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A MARINE BOUNDARY LAYER SAMPLING/FLIGHT IN CLEAR AIR.(U)
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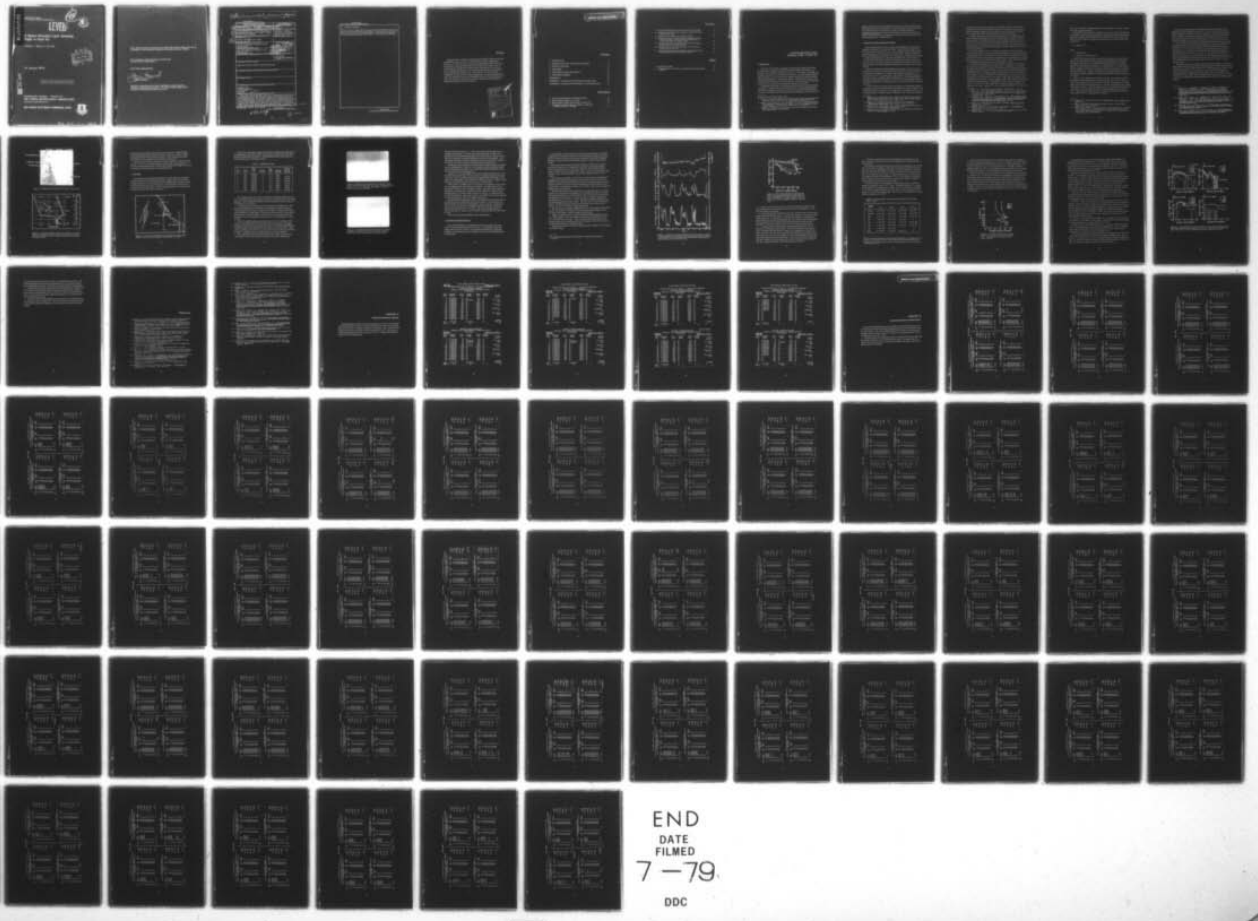

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A Marine Boundary Layer Sampling Flight in Clear Air

DONALD J. VARLEY, Lt Col, USAF

10 January 1979

METEOROLOGY DIVISION PROJECT 317J
AIR FORCE GEOPHYSICS LABORATORY
HANSCOM AFB, MASSACHUSETTS 01731

AIR FORCE SYSTEMS COMMAND, USAF

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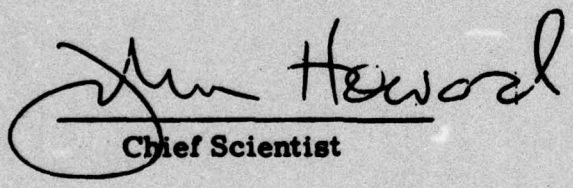

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The AFGL-instrumented MC-130E aircraft made several 8-min particle-sampling passes off the San Francisco coast on 10 July 1978 at levels from 100 to 1000 ft altitude. Spectrometers capable of recording particles from 2 to 6400 (μm) were used, but in the existing cloudless conditions only particles between 2 and 30 (μm) were detected. These were recorded by the PMS axial scattering spectrometer probe. Visibility was estimated at 7 miles with a slight amount of haze during most of the sampling; however, the particle populations varied widely, and the computed liquid water content varied from → over

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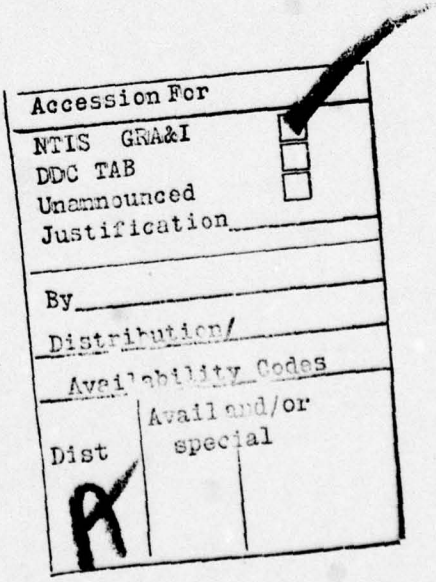
20. Abstract (Continued)

10^{-6} to 10^{-2} g m^{-3} while passes were made at the 100 and 200 ft levels. The 300 ft level was relatively particle-deficient, but the particle concentration at 400 ft was similar to those at 100 and 200 ft. Average particle counts decreased significantly between 500 and 1000 ft, as compared to lower levels.

Preface

My appreciation is extended to Captain Donald Cameron, MSgt Tom Moraski, and MSgt Steve Crist of AFGL, and Keith Roberts of Digital Programming Services, Inc. (DPSI) who flew with me on the sampling MC-130E and who were instrumental in obtaining the particle data described in this report. The outstanding support of 4950th Test Wing personnel, particularly Lt Col Charles Rierson and Maj Ken Belden who flew the aircraft through this unusual mission, is also greatfully acknowledged. Dr. Arnold Barnes, Jr. and Dr. Robert Cunningham provided several excellent suggestions to improve the technical content of my original manuscript, and Ms Barbara Main processed auxiliary information for the report. Computer processing of all data was accomplished by Michael Francis and James Lally of DPSI.



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A Marine Boundary Layer Sampling Flight in Clear Air

1. INTRODUCTION

On 10 July 1978 the 4950 Test Wing's instrumented MC-130E aircraft made several low level atmospheric sampling passes for AFGL about 40 miles off the coast of San Francisco, California, in clear air. The purpose of the flight was to obtain information on the concentration of particles in the layer between 100 and 1000 ft above the ocean for the Air Force Weapons Laboratory's Advanced Radiation Technology Program. The smallest particles detected by the on-board instrumentation were estimated to be 2 μm in diameter. Smaller particles were present but could not be measured by the equipment available on the aircraft.

Although several studies of off-shore fog and stratus have been made through the years,[1-3] relatively few have examined low level particle concentrations during cloud-free conditions; however, this deficiency is gradually being remedied. As interest in boundary layer conditions and new technologies has increased, more

(Received for publication 9 January 1979)

1. Anderson, J.B. (1931) Observations from airplanes of cloud and fog conditions along the Southern California coast, Month. Wea. Review, 59:264-270.

2. Fowler, M.G., Blau, Jr., H.H., and Fasci, Jr., E.W. (1974) Cloud droplet measurements in cumuliform and stratiform clouds. In Preprints of Conf on Cloud Physics, Tuscon, Amer. Meteor. Soc., pp 296-300.

3. Goodman, J. (1977) The microstructure of California coastal fog and stratus, Jour. Appl. Meteor., 16:1056-1067.

studies have been made of the geophysical properties and their variations in the half kilometer above the earth's surface. Several articles in the fall 1975 edition of the National Center for Atmospheric Research's (NCAR) publication, Atmospheric Technology, point out the importance of both the marine and continental boundary layers from a geophysical standpoint, and describe some of the methods being used to investigate them.

2. PREVIOUS LOW LEVEL PARTICULATE STUDIES

Early measurements of drop-size fogs off New England were conducted by Houghton and Radford,[4] who found that median volume diameters ranged from 25 to 75 μm with an average of 34 μm. Later, Houghton[5] compared these values to similar ones for various types of stratus and cumulus clouds and pointed out that a striking feature was the large size of fog drops as compared to cloud drops.

More recently Goodman,[3] using an instrumented tower in San Francisco, found the mean diameter of particles in low-lying Pacific stratus to range from 4.5 to 10.5 μm. His data also indicated that there were broader drop-size distributions near the inversion topping the boundary layer than there were near the surface.

Woodcock and Gifford[6] obtained detailed information on the drop-size distribution of nuclei in the marine boundary layer up to 300 m over Woods Hole and up to 1150 m over Bermuda. The largest and smallest nuclei had masses of 2×10^{-9} and 5×10^{-14} g, respectively. These weights correspond to diameters of 24 and 0.7 μm at a relative humidity of 80 percent. In the thermally stable conditions at Woods Hole the number of nuclei fell off rapidly at higher altitudes, but in the well-mixed air over Bermuda they were much the same from the surface to 1150 m.

In 1953, Woodcock[7] reported on measurements of size distribution of giant sea salt nuclei over the sea near Hawaii. He found that as winds increased so did the number and sizes of particles. He suggested these increases were due to the increased numbers of bubbles trapped in whitecaps, which on bursting projected

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4. Houghton, H.G., and Radford, W.H. (1938) On the measurement of drop size and liquid water content in fogs and clouds. Pap. Phys. Ocean. Meteor. M.I.T., Woods Hole Ocean. Instn., 6(No. 4).
5. Houghton, H.G. (1951) On the physics of clouds and precipitation. In Compendium of Meteorology, Amer. Meteor. Soc., pp 165-181.
6. Woodcock, A.H., and Gifford, M.M. (1949) Sampling atmospheric sea-salt nuclei over the ocean, Jour. of Marine Res., 8:177.
7. Woodcock, A.H. (1953) Salt nuclei in marine air as a function of altitude and wind force, Jour. of Meteor., 10:362.

small droplets of sea water into the air. Mason[8] has stated that atmospheric stability has an effect on the height distribution of such nuclei. They are rather evenly distributed through layers in which the lapse rate exceeds the adiabatic, but in a stable layer their concentration falls off rapidly with height.

In making simultaneous aircraft measurements of cloud condensation nuclei and of sodium-containing particles (SCP), Hobbs[9] found the number of SCP decreased sharply with height above the ocean off Washington. However, even as low as 50 ft over the ocean and surf, the concentrations of SCP were only a few percent of the concentrations of cloud condensation nuclei. The concentrations of such nuclei did not vary appreciably with height, even near temperature inversions, up to at least 10,000 ft.

The earth's boundary layer is particularly significant to those desiring to utilize it productively or to minimize its degrading effects on certain experimental or operational systems. Mooradian et al[10] point out that the main factor determining the amount of time that optical communications over a given distance at a given bit rate can be achieved is the meteorological visibility. This changes drastically in the frequently hazy marine layer over large bodies of water.

The relation of visibility to other meteorological conditions in the boundary layer has been studied extensively by many writers, including H. L. Wright.[11] He showed that atmospheric opacity varies with particle concentration and relative humidity, and that as a constant number of hygroscopic nuclei in the atmosphere are subjected to an increasing humidity, they increase in size as more and more water condenses on them. Middleton[12] indicated that up to a diameter of 1 μm the hygroscopic nuclei show selective scattering in visible light, which makes them appear bluish by reflection. These are haze particles. This selectivity practically disappears in larger particles. When larger particles result in visibility reductions, it is said to be a result of fog, which is usually colorless (or white, as opposed to red, blue, or green). In a later publication Middleton[13] used the word

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8. Mason, B.J. (1971) The Physics of Clouds, Clarendon Press, London.
9. Hobbs, P.V. (1971) Simultaneous airborne measurements of cloud condensation nuclei and sodium-containing particles over the ocean, Quart. Jour. Royal Met. Soc., 97:263-271.
10. Mooradian, G.C., Geller, M., and Giannaris, R.J. (1976) Optical communications in the marine layer. In Proceedings of the Optical-Submillimeter Atmospheric Propagation Conference, Vol. I. Sponsored by Office of Director, Defense Research and Engineering, pp 13-33.
11. Wright, H.L. (1940) Atmospheric opacity at Valentia, Quart. Jour. Roy. Meteor. Soc., 66:66-77.
12. Middleton, W.E.K. (1951) Visibility in meteorology. In Compendium of Meteorology, Amer. Meteor. Soc., pp 91-97.
13. Middleton, W.E.K. (1968) Vision through the Atmosphere, Univ. of Toronto Press, 250 pp.

fog to refer to aerosols containing droplets of 4 μm diameter or greater, and haze to consist of smaller particles.

Eldridge[14] found that the water content of an air mass is well correlated with the visibility through it when only particles in the 0.6 to 20 μm diameter range are considered. When only these particle sizes are involved in water-content calculations, he found visibility in stable fog/haze situations to be well predicted with the equation

$$V = 0.024\, w^{-0.65} ,$$

where

V = visibility (km)

w = liquid water content (g m^{-3}).

Chýlek[15] has shown that a linear relationship should exist between visible/infrared extinction and liquid water content (LWC) independent of particle size distribution – but only for a wavelength determined by the radii of the largest particles in a polydispersion of droplets. In considering the size of the largest droplets in fogs and nonprecipitating clouds, he believed 11 μm was the most suitable wavelength at which a linear relationship between the extinction coefficient and LWC should exist. Chýlek also believed a similar approximation at shorter wavelengths should be applicable to the extinction and LWC of hazes, but this was not studied.

Pinnick et al[16] obtained fog and haze particle data in Germany and showed that Chýlek's relationship between extinction and LWC was accurate. That is, at least for radiation at 0.55, 1.20, 4.00, and 10.00 μm, there does exist a nearly linear relation between extinction and LWC. The data of Pinnick et al also showed little vertical variation of particle population in haze, but increased concentrations with height of 4 to 16 μm radius droplets during fog conditions with visibilities <1 km. These latter increases resulted in extinction coefficient increases of 2 to 1000 in the first 150 m of altitude above the surface.

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14. Eldridge, R.G. (1966) Haze and aerosol distributions, Jour. of Atmos. Sci., 23:605-613.

15. Chýlek, P. (1978) Extinction and liquid water content of fogs and clouds, Jour. Atmos. Sci., 35:296-300.

16. Pinnick, R.G., Hoihjelle, D.L., Fernandez, G., Stenmark, E.B., Lindberg, J.D., Hoidale, G.B., and Jennings, S.G. (1978) Vertical structure in atmospheric fog and haze and its effects on visible and infrared extinction, Jour. Atmos. Sci., 35:2020-2032.

Some meteorological phenomena affecting laser beam propagation in the boundary layer are listed by Cordray et al[17] as: wind velocity, absolute water vapor, temperature turbulence, aerosols, and jitter. In the relatively dense air near the surface, laser transmissions are also affected by "thermal blooming" when the laser beam heats the air and decreases its index of refraction. This results in a deflection of the beam into the wind and an increase in beam size.

One of the agencies most active in experimenting with transmissions through the boundary layer is the Naval Research Laboratory. Cosden et al[18] have presented some of the data acquired by NRL's Infrared Mobile Optical Radiation Laboratory over a 5.1 km over-water path near Cape Canaveral AFS, Florida. The objective was to obtain precisely calibrated high resolution atmospheric transmission spectra in the 3 to 5 μm and 8 to 14 μm atmospheric windows suitable for comparisons to computer models. The development of some of these models profited greatly from the work of McClatchey and Selby[19] and Selby et al[20] who presented high resolution transmittance curves for the 0.25 to 31.25 μm spectral region.

The particle spectrum examined in the present study extended over the 2 to 30 μm region measured by the Particle Measuring Systems (PMS) axial scattering spectrometer probe on our MC-130E aircraft. The detection by this device of one particle of a given size in an 8-min sample (used in Appendix A) equates to a particle population of approximately 46 per cubic meter. If no particles are counted in an 8-min sample, the actual population is between 0 and 46 m^{-3}, which for the size is frequently considered insignificant for purposes of visibility degradation.

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17. Cordray, D.J., Fitzgerald, J., Gathman, S., Hayes, J., Kenney, J., Mueller, G., and Ruskin, R. (1976) High energy laser propagation meteorological sensitivity analysis. In Proceedings of the Optical-Submillimeter Atmospheric Propagation Conference, Vol. I, 6-9 Dec 1976. Sponsored by Office of the Director, Defense Research and Engineering, pp 491-500.

18. Cosden, T.H., Curcio, J.A., Dowling, J.A., Garcia, D.H., Gott, C.O., Guttman, A., Hanley, S.T., Haught, K.M., Horton, R.F., Trusty, G.L., and Agambar, W.L. (1977) Data Compendium for Atmospheric Laser Propagation Studies Conducted at Cape Canaveral, Florida, Feb-May 1977, NRL Memo Report 3611.

19. McClatchey, R.A., and Selby, J.E.A. (1974) Atmospheric Attenuation of Laser Radiation From 0.76 to 31.25 μm, Environmental Research Papers, No. 460, AFCRL-TR-74-0003.

