CHAPTER 6
Yokosuka, Japan

1. Local Geography

a. Kanto Plain. The Kanto Plain, located at the "elbow" where Honshu curves from a north-south orientation to east-west, is Japan's largest plain. Extending north of Yokosuka, it encompasses 8,100 square miles. It is bordered on the west by the mountains of central Honshu and on the south, east and northeast by the Pacific Ocean. Most of the land in the Kanto Plain is flat low coastal terrain with small, scattered hills.

b. Mountains. The Japanese Islands are so rugged that only one-sixth of the land is arable. The remaining land consists of mountains, forests and pine-covered shorelines. There are three major mountain ranges in Japan. These mountain systems form a series of backbones running through the islands with relatively small plains lying between the mountains and surrounding seas. The principal mountain chain, the Japan Alps, is located in the central section of Honshu, see figure 6-1. These mountains average 5,000 to 12,000 feet in elevation, with Mount Fuji (located 60 miles west of Yokosuka) reaching 12,388 feet (3,776 meters).

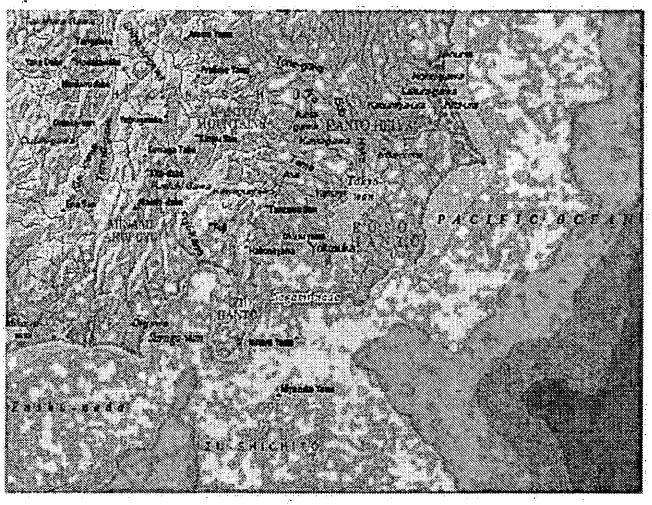

FIGURE 6-1. EASTERN HONSHU GEOGRAPHY

c. Miura Peninsula. Yokosuka is located on the eastern side of the Miura Peninsula. This peninsula is hilly, with an average height of 300 feet and highest peak at about 600 feet.

d. Tokyo Bay and Approaches. Tokyo Bay is east of

Yokosuka, oriented in a north-south direction, and is approximately 35 miles in length and 15 miles wide. The approaches to Tokyo Bay are defined as those water areas north of 34.5° N that lead to Tokyo Bay.

2. Seasonal Climate. The seasonal position of the polar front will define the seasons of the Kanto Plain. Intensification of the Asian High during the fall and the winter months causes cool, relatively dry air to be advected over the local area. Autumn is the area's most pleasant season, with mostly clear skies and cool temperatures. Snow flurries occur occasionally during the late winter with little accumulation. The number of days with precipitation and the amount of precipitation increase considerably during the Bai-u and Shurin rainy seasons during the months of June/July and September/October, respectively. Mean temperatures generally follow a smooth curve from month to month. The minimum temperatures occur in January and the maximum temperatures occur in August. The six distinct seasons which occur yearly throughout the Kanto Plain are:

a. Spring Season. The month of March marks the start of the Spring season and a transition from the cold dry winter to the summer rainy season, refer to figure 6-2. Increased heating across the interior regions of China begins to significantly erode the dominance of the Siberian high-pressure system. Low-pressure systems will start forming in interior regions of China where normally the Siberian High dominates. As a result, low-pressure systems begin to track closer to the southern coast of Japan, increasing cloudiness and precipitation over Japan during the spring months. Spring is also the time for sea fog to form and advect over the coastal areas. Sea fog forms as the relatively warmer air cools as it passes over a cooler body of water. Severe thunderstorms are extremely rare in spring but gusty winds are occasionally reported across the Kanto plain.

