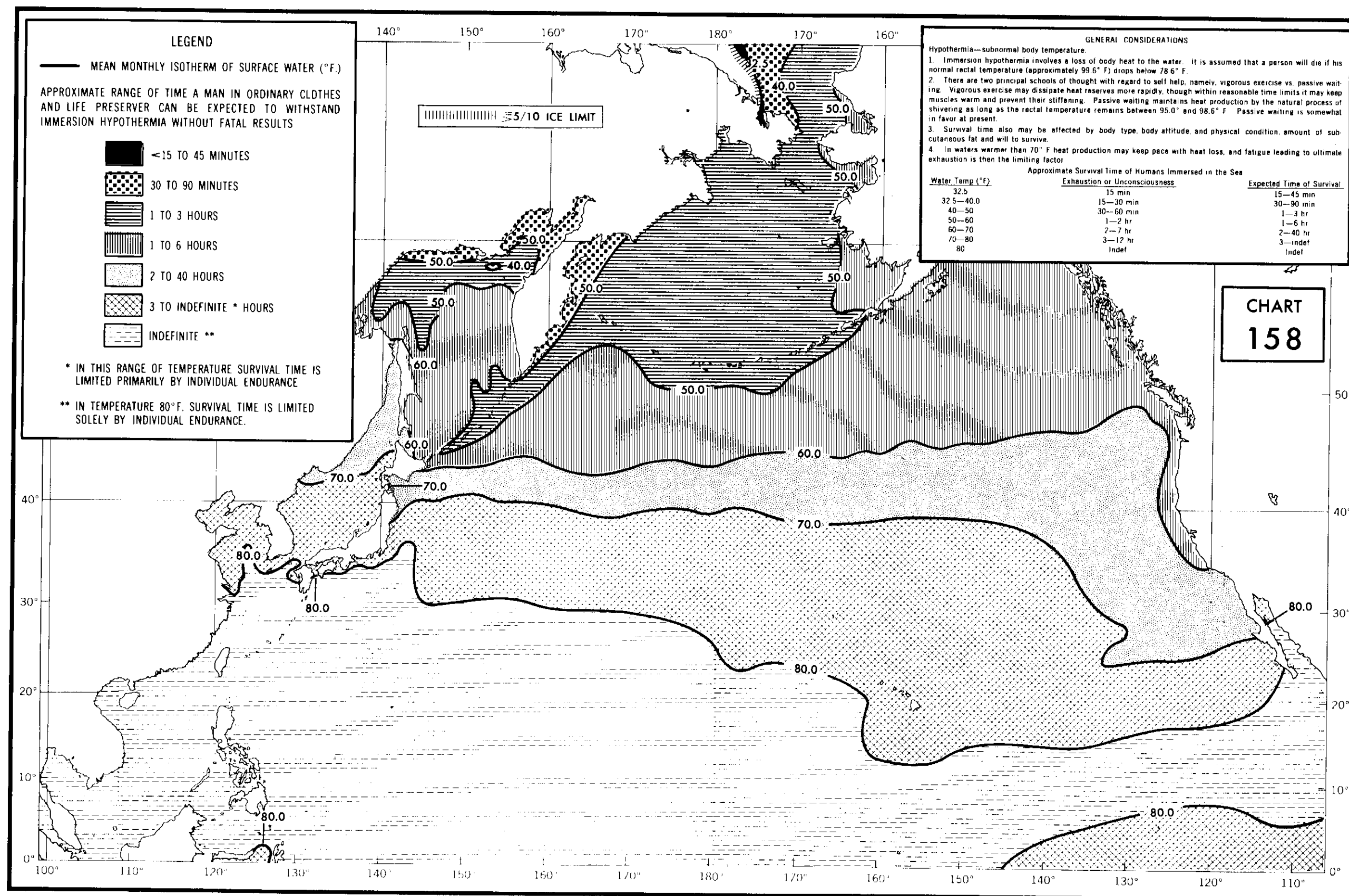
* IN THIS RANGE OF TEMPERATURE SURVIVAL TIME IS LIMITED PRIMARILY BY INDIVIDUAL ENDURANCE

** IN TEMPERATURE 80°F. SURVIVAL TIME IS LIMITED SOLELY BY INDIVIDUAL ENDURANCE.



IMMERSION HYPOTHERMIA

JUL.-AUG.-SEPT.



IMMERSION HYPOTHERMIA

OCT.-NOV.-DEC.