20. Selby, J.E.A., Shettle, E.P., and McClatchey, R.A. (1976) Atmospheric Transmittance From 0.25 to 28.5 μm: Supplement LOWTRAN 3B, (1976) Environmental Research Papers, No. 587, AFGL-TR-76-0258.

Brief descriptions of the scattering probe as well as the PMS cloud droplet and precipitation probe are given in a previous AFGL report,[21] along with an outline of the data format that is used on ensuing pages. The cloud and precipitation probes, which record particle spectra between approximately 30 μm and 4500 μm, were both operated during the 10 July sampling, but they recorded almost no particle counts since there were no visible clouds. A description of the generally excellent weather prevailing in the sampling area off the California coast is given in the following section.

3. SYNOPTIC SITUATION

The surface synoptic feature dominating the weather along the West Coast on 10 July was a large high pressure region centered about 25 degrees west of Eureka, California. Aloft, at levels above about 850 mb ($\sim$1.5 km MSL), a migrating low pressure cell that had been over Vancouver Island the previous day was moving over southeastern British Columbia. Off the coast these two systems resulted in a generally northerly to northwesterly flow near the surface, backing to a westerly to southwesterly flow near 850 mb.

A weak surface cold front beneath the upper level low moved through Idaho and Montana, bringing some rain to northern Idaho and western Montana. The on-shore flow also brought low clouds and light precipitation to the western part of Washington. Almost all of California, however, was under cloud-free skies through the day. Figure 1 shows the isobaric pattern at the approximate time of the sampling flight off San Francisco. The small low cell in that figure over southeastern California and southern Nevada was related to the thermal conditions. It was nearly stationary and resulted in only isolated thunderstorms or rain showers later in the day.

Indications of a trough aloft from southeastern British Columbia and western Montana through central California are reflected on the 850 mb chart of Figure 2. Slightly colder air was being advected southward off the coast as a result of the counterclockwise circulation around the Canadian low and clockwise flow around the Pacific high. Petterssen[22] believed that such a flow of cold air over the warm water near San Diego was conducive to marine fog – even though fog sometimes forms from warm air moving over a cold water surface. He indicated the marine fog in that area of the eastern Pacific Ocean is convective in nature. This hypothesis

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21. Varley, D.J. (1978) Cirrus Particle Distribution Study, Part I, Air Force Surveys in Geophysics, No. 394, AFGL-TR-78-0192.

22. Petterssen, S. (1938) On the causes and the forecasting of the California fog, Bull. Amer. Meteor. Soc., 19:49-55.

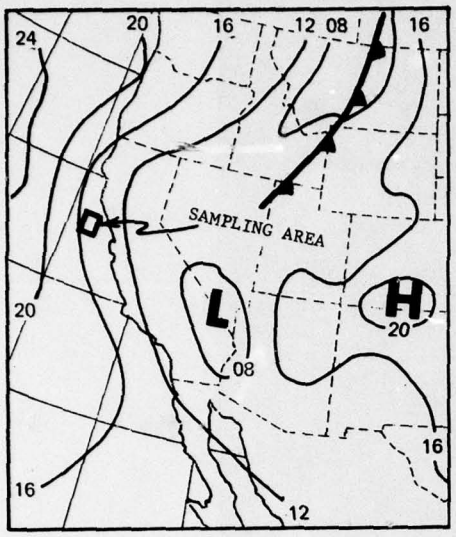

Figure 1. Surface Pressure Analysis 10/2100Z July 1978. Add 1000 mb to isobar values

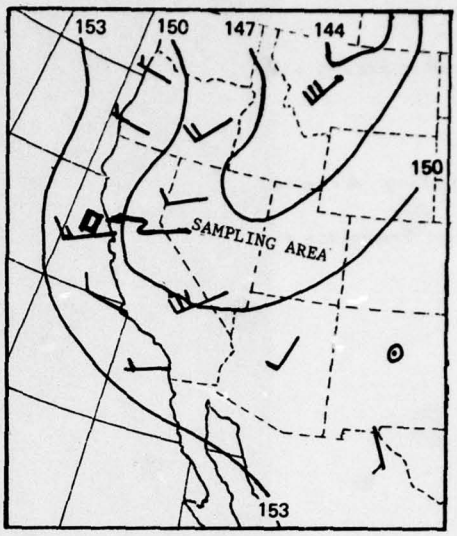

Figure 2. 850 mb Analysis 0000Z, 11 July 1978. Contours in tens of geopotential meters

seems to explain the large area of fog and low stratus along the coast that is well shown in the Defense Meteorological Satellite Program picture in Figure 3. The east-west extent of the cloud along the Southern California coast, where water would be relatively warm, was much greater than it was farther north.

The coastal stratus did not penetrate inland more than a very few miles, except in the flatter topographic areas. By the evening of 10 July, however, Los Angeles was shrouded in the low cloud and was also affected by high air pollution levels. The northern limit of the stratus was near San Francisco, but the airport there reported clear skies, 15 miles visibility, 68°F temperature, 51°F dewpoint, and winds 260°/14 kt at 2100Z when the sampling was being made. A remark appended to the 2100Z observation from San Francisco indicated stratus could be seen south through west and northwest.

There are few manned weather reporting sites immediately on the coast, but at 2100Z, Bodega Bay, about 30 miles northeast of the sampling area, reported fog with 4 miles visibility, west-northwesterly winds at 11 kt, and 64°F temperature. At Point Arena, on the coast 50 miles north of the sampling site, the visibility at 2100Z was 10 miles under clear skies, the winds were northerly at 18 kt, and the temperature was 56°F.

Figure 4 shows the strong temperature inversion based near 1500 ft that existed along the coast the afternoon of 10 July. Aircraft observations indicated

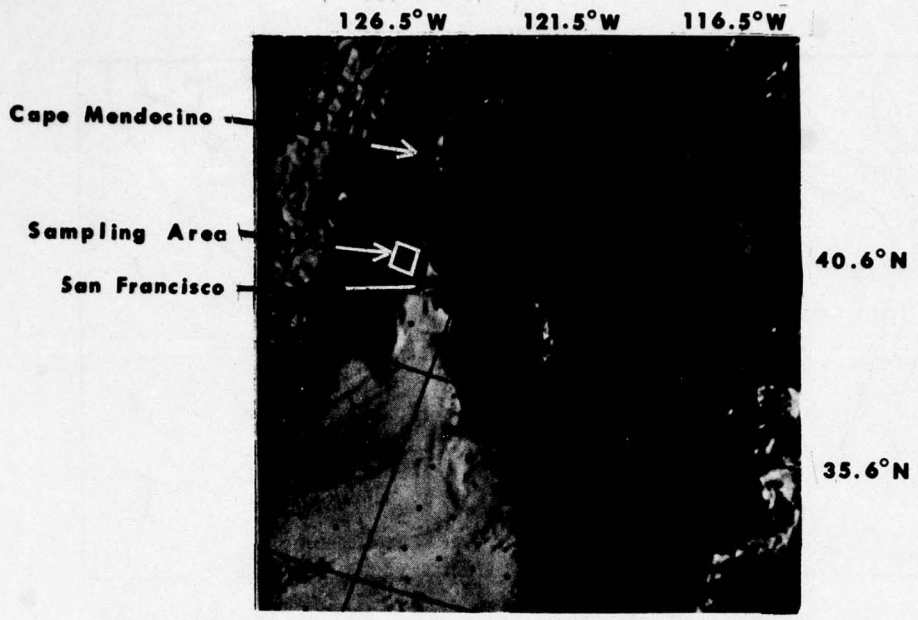

Figure 3. DMSP Satellite Visible Picture 1708Z, 10 July 1978

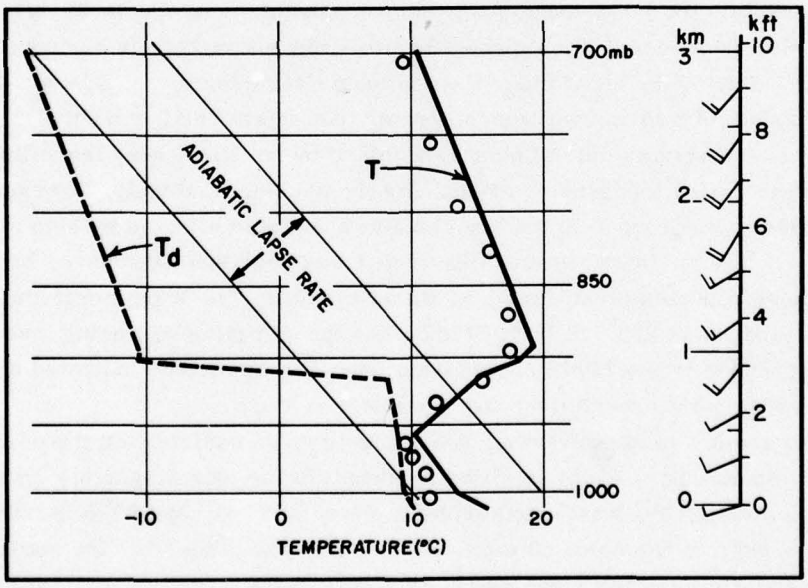

Figure 4. Temperature and Wind Data From 0000Z, 11 July 1978 Oakland, California, Sounding. Circles are temperatures determined by the sampling C-130. Dewpoint data were not available from this aircraft

that the tops of the stratus off the coast were near this level. Between 1200Z 10 July and 0000Z 11 July the winds above the inversion up to at least 10,000 ft had backed about 20° to those shown on Figure 4. Their speed did not change appreciably, nor did the speed or direction below the inversion.

The westerly to northerly winds near the water resulted in a lightly turbulent sea state. From the air several whitecaps could be seen on the sea surface. A US Navy sea-state analysis chart for the Pacific indicated wave heights in our area of interest were between 6 and 8 ft during sampling time.

4. THE FLIGHT

The sampling aircraft departed McClellan Air Force Base near Sacramento at 1843Z (1143L) on 10 July 1978 and flew west. Weather was warm and sunny, although a large area of low stratus was seen extending southward along the coast from San Francisco (as is shown in Figure 3). Approximately 10 miles west of the Point Reyes TACAN station, the aircraft began a descent to an area near the surface of the ocean that is shown in Figure 5.

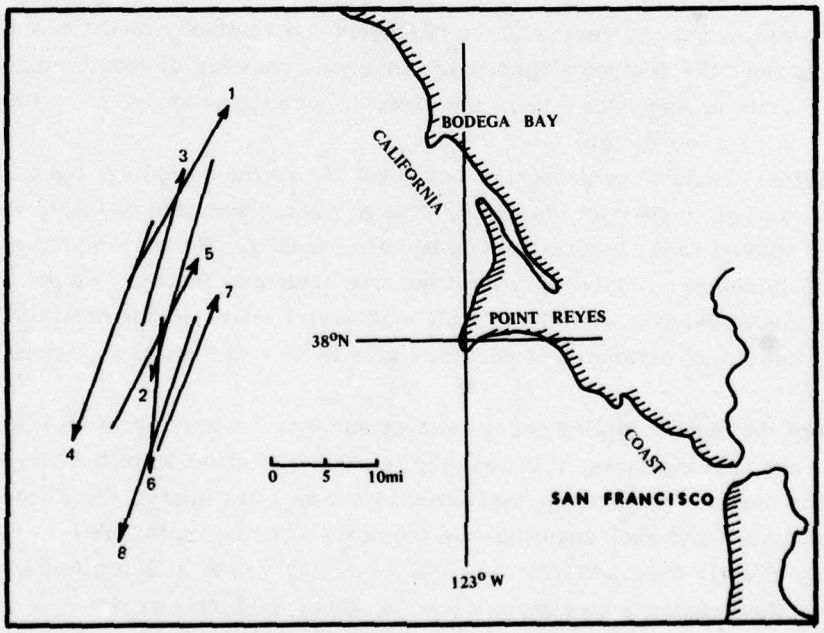

Figure 5. Aircraft Sampling Routes and Direction for 10 July Flight. Numbers at arrow tips correspond to pass numbers in Table 1

The arrows in that figure indicate the direction and length of the eight particle sampling passes made by the C-130 at various levels. The numbers at the tip of the arrows identify the pass number. The sampling altitudes of the passes and other pertinent data are indicated in Table 1.

Table 1. Sampling Pass Data

Pass No.	Altitude (ft)	Begin Time (Z)	Duration (min)	Avg Temp (°C)	General Heading	Winds (Aircraft) (deg/kt)
1	100	1924:00	8	11.4	North	--
2	200	1935:00	8	11.5	South	315/25
3	300	1945:30	8	11.4	North	305/30
4	400	1956:00	8	11.5	South	325/32
5	500	2006:30	8	11.1	North	305/30
6	100	2017:30	5	11.9	South	345/15
7	750	2024:30	8	10.5	North	325/32
8	1000	2034:00	8	10.0	South	345/30

The sampling passes were made in northerly and southerly directions as the pilots maintained the desired altitudes as closely as possible by monitoring a radar altimeter. Data in Appendix B show the aircraft sometimes varied from the nominal altitudes by a few meters.

No visible clouds were present at any level during the sampling, but a very thin haze did slightly restrict visibility. The navigator was able to locate an occasional ship on radar before it could be seen visually. By knowing the radar-indicated distance to a ship when it first became evident to the eye, we got a good approximation of existing visibility. This was near 7 miles during most of the sampling, but it was estimated at various times to be 1 to 2 miles more or less than that.

Each of the eight sampling passes except one was 8 min in duration. At the 150-kt air speed being flown, this resulted in passes of about 20 miles length, although the northwesterly winds measured by the aircraft slightly lengthened the southward passes and shortened those to the north. As shown in Table 1, winds varied only slightly from 345°/15 kt at 100 ft and 315°/25 kt at 200 ft to 345°/30 kt at 1000 ft. No turbulence was encountered at any of the levels sampled.

After beginning at 100 ft and moving stepwise up to 500 ft, the aircraft descended again to 100 ft where another 5-min pass was made to obtain data to

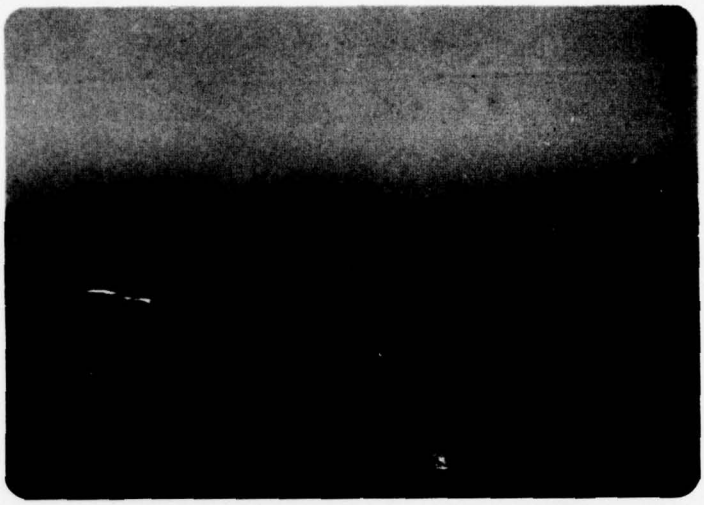

Figure 6. Photograph of Sampling Area at 1924Z on 10 July 1978 From 100 Feet Above Sea. No clouds. Visibility 6 miles. Swells 6 to 7 ft. A few degrees above horizon here and in Figure 7 the sky was dark blue

Figure 7. Sampling Area at 2010Z From 500-Foot Altitude. A slightly dark haze layer overlies a brighter area near the horizon. Ship is approximately four miles distant

compare with those of Pass No. 1. Then it was flown at 750 and 1000 ft before concluding the sampling. The winds and temperatures given in Table 1 were derived from aircraft measurements during the various passes. Between 100 and 1000 ft the temperature decreased slightly less than two Celsius degrees. The half-degree temperature difference between the two passes at 100 ft is considered real in view of the nearly one hour and several miles separating them.

Temperature data recorded by the aircraft while at higher levels are indicated on the sounding diagram in Figure 4. That figure shows good agreement between aircraft temperatures and those of the 11 July 0000Z Oakland sounding recorded some 60 miles east of the sampling area.

Figures 6 and 7 are photographs of sea and sky conditions observed at 100 and 500 ft altitudes, respectively. The first picture is looking westward, the second to the east. They are somewhat deceptive in suggesting that the visibility, in the absence of any landmarks, was less than was actually seen by eye. Figure 7 shows how sea and sky blend together at the horizon as a result of haze.

While at 500 ft, the flight director commented on the existence of what seemed to be two slightly darker haze layers in the distance. One appeared to be very near the water and the other was slightly elevated. The height of the second layer was difficult to estimate, but it seemed to be near flight level. Figure 7 shows the higher layer to be faintly visible just above the horizon. The ship in that picture is approximately 4 miles distant; however, the flight director's notes indicated it could be seen earlier, when it was about 8 miles away.

During the last sampling pass at 1000 ft, the flight director mentioned that the two faint haze layers could still be seen near the horizon. This pass was completed at 2042Z, and the aircraft then began an ascent to the east. At 2044Z, as the aircraft rose above 4100 ft, the flight director noted that the visibility had rather rapidly increased to 40 to 50 miles. This was just slightly above the inversion top shown in Figure 4, and it probably marked the entry into the clearer air aloft.

The aircraft returned to McClellan AFB at 2132Z (1432L).

5. DISCUSSION OF SAMPLING RESULTS

As previously indicated, an insignificant number of particles larger than 30 μm was recorded during the clear air mission. The population of particles smaller than 30 μm was, however, occasionally large and almost continuously changing, not only between passes at different levels but during individual passes at a given level.

The variations of mean particle size and of the derived quantity, liquid water content (LWC),* are shown as a function of time and altitude in Figure 8. The top portion of the figure reflects the variation of outside air temperature during the sampling. Also shown is the aircraft flight profile for several north and south passes.

The particle diameter and LWC data on Figure 8 are both from printouts of data (most of which are in the appendix) from the PMS axial scattering probe, which records particles from 2 to 30 μm in diameter. The particle diameter values are those found at the median LWC volume. That is, half of the liqud water content is found in particles greater than this value and half is found in those smaller.