(1) Synoptic pattern: During transition, the polar front begins its northward migration from south of Iwo Jima and Taiwan to near the southern coast of Honshu. As the Asian continent begins to warm up, the Siberian High weakens and moves northwestward and the frequency of polar outbreaks decreases. Occasionally, bubble (migratory, dynamic) highs break off the Siberian High and move eastward across the Sea of Japan and central Honshu, Hokkaido, or Sakhalin Island. During May, weak thermal lows begin to appear over northeast Manchuria and China. The mid-Pacific High begins to intensify and move northwestward. Tropical easterlies also move north in response to the increased incoming solar radiation. The Sea of Okhotsk low retrogrades to

a position over northern Mongolia and the Aleutian low weakens. Migratory lows along the polar front, which remain south of Honshu during the winter, now track much closer to Honshu.

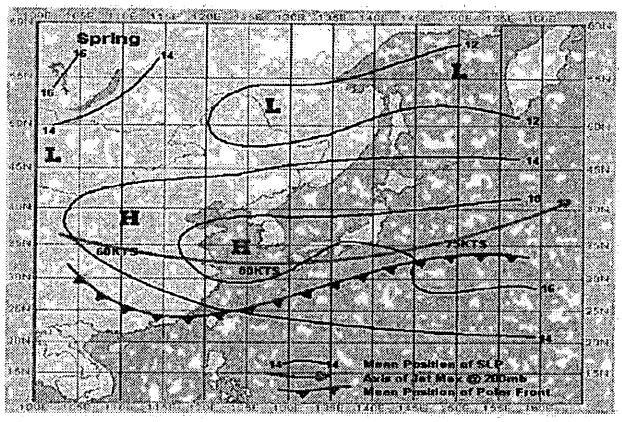

FIGURE 6-2. SYNOPTIC PICTURE OF SPRING: MID-MARCH THROUGH MID-JUNE

(2) Cloudiness and weather: The most significant weather producers during Spring are the migratory lows moving eastward along the front. The lows initially become evident in the Taiwan area and move northeast along the front producing a warm, moist, southeasterly flow over Honshu at the surface and aloft (850 and 700mb). This southeasterly flow increases cloudiness and precipitation, which lasts from 12 to 24 hours over central Japan. Increased cloudiness is associated with more frequent appearances of migratory lows. Cloud cover generally ranges from an average of 5/8ths in April to 7/8ths by the middle of June. As lows pass south of Honshu, expect a broad area of thick clouds and heavy precipitation. Very low ceilings, 800 to 1,000 feet, and poor visibilities, 1 to 3 miles, are common near these lows. Tops may extend from 15,000 to 25,000 feet. During early to mid-June, adverse weather becomes more persistent with stratocumulus layers lowering ceilings for several days as the polar front approaches the area.

(3) Precipitation/obstructions to vision: Precipitation also increases during the Spring, averaging 13 to 16 days per month. Rainfall averages from 4.90 inches in March to 8.50 inches in June. This increased precipitation is a result of the northward migration of the polar front and the attendant warm frontal type weather (overrunning of mT air over modified mP air). Thunderstorms during this time of the year are infrequent, gradually increasing throughout the spring months

from an average of 0.3 thunderstorm days in March to 1.1 thunderstorm days in June. Fog and haze become a forecasting challenge as the occurrence of IFR conditions become more frequent.

(4) Wind: A sea breeze circulation produced by the formation of diurnal low pressure centers over southeastern Honshu cause wind direction to become more southerly during the afternoon hours. Winds will maintain northerly component from evening through midday. Gusty low level winds frequently accompany the eastward migratory lows along the polar front and 20 to 30 kt winds are common. The jet stream weakens considerably and moves northward to northern Japan during the spring season. Two branches often will occur, one over northern Japan and one over southern Honshu. The average wind speed of the jet during the spring season is 80 kts.

(5) Temperature and humidity: Average maximum temperatures increase throughout the spring, from 54° F in March to 75° F in June. Average minimum temperatures show the same trend with 41° F in March to 65° F in June. Humidity increases during the late spring to an average of 75%.

b. Bai-u Season. The Bai-u season, refer to figure 6-3, usually begins in the middle of June and continues until the middle of July. Many Japanese say that the Bai-u begins and ends with a thunderstorm. The Bai-u season is characterized by the polar front lying east-west along the southern coast of Honshu during June. During July, the polar front oscillates from south of the local area to over northern Honshu. During this period, the polar front becomes the most dominant weather feature affecting local weather.

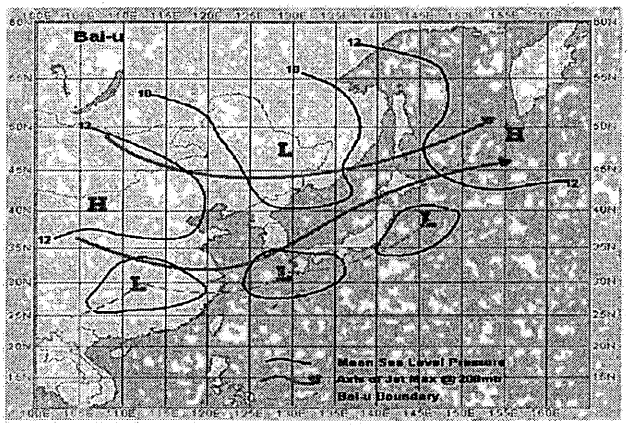

FIGURE 6-3. SYNOPTIC PICTURE OF BAI-U: MID-JUNE THROUGH MID-JULY

(1) Synoptic pattern: The most significant synoptic pattern is that the Bai-u boundary is located between the western Pacific High and the Sea of Okhotsk High. During this time, a large low-pressure area develops across Manchuria and Yangtze River region. At the 500mb level, the Sea of Okhotsk High is depicted as a cut-off high (blocking high) and the continental low is depicted as a cut-off low. The blocking feature is one of the main causes of development of the Bai-u boundary across the Kanto plain. In addition, the jet stream pattern follows closely around the blocking features, with the northern branch of the jet stream flowing north of Manchuria into Kamchatka and the southern branch flowing south of Japan northeastward, then merging with the northern branch over the northwest Pacific. The Sea of Okhotsk High is cold core, generating low-level northeasterly winds across northern Japan and advecting mP air westward. The Sea of Okhotsk High may become a dynamic feature and migrate southwestward across the Sea of Japan or it may become part of a southern branch over eastern Siberia or the Bering Sea. During Bai-u season, the western Pacific High moves northwestward and centers south of Japan in the vicinity of Bonin Island as the western Pacific subtropical ridge. This allows west to southwest winds south of Japan to bring warm, mT air northward around the western edge of the ridge. The Bai-u front lies between the two high-pressure centers and their associated air masses (mT and mP). The front extends from the coast of China near 30° N latitude, eastward along the southern coast of Japan, and into the central Pacific. A series of low-pressure centers generate along the front. These weak lows form in the East China Sea and generally move rapidly eastward under zonal flow with little intensification. In some years, these weak lows move too quickly along the Bai-u boundary across the Kanto plain to produce any measurable precipitation. When that occurs, the Japanese call this the Kara Tsuyu, or a dry rainy season. The southern branch of jet stream intensifies the Bai-u boundary and when this southern branch starts migrating north, the Bai-u season ends. Overrunning occurs when the subtropical ridge forces warm, moist air northward over the cooler air north of the Bai-u boundary. This scenario resembles weather found in advance of a warm front. The slope of the front results in the effects of the overrunning occurring as much as 200 miles north of the surface front. Wind flow aloft is a strong controlling factor of the Bai-u front. Short-wave troughs and other minor impulses, discernible on satellite charts, cause waves to form along the front and generate downstream cyclogenesis. Generally, after a major low passes east of the local area, the Bai-u pattern will become established with mP high pressure to

the north, and the subtropical ridge to the south of southern Honshu. In addition to the lows forming in the East China Sea, a series of small perturbations form along the front near Kyushu and Shikoku. These lows move toward the Kanto plain every 2 to 3 days, producing periods of intermittent or steady rain and fog. At times, the front seemingly dissipates to the south and reforms to the north without any precautions. If a typhoon develops and moves toward Japan during the Bai-u season, precipitation intensity increases temporarily in advance of the developing subtropical ridge and ahead of the leading edge of the typhoon. Often times, a baroclinic leaf develops across Japan and the Sea of Japan. After a typhoon passes the local region, the western Pacific subtropical ridge significantly expands behind the remnants of the tropical system, pushing the Bai-u boundary north, causing fair weather across the Kanto plain. Sometimes this expanding high removes the Bai-u boundary completely.

(2) Cloudiness and weather: Overrunning of mT air over mP air causes unfavorable weather to extend far to the north of the frontal boundary. When the front lies south of Yokosuka, expected conditions are those of typical warm frontal weather with poor visibilities in precipitation and fog, and low ceilings of stratus and stratocumulus clouds. South of the front, mT air mass weather is predominant. When the front moves north of Yokosuka, cumulus type clouds become prevalent.