The variations of diameter size and LWC in Figure 8 are in good agreement, although greater amplitudinal changes are shown in the LWC plot. Such LWC changes are always numerically greater than those of the related diameter changes (with time) because the LWC of a droplet is dependent on the third power of the droplet radius. A slight shift in droplet size, therefore, causes a more significant change in the associated LWC.

Since the entire mission was made in clear air under blue skies, it was interesting to find the variation of the population of small particles that was recorded during particular passes at constant altitudes. The LWC (based on mean particle size and number) for Pass No. 1 at 100 ft altitude, for example, varied from approximately 10^{-5} to 10^{-2} g m^{-3}. The 8-min passes at 200 and 400 ft show similar large changes with time and distance. The 300, 500, 750, and 1000 ft passes, however, all indicate relatively small particle diameters (5-10 μm) and LWC values ($\sim 10^{-5}$ g m^{-3}) that did not change appreciably.

The outside air temperature changed as much as 0.9°C during one 8-min pass; however, the variation of temperature during the flight did not appear closely correlated with changes in LWC or median volume diameter.

Figure 9 compares particle spectra at different sampling heights above the sea. Each individual curve was developed by averaging all spectra data for the 5- or 8-min duration of the pass. Thus, variations of particle number or size during the pass are not considered aside from the manner in which they are incorporated into the arithmetic averaging process.

The particle spectra for the various altitudes shown in Figure 9 are of interest for several reasons:

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*The LWC calculations assume the particles are spherical and of density = 1 g cm^{-3}.

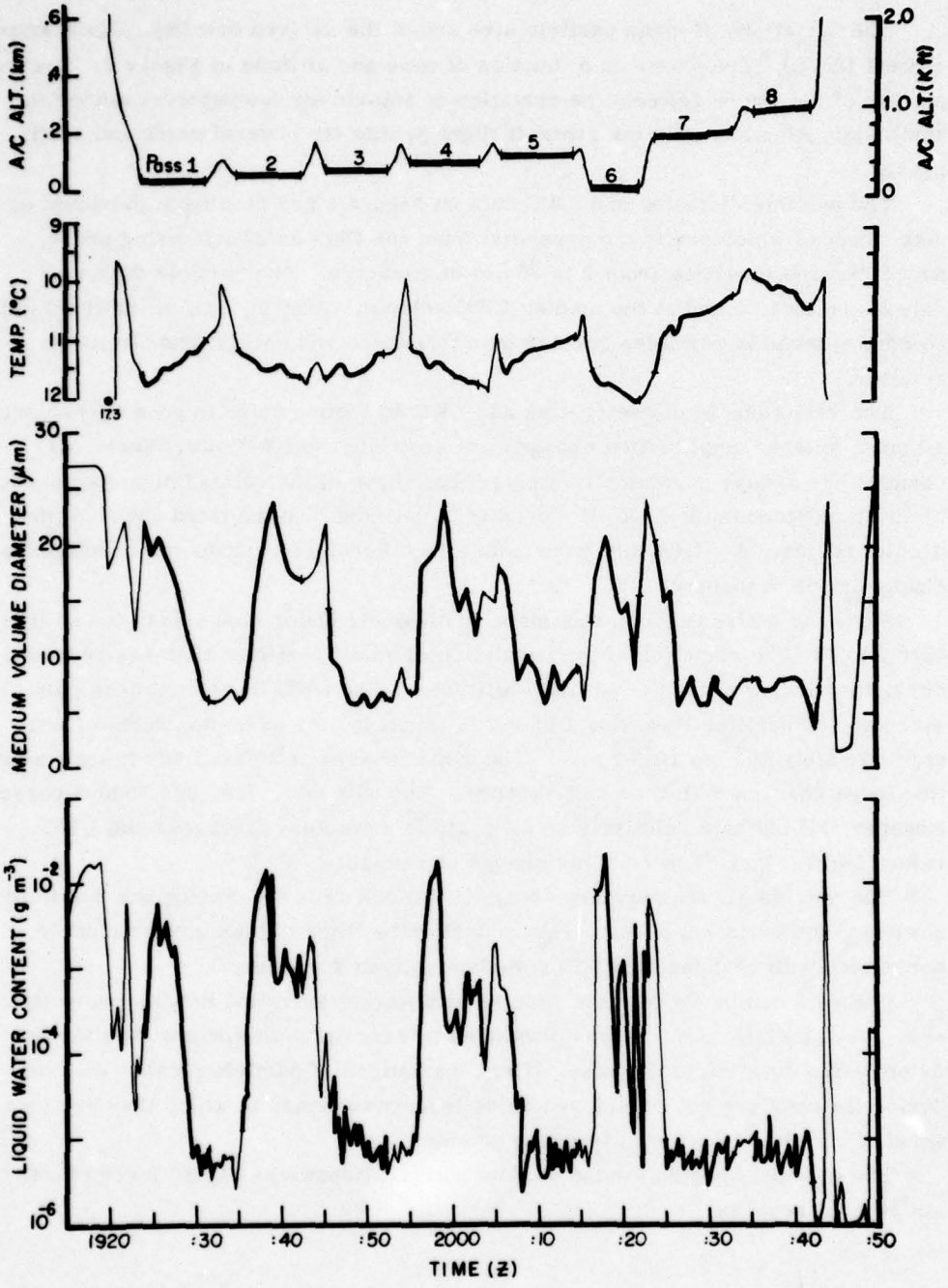

Figure 8. Variation of Aircraft Altitude, Outside Temperature, Mean Particle Diameter, and Liquid Water Content During 10 July 1978 Flight off California Coast. Dark lines reflect information obtained during specific passes, shown numbered at top

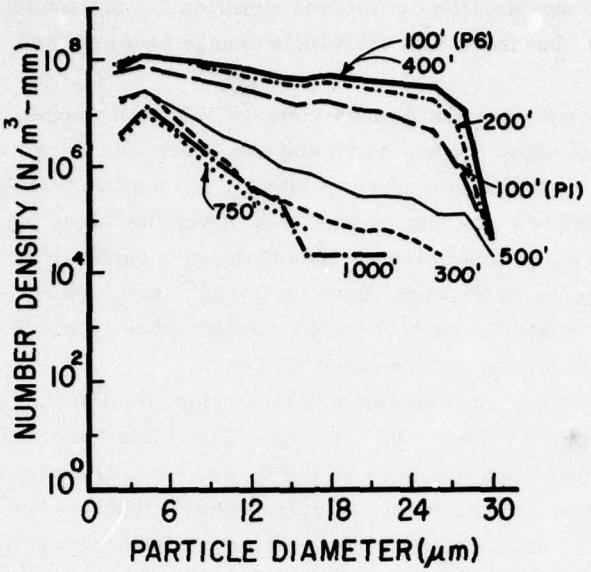

Figure 9. Particle Concentration vs Particle Size for Data Averaged During Passes at Indicated Altitudes. Two passes were made at 100 ft. They are shown as P1 (Pass No. 1) and P6 (Pass No. 6). All passes were 8 min in duration except P6, which was 5 min

- Data for the two passes at 100 ft reflect the same general shape, but particle concentrations vary by approximately one-half order of magnitude or more for sizes between 15 and 28 μm.
- The concentrations of particles at 100, 200, and 400 ft drop off very slowly between 4 and approximately 26 μm. The decline in number is more rapid for sizes larger than 26 μm. At 300, 500, 750, and 1000 ft the decline in concentration is faster and does not have the bimodal hump near 26 μm that the other levels display. Such a bimodal drop-size distribution was frequently found near the surface in Eldridge's[14] examination of haze and fog in the 0.6 to 20 μm diameter range.
- Average particle number density was relatively large at 100, 200, and 400 ft but was significantly less at 300 ft. Even the concentration of particles at 500 ft was greater than that at 300 ft. Figure 8 also suggests fewer particles at 300 ft, since the LWC there was considerably less than at higher and lower levels. These data seem to confirm the existence of the two individual particle layers that were noted visually by the aircraft director. The small concentration of particles near 300 ft reflects the visibly lighter layer between a darker layer near the surface and a slightly elevated one mentioned previously in Section 3.

• Particle concentration diminished significantly in ascending from the 500 to 750 ft level, but there was very little change between the concentrations at 750 and 1000 ft.

The particle concentration figures given in both of the appendices are normalized to a particular sampling bar width and are expressed in number of particles per cubic meter per millimeter of bar width. For many purposes it is useful to know the "unnormalized" number of particles of various sizes per given volume, that is, the number per cubic meter. To obtain such values it is only necessary to multiply the figures in the appendices by 2×10^{-3} mm, which is the spectrometer sampling bar width for each of the 15 scatter probe channels. (Different factors apply to bar widths for the other probes.)

The data in Table 2 were obtained by modifying some of the "normalized" figures in Appendix A by the 2×10^{-3} factor. This table indicates, for example, that during the 8-min sampling pass at 100 ft (Pass No. 1) there was an average of 2.32×10^5 4-μm-diam particles per cubic meter. There were about half this number (1.03×10^5) of 10 μm particles, and two orders of magnitude less of 28 μm diameter particles (2.62×10^3).

Table 2. Average Number of Particles of Size Indicated* Per Cubic Meter (n/m^3)

Altitude (ft)**	4 μm	10 μm	18 μm	28 μm
100 (P1)	2.32×10^5	1.03×10^5	4.90×10^4	2.62×10^3
100 (P6)	3.18×10^5	2.06×10^5	1.21×10^5	3.36×10^4
200	3.62×10^5	1.95×10^5	1.14×10^5	1.70×10^4
300	5.94×10^4	2.76×10^3	1.95×10^2	0
400	2.78×10^5	1.81×10^5	1.15×10^5	2.88×10^4
500	6.14×10^4	8.54×10^3	1.01×10^3	2.92×10^2
750	2.56×10^4	1.62×10^3	0	0
1000	2.74×10^4	1.89×10^3	5.00×10^1	0

*Sizes are channel median and include particle diameters 1 μm larger and 1 μm smaller; for example, the 4 μm size includes particles between 3 and 5 μm.

**Sampling at each altitude was for 8 min, except for Pass No. 6 (P6) at 100 ft which was for 5 min.

Table 2 shows that the number of 4- and 10-μm-diam particles detected in the two 100-ft-altitude sampling passes are not too dissimilar, but the differences in the average numbers of 18 and 28 μm particles are considerably larger. The number of particles of all sizes is roughly the same for the 100- and 200-ft-altitude samples, but there is a significant decrease at the 300 ft level. At 400 ft the number of particles of all sizes increases to approximate those at 200 ft.

Figure 10 reflects the vertical variation of the concentrations of four particular particle sizes. The data are from the Table 2 tabulations, except that the two 100 ft figures have been averaged to provide a single value for the 100 ft level. Data at other levels not sampled might have brought out other significant small scale variations, but the lines connecting the 4 and also the 10 μm values are believed representative of the vertical distributions of particles of these sizes up to 1000 ft. Lines for the 18 and 28 μm particles were not drawn, because particle populations at one or more levels were indicated to be zero or too few to count by our instrument.

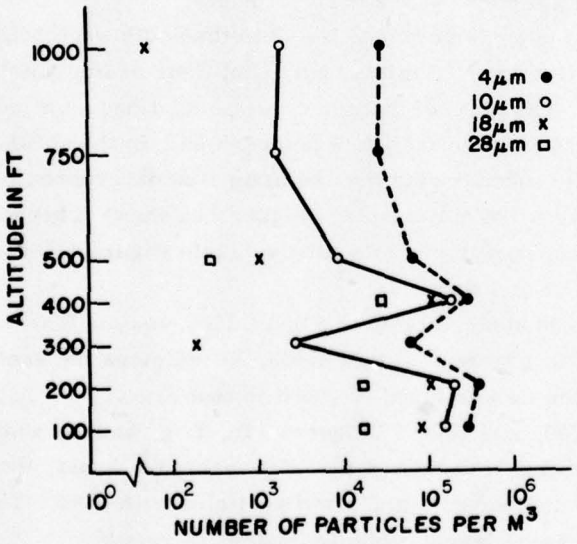

Figure 10. Vertical Variation of the Concentrations of Four Sizes of Particles on 10 July 1978. Lines connect 4 μm and 10 μm data points. See text

The data plotted on Figure 10 display a greater variation with height of the larger particles than the smaller ones. From 100 to 1000 ft the 4 μm particles, for example, decreased only about one order of magnitude. Over the same height range, however, the 18 μm sized particles decreased from 10^4 to 10^1. Figure 10 also brings out the dearth of all size particles at 300 ft altitude with respect to the number found just below and above that level.

While the average particle count at a given altitude or during a given pass is valuable, it is also useful to be aware of the variation of such a count with time during a pass. The large variation during this sampling was mentioned previously with reference to Figure 8, which shows how the LWC and mean particle diameters varied during the entire mission. A further indication of the temporal change in particle populations that occurred during particular passes is shown in the Figure 11 plots. For each of the eight passes, one graph was prepared that shows the numerical change with time of four specific particle sizes. The lines on these plots connect consecutive 20-sec (1.5 km) averages of particle population.

In general, the least change with time occurred with the smallest particles, and the more radical changes occurred with the larger ones. There was also more spacial variation at the lower levels than the higher ones. This can easily be seen by comparing the 4 μm curve at the various levels.

Pass No. 1 to the north and Pass No. 6 to the south were both made at 100 ft altitude. Their origins were 5 miles apart, but their ending points were separated by about 45 miles. The plots of their particle populations as a function of time are given as Figures 11a and b to facilitate comparison. In the absence of any visible meteorological differences during the sampling, the differences between the 11a and b figures were not anticipated. Figure 11a shows a broad, rather gradual increase, then a decrease in particle counts, while Figure 11b indicates more rapid changes both up and down.

Pass No. 2 to the south, shown in Figure 11c, was made within a few miles of where Pass No. 1 (in Figure 11a) was made. It indicates the same gradual change in particle population as was found at 100 ft in that area.

At 300, 500, 750, and 1000 ft (Figures 11d, f, g, and h), where total particle counts are considerably less than at the other sampled levels, there is relatively little change in the number of 4-μm-sized particles with time. The number of larger particles at these levels often diminished to zero.

When particle population averages from Table 2 are plotted as horizontal lines on the Figure 11 diagrams, they may at first appear unexpectedly high. This, however, is proper, and is a result of plotting arithmetic averages on logarithmic axes. An example in Figure 11a depicts the 10 μm particle average for the 8-min pass as a horizontal line above much of the plotted 10 μm data.

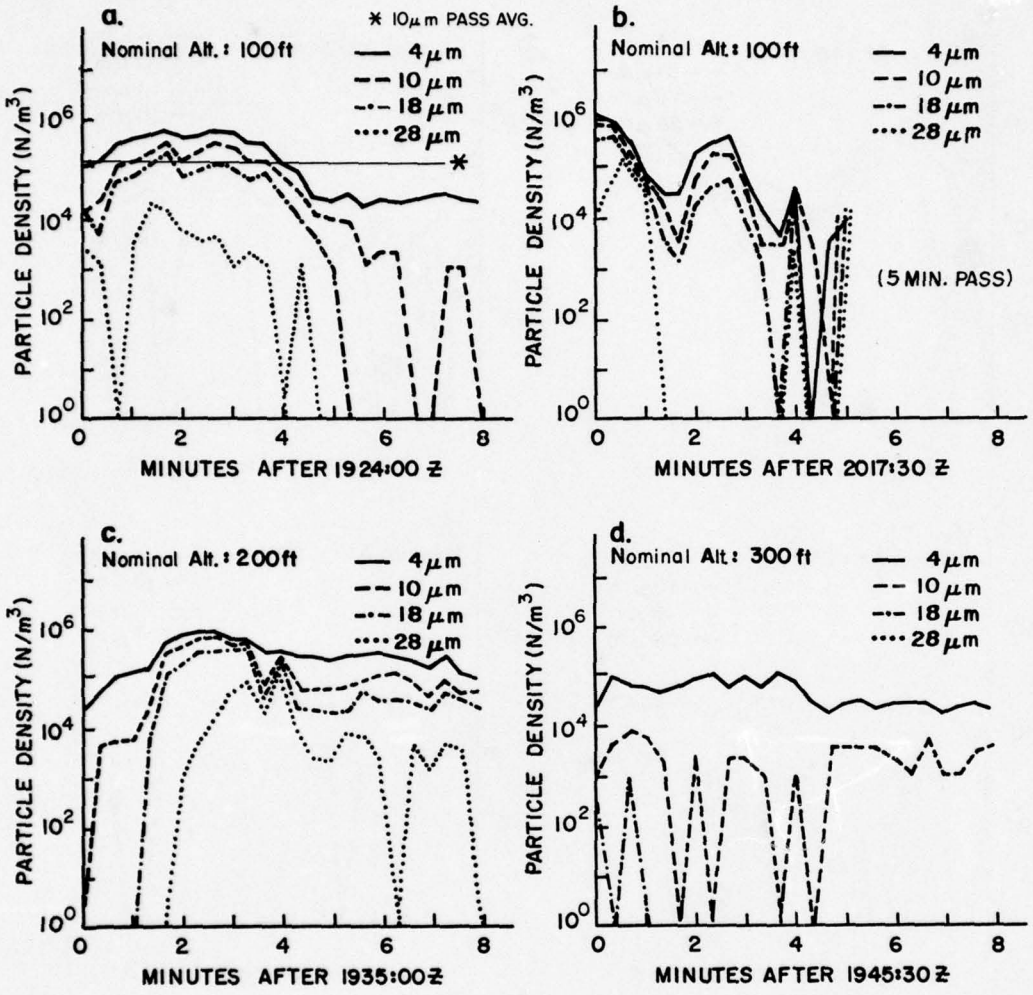

Figure 11. Variation With Time of Concentration of Four Particle Sizes During Sampling Passes at Altitudes Indicated. Based on consecutive 20 sec data averages. Horizontal line in a. represents 10 μm pass average from Table 2