(3) Precipitation: The overrunning described earlier results in extended periods of precipitation occurring along the frontal zone. In June, rain and drizzle occur at an average of 19 days decreasing slightly to 17 days in July. The amount of precipitation will vary directly with the intensity of the Sea of Okhotsk High. The more intense the High, the more active the front becomes. Precipitation ranges from an average of 8.7 inches in June to 5.7 inches in July.

(4) Wind: The predominant wind direction is southerly with northwest to northeast winds indicating rain, drizzle and fog. A shift to the southwest indicates the possible formation of a small low over Honshu with rain showers embedded in the stratiform clouds. There is a definite sea breeze during the day. An increasing southerly flow during the day increases the chance of rain showers at night. This is particularly true in the mountainous regions. By July, the jet stream has weakened considerably and migrated northward. Wind speeds decrease to 50 to 60 kts with the jet core located between 40,000 and 45,000 feet over northern Honshu and Hokkaido.

(5) Temperature and Humidity: Temperatures slowly begin to increase. The Kanto plain remains relatively cool as it continues under the influence of modified mP air mass. Relative humidity is high, averaging about 88% for June (up from 78% in May). The highest humidity, often 90% or greater, occurs between the hours of 2200 and 0600 local.

c. Summer. The end of the rainy season marks the beginning of summer for Yokosuka, lasting from mid-July through mid-September, refer to figure 6-4. The western Pacific subtropical ridge builds, and warm, moist mT air flows around the western edge of the high pressure with the Asian summer monsoon dominating the weather in the mid-latitudes and Japan.

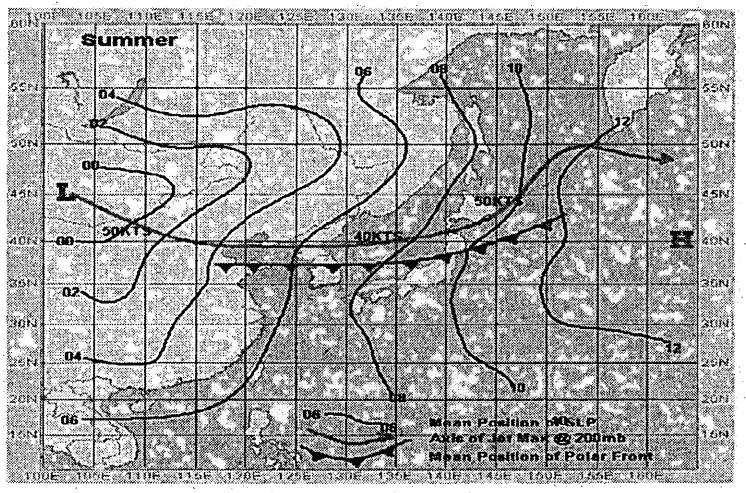

FIGURE 6-4. SYNOPTIC PICTURE OF SUMMER: MID-JULY THROUGH MID-SEPTEMBER

(1) Synoptic pattern: The Siberian High weakens considerably and a seasonal low (Monsoon Vortex) becomes dominant in the interior of China with the Bai-u boundary migrating north out of the Kanto plain, as it extends from Hokkaido westward into Manchuria. By August, the boundary lies over Sakhalin Island and southern Mongolia. The migratory lows forming along the boundary are very weak and affect only northern Honshu and Hokkaido. Occasionally, the polar front reforms south of the local area (southeastern Honshu) when the air mass to the north is modified. In this case, a secondary low forms near Shikoku or Kyushu in response to an upper level trough forming in the Yellow Sea. This low then follows an eastward track across the Sea of Japan. When this occurs, the accompanying precipitation will be similar to the Bai-u type

season.

(2) Cloudiness and weather: Cumuliform clouds associated with mT air are predominant over the local area. The east coast of Japan is now the windward side with northward flowing air lifted orographically by the mountains to the west of Yokosuka. Typically once the summer pattern is established, convective clouds develop by mid-morning and increase during the early afternoon with showers or thunderstorms developing by late afternoon or evening hours. These showers are usually confined to the mountains west of Yokosuka and over the northern Kanto Plain. A forecast of shower activity in the vicinity of Yokosuka generally occurs over the Yokohama, Camp Zama, and Camp Fuji regions. Usually, the cloud conditions, showers, and thunderstorms dissipate rapidly during the late evening hours.

(3) Precipitation: A change in the predominant cloud type (cumulus vice stratus or stratocumulus), with a change in the type of precipitation (showers vice steady precipitation), decreases the amount of precipitation after the Bai-u season. The summertime average is approximately 5.5 inches, falling mostly as showers. Thunderstorms increase during the summer months with an average of 1.7 storms occurring in August, the month of maximum occurrence.

(4) Winds: Winds are generally light and variable during the early morning hours, increasing to an average of 7 to 10 knots from the south or southwest during the afternoon hours. The jet stream migrates to a mean position over eastern China at altitudes from 35,000 to 40,000 feet and wind speed around 50 kts.

(5) Temperatures and humidity: As the rainy season ends the maximum temperature increases rapidly. The prevailing southerly flow of mT air over the Kanto Plain region results in warm temperatures and high humidity, making the summer somewhat oppressive. Due to the cooling effect of the sea breeze, however, Yokosuka reports daytime temperatures frequently lower than those recorded farther inland. August will normally produce the highest temperatures with humidity values often in excess of 80%. When the strong subtropical ridge predominates the Kanto plain, extreme temperatures occur.

d. Fall Shurin. In early September, the polar front begins its migration southward, reaching the Kanto plain and southeastern Honshu by mid-September, refer to figure 6-5. The Kanto plain at this time experiences a fall rainy season which

the Japanese call the Shurin, meaning autumnal light rain. The Shurin does not always occur every year, but if formed, it is generally short lived in comparison to the Bai-u season, lasting about two weeks.

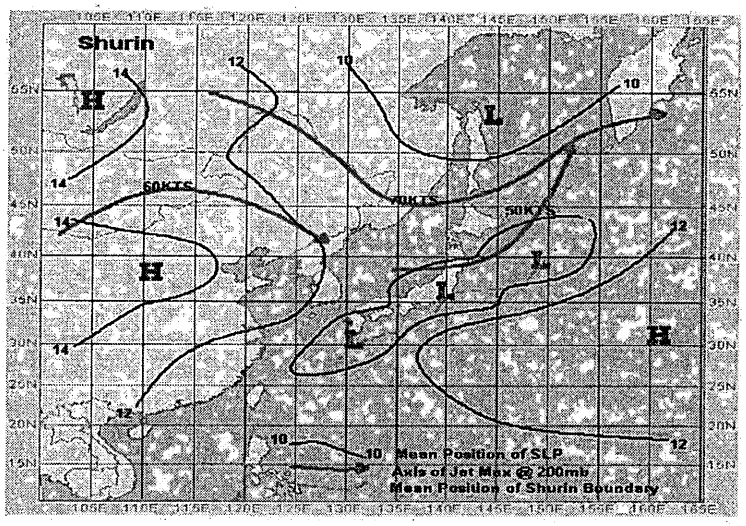

FIGURE 6-5. SYNOPTIC PICTURE OF SHURIN: MID-SEPTEMBER THROUGH MID-OCTOBER

(1) Synoptic pattern: As the polar front slowly moves southward, it is easily recognized in satellite pictures by a wide band of cloudiness. When the front lies to the south of Honshu, weather is characterized by cloudy skies with low ceilings and visibility. The 850mb thermal analysis also will show the front south of Yokosuka, with thermal packing over the area. The cP air mass in Siberia is not yet strong enough to produce anything except weak extra-tropical lows and associated weak cold fronts. The Siberian High begins to build, and by mid-October, center pressure values will exceed 1025mb. The warm core Pacific High begins to weaken and recede to the southeast. A quasi-stationary low-pressure center forms in the Sea of Okhotsk, spawning short-wave troughs in the Sea of Japan. With the polar front transiting south of Japan, the Kanto plain and most of Japan comes under the influence of cooler air originating over Siberia.

(2) Cloudiness and weather: Cloudiness and precipitation increase during the Shurin with warm frontal clouds and rain occurring across the Kanto plain. Extensive mid to high-level clouds occur both sides of the front. South of the polar front, conditions remain similar to that of the summer monsoon. The frequency of fog and haze increases during the Shurin period.

Lower visibilities are also produced by subsidence associated with migratory high-pressure systems.

(3) Precipitation: With the polar front over the local area and the migratory lows moving eastward from the Shanghai area, the frequency of precipitation during September and early October increases to an average of 18 days. Prior to the onset of the Shurin, most of the precipitation is in the form of showers. As the polar front transits south of southeastern Honshu, precipitation takes the form of steady rain or drizzle with prevailing stratiform clouds. Thunderstorms continue to occur, primarily over the mountains west of Yokosuka and the northern Kanto plain.