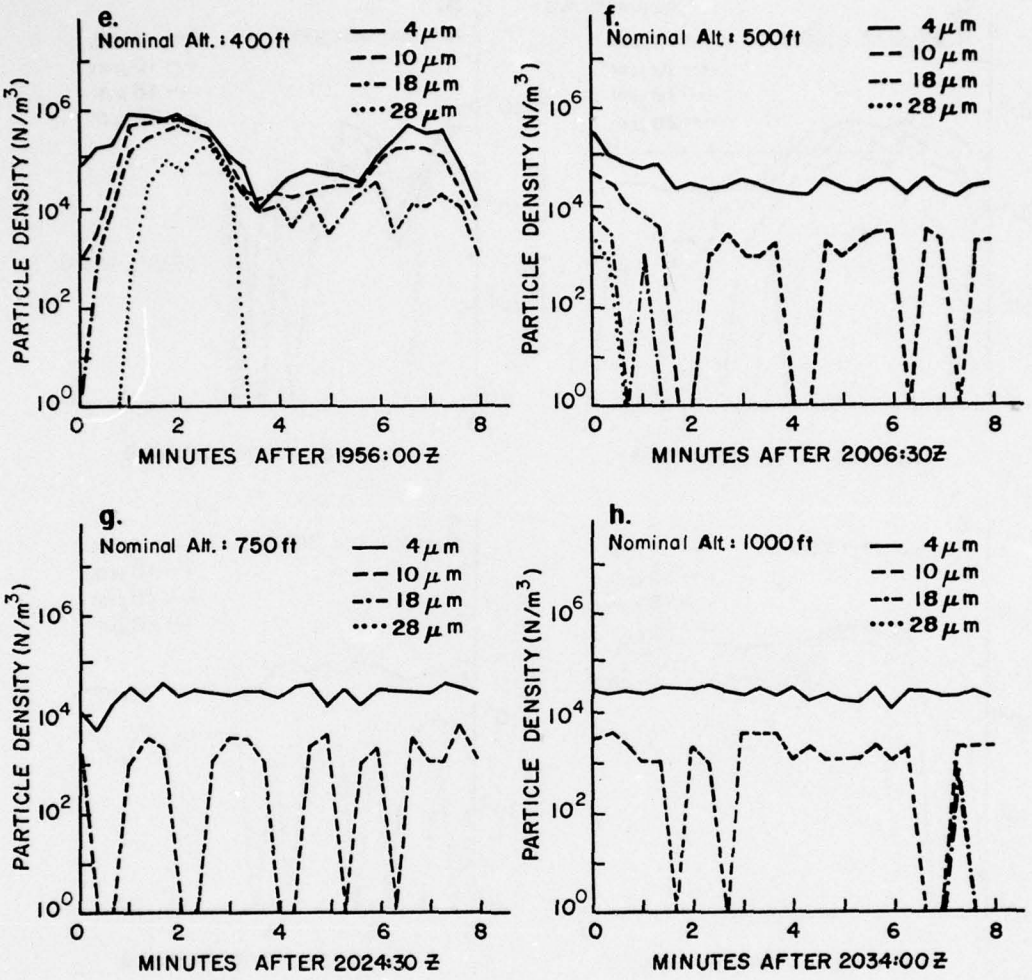

Figure 11. Variation With Time of Concentration of Four Particle Sizes During Sampling Passes at Altitudes Indicated. Based on consecutive 20 sec data averages. Horizontal line in a. represents 10 μm pass average from Table 2 (Cont.)

Summarized data averages listing particle concentrations as a function of particle size for each of the eight sampling passes are given in Appendix A. These are the original data from which the curves in Figure 9 were made, and are the values upon which Table 2 and Figures 10 and 11 were developed.

6. CONCLUDING REMARKS

The rather large variations of liquid water content and particle diameters during the several passes at low levels were not anticipated. These variations occurred in clear air while the aircraft was flying a constant heading and a constant altitude. However, both Viezee and Oblanas[23] and Noonkester et al,[24] who made lidar observations of the boundary layer also found significant changes with time as low layers of particles and aerosols were advected past their observation point. On at least two occasions during clear sky conditions, Noonkester et al at San Diege detected wavelike structures resembling Kelvin-Helmholtz breaking waves. These were seen on an FM-CW radar and on a lidar, both of which were pointed vertically. The tops of echoes during most clear sky days were usually from 200 to 700 m above sea level.

The variations of particle number and size that our low level aircraft data display appear to be similar to those recorded by Viezee and Oblanas and Nookester et al at a given location. The speed of the aircraft has, however, considerably compressed the time over which atmospheric variations can be observed. As a result the aircraft can pass quickly from a particle-rich area to one where very few particles are recorded. It can also rapidly record areal changes in particle median diameters, as was done, for example, during the first pass at 100 ft altitude when the diameters changed from approximately 20 μm to 5μm.

Another unexpected aspect of this mission was the finding of a layer at 300 ft altitude where the mean particle size and number were considerably less than at levels just 100 ft higher and lower. As previously indicated, this relatively particle-deficient zone seemed to be the visually light area that was seen by crew members (and is indistinctly shown in Figure 7) as existing between the horizon and a slightly dark layer just above it. It was impossible for the crew to estimate the altitude of either the light layer or the dark layer above it. The mean

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23. Viezee, W., and Oblanas, J. (1969) Lidar-observed haze layers associated with thermal structure in the lower atmosphere, Jour. Appl. Meteor., 8:369-375.

24. Noonkester, V.R., Jensen, D.R., and Richter, J.H. (1974) Concurrent FM-CW radar and lidar observations of the boundary layer, Jour. Appl. Meteor., 13:249-256.

temperature of the 300 ft level was 11.4°C, as measured by the aircraft. This was one-tenth degree cooler than at 200 and 400 ft, but it is not known whether this is significant with respect to the height variations of particle concentrations.

The variations of particle number and size recorded during this mission may be the result of the particular synoptic situation occurring 10 July. Hopefully, more research sampling flights may be made soon in the same maritime environment to confirm the particle spectra types presented here or to provide a basis for more representative ones.

Printouts of particle data averaged over consecutive 20-sec intervals during the sampling are given in Appendix B. The form and format of these data are the same as those presented in Appendix A, but the data are averaged over shorter periods.

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Appendix A

Average Particle Distributions for Eight Passes

Summarized data averages of particle concentration vs particle size are given in the following pages for each of the eight sampling passes made on 10 July 1978. Each pass was 8 min in duration, except No. 6 which was 5 min. The liquid water content (LWC) values at the bottom of each printout are in g m^{-3}, and are calculated assuming the particles have a density of 1 g cm^{-3}. The diameter (MED D) values are in micrometers (μm).

AFWL MARINE LAYER STUDY BY AFGL

PASS #1 — Nominal Alt = 100 ft

FLIGHT E78-23 ON 10 JUL 78 480 SECOND AVERAGING

INTERVAL START: *19:24:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.3
2	8.60E+07	23	0.	404	0.	
4	1.16E+08	43	9.24E+02	647	0.	ALT (KM)
6	8.73E+07	62	0.	944	0.	.033
8	6.62E+07	82	0.	1241	0.	
10	5.13E+07	102	0.	1538	0.	TEMP (C)
12	3.95E+07	122	0.	1835	0.	11.4
14	2.74E+07	142	0.	2132	0.	
16	2.26E+07	161	0.	2429	0.	DEWPOINT
18	2.45E+07	181	0.	2726	0.	.0
20	1.73E+07	201	0.	3023	0.	
22	1.55E+07	221	0.	3320	0.	TAS (M/S)
24	1.08E+07	241	0.	3617	0.	78.5
26	6.65E+06	260	0.	3914	0.	
28	1.31E+06	280	0.	4211	0.	
30	1.21E+05	300	0.	4508	0.	
						TOTALS
LWC	1.17E-03		7.72E-07		0.	7.72E-07
MED D	19		43		0	43

INTERVAL START: *19:35:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

PASS #2 — TYPE: RAIN — Nominal Alt = 200 ft

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1015.3
2	1.18E+08	23	0.	404	0.	
4	1.81E+08	43	9.30E+02	647	0.	ALT (KM)
6	1.54E+08	62	4.31E+02	944	0.	.058
8	1.22E+08	82	0.	1241	0.	
10	9.76E+07	102	1.77E+02	1538	0.	TEMP (C)
12	7.64E+07	122	0.	1835	0.	11.5
14	5.77E+07	142	0.	2132	0.	
16	5.01E+07	161	0.	2429	0.	DEWPOINT
18	5.70E+07	181	0.	2726	0.	.0
20	4.62E+07	201	0.	3023	0.	
22	4.11E+07	221	0.	3320	0.	TAS (M/S)
24	3.30E+07	241	0.	3617	0.	78.3
26	2.58E+07	260	0.	3914	0.	
28	8.51E+06	280	0.	4211	0.	
30	9.75E+04	300	0.	4508	0.	
						TOTALS
LWC	3.14E-03		3.87E-06		0.	3.87E-06
MED D	21		93		0	93

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT EF8-23 ON 10 JUL 78 480 SECOND AVERAGING
INTERVAL START: *19:45:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

PASS #3 TYPE: RAIN Nominal Alt = 300 ft

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.9
2	1.83E+07	23	3.53E+03	404	0.	
4	2.97E+07	43	0.	647	0.	ALT (KM)
6	1.00E+07	62	0.	944	0.	.086
8	3.36E+06	82	0.	1241	0.	
10	1.38E+06	102	0.	1538	0.	TEMP (C)
12	3.87E+05	122	0.	1835	0.	11.4
14	2.93E+05	142	0.	2132	0.	
16	1.69E+05	161	0.	2429	0.	DEWPOINT
18	9.73E+04	181	0.	2726	0.	.0
20	7.26E+04	201	0.	3023	0.	
22	7.24E+04	221	0.	3320	0.	TAS (M/S)
24	4.87E+04	241	0.	3617	0.	78.3
26	2.43E+04	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.44E-05		4.68E-07		0.	4.68E-07
MED D	9		23		0	23

INTERVAL START: *19:56:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

PASS #4 TYPE: RAIN Nominal Alt = 400 ft

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.5
2	7.95E+07	23	0.	404	0.	
4	1.39E+08	43	9.30E+02	647	0.	ALT (KM)
6	1.25E+08	62	4.35E+02	944	0.	.114
8	1.09E+08	82	0.	1241	0.	
10	9.06E+07	102	0.	1538	0.	TEMP (C)
12	7.72E+07	122	0.	1835	0.	11.5
14	5.64E+07	142	0.	2132	0.	
16	4.99E+07	161	0.	2429	0.	DEWPOINT
18	5.75E+07	181	0.	2726	0.	.0
20	4.78E+07	201	0.	3023	0.	
22	4.38E+07	221	0.	3320	0.	TAS (M/S)
24	3.78E+07	241	0.	3617	0.	77.9
26	3.40E+07	260	0.	3914	0.	
28	1.44E+07	280	0.	4211	0.	
30	4.92E+04	300	0.	4508	0.	
						TOTALS
LWC	3.51E-03		1.91E-06		0.	1.91E-06
MED D	22		56		0	56

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 480 SECOND AVERAGING
INTERVAL START: 20:06:30
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

PASS #5 TYPE: RAIN Nominal Alt = 500 ft

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.1
2	2.23E+07	23	0.	404	0.	
4	3.07E+07	43	0.	647	0.	ALT (KM)
6	1.66E+07	62	0.	944	0.	.143
8	8.75E+06	82	0.	1241	0.	
10	4.27E+06	102	0.	1538	0.	TEMP (C)
12	2.78E+06	122	0.	1835	0.	11.1
14	1.18E+06	142	0.	2132	0.	
16	8.92E+05	161	0.	2429	0.	DEWPOINT
18	5.06E+05	181	0.	2726	0.	.0
20	3.14E+05	201	0.	3023	0.	
22	3.16E+05	221	0.	3320	0.	TAS (M/S)
24	2.93E+05	241	0.	3617	0.	78.3
26	1.44E+05	260	0.	3914	0.	
28	1.46E+05	280	0.	4211	0.	
30	2.44E+04	300	0.	4508	0.	
						TOTALS
LWC	5.02E-05		0.		0.	0.
MED D	14		0		0	0

300 Sec Average

INTERVAL START: 20:17:30
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

PASS #6 TYPE: RAIN Nominal Alt = 100 ft

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1019.2
2	7.75E+07	23	0.	404	0.	
4	1.59E+08	43	0.	647	0.	ALT (KM)
6	1.49E+08	62	0.	944	0.	.026
8	1.33E+08	82	0.	1241	0.	
10	1.03E+08	102	0.	1538	0.	TEMP (C)
12	8.13E+07	122	0.	1835	0.	11.9
14	5.84E+07	142	0.	2132	0.	
16	5.16E+07	161	0.	2429	0.	DEWPOINT
18	6.05E+07	181	0.	2726	0.	.0
20	4.60E+07	201	0.	3023	0.	
22	4.33E+07	221	0.	3320	0.	TAS (M/S)
24	3.86E+07	241	0.	3617	0.	77.6
25	4.17E+07	260	0.	3914	0.	
28	1.68E+07	280	0.	4211	0.	
30	1.17E+05	300	0.	4508	0.	
						TOTALS
LWC	3.78E-03		0.		0.	0.
MED D	22		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 480 SECOND AVERAGING
INTERVAL START: *20:24:30*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

PASS #7 TYPE: RAIN Nominal Alt = 750 ft

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.5
2	4.09E+06	23	0.	404	0.	
4	1.28E+07	43	0.	647	0.	ALT (KM)
6	6.69E+06	62	0.	944	0.	.224
8	1.96E+06	82	0.	1241	0.	
10	8.10E+05	102	0.	1538	0.	TEMP (C)
12	3.41E+05	122	0.	1835	0.	10.5
14	1.96E+05	142	0.	2132	0.	
16	9.82E+04	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.59E-06		0.		0.	0.
MED D	8		0		0	0

INTERVAL START: *20:34:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

PASS #8 TYPE: RAIN Nominal Alt = 1000 ft

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.5
2	4.15E+06	23	0.	404	0.	
4	1.37E+07	43	9.52E+02	647	0.	ALT (KM)
6	6.38E+06	62	0.	944	0.	.308
8	2.35E+06	82	0.	1241	0.	
10	9.45E+05	102	0.	1538	0.	TEMP (C)
12	4.47E+05	122	0.	1835	0.	10.0
14	2.50E+05	142	0.	2132	0.	
16	2.47E+04	161	0.	2429	0.	DEWPOINT
18	2.50E+04	181	0.	2726	0.	.0
20	2.53E+04	201	0.	3023	0.	
22	2.55E+04	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.65E-06		7.95E-07		0.	7.95E-07
MED D	8		43		0	43

Appendix B

Average Particle Distributions for 20-Second Periods

Data on the following printouts are averaged over consecutive 20-sec periods for the duration of each of the eight sampling passes made off the California coast on 10 July 1978. At the 150 kt sampling speed of the aircraft, each of the 20-sec averages consists of data acquired over a distance of approximately five-sixths of a nautical mile (.96 s mi/1.5 km).

The pass number that the printouts apply to is indicated at the top of each page. The ending of each pass is also indicated at the bottom of the appropriate data listing. In some cases one, two, or three data listings subsequent to that for the end of the pass are included.

PASS # 1 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 19:23:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1016.2
2	3.17E+07	23	0.	404	0.	
4	2.75E+07	43	0.	647	0.	ALT (KM)
6	1.38E+07	62	0.	944	0.	.050
8	6.56E+06	82	0.	1241	0.	
10	5.36E+06	102	0.	1538	0.	TEMP (C)
12	3.61E+06	122	0.	1835	0.	11.7
14	1.19E+06	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	1.78E+06	181	0.	2726	0.	.0
20	6.02E+05	201	0.	3023	0.	
22	5.87E+05	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.8
26	5.87E+05	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.02E-05		0.		0.	0.
MED D	17		0		0	0

INTERVAL START: 19:24:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.9
2	5.90E+07	23	0.	404	0.	
4	6.06E+07	43	0.	647	0.	ALT (KM)
6	3.89E+07	62	0.	944	0.	.028
8	2.00E+07	82	0.	1241	0.	
10	7.06E+06	102	0.	1538	0.	TEMP (C)
12	4.70E+06	122	0.	1835	0.	11.8
14	2.36E+06	142	0.	2132	0.	
16	4.72E+06	161	0.	2429	0.	DEWPOINT
18	9.45E+06	181	0.	2726	0.	.0
20	1.76E+06	201	0.	3023	0.	
22	4.11E+06	221	0.	3320	0.	TAS (M/S)
24	5.92E+05	241	0.	3617	0.	77.6
26	5.88E+06	260	0.	3914	0.	
28	1.17E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.36E-04		0.		0.	0.
MED D	22		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 19:24:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1019.3
2	8.15E+07	23	0.	404	0.	
4	7.68E+07	43	0.	647	0.	ALT (KM)
6	4.79E+07	62	0.	944	0.	.025
8	2.60E+07	82	0.	1241	0.	
10	1.25E+07	102	0.	1538	0.	TEMP (C)
12	1.07E+07	122	0.	1835	0.	11.7
14	1.78E+06	142	0.	2132	0.	
16	2.36E+06	161	0.	2429	0.	DEWPOINT
18	2.36E+06	181	0.	2726	0.	.0
20	2.95E+06	201	0.	3023	0.	
22	3.53E+06	221	0.	3320	0.	TAS (M/S)
24	5.88E+05	241	0.	3617	0.	77.3
26	0.	260	0.	3914	0.	
28	5.79E+05	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.86E-04		0.		0.	0.
MED D	18		0		0	0

INTERVAL START: 19:24:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.9
2	1.45E+08	23	0.	404	0.	
4	1.71E+08	43	2.22E+04	647	0.	ALT (KM)
6	1.14E+08	62	0.	944	0.	.028
8	6.60E+07	82	0.	1241	0.	
10	5.89E+07	102	0.	1538	0.	TEMP (C)
12	4.96E+07	122	0.	1835	0.	11.7
14	2.51E+07	142	0.	2132	0.	
16	2.69E+07	161	0.	2429	0.	DEWPOINT
18	2.74E+07	181	0.	2726	0.	.0
20	1.81E+07	201	0.	3023	0.	
22	1.81E+07	221	0.	3320	0.	TAS (M/S)
24	1.34E+07	241	0.	3617	0.	78.3
26	8.73E+06	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.32E-03		1.85E-05		0.	1.85E-05
MED D	19		43		0	43

PASS # 1 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:25:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.7
2	1.42E+08	23	0.	404	0.	
4	2.19E+08	43	0.	647	0.	ALT (KM)
6	1.46E+08	62	0.	944	0.	.030
8	1.07E+08	82	0.	1241	0.	
10	7.08E+07	102	0.	1538	0.	TEMP (C)
12	7.03E+07	122	0.	1835	0.	11.7
14	3.75E+07	142	0.	2132	0.	
16	3.45E+07	161	0.	2429	0.	DEWPOINT
18	3.63E+07	181	0.	2726	0.	.0
20	2.17E+07	201	0.	3023	0.	
22	3.28E+07	221	0.	3320	0.	TAS (M/S)
24	1.52E+07	241	0.	3617	0.	78.1
26	5.84E+06	260	0.	3914	0.	
28	1.74E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.74E-03		0.		0.	0.
MED D	19		0		0	0

INTERVAL START@ 19:25:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1019.1
2	1.85E+08	23	0.	404	0.	
4	2.45E+08	43	0.	647	0.	ALT (KM)
6	1.98E+08	62	0.	944	0.	.026
8	1.59E+08	82	0.	1241	0.	
10	1.23E+08	102	0.	1538	0.	TEMP (C)
12	9.62E+07	122	0.	1835	0.	11.6
14	7.40E+07	142	0.	2132	0.	
16	6.18E+07	161	0.	2429	0.	DEWPOINT
18	6.94E+07	181	0.	2726	0.	.0
20	5.77E+07	201	0.	3023	0.	
22	4.66E+07	221	0.	3320	0.	TAS (M/S)
24	3.21E+07	241	0.	3617	0.	78.6
26	2.51E+07	260	0.	3914	0.	
28	9.88E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.58E-03		0.		0.	0.
MED D	20		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:25:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.0
2	1.80E+08	23	0.	404	0.	
4	3.07E+08	43	0.	647	0.	ALT (KM)
6	2.54E+08	62	0.	944	0.	.035
8	2.28E+08	82	0.	1241	0.	
10	1.88E+08	102	0.	1538	0.	TEMP (C)
12	1.53E+08	122	0.	1835	0.	11.5
14	1.17E+08	142	0.	2132	0.	
16	1.06E+08	161	0.	2429	0.	DEWPOINT
18	1.21E+08	181	0.	2726	0.	.0
20	9.17E+07	201	0.	3023	0.	
22	6.91E+07	221	0.	3320	0.	TAS (M/S)
24	6.68E+07	241	0.	3617	0.	78.9
26	3.77E+07	260	0.	3914	0.	
28	8.13E+06	280	0.	4211	0.	
30	1.17E+06	300	0.	4508	0.	
						TOTALS
LWC	5.74E-03		0.		0.	0.
MED D	20		0		0	0

INTERVAL START@ 19:26:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.3
2	2.59E+08	23	0.	404	0.	
4	2.36E+08	43	0.	647	0.	ALT (KM)
6	1.43E+08	62	0.	944	0.	.033
8	9.86E+07	82	0.	1241	0.	
10	6.96E+07	102	0.	1538	0.	TEMP (C)
12	5.08E+07	122	0.	1835	0.	11.6
14	3.27E+07	142	0.	2132	0.	
16	2.22E+07	161	0.	2429	0.	DEWPOINT
18	3.80E+07	181	0.	2726	0.	.0
20	2.34E+07	201	0.	3023	0.	
22	2.16E+07	221	0.	3320	0.	TAS (M/S)
24	2.86E+07	241	0.	3617	0.	78.5
26	1.64E+07	260	0.	3914	0.	
28	2.91E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.95E-03		0.		0.	0.
MED D	21		0		0	0

PASS # 1 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:26:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.1
2	1.96E+08	23	0.	404	0.	
4	2.49E+08	43	0.	647	0.	ALT (KM)
6	1.90E+08	62	0.	944	0.	.034
8	1.55E+08	82	0.	1241	0.	
10	1.16E+08	102	0.	1538	0.	TEMP (C)
12	1.04E+08	122	0.	1835	0.	11.5
14	6.71E+07	142	0.	2132	0.	
16	5.90E+07	161	0.	2429	0.	DEWPOINT
18	5.04E+07	181	0.	2726	0.	.0
20	3.88E+07	201	0.	3023	0.	
22	3.71E+07	221	0.	3320	0.	TAS (M/S)
24	1.97E+07	241	0.	3617	0.	79.3
26	1.50E+07	260	0.	3914	0.	
28	1.73E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.62E-03		0.		0.	0.
MED D	19		0		0	0

INTERVAL START@ 19:26:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.4
2	2.01E+08	23	0.	404	0.	
4	3.24E+08	43	0.	647	0.	ALT (KM)
6	2.77E+08	62	0.	944	0.	.032
8	2.44E+08	82	0.	1241	0.	
10	2.02E+08	102	0.	1538	0.	TEMP (C)
12	1.30E+08	122	0.	1835	0.	11.6
14	9.95E+07	142	0.	2132	0.	
16	7.80E+07	161	0.	2429	0.	DEWPOINT
18	7.15E+07	181	0.	2726	0.	.0
20	5.29E+07	201	0.	3023	0.	
22	4.01E+07	221	0.	3320	0.	TAS (M/S)
24	3.02E+07	241	0.	3617	0.	78.6
26	1.22E+07	260	0.	3914	0.	
28	2.33E+06	280	0.	4211	0.	
30	5.83E+05	300	0.	4508	0.	
						TOTALS
LWC	3.44E-03		0.		0.	0.
MED D	18		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:27:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.6
2	1.86E+08	23	0.	404	0.	
4	2.91E+08	43	0.	647	0.	ALT (KM)
6	2.42E+08	62	0.	944	0.	.031
8	1.84E+08	82	0.	1241	0.	
10	1.49E+08	102	0.	1538	0.	TEMP (C)
12	1.02E+08	122	0.	1835	0.	11.5
14	7.90E+07	142	0.	2132	0.	
16	5.36E+07	161	0.	2429	0.	DEWPOINT
18	5.77E+07	181	0.	2726	0.	.0
20	3.67E+07	201	0.	3023	0.	
22	3.37E+07	221	0.	3320	0.	TAS (M/S)
24	1.98E+07	241	0.	3617	0.	78.6
26	1.51E+07	260	0.	3914	0.	
28	5.79E+05	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.66E-03		0.		0.	0.
MED D	18		0		0	0

INTERVAL START@ 19:27:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.7
2	1.43E+08	23	0.	404	0.	
4	1.85E+08	43	0.	647	0.	ALT (KM)
6	1.34E+08	62	0.	944	0.	.030
8	8.87E+07	82	0.	1241	0.	
10	7.71E+07	102	0.	1538	0.	TEMP (C)
12	6.54E+07	122	0.	1835	0.	11.5
14	4.74E+07	142	0.	2132	0.	
16	3.10E+07	161	0.	2429	0.	DEWPOINT
18	3.39E+07	181	0.	2726	0.	.0
20	2.45E+07	201	0.	3023	0.	
22	1.75E+07	221	0.	3320	0.	TAS (M/S)
24	1.05E+07	241	0.	3617	0.	78.5
26	7.60E+06	260	0.	3914	0.	
28	1.17E+06	280	0.	4211	0.	
30	5.83E+05	300	0.	4508	0.	
						TOTALS
LWC	1.55E-03		0.		0.	0.
MED D	18		0		0	0

PASS # 1 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:* 19:27:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.3
2	1.23E+08	23	0.	404	0.	
4	1.65E+08	43	0.	647	0.	ALT (KM)
6	1.37E+08	62	0.	944	0.	.033
8	1.03E+08	82	0.	1241	0.	
10	8.05E+07	102	0.	1538	0.	TEMP (C)
12	6.59E+07	122	0.	1835	0.	11.4
14	4.67E+07	142	0.	2132	0.	
16	3.09E+07	161	0.	2429	0.	DEWPOINT
18	4.55E+07	181	0.	2726	0.	.0
20	2.69E+07	201	0.	3023	0.	
22	2.97E+07	221	0.	3320	0.	TAS (M/S)
24	1.17E+07	241	0.	3617	0.	78.5
26	4.08E+06	260	0.	3914	0.	
28	5.87E+05	280	0.	4211	0.	
30	5.85E+05	300	0.	4508	0.	
						TOTALS
LWC	1.72E-03		0.		0.	0.
MED D	19		0		0	0

INTERVAL START:* 19:28:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.2
2	5.65E+07	23	0.	404	0.	
4	7.23E+07	43	0.	647	0.	ALT (KM)
6	7.46E+07	62	0.	944	0.	.034
8	5.47E+07	82	0.	1241	0.	
10	3.78E+07	102	0.	1538	0.	TEMP (C)
12	2.74E+07	122	0.	1835	0.	11.4
14	1.23E+07	142	0.	2132	0.	
16	2.26E+07	161	0.	2429	0.	DEWPOINT
18	1.69E+07	181	0.	2726	0.	.0
20	1.05E+07	201	0.	3023	0.	
22	1.11E+07	221	0.	3320	0.	TAS (M/S)
24	6.46E+06	241	0.	3617	0.	78.4
26	3.51E+06	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.68E-04		0.		0.	0.
MED D	18		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:* 19:28:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1017.9
2	3.61E+07	23	0.	404	0.	
4	4.66E+07	43	0.	647	0.	ALT (KM)
6	3.50E+07	62	0.	944	0.	.036
8	1.92E+07	82	0.	1241	0.	
10	1.92E+07	102	0.	1538	0.	TEMP (C)
12	8.17E+06	122	0.	1835	0.	11.3
14	5.25E+06	142	0.	2132	0.	
16	4.68E+06	161	0.	2429	0.	DEWPOINT
18	5.83E+06	181	0.	2726	0.	.0
20	4.09E+06	201	0.	3023	0.	
22	4.66E+06	221	0.	3320	0.	TAS (M/S)
24	3.49E+06	241	0.	3617	0.	78.7
26	1.75E+06	260	0.	3914	0.	
28	5.85E+05	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.18E-04		0.		0.	0.
MED D	20		0		0	0

INTERVAL START:* 19:28:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1017.6
2	2.09E+07	23	0.	404	0.	
4	1.40E+07	43	0.	647	0.	ALT (KM)
6	6.98E+06	62	0.	944	0.	.039
8	7.53E+06	82	0.	1241	0.	
10	6.39E+06	102	0.	1538	0.	TEMP (C)
12	4.64E+06	122	0.	1835	0.	11.3
14	5.78E+06	142	0.	2132	0.	
16	1.15E+06	161	0.	2429	0.	DEWPOINT
18	2.33E+06	181	0.	2726	0.	.0
20	2.31E+06	201	0.	3023	0.	
22	2.93E+06	221	0.	3320	0.	TAS (M/S)
24	5.88E+05	241	0.	3617	0.	78.2
26	5.95E+05	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.33E-04		0.		0.	0.
MED D	19		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:* 19:29:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.2
2	8.72E+06	23	0.	404	0.	
4	1.21E+07	43	0.	647	0.	ALT (KM)
6	8.09E+06	62	0.	944	0.	.034
8	8.09E+06	82	0.	1241	0.	
10	5.22E+06	102	0.	1538	0.	TEMP (C)
12	1.16E+06	122	0.	1835	0.	11.2
14	1.75E+06	142	0.	2132	0.	
16	1.17E+06	161	0.	2429	0.	DEWPOINT
18	5.69E+05	181	0.	2726	0.	.0
20	5.76E+05	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.48E-05		0.		0.	0.
MED D	13		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:* 19:29:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.2
2	2.95E+06	23	0.	404	0.	
4	9.39E+06	43	0.	647	0.	ALT (KM)
6	6.45E+06	62	0.	944	0.	.034
8	5.28E+06	82	0.	1241	0.	
10	5.99E+05	102	0.	1538	0.	TEMP (C)
12	5.92E+05	122	0.	1835	0.	11.4
14	0.	142	0.	2132	0.	
16	5.93E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	9.99E-06		0.		0.	0.
MED D	8		0		0	0

INTERVAL START:* 19:29:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1017.9
2	1.04E+07	23	0.	404	0.	
4	1.62E+07	43	0.	647	0.	ALT (KM)
6	1.16E+07	62	0.	944	0.	.036
8	2.90E+06	82	0.	1241	0.	
10	4.63E+06	102	0.	1538	0.	TEMP (C)
12	1.74E+06	122	0.	1835	0.	11.3
14	1.16E+06	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.82E-05		0.		0.	0.
MED D	10		0		0	0

INTERVAL START:* 19:30:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.1
2	5.85E+05	23	0.	404	0.	
4	1.23E+07	43	0.	647	0.	ALT (KM)
6	5.86E+06	62	0.	944	0.	.035
8	1.18E+06	82	0.	1241	0.	
10	1.17E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.2
14	0.	142	0.	2132	0.	
16	5.89E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.2
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.16E-06		0.		0.	0.
MED D	9		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:30:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1017.6
2	5.23E+06	23	0.	404	0.	
4	1.11E+07	43	0.	647	0.	ALT (KM)
6	4.06E+06	62	0.	944	0.	.039
8	5.97E+05	82	0.	1241	0.	
10	1.16E+06	102	0.	1538	0.	TEMP (C)
12	1.18E+06	122	0.	1835	0.	11.1
14	5.73E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.65E-06		0.		0.	0.
MED D	11		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:31:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1017.9
2	8.18E+06	23	0.	404	0.	
4	1.58E+07	43	0.	647	0.	ALT (KM)
6	2.93E+06	62	0.	944	0.	.036
8	6.42E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.0
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.3
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.97E-06		0.		0.	0.
MED D	7		0		0	0

INTERVAL START@ 19:30:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1017.5
2	2.91E+06	23	0.	404	0.	
4	1.34E+07	43	0.	647	0.	ALT (KM)
6	5.83E+06	62	0.	944	0.	.040
8	2.32E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.1
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.6
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.04E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START@ 19:31:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1017.7
2	3.49E+06	23	0.	404	0.	
4	1.68E+07	43	0.	647	0.	ALT (KM)
6	4.63E+06	62	0.	944	0.	.038
8	1.17E+06	82	0.	1241	0.	
10	5.80E+05	102	0.	1538	0.	TEMP (C)
12	5.81E+05	122	0.	1835	0.	10.9
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.0
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.10E-06		0.		0.	0.
MED D	7		0		0	0

PASS # 1 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*19:31:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	9.87E+06	23	0.	404	0.
4	1.33E+07	43	0.	647	0.
6	6.37E+06	62	0.	944	0.
8	1.16E+06	82	0.	1241	0.
10	5.79E+05	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	5.71E+05	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	6.75E-06		0.		0.
MED D	8		0		0

P (MB) 1017.9
ALT (KM) .036
TEMP (C) 10.8
DEWPOINT .0
TAS (M/S) 78.8
TOTALS 0. 0

END OF PASS

INTERVAL START:*19:32:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	6.39E+06	23	0.	404	0.
4	1.16E+07	43	0.	647	0.
6	5.83E+06	62	0.	944	0.
8	1.17E+06	82	0.	1241	0.
10	0.	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	3.26E-06		0.		0.
MED D	6		0		0

P (MB) 1016.7
ALT (KM) .046
TEMP (C) 10.9
DEWPOINT .0
TAS (M/S) 78.5
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*19:32:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.24E+06	23	0.	404	0.
4	9.88E+06	43	0.	647	0.
6	9.33E+06	62	0.	944	0.
8	1.75E+06	82	0.	1241	0.
10	5.86E+05	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	5.03E-06		0.		0.
MED D	6		0		0

P (MB) 1012.5
ALT (KM) .082
TEMP (C) 10.5
DEWPOINT .0
TAS (M/S) 78.4
TOTALS 0. 0

INTERVAL START:*19:32:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	2.27E+06	23	0.	404	0.
4	1.80E+07	43	0.	647	0.
6	6.23E+06	62	0.	944	0.
8	2.27E+06	82	0.	1241	0.
10	5.65E+05	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	5.11E-06		0.		0.
MED D	6		0		0

P (MB) 1010.0
ALT (KM) .102
TEMP (C) 10.2
DEWPOINT .0
TAS (M/S) 81.3
TOTALS 0. 0

PASS # 2 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:35:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1014.9
2	8.77E+06	23	0.	404	0.	
4	1.28E+07	43	0.	647	0.	ALT (KM)
6	8.79E+06	62	0.	944	0.	.061
8	2.34E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.83E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START@ 19:35:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1014.9
2	1.76E+07	23	0.	404	0.	
4	2.70E+07	43	0.	647	0.	ALT (KM)
6	1.53E+07	62	0.	944	0.	.061
8	4.69E+06	82	0.	1241	0.	
10	2.36E+06	102	0.	1538	0.	TEMP (C)
12	5.88E+05	122	0.	1835	0.	11.2
14	5.87E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.47E-05		0.		0.	0.
MED D	7		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:35:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1015.0
2	5.73E+07	23	0.	404	0.	
4	6.26E+07	43	0.	647	0.	ALT (KM)
6	3.31E+07	62	0.	944	0.	.061
8	1.66E+07	82	0.	1241	0.	
10	2.97E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.2
14	1.19E+06	142	0.	2132	0.	
16	5.88E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.3
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.38E-06		0.		0.	0.
MED D	7		0		0	0

INTERVAL START@ 19:36:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1014.8
2	4.57E+07	23	0.	404	0.	
4	7.03E+07	43	0.	647	0.	ALT (KM)
6	3.81E+07	62	0.	944	0.	.063
8	1.62E+07	82	0.	1241	0.	
10	2.93E+06	102	0.	1538	0.	TEMP (C)
12	1.75E+06	122	0.	1835	0.	11.3
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.0
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.37E-05		0.		0.	0.
MED D	7		0		0	0