(4) Winds: The prevailing wind direction changes from south-southwest to north during the Shurin. This trend continues through October with southerly winds occurring less than 10% of the time. A short duration of sea breeze with a return of northerly winds after sunset is common. The jet stream begins to intensify but remains over northern Japan. Two branches of jet become evident. A northern branch extending from Vladivostok to southern Hokkaido at 40,000 feet with wind speeds of 60 to 70 kts, and a southern branch which flows across Korea eastward into the Tokyo area at 40,000 feet with speed of 70 kts. By October, the northern branch dips southward and extends from northern Korea into southern Hokkaido at 38,000 feet with speeds of 80 kts. The southern branch extends from the Shanghai area into southern Honshu at 45,000 feet with speeds of 90 kts.

(5) Temperature and humidity: As the polar front moves south of the local area, both temperatures and relative humidity begin to decrease.

e. Fall. Fall is the transition period between the warm humid summer season and the cold dry winter. The predominant tropical cloudy weather of summer time is replaced by colder, drier, and less cloudy conditions. The primary weather producers during this period are cold frontal systems from the Asian mainland, refer to figure 6-6. On average, one frontal passage per week can be expected. A typical frontal passage is preceded by increasing mid to high cloudiness with light rain and very isolated thunderstorms. Following frontal passage, mostly clear skies can be expected for three or four days. During this clear period, it is very likely for morning fog to form due to radiation cooling.

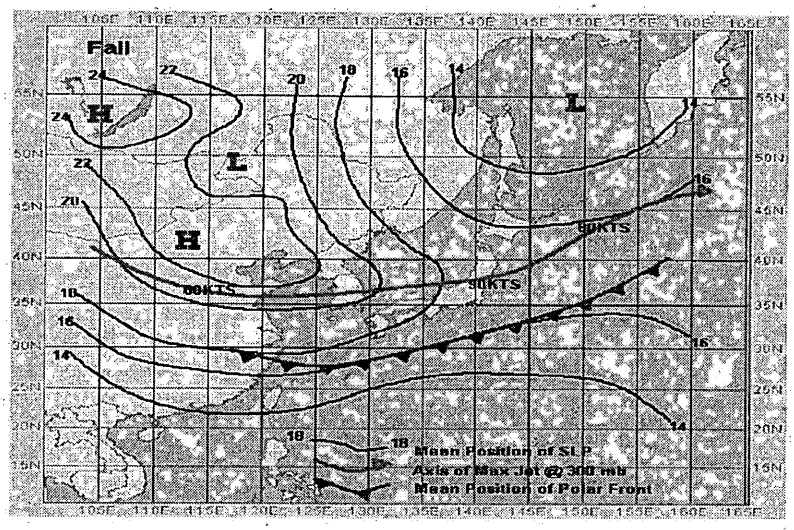

FIGURE 6-6. SYNOPTIC PICTURE OF FALL: MID-OCTOBER THROUGH NOVEMBER

(1) Synoptic pattern: From mid-October through November, the polar air of the northern latitudes forces the polar front well to the south of Japan and cooler, dryer air covers most of Japan. The Siberian High becomes the dominant feature over the Far East. High-pressure cells often break off from the Siberian High and move across the Kanto plain. During this period, the Sea of Okhotsk Low continues to develop. The cP air, after it leaves the Asian mainland, is modified somewhat as it crosses the Sea of Japan. As it descends the eastern slope of the Japanese Alps, the air is warmed adiabatically. It is for these reasons that southeastern Honshu does not experience extremely cold temperatures and why frost does not occur in the Kanto plain until mid-November. As migratory highs slowly move across Honshu from mid-October through December, several weeks of extremely fine summer-like days occur in the local area which the Japanese call Ko-Haru or little spring.

(2) Cloudiness and weather: Cloudiness decreases significantly during the fall with partly cloudy skies prevailing by November. Cloudy skies, if any, are usually associated with an approaching cyclonic disturbance, an approaching upper level trough, or with migratory lows moving north of the Kanto plain. These cyclonic circulations produce a cool, moist, northeasterly, low-level flow.

(3) Precipitation: The amount of precipitation decreases after the polar front moves well to the south of the area. Morning fog and afternoon haze can affect visibility

during late October. As the fall season progresses, the likelihood of fog will decrease as the occurrence of haze will increase. Freezing temperatures and some snow can be expected in the extreme northern part of Honshu. Freezing temperatures and snow, although they do occur occasionally, are rare in the Kanto plain during the fall season.

(4) Winds: Northerly winds with average speed of 10 kts during the fall season. Strong winds may occur when a strong high-pressure system is located over the Asian continent and the Sea of Japan area while an intense cyclonic disturbance is located east to northeast of Honshu with a trailing cold front extending south of Honshu. The jet stream, which continues to intensify, becomes firmly established and begins moving southward to a mean position over central Japan. The northern branch passes over North Korea at 35,000 feet and averages 100 kts. The southern branch crosses central China at 40,000 feet at 120 kts and merges with the northern branch over central Honshu.

(5) Temperature: Temperatures begin to decrease appreciably, dropping from an average of 73° F in September to 55° F by November.

f. Winter. Winter is controlled by the large Siberian high-pressure system, which results in predominantly cold, dry northwesterly winds over Japan. About every four to five days, a trough will move through the region bringing cloudiness and light precipitation, mostly rain and rarely snow, refer to figure 6-7.

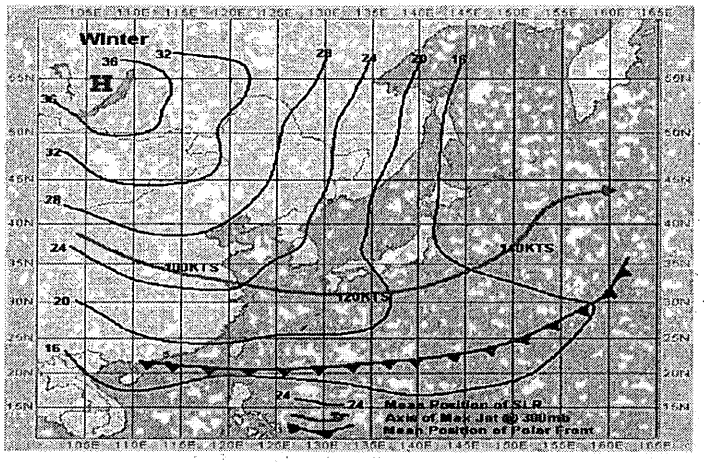

FIGURE 6-7. SYNOPTIC PICTURE OF WINTER: DECEMBER THROUGH MID-MARCH

(1) Synoptic pattern: From December through mid-March, Japan is under the influence of cP air moving eastward from the Asian continent across the Sea of Japan. Surges of cold air, which are essentially dynamic highs breaking off the Siberian High, follow strong cold fronts across Japan. The Siberian High is at its maximum intensity during January and February while the western edge of the mid-Pacific High is weak and has receded to the southeast. The polar front lies between these two high-pressure areas. A semi-permanent low develops in the Sea of Okhotsk during the winter and provides an anchorage for a semi-permanent trough extending into the Sea of Japan. The temperature difference between the cold Asian land mass and the warmer waters of the Sea of Japan produce this trough. Generally, the lows affecting the Kanto plain are those that develop in the Yellow Sea, Shanghai, and Taiwan; with the Shanghai and Taiwan systems being the most frequent.

(2) Cloudiness and weather: Cloud cover is extensive over the Sea of Japan, the western coast of Japan, northern Japan and the windward slopes (western) of the mountains of central Honshu. The Japanese Alps of central Honshu provide an excellent cloud barrier, and areas to the east of the mountains experience many fine wintry days with much less cloud cover than the western coastal areas.

(3) Precipitation: A northwesterly wind flow picks up moisture over the Sea of Japan and lifts it orographically over mountainous terrain, producing frequent snowfalls over northern Japan and the west coast of Japan. In towns near the Sea of Japan, snow lies 3 to 4 feet deep for weeks, and drifts to a depth of 15 to 18 feet occur in the valleys. The location on the leeside of the mountains spares the Kanto plain of much of this weather. In the Kanto plain, snowfall occurs on the average of two or three days during January and February, and some years with no snow at all.

(4) Winds: Northerly winds averaging 10-15 kts are predominant during the winter months. Wind flow from the northwest through north at all levels will normally produce mostly clear skies. Aloft, the jet stream reaches its southern most position. The two main branches of the jet stream merge into a main core immediately to the west of Japan. The northern branch fluctuates in intensity and position, while the southern branch remains relatively stable. At the junction of the two jet branches, daily variations in wind speed are considerable with winds of 120-150 kts between 25,000 and 40,000 feet common.