PASS # 2 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 19:36:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1014.6
2	8.87E+07	23	0.	404	0.	
4	8.69E+07	43	0.	647	0.	ALT (KM)
6	4.64E+07	62	0.	944	0.	.063
8	2.15E+07	82	0.	1241	0.	
10	1.45E+07	102	0.	1538	0.	TEMP (C)
12	9.26E+06	122	0.	1835	0.	11.3
14	2.32E+06	142	0.	2132	0.	
16	1.74E+06	161	0.	2429	0.	DEWPOINT
18	3.47E+06	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	1.16E+06	221	0.	3320	0.	TAS (M/S)
24	1.15E+06	241	0.	3617	0.	79.0
26	5.74E+05	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.44E-04		0.		0.	0.
MED D	14		0		0	0

INTERVAL START: 19:36:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1014.6
2	1.78E+08	23	0.	404	0.	
4	2.71E+08	43	0.	647	0.	ALT (KM)
6	2.32E+08	62	1.03E+04	944	0.	.064
8	1.66E+08	82	0.	1241	0.	
10	1.52E+08	102	0.	1538	0.	TEMP (C)
12	9.97E+07	122	0.	1835	0.	11.3
14	5.88E+07	142	0.	2132	0.	
16	6.82E+07	161	0.	2429	0.	DEWPOINT
18	5.77E+07	181	0.	2726	0.	.0
20	3.51E+07	201	0.	3023	0.	
22	2.80E+07	221	0.	3320	0.	TAS (M/S)
24	1.63E+07	241	0.	3617	0.	78.7
26	5.30E+06	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.33E-03		2.68E-05		0.	2.68E-05
MED D	17		62		0	62

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 19:37:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1015.2
2	2.38E+08	23	0.	404	0.	
4	3.94E+08	43	0.	647	0.	ALT (KM)
6	3.87E+08	62	0.	944	0.	.058
8	2.97E+08	82	0.	1241	0.	
10	2.40E+08	102	0.	1538	0.	TEMP (C)
12	1.81E+08	122	0.	1835	0.	11.4
14	1.38E+08	142	0.	2132	0.	
16	9.05E+07	161	0.	2429	0.	DEWPOINT
18	9.29E+07	181	0.	2726	0.	.0
20	6.54E+07	201	0.	3023	0.	
22	4.73E+07	221	0.	3320	0.	TAS (M/S)
24	2.39E+07	241	0.	3617	0.	78.4
26	5.84E+06	260	0.	3914	0.	
28	5.83E+05	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.87E-03		0.		0.	0.
MED D	17		0		0	0

INTERVAL START: 19:37:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1015.6
2	2.16E+08	23	0.	404	0.	
4	4.63E+08	43	0.	647	0.	ALT (KM)
6	4.53E+08	62	0.	944	0.	.059
8	4.18E+08	82	0.	1241	0.	
10	3.46E+08	102	4.24E+03	1538	0.	TEMP (C)
12	2.85E+08	122	0.	1835	0.	11.4
14	2.07E+08	142	0.	2132	0.	
16	1.86E+08	161	0.	2429	0.	DEWPOINT
18	1.95E+08	181	0.	2726	0.	.0
20	1.5[illegible]E+08	201	0.	3023	0.	
22	1.07E+08	221	0.	3320	0.	TAS (M/S)
24	6.34E+07	241	0.	3617	0.	78.0
26	2.63E+07	260	0.	3914	0.	
28	2.94E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.94E-03		4.75E-05		0.	4.75E-05
MED D	19		102		0	102

PASS # 2 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT F78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:37:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	2.37E+08	23	0.	404	0.
4	4.84E+08	43	0.	647	0.
6	5.57E+08	62	0.	944	0.
8	4.96E+08	82	0.	1241	0.
10	3.85E+08	102	0.	1538	0.
12	3.09E+08	122	0.	1835	0.
14	2.32E+08	142	0.	2132	0.
16	1.74E+08	161	0.	2429	0.
18	1.99E+08	181	0.	2726	0.
20	1.67E+08	201	0.	3023	0.
22	1.22E+08	221	0.	3320	0.
24	8.69E+07	241	0.	3617	0.
26	4.03E+07	260	0.	3914	0.
28	8.19E+06	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	9.09E-03		0.		0.
MED D	19		0		0

P (MB) 1015.0
ALT (KM) .060
TEMP (C) 11.3
DEWPOINT .0
TAS (M/S) 78.5
TOTALS 0. 0

INTERVAL START@ 19:38:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.98E+08	23	0.	404	0.
4	3.40E+08	43	0.	647	0.
6	3.63E+08	62	0.	944	0.
8	3.03E+08	82	0.	1241	0.
10	2.72E+08	102	0.	1538	0.
12	2.14E+08	122	0.	1835	0.
14	1.79E+08	142	0.	2132	0.
16	1.65E+08	161	0.	2429	0.
18	2.15E+08	181	0.	2726	0.
20	1.73E+08	201	0.	3023	0.
22	1.54E+08	221	0.	3320	0.
24	1.42E+08	241	0.	3617	0.
26	1.16E+08	260	0.	3914	0.
28	2.81E+07	280	0.	4211	0.
30	5.82E+05	300	0.	4508	0.
LWC	1.17E-02		0.		0.
MED D	22		0		0

P (MB) 1015.4
ALT (KM) .057
TEMP (C) 11.4
DEWPOINT .0
TAS (M/S) 78.1
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT F78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:38:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.69E+08	23	0.	404	0.
4	3.30E+08	43	0.	647	0.
6	3.07E+08	62	0.	944	0.
8	3.20E+08	82	0.	1241	0.
10	3.08E+08	102	0.	1538	0.
12	2.73E+08	122	0.	1835	0.
14	2.13E+08	142	0.	2132	0.
16	1.92E+08	161	0.	2429	0.
18	2.58E+08	181	0.	2726	0.
20	2.13E+08	201	0.	3023	0.
22	2.10E+08	221	0.	3320	0.
24	1.76E+08	241	0.	3617	0.
26	1.52E+08	260	0.	3914	0.
28	4.78E+07	280	0.	4211	0.
30	0.	300.	0.	4508	0.
LWC	1.49E-02		0.		0.
MED D	22		0		0

P (MB) 1015.8
ALT (KM) .054
TEMP (C) 11.5
DEWPOINT .0
TAS (M/S) 77.5
TOTALS 0. 0

INTERVAL START@ 19:38:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.85E+08	23	0.	404	0.
4	1.86E+08	43	0.	647	0.
6	9.95E+07	62	0.	944	0.
8	5.65E+07	82	0.	1241	0.
10	4.17E+07	102	0.	1538	0.
12	3.47E+07	122	0.	1835	0.
14	1.94E+07	142	0.	2132	0.
16	1.35E+07	161	0.	2429	0.
18	2.12E+07	181	0.	2726	0.
20	1.24E+07	201	0.	3023	0.
22	1.12E+07	221	0.	3320	0.
24	1.41E+07	241	0.	3617	0.
26	7.63E+06	260	0.	3914	0.
28	1.06E+07	280	0.	4211	0.
30	5.81E+05	300	0.	4508	0.
LWC	1.27E-03		0.		0.
MED D	22		0		0

P (MB) 1015.3
ALT (KM) .058
TEMP (C) 11.5
DEWPOINT .0
TAS (M/S) 77.5
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 2 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 19:39:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.47E+08	23	0.	404	0.
4	1.89E+08	43	0.	647	0.
6	1.76E+08	62	0.	944	0.
8	1.54E+08	82	0.	1241	0.
10	1.39E+08	102	0.	1538	0.
12	1.13E+08	122	0.	1835	0.
14	9.32E+07	142	0.	2132	0.
16	8.57E+07	161	0.	2429	0.
18	1.35E+08	181	0.	2726	0.
20	1.56E+08	201	0.	3023	0.
22	1.85E+08	221	0.	3320	0.
24	1.83E+08	241	0.	3617	0.
26	1.98E+08	260	0.	3914	0.
28	8.33E+07	280	0.	4211	0.
30	5.81E+05	300	0.	4508	0.
LWC	1.37E-02		0.		0.
MED D	24		0		0

P (MB) 1015.1
ALT (KM) .060
TEMP (C) 11.4
DEWPOINT .0
TAS (M/S) 78.5
TOTALS 0. 0

INTERVAL START: 19:39:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.32E+08	23	0.	404	0.
4	1.47E+08	43	0.	647	0.
6	9.71E+07	62	0.	944	0.
8	5.52E+07	82	0.	1241	0.
10	3.11E+07	102	0.	1538	0.
12	1.47E+07	122	0.	1835	0.
14	9.96E+06	142	0.	2132	0.
16	1.35E+07	161	0.	2429	0.
18	1.29E+07	181	0.	2726	0.
20	8.22E+06	201	0.	3023	0.
22	7.01E+06	221	0.	3320	0.
24	7.64E+06	241	0.	3617	0.
26	5.28E+06	260	0.	3914	0.
28	4.69E+06	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	7.69E-04		0.		0.
MED D	21		0		0

P (MB) 1015.0
ALT (KM) .060
TEMP (C) 11.5
DEWPOINT .0
TAS (M/S) 77.9
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 19:39:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	8.87E+07	23	0.	404	0.
4	1.41E+08	43	0.	647	0.
6	8.33E+07	62	0.	944	0.
8	5.08E+07	82	0.	1241	0.
10	2.96E+07	102	0.	1538	0.
12	1.72E+07	122	0.	1835	0.
14	1.72E+07	142	0.	2132	0.
16	1.36E+07	161	0.	2429	0.
18	1.18E+07	181	0.	2726	0.
20	8.88E+06	201	0.	3023	0.
22	6.52E+06	221	0.	3320	0.
24	5.91E+06	241	0.	3617	0.
26	6.50E+06	260	0.	3914	0.
28	1.19E+06	280	0.	4211	0.
30	5.94E+05	300	0.	4508	0.
LWC	7.13E-04		0.		0.
MED D	20		0		0

P (MB) 1014.9
ALT (KM) .061
TEMP (C) 11.6
DEWPOINT .0
TAS (M/S) 77.5
TOTALS 0. 0

INTERVAL START: 19:40:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	9.28E+07	23	0.	404	0.
4	1.18E+08	43	0.	647	0.
6	8.75E+07	62	0.	944	0.
8	4.76E+07	82	0.	1241	0.
10	2.91E+07	102	0.	1538	0.
12	1.56E+07	122	0.	1835	0.
14	1.62E+07	142	0.	2132	0.
16	1.16E+07	161	0.	2429	0.
18	1.04E+07	181	0.	2726	0.
20	6.37E+06	201	0.	3023	0.
22	9.84E+06	221	0.	3320	0.
24	7.52E+06	241	0.	3617	0.
26	5.22E+06	260	0.	3914	0.
28	1.15E+06	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	6.85E-04		0.		0.
MED D	21		0		0

P (MB) 1015.3
ALT (KM) .058
TEMP (C) 11.5
DEWPOINT .0
TAS (M/S) 78.9
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 2 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING

INTERVAL START: 19:40:20

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.13E+08	23	0.	404	0.
4	1.43E+08	43	0.	647	0.
6	9.64E+07	62	0.	944	0.
8	4.73E+07	82	0.	1241	0.
10	3.35E+07	102	0.	1538	0.
12	2.31E+07	122	0.	1835	0.
14	2.77E+07	142	0.	2132	0.
16	1.73E+07	161	0.	2429	0.
18	1.10E+07	181	0.	2726	0.
20	1.38E+07	201	0.	3023	0.
22	1.04E+07	221	0.	3320	0.
24	1.15E+07	241	0.	3617	0.
26	9.80E+06	260	0.	3914	0.
28	4.03E+06	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	1.05E-03		0.		0.
MED D	21		0		0

P (MB) 1015.2

ALT (KM) .059

TEMP (C) 11.3

DEWPOINT .0

TAS (M/S) 79.3

TOTALS 0. 0

INTERVAL START: 19:40:40

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.12E+08	23	0.	404	0.
4	1.54E+08	43	2.23E+04	647	0.
6	1.00E+08	62	0.	944	0.
8	8.05E+07	82	0.	1241	0.
10	4.60E+07	102	0.	1538	0.
12	3.91E+07	122	0.	1835	0.
14	3.33E+07	142	0.	2132	0.
16	2.40E+07	161	0.	2429	0.
18	2.98E+07	181	0.	2726	0.
20	2.16E+07	201	0.	3023	0.
22	1.99E+07	221	0.	3320	0.
24	1.75E+07	241	0.	3617	0.
26	1.40E+07	260	0.	3914	0.
28	3.48E+06	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	1.60E-03		1.86E-05		0.
MED D	21		43		0

P (MB) 1016.0

ALT (KM) .052

TEMP (C) 11.6

DEWPOINT .0

TAS (M/S) 78.5

TOTALS 1.86E-05 43

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING

INTERVAL START: 19:41:00

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.19E+08	23	0.	404	0.
4	1.64E+08	43	0.	647	0.
6	1.09E+08	62	0.	944	0.
8	6.68E+07	82	0.	1241	0.
10	6.21E+07	102	0.	1538	0.
12	3.87E+07	122	0.	1835	0.
14	3.93E+07	142	0.	2132	0.
16	2.46E+07	161	0.	2429	0.
18	1.82E+07	181	0.	2726	0.
20	1.64E+07	201	0.	3023	0.
22	1.23E+07	221	0.	3320	0.
24	8.19E+06	241	0.	3617	0.
26	4.69E+06	260	0.	3914	0.
28	1.19E+06	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	1.08E-03		0.		0.
MED D	18		0		0

P (MB) 1016.5

ALT (KM) .048

TEMP (C) 11.6

DEWPOINT .0

TAS (M/S) 78.1

TOTALS 0. 0

INTERVAL START: 19:41:20

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	8.55E+07	23	0.	404	0.
4	1.35E+08	43	0.	647	0.
6	9.96E+07	62	0.	944	0.
8	6.03E+07	82	0.	1241	0.
10	6.83E+07	102	0.	1538	0.
12	5.48E+07	122	0.	1835	0.
14	3.60E+07	142	0.	2132	0.
16	3.77E+07	161	0.	2429	0.
18	2.07E+07	181	0.	2726	0.
20	1.23E+07	201	0.	3023	0.
22	1.23E+07	221	0.	3320	0.
24	1.17E+06	241	0.	3617	0.
26	3.55E+06	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	9.94E-04		0.		0.
MED D	16		0		0

P (MB) 1015.9

ALT (KM) .053

TEMP (C) 11.7

DEWPOINT .0

TAS (M/S) 77.5

TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:41:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1015.5
2	1.04E+08	23	0.	404	0.	
4	1.15E+08	43	0.	647	0.	ALT (KM)
6	8.74E+07	62	0.	944	0.	.056
8	6.02E+07	82	0.	1241	0.	
10	4.52E+07	102	0.	1538	0.	TEMP (C)
12	2.83E+07	122	0.	1835	0.	11.7
14	2.66E+07	142	0.	2132	0.	
16	2.38E+07	161	0.	2429	0.	DEWPOINT
18	1.74E+07	181	0.	2726	0.	.0
20	1.56E+07	201	0.	3023	0.	
22	6.38E+06	221	0.	3320	0.	TAS (M/S)
24	6.37E+06	241	0.	3617	0.	79.0
26	2.89E+06	260	0.	3914	0.	
28	2.32E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.71E-04		0.		0.	0.
MED D	18		0		0	0

INTERVAL START@ 19:42:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1015.1
2	4.76E+07	23	0.	404	0.	
4	8.02E+07	43	0.	647	0.	ALT (KM)
6	6.12E+07	62	0.	944	0.	.060
8	5.34E+07	82	0.	1241	0.	
10	2.09E+07	102	0.	1538	0.	TEMP (C)
12	1.83E+07	122	0.	1835	0.	11.7
14	1.51E+07	142	0.	2132	0.	
16	1.68E+07	161	0.	2429	0.	DEWPOINT
18	1.22E+07	181	0.	2726	0.	.0
20	6.97E+06	201	0.	3023	0.	
22	5.23E+06	221	0.	3320	0.	TAS (M/S)
24	1.16E+06	241	0.	3617	0.	78.7
26	1.16E+06	260	0.	3914	0.	
28	5.80E+05	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.77E-04		0.		0.	0.
MED D	17		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:42:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1015.6
2	9.96E+07	23	0.	404	0.	
4	1.55E+08	43	0.	647	0.	ALT (KM)
6	1.08E+08	62	0.	944	0.	.055
8	7.39E+07	82	0.	1241	0.	
10	4.77E+07	102	0.	1538	0.	TEMP (C)
12	3.77E+07	122	0.	1835	0.	11.7
14	3.31E+07	142	0.	2132	0.	
16	2.56E+07	161	0.	2429	0.	DEWPOINT
18	2.80E+07	181	0.	2726	0.	.0
20	1.63E+07	201	0.	3023	0.	
22	1.64E+07	221	0.	3320	0.	TAS (M/S)
24	1.05E+07	241	0.	3617	0.	78.8
26	9.40E+06	260	0.	3914	0.	
28	2.34E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.30E-03		0.		0.	0.
MED D	19		0		0	0

INTERVAL START@ 19:42:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1015.4
2	5.28E+07	23	0.	404	0.	
4	6.38E+07	43	0.	647	0.	ALT (KM)
6	4.75E+07	62	0.	944	0.	.057
8	3.28E+07	82	0.	1241	0.	
10	2.40E+07	102	0.	1538	0.	TEMP (C)
12	2.52E+07	122	0.	1835	0.	11.8
14	1.59E+07	142	0.	2132	0.	
16	1.82E+07	161	0.	2429	0.	DEWPOINT
18	1.88E+07	181	0.	2726	0.	.0
20	1.05E+07	201	0.	3023	0.	
22	1.29E+07	221	0.	3320	0.	TAS (M/S)
24	8.79E+06	241	0.	3617	0.	78.1
26	4.68E+06	260	0.	3914	0.	
28	1.77E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.46E-04		0.		0.	0.
MED D	20		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 2 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 19:43:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1014.4
2	3.34E+07	23	0.	404	0.	
4	5.01E+07	43	0.	647	0.	ALT (KM)
6	4.24E+07	62	0.	944	0.	.065
8	3.38E+07	82	0.	1241	0.	
10	2.81E+07	102	0.	1538	0.	TEMP (C)
12	2.18E+07	122	0.	1835	0.	11.7
14	1.66E+07	142	0.	2132	0.	
16	1.55E+07	161	0.	2429	0.	DEWPOINT
18	1.32E+07	181	0.	2726	0.	.0
20	9.81E+06	201	0.	3023	0.	
22	2.88E+06	221	0.	3320	0.	TAS (M/S)
24	4.03E+06	241	0.	3617	0.	79.4
26	5.87E+05	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	5.86E+05	300	0.	4508	0.	
						TOTALS
LWC	5.1E-04		0.		0.	0.
MED D	17		0		0	0

END OF PASS

INTERVAL START: 19:43:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1007.9
2	9.03E+07	23	0.	404	0.	
4	1.32E+08	43	0.	647	0.	ALT (KM)
6	9.46E+07	62	0.	944	0.	.121
8	6.60E+07	82	0.	1241	0.	
10	4.90E+07	102	0.	1538	0.	TEMP (C)
12	3.64E+07	122	0.	1835	0.	11.4
14	2.25E+07	142	0.	2132	0.	
16	2.41E+07	161	0.	2429	0.	DEWPOINT
18	2.47E+07	181	0.	2726	0.	.0
20	2.41E+07	201	0.	3023	0.	
22	1.15E+07	221	0.	3320	0.	TAS (M/S)
24	7.72E+06	241	0.	3617	0.	82.8
26	4.94E+06	260	0.	3914	0.	
28	1.64E+06	280	0.	4211	0.	
30	5.57E+05	300	0.	4508	0.	
						TOTALS
LWC	1.12E-03		0.		0.	0.
MED D	19		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 19:43:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 999.4
2	2.84E+08	23	0.	404	0.	
4	3.91E+08	43	0.	647	0.	ALT (KM)
6	2.67E+08	62	0.	944	0.	.191
8	1.72E+08	82	0.	1241	0.	
10	1.15E+08	102	0.	1538	0.	TEMP (C)
12	8.31E+07	122	0.	1835	0.	10.8
14	7.27E+07	142	0.	2132	0.	
16	4.81E+07	161	0.	2429	0.	DEWPOINT
18	5.19E+07	181	0.	2726	0.	.0
20	4.04E+07	201	0.	3023	0.	
22	2.24E+07	221	0.	3320	0.	TAS (M/S)
24	8.71E+06	241	0.	3617	0.	83.8
26	1.42E+07	260	0.	3914	0.	
28	2.71E+06	280	0.	4211	0.	
30	5.46E+05	300	0.	4508	0.	
						TOTALS
LWC	2.31E-03		0.		0.	0.
MED D	18		0		0	0

INTERVAL START: 19:44:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1000.0
2	2.13E+08	23	0.	404	0.	
4	2.61E+08	43	0.	647	0.	ALT (KM)
6	1.84E+08	62	0.	944	0.	.186
8	1.30E+08	82	0.	1241	0.	
10	9.19E+07	102	0.	1538	0.	TEMP (C)
12	6.03E+07	122	0.	1835	0.	11.1
14	4.52E+07	142	0.	2132	0.	
16	3.56E+07	161	0.	2429	0.	DEWPOINT
18	3.87E+07	181	0.	2726	0.	.0
20	1.46E+07	201	0.	3023	0.	
22	1.49E+07	221	0.	3320	0.	TAS (M/S)
24	1.06E+07	241	0.	3617	0.	81.2
26	1.21E+07	260	0.	3914	0.	
28	2.21E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.62E-03		0.		0.	0.
MED D	18		0		0	0

PASS # 3 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:* 19:45:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1012.2
2	2.55E+07	23	0.	404	0.	
4	1.33E+07	43	0.	647	0.	ALT (KM)
6	1.27E+07	62	0.	944	0.	.084
8	4.64E+06	82	0.	1241	0.	
10	5.85E+05	102	0.	1538	0.	TEMP (C)
12	5.78E+05	122	0.	1835	0.	11.5
14	0.	142	0.	2132	0.	
16	1.16E+06	161	0.	2429	0.	DEWPOINT
18	5.81E+05	181	0.	2726	0.	.0
20	5.77E+05	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.0
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.29E-05		0.		0.	0.
MED D	16		0		0	0

INTERVAL START:* 19:46:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1012.0
2	2.48E+07	23	0.	404	0.	
4	5.26E+07	43	0.	647	0.	ALT (KM)
6	2.08E+07	62	0.	944	0.	.085
8	6.37E+06	82	0.	1241	0.	
10	2.31E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.5
14	5.82E+05	142	0.	2132	0.	
16	5.79E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	5.76E+05	201	0.	3023	0.	
22	5.81E+05	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.2
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.22E-05		0.		0.	0.
MED D	10		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:* 19:46:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1012.0
2	3.02E+07	23	0.	404	0.	
4	3.66E+07	43	0.	647	0.	ALT (KM)
6	2.21E+07	62	0.	944	0.	.085
8	6.96E+06	82	0.	1241	0.	
10	4.07E+06	102	0.	1538	0.	TEMP (C)
12	1.74E+06	122	0.	1835	0.	11.5
14	1.16E+06	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	5.83E+05	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	1.16E+06	221	0.	3320	0.	TAS (M/S)
24	5.81E+05	241	0.	3617	0.	78.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.97E-05		0.		0.	0.
MED D	17		0		0	0

INTERVAL START:* 19:46:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.8
2	1.86E+07	23	0.	404	0.	
4	3.49E+07	43	0.	647	0.	ALT (KM)
6	1.45E+07	62	0.	944	0.	.087
8	4.65E+06	82	0.	1241	0.	
10	2.89E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.5
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.29E-05		0.		0.	0.
MED D	7		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 3 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 19:47:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.8
2	1.76E+07	23	0.	404	0.	
4	2.70E+07	43	0.	647	0.	ALT (KM)
6	9.37E+06	62	0.	944	0.	.087
8	4.66E+06	82	0.	1241	0.	
10	1.17E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.4
14	5.92E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	5.89E+05	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.0
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.57E-05		0.		0.	0.
MED D	9		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 19:47:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1012.0
2	1.98E+07	23	0.	404	0.	
4	4.95E+07	43	0.	647	0.	ALT (KM)
6	1.11E+07	62	0.	944	0.	.085
8	2.91E+06	82	0.	1241	0.	
10	1.74E+06	102	0.	1538	0.	TEMP (C)
12	1.74E+06	122	0.	1835	0.	11.5
14	5.86E+05	142	0.	2132	0.	
16	1.16E+06	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.11E-05		0.		0.	0.
MED D	10		0		0	0

INTERVAL START: 19:47:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.5
2	1.86E+07	23	8.46E+04	404	0.	
4	3.38E+07	43	0.	647	0.	ALT (KM)
6	6.42E+06	62	0.	944	0.	.089
8	1.75E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.4
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.76E-06		1.12E-05		0.	1.12E-05
MED D	5		23		0	23

INTERVAL START: 19:48:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1012.9
2	3.25E+07	23	0.	404	0.	
4	6.19E+07	43	0.	647	0.	ALT (KM)
6	1.53E+07	62	0.	944	0.	.079
8	5.91E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.6
14	5.89E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.48E-05		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 3 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING

INTERVAL START:* 19:48:20*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1012.3
2	2.46E+07	23	0.	404	0.	
4	3.28E+07	43	0.	647	0.	ALT (KM)
6	9.97E+06	62	0.	944	0.	.083
8	4.11E+06	82	0.	1241	0.	
10	1.17E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.5
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	9.38E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START:* 19:48:40*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.9
2	2.86E+07	23	0.	404	0.	
4	5.47E+07	43	0.	647	0.	ALT (KM)
6	9.28E+06	62	0.	944	0.	.086
8	1.73E+06	82	0.	1241	0.	
10	1.17E+06	102	0.	1538	0.	TEMP (C)
12	1.16E+06	122	0.	1835	0.	11.5
14	5.81E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.36E-05		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING

INTERVAL START:* 19:49:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.8
2	1.33E+07	23	0.	404	0.	
4	3.31E+07	43	0.	647	0.	ALT (KM)
6	9.84E+06	62	0.	944	0.	.087
8	3.47E+06	82	0.	1241	0.	
10	5.82E+05	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.5
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.18E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START:* 19:49:20*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1012.1
2	6.19E+07	23	0.	404	0.	
4	6.65E+07	43	0.	647	0.	ALT (KM)
6	1.83E+07	62	0.	944	0.	.084
8	2.92E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	5.83E+05	122	0.	1835	0.	11.5
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.41E-05		0.		0.	0.
MED D	5		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 3 DATA

FLIGHT F78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:49:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.9
2	2.42E+07	23	0.	404	0.	
4	4.59E+07	43	0.	647	0.	ALT (KM)
6	1.23E+07	62	0.	944	0.	.086
8	2.35E+06	82	0.	1241	0.	
10	5.81E+05	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.4
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	9.39E-06		0.		0.	0.
MED D	.5		0		0	0

INTERVAL START@ 19:50:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.8
2	1.15E+07	23	0.	404	0.	
4	1.73E+07	43	0.	647	0.	ALT (KM)
6	5.18E+06	62	0.	944	0.	.087
8	1.74E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	1.15E+06	122	0.	1835	0.	11.4
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.4
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.15E-06		0.		0.	0.
MED D	7		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT F78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:50:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.9
2	6.45E+06	23	0.	404	0.	
4	1.03E+07	43	0.	647	0.	ALT (KM)
6	1.03E+07	62	0.	944	0.	.086
8	3.53E+06	82	0.	1241	0.	
10	1.74E+06	102	0.	1538	0.	TEMP (C)
12	5.86E+05	122	0.	1835	0.	11.4
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.65E-06		0.		0.	0.
MED D	8		0		0	0

INTERVAL START@ 19:50:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.8
2	7.08E+06	23	0.	404	0.	
4	1.53E+07	43	0.	647	0.	ALT (KM)
6	4.70E+06	62	0.	944	0.	.087
8	2.94E+06	82	0.	1241	0.	
10	1.78E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.3
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.31E-06		0.		0.	0.
MED D	7		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 3 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING

INTERVAL START: 19:51:00

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1012.2
2	6.35E+06	23	0.	404	0.	
4	1.78E+07	43	0.	647	0.	ALT (KM)
6	6.89E+06	62	0.	944	0.	.084
8	1.15E+06	82	0.	1241	0.	
10	1.71E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.4
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.96E-06		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING

INTERVAL START: 19:51:40

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1012.0
2	1.07E+07	23	0.	404	0.	
4	1.60E+07	43	0.	647	0.	ALT (KM)
6	4.16E+06	62	0.	944	0.	.085
8	5.98E+05	82	0.	1241	0.	
10	1.19E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.4
14	1.19E+06	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.80E-06		0.		0.	0.
MED D	10		0		0	0

INTERVAL START: 19:51:20

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1012.2
2	7.67E+06	23	0.	404	0.	
4	1.24E+07	43	0.	647	0.	ALT (KM)
6	3.54E+06	62	0.	944	0.	.084
8	3.55E+06	82	0.	1241	0.	
10	1.76E+06	102	0.	1538	0.	TEMP (C)
12	5.84E+05	122	0.	1835	0.	11.3
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.3
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.23E-06		0.		0.	0.
MED D	8		0		0	0

INTERVAL START: 19:52:00

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1011.8
2	7.02E+06	23	0.	404	0.	
4	1.63E+07	43	0.	647	0.	ALT (KM)
6	3.49E+06	62	0.	944	0.	.087
8	2.92E+06	82	0.	1241	0.	
10	5.85E+05	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.6
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.74E-06		0.		0.	0.
MED D	7		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 3 DATA

FLIGHT F78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START=*19:52:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	6.42E+06	23	0.	404	0.
4	1.52E+07	43	0.	647	0.
6	5.27E+06	62	0.	944	0.
8	2.92E+06	82	0.	1241	0.
10	2.93E+06	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	5.81E+05	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	9.45E-06		0.		0.
MED D	9		0		0

P (MB) 1011.3
ALT (KM) .091
TEMP (C) 11.2
DEWPOINT .0
TAS (M/S) 78.6
TOTALS 0.
0

INTERVAL START=*19:52:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	6.47E+06	23	0.	404	0.
4	1.00E+07	43	0.	647	0.
6	4.71E+06	62	0.	944	0.
8	1.76E+06	82	0.	1241	0.
10	5.95E+05	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	3.85E-06		0.		0.
MED D	6		0		0

P (MB) 1011.5
ALT (KM) .090
TEMP (C) 11.2
DEWPOINT .0
TAS (M/S) 77.9
TOTALS 0.
0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT F78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START=*19:53:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	4.68E+06	23	0.	404	0.
4	1.41E+07	43	0.	647	0.
6	8.21E+06	62	0.	944	0.
8	2.93E+06	82	0.	1241	0.
10	5.82E+05	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	5.74E-06		0.		0.
MED D	6		0		0

P (MB) 1011.9
ALT (KM) .087
TEMP (C) 11.2
DEWPOINT .0
TAS (M/S) 78.1
TOTALS 0.
0

INTERVAL START=*19:53:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.82E+06	23	0.	404	0.
4	1.53E+07	43	0.	647	0.
6	6.95E+06	62	0.	944	0.
8	2.92E+06	82	0.	1241	0.
10	1.73E+06	102	0.	1538	0.
12	5.77E+05	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	8.00E-06		0.		0.
MED D	8		0		0

P (MB) 1011.2
ALT (KM) .092
TEMP (C) 11.1
DEWPOINT .0
TAS (M/S) 78.7
TOTALS 0.
0

END OF PASS

AFWL MARINE LAYER STUDY BY AFGL

PASS # 4 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:55:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.2
2	1.48E+07	23	0.	404	0.	
4	2.37E+07	43	0.	647	0.	ALT (KM) .117
6	8.89E+06	62	0.	944	0.	
8	5.88E+06	82	0.	1241	0.	
10	5.93E+05	102	0.	1538	0.	TEMP (C) 11.2
12	1.17E+06	122	0.	1835	0.	
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT .0
18	0.	181	0.	2726	0.	
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S) 77.1
24	0.	241	0.	3617	0.	
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.08E-05		0.		0.	0.
MED D	7		0		0	0

INTERVAL START@ 19:56:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.2
2	1.92E+07	23	0.	404	0.	
4	3.71E+07	43	0.	647	0.	ALT (KM) .117
6	1.04E+07	62	0.	944	0.	
8	4.63E+06	82	0.	1241	0.	
10	5.78E+05	102	0.	1538	0.	TEMP (C) 11.2
12	0.	122	0.	1835	0.	
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT .0
18	0.	181	0.	2726	0.	
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S) 78.9
24	0.	241	0.	3617	0.	
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	9.44E-06		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:56:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.5
2	4.62E+07	23	0.	404	0.	
4	9.01E+07	43	0.	647	0.	ALT (KM) .115
6	3.61E+07	62	0.	944	0.	
8	7.72E+06	82	0.	1241	0.	
10	1.78E+06	102	0.	1538	0.	TEMP (C) 11.3
12	1.76E+06	122	0.	1835	0.	
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT .0
18	5.92E+05	181	0.	2726	0.	
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S) 77.3
24	0.	241	0.	3617	0.	
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.11E-05		0.		0.	0.
MED D	6		0		0	0

INTERVAL START@ 19:56:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.5
2	8.65E+07	23	0.	404	0.	
4	1.02E+08	43	0.	647	0.	ALT (KM) .114
6	7.72E+07	62	0.	944	0.	
8	4.51E+07	82	0.	1241	0.	
10	2.55E+07	102	0.	1538	0.	TEMP (C) 11.3
12	1.89E+07	122	0.	1835	0.	
14	7.09E+06	142	0.	2132	0.	
16	4.73E+06	161	0.	2429	0.	DEWPOINT .2
18	7.71E+06	181	0.	2726	0.	
20	5.91E+06	201	0.	3023	0.	
22	4.73E+06	221	0.	3320	0.	TAS (M/S) 76.9
24	2.95E+06	241	0.	3617	0.	
26	5.94E+05	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.68E-04		0.		0.	0.
MED D	18		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 4 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:57:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	2.22E+08	23	0.	404	0.
4	4.30E+08	43	0.	647	0.
6	4.37E+08	62	0.	944	0.
8	3.61E+08	82	0.	1241	0.
10	2.46E+08	102	0.	1538	0.
12	1.89E+08	122	0.	1835	0.
14	1.19E+08	142	0.	2132	0.
16	9.36E+07	161	0.	2429	0.
18	8.89E+07	181	0.	2726	0.
20	6.47E+07	201	0.	3023	0.
22	5.60E+07	221	0.	3320	0.
24	2.53E+07	241	0.	3617	0.
26	8.81E+06	260	0.	3914	0.
28	5.81E+05	280	0.	4211	0.
30	5.88E+05	300	0.	4508	0.
LWC	4.06E-03		0.		0.
MED D	18		0		0

P (MB) 1008.5
ALT (KM) .115
TEMP (C) 11.4
DEWPOINT .0
TAS (M/S) 77.5
TOTALS 0. 0

INTERVAL START@ 19:57:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.97E+08	23	0.	404	0.
4	3.98E+08	43	0.	647	0.
6	3.80E+08	62	0.	944	0.
8	3.65E+08	82	0.	1241	0.
10	3.03E+08	102	0.	1538	0.
12	2.44E+08	122	0.	1835	0.
14	1.75E+08	142	0.	2132	0.
16	1.61E+08	161	0.	2429	0.
18	1.61E+08	181	0.	2726	0.
20	1.40E+08	201	0.	3023	0.
22	1.14E+08	221	0.	3320	0.
24	8.08E+07	241	0.	3617	0.
26	4.41E+07	260	0.	3914	0.
28	1.59E+07	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	8.21E-03		0.		0.
MED D	20		0		0

P (MB) 1008.6
ALT (KM) .114
TEMP (C) 11.4
DEWPOINT .0
TAS (M/S) 77.7
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START@ 19:57:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.95E+08	23	0.	404	0.
4	3.32E+08	43	0.	647	0.
6	3.53E+08	62	0.	944	0.
8	3.28E+08	82	0.	1241	0.
10	3.16E+08	102	0.	1538	0.
12	2.70E+08	122	0.	1835	0.
14	2.03E+08	142	0.	2132	0.
16	2.04E+08	161	0.	2429	0.
18	2.08E+08	181	0.	2726	0.
20	1.82E+08	201	0.	3023	0.
22	1.53E+08	221	0.	3320	0.
24	1.28E+08	241	0.	3617	0.
26	1.12E+08	260	0.	3914	0.
28	5.02E+07	280	0.	4211	0.
30	5.94E+05	300	0.	4508	0.
LWC	1.23E-02		0.		0.
MED D	21		0		0

P (MB) 1008.8
ALT (KM) .112
TEMP (C) 11.4
DEWPOINT .0
TAS (M/S) 77.3
TOTALS 0. 0

INTERVAL START@ 19:58:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	2.02E+08	23	0.	404	0.
4	4.18E+08	43	0.	647	0.
6	4.28E+08	62	0.	944	0.
8	3.78E+08	82	0.	1241	0.
10	3.36E+08	102	0.	1538	0.
12	2.79E+08	122	0.	1835	0.
14	2.28E+08	142	0.	2132	0.
16	2.00E+08	161	0.	2429	0.
18	2.83E+08	181	0.	2726	0.
20	2.13E+08	201	0.	3023	0.
22	1.62E+08	221	0.	3320	0.
24	1.14E+08	241	0.	3617	0.
26	9.33E+07	260	0.	3914	0.
28	3.26E+07	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	1.24E-02		0.		0.
MED D	20		0		0

P (MB) 1008.8
ALT (KM) .112
TEMP (C) 11.4
DEWPOINT .0
TAS (M/S) 78.4
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 4 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:* 19:58:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MU)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1009.2
2	1.55E+08	23	0.	404	0.	
4	2.75E+08	43	0.	647	0.	ALT (KM) .109
6	3.10E+08	62	0.	944	0.	
8	2.99E+08	82	0.	1241	0.	
10	2.59E+08	102	0.	1538	0.	TEMP (C) 11.4
12	2.50E+08	122	0.	1835	0.	
14	1.99E+08	142	0.	2132	0.	
16	1.86E+08	161	0.	2429	0.	DEWPOINT .0
18	2.52E+08	181	0.	2726	0.	
20	2.43E+08	201	0.	3023	0.	
22	2.45E+08	221	0.	3320	0.	TAS (M/S) 78.9
24	2.61E+08	241	0.	3617	0.	
26	2.28E+08	260	0.	3914	0.	
28	9.39E+07	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.90E-02		0.		0.	0.
MED D	23		0		0	0

INTERVAL START:* 19:58:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MU)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.5
2	1.08E+08	23	0.	404	0.	
4	2.03E+08	43	0.	647	0.	ALT (KM) .115
6	2.21E+08	62	0.	944	0.	
8	2.32E+08	82	0.	1241	0.	
10	1.98E+08	102	0.	1538	0.	TEMP (C) 11.4
12	1.87E+08	122	0.	1835	0.	
14	1.41E+08	142	0.	2132	0.	
16	1.51E+08	161	0.	2429	0.	DEWPOINT .0
18	2.13E+08	181	0.	2726	0.	
20	1.88E+08	201	0.	3023	0.	
22	2.27E+08	221	0.	3320	0.	TAS (M/S) 77.4
24	2.25E+08	241	0.	3617	0.	
26	2.48E+08	260	0.	3914	0.	
28	1.12E+08	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.78E-02		0.		0.	0.
MED D	24		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:* 19:59:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MU)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.5
2	4.78E+07	23	0.	404	0.	
4	6.73E+07	43	0.	647	0.	ALT (KM) .114
6	5.44E+07	62	0.	944	0.	
8	5.08E+07	82	0.	1241	0.	
10	5.43E+07	102	0.	1538	0.	TEMP (C) 11.5
12	3.84E+07	122	0.	1835	0.	
14	2.95E+07	142	0.	2132	0.	
16	3.84E+07	161	0.	2429	0.	DEWPOINT .0
18	4.96E+07	181	0.	2726	0.	
20	5.02E+07	201	0.	3023	0.	
22	5.15E+07	221	0.	3320	0.	TAS (M/S) 77.5
24	6.15E+07	241	0.	3617	0.	
26	7.96E+07	260	0.	3914	0.	
28	4.18E+07	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.08E-03		0.		0.	0.
MED D	24		0		0	0

INTERVAL START:* 19:59:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MU)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.2
2	1.94E+07	23	0.	404	0.	
4	3.58E+07	43	0.	647	0.	ALT (KM) .117
6	2.11E+07	62	0.	944	0.	
8	1.88E+07	82	0.	1241	0.	
10	1.23E+07	102	0.	1538	0.	TEMP (C) 11.4
12	5.84E+06	122	0.	1835	0.	
14	1.23E+07	142	0.	2132	0.	
16	7.05E+06	161	0.	2429	0.	DEWPOINT .0
18	1.41E+07	181	0.	2726	0.	
20	1.23E+07	201	0.	3023	0.	
22	1.29E+07	221	0.	3320	0.	TAS (M/S) 78.0
24	2.35E+06	241	0.	3617	0.	
26	1.76E+06	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.17E-04		0.		0.	0.
MED D	20		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 4 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START=*19:59:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.4
2	1.28E+07	23	0.	404	0.	
4	5.26E+06	43	0.	647	0.	ALT (KM)
6	7.06E+06	62	0.	944	0.	.115
8	5.27E+06	82	0.	1241	0.	
10	6.50E+06	102	0.	1538	0.	TEMP (C)
12	4.67E+06	122	0.	1835	0.	11.5
14	4.71E+06	142	0.	2132	0.	
16	6.43E+06	161	0.	2429	0.	DEWPOINT
18	5.26E+06	181	0.	2726	0.	.0
20	6.46E+06	201	0.	3023	0.	
22	3.48E+06	221	0.	3320	0.	TAS (M/S)
24	5.82E+05	241	0.	3617	0.	78.2
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.99E-04		0.		0.	0.
MED D	19		0		0	0

INTERVAL START=*20:00:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.8
2	1.52E+07	23	0.	404	0.	
4	1.23E+07	43	0.	647	0.	ALT (KM)
6	7.01E+06	62	0.	944	0.	.113
8	5.84E+06	82	0.	1241	0.	
10	1.05E+07	102	0.	1538	0.	TEMP (C)
12	8.79E+06	122	0.	1835	0.	11.6
14	1.11E+07	142	0.	2132	0.	
16	4.07E+06	161	0.	2429	0.	DEWPOINT
18	7.62E+06	181	0.	2726	0.	.0
20	3.54E+06	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	1.18E+06	241	0.	3617	0.	78.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.81E-04		0.		0.	0.
MED D	17		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START=*20:00:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.9
2	1.12E+07	23	0.	404	0.	
4	2.42E+07	43	0.	647	0.	ALT (KM)
6	1.36E+07	62	0.	944	0.	.111
8	1.42E+07	82	0.	1241	0.	
10	7.66E+06	102	0.	1538	0.	TEMP (C)
12	1.18E+07	122	0.	1835	0.	11.6
14	8.86E+06	142	0.	2132	0.	
16	1.06E+07	161	0.	2429	0.	DEWPOINT
18	2.35E+06	181	0.	2726	0.	.0
20	7.07E+06	201	0.	3023	0.	
22	1.77E+06	221	0.	3320	0.	TAS (M/S)
24	5.83E+05	241	0.	3617	0.	77.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.21E-04		0.		0.	0.
MED D	16		0		0	0

INTERVAL START=*20:00:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.3
2	1.84E+07	23	0.	404	0.	
4	3.13E+07	43	0.	647	0.	ALT (KM)
6	2.07E+07	62	0.	944	0.	.116
8	1.71E+07	82	0.	1241	0.	
10	9.46E+06	102	0.	1538	0.	TEMP (C)
12	1.24E+07	122	0.	1835	0.	11.5
14	7.74E+06	142	0.	2132	0.	
16	7.15E+06	161	0.	2429	0.	DEWPOINT
18	1.01E+07	181	0.	2726	0.	.0
20	5.38E+06	201	0.	3023	0.	
22	3.59E+06	221	0.	3320	0.	TAS (M/S)
24	1.20E+06	241	0.	3617	0.	77.0
26	5.99E+05	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.85E-04		0.		0.	0.
MED D	18		0		0	0

PASS # 4 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START=*20:01:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.4
2	2.35E+07	23	0.	404	0.	
4	2.59E+07	43	0.	647	0.	ALT (KM)
6	1.59E+07	62	0.	944	0.	.116
8	1.12E+07	82	0.	1241	0.	
10	1.24E+07	102	0.	1538	0.	TEMP (C)
12	8.24E+06	122	0.	1835	0.	11.6
14	8.23E+06	142	0.	2132	0.	
16	2.34E+06	161	0.	2429	0.	DEWPOINT
18	1.78E+06	181	0.	2726	0.	.0
20	2.35E+06	201	0.	3023	0.	
22	1.76E+06	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.28E-04		0.		0.	0.
MED D	14		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START=*20:01:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.2
2	1.10E+07	23	0.	404	0.	
4	1.74E+07	43	0.	647	0.	ALT (KM)
6	1.97E+07	62	0.	944	0.	.117
8	1.51E+07	82	0.	1241	0.	
10	1.39E+07	102	0.	1538	0.	TEMP (C)
12	1.91E+07	122	0.	1835	0.	11.6
14	1.74E+07	142	0.	2132	0.	
16	1.39E+07	161	0.	2429	0.	DEWPOINT
18	1.27E+07	181	0.	2726	0.	.0
20	3.48E+06	201	0.	3023	0.	
22	2.90E+06	221	0.	3320	0.	TAS (M/S)
24	5.82E+05	241	0.	3617	0.	78.9
26	5.80E+05	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.41E-04		0.		0.	0.
MED D	16		0		0	0

INTERVAL START=*20:01:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.3
2	1.70E+07	23	0.	404	0.	
4	2.41E+07	43	0.	647	0.	ALT (KM)
6	2.17E+07	62	0.	944	0.	.116
8	1.82E+07	82	0.	1241	0.	
10	1.41E+07	102	0.	1538	0.	TEMP (C)
12	1.35E+07	122	0.	1835	0.	11.6
14	7.03E+06	142	0.	2132	0.	
16	1.16E+06	161	0.	2429	0.	DEWPOINT
18	5.29E+06	181	0.	2726	0.	.0
20	4.10E+06	201	0.	3023	0.	
22	3.55E+06	221	0.	3320	0.	TAS (M/S)
24	5.98E+05	241	0.	3617	0.	77.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.02E-04		0.		0.	0.
MED D	18		0		0	0

INTERVAL START=*20:02:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.3
2	3.15E+07	23	0.	404	0.	
4	5.30E+07	43	0.	647	0.	ALT (KM)
6	5.43E+07	62	0.	944	0.	.116
8	3.84E+07	82	0.	1241	0.	
10	4.48E+07	102	0.	1538	0.	TEMP (C)
12	4.18E+07	122	0.	1835	0.	11.6
14	4.24E+07	142	0.	2132	0.	
16	3.30E+07	161	0.	2429	0.	DEWPOINT
18	2.32E+07	181	0.	2726	0.	.0
20	1.10E+07	201	0.	3023	0.	
22	5.21E+06	221	0.	3320	0.	TAS (M/S)
24	1.16E+06	241	0.	3617	0.	78.3
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.56E-04		0.		0.	0.
MED D	16		0		0	0

PASS # 4 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: *20:02:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.7
2	6.48E+07	23	0.	404	0.	
4	1.12E+08	43	0.	647	0.	ALT (KM)
6	8.66E+07	62	0.	944	0.	.113
8	8.26E+07	82	0.	1241	0.	
10	7.12E+07	102	0.	1538	0.	TEMP (C)
12	5.30E+07	122	0.	1835	0.	11.6
14	2.47E+07	142	0.	2132	0.	
16	9.41E+06	161	0.	2429	0.	DEWPOINT
18	1.77E+06	181	0.	2726	0.	.0
20	1.18E+06	201	0.	3023	0.	
22	2.35E+06	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.24E-04		0.		0.	0.
MED D	12		0		0	0

INTERVAL START: *20:02:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.5
2	1.86E+08	23	0.	404	0.	
4	2.45E+08	43	0.	647	0.	ALT (KM)
6	1.66E+08	62	0.	944	0.	.115
8	1.15E+08	82	0.	1241	0.	
10	8.01E+07	102	0.	1538	0.	TEMP (C)
12	5.38E+07	122	0.	1835	0.	11.8
14	2.94E+07	142	0.	2132	0.	
16	1.12E+07	161	0.	2429	0.	DEWPOINT
18	6.46E+06	181	0.	2726	0.	.0
20	5.87E+05	201	0.	3023	0.	
22	5.92E+05	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.13E-04		0.		0.	0.
MED D	11		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: *20:03:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.0
2	9.39E+07	23	0.	404	0.	
4	1.66E+08	43	2.23E+04	647	0.	ALT (KM)
6	1.08E+08	62	1.04E+04	944	0.	.119
8	8.63E+07	82	0.	1241	0.	
10	7.81E+07	102	0.	1538	0.	TEMP (C)
12	6.83E+07	122	0.	1835	0.	11.7
14	2.45E+07	142	0.	2132	0.	
16	1.52E+07	161	0.	2429	0.	DEWPOINT
18	6.41E+06	181	0.	2726	0.	.0
20	1.16E+06	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.4
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.01E-04		4.58E-05		0.	4.58E-05
MED D	12		56		0	56

INTERVAL START: *20:03:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1008.6
2	1.06E+08	23	0.	404	0.	
4	1.91E+08	43	0.	647	0.	ALT (KM)
6	1.28E+08	62	0.	944	0.	.114
8	8.84E+07	82	0.	1241	0.	
10	5.58E+07	102	0.	1538	0.	TEMP (C)
12	5.88E+07	122	0.	1835	0.	11.8
14	4.25E+07	142	0.	2132	0.	
16	2.62E+07	161	0.	2429	0.	DEWPOINT
18	1.28E+07	181	0.	2726	0.	.0
20	1.75E+06	201	0.	3023	0.	
22	1.75E+06	221	0.	3320	0.	TAS (M/S)
24	5.85E+05	241	0.	3617	0.	78.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.41E-04		0.		0.	0.
MED D	13		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 4 DATA

FLIGHT F78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:03:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.81E+07	23	0.	404	0.
4	4.36E+07	43	0.	647	0.
6	3.48E+07	62	0.	944	0.
8	2.68E+07	82	0.	1241	0.
10	1.57E+07	102	0.	1538	0.
12	1.57E+07	122	0.	1835	0.
14	1.11E+07	142	0.	2132	0.
16	7.53E+06	161	0.	2429	0.
18	6.42E+06	181	0.	2726	0.
20	5.8AE+05	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	1.87E-04		0.		0.
MED D	14		0		0

P (MB) 1008.7
ALT (KM) .113
TEMP (C) 11.9
DEWPOINT .0
TAS (M/S) 78.6
TOTALS 0. 0

INTERVAL START:*20:04:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	3.49E+06	23	0.	404	0.
4	6.96E+06	43	0.	647	0.
6	4.06E+06	62	0.	944	0.
8	1.74E+06	82	0.	1241	0.
10	2.89E+06	102	0.	1538	0.
12	4.08E+06	122	0.	1835	0.
14	2.31E+06	142	0.	2132	0.
16	1.16E+06	161	0.	2429	0.
18	5.73E+05	181	0.	2726	0.
20	2.33E+06	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	4.91E-05		0.		0.
MED D	16		0		0

P (MB) 1006.5
ALT (KM) .131
TEMP (C) 11.8
DEWPOINT .0
TAS (M/S) 79.1
TOTALS 0. 0

END OF PASS

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT F78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:04:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	8.16E+06	23	0.	404	0.
4	1.52E+07	43	0.	647	0.
6	1.43E+07	62	0.	944	0.
8	8.69E+06	82	0.	1241	0.
10	4.97E+06	102	0.	1538	0.
12	4.84E+06	122	0.	1835	0.
14	3.28E+06	142	0.	2132	0.
16	3.26E+06	161	0.	2429	0.
18	1.60E+06	181	0.	2726	0.
20	1.63E+06	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	1.06E+06	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	9.25E-05		0.		0.
MED D	16		0		0

P (MB) 1002.2
ALT (KM) .167
TEMP (C) 11.5
DEWPOINT .0
TAS (M/S) 82.9
TOTALS 0. 0

INTERVAL START:*20:04:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	8.03E+07	23	0.	404	0.
4	1.52E+08	43	0.	647	0.
6	1.29E+08	62	0.	944	0.
8	8.44E+07	82	0.	1241	0.
10	4.55E+07	102	0.	1538	0.
12	4.15E+07	122	0.	1835	0.
14	2.54E+07	142	0.	2132	0.
16	2.24E+07	161	0.	2429	0.
18	2.19E+07	181	0.	2726	0.
20	9.65E+06	201	0.	3023	0.
22	4.56E+06	221	0.	3320	0.
24	3.56E+06	241	0.	3617	0.
26	2.53E+06	260	0.	3914	0.
28	1.02E+06	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	7.93E-04		0.		0.
MED D	17		0		0

P (MB) 999.5
ALT (KM) .190
TEMP (C) 10.8
DEWPOINT .0
TAS