(5) Temperatures and humidity: While very cold temperatures prevail over Manchuria, this cP air becomes considerably modified as it moves across the Sea of Japan and reaches central Honshu. High temperatures are in the lower 50s F with low temperatures in the high 30sF. Following frontal passages and fresh outbreaks of polar air, the daily maximum and minimum temperatures will be lower than normal. Humidity decreases to a comfortable level with an average of 64%.

APPENDIX C
Climatology for Yokosuka, Japan

1. Temperature and Precipitation:

a. Average Maximum/Minimum Temperature.

Temperature (°F)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Maximum	50	55	64	71	76	82	86	79	69	61	61	54
Avg. Minimum	36	37	41	50	58	65	71	74	61	58	50	41
Avg. Extreme Maximum	73	76	82	90	101	102	105	100	90	81	77	
Avg. Extreme Minimum	21	19	24	32	41	50	56	60	54	42	28	25

b. Average Percent Relative Humidity. (RH%)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
RH%	62	64	68	73	76	83	84	82	82	77	71	65

c. Average Amount of Rainfall/Snowfall in inces. (INS)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (INS)	2.0	3.0	2.0	6.0	7.0	8.0	6.0	6.0	8.0	8.0	5.0	2.0
Snowfall (INS)	1.0	2.0	1.0	0	0	0	0	0	0	0	0	0

d. Average Number of Days with Precipitation.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days	9	10	15	15	15	18	16	13	17	16	12	9

e. Average Number of Days with Snowfall.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days	1	1.6	.4	0	0	0	0	0	0	0	0	3

f. Maximum Snowfall Accumulation in inches (INS).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
24 hr Max (INS)	16.0	8.0	13.0	0	0	0	0	0	0	0	0	14.0
Max Depth	16.0	8.0	13.0	0	0	0	0	0	0	0	0	14.0

2. Winds

a. Average Wind Direction and Speed (kts).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Direction	N	N	NNE	SSW	SSW	SSW	SSW	NNE	N	N	N	NNE
Speed (kts)	11	11	11	11	11	10	10	10	11	12	11	10

b. Average/Max Wind Speed (kts).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Speed	7	7	7	8	7	7	6	7	6	6	6	6
Avg. Max Speed	15	16	16	19	17	16	12	14	14	15	15	15
Max Speed	25	28	28	35	26	29	19	22	25	40	28	23
Prevailing Direction	S	S	S	S	S	S	S	S	S	ENE	E	S

c. Peak Wind Gusts Direction and Speed (kts).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Direction	240	230	340	220	330	220	240	220	210	190	230	340
Speed (kts)	45	56	55	58	44	53	33	39	45	68	42	43

d. Number of Days with Wind Gusts Greater Than:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
>20 kts	3.0	14.0	13.0	16.0	14.0	10.0	6.0	8.0	8.0	7.0	9.0	12.0
>30 kts	3.0	4.0	4.0	7.0	4.0	4.0	1.0	2.0	1.0	2.0	3.0	5.0

3. Thunderstorms

a. Number of Days with Thunderstorms.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days	0.0	0.0	0.0	1.0	0.0	0.0	3.0	1.0	0.0	0.0	0.0	0.0

4. Fog.

a. Number of Days with Fog.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days	1.0	1.0	1.0	2.0	2.0	4.0	3.0	3.0	1.0	1.0	1.0	1.0

5. Visibility.

a. Number of Days with Visibility Less Than.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<8 km	6.0	7.0	11.0	12.0	12.0	20.0	22.0	21.0	15.0	10.0	7.0	4.0
<5 km	5.0	5.0	9.0	10.0	9.0	16.0	20.0	17.0	11.0	8.0	7.0	3.0
<1 km	3.0	3.0	4.0	6.0	5.0	8.0	8.0	7.0	4.0	4.0	3.0	2.0

6. Cloud Coverage.

a. Average Cloud Cover in Eighths.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cloud Cover	4.0	5.0	6.0	6.0	6.0	7.0	6.0	6.0	6.0	5.0	5.0	4.0

7. VFR/IFR Conditions.

a. Percentage of Days with VFR/IFR and Below Field Minimum Conditions.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
VFR	90.0	87.0	84.0	80.0	80.0	65.0	61.0	73.0	79.0	85.0	87.0	94.0
IFR	6.0	6.0	9.0	11.0	12.0	19.0	24.0	17.0	14.0	10.0	8.0	3.0
Below Mins	4.3	7.0	7.0	9.0	8.0	16.0	15.0	10.0	7.0	6.0	5.0	3.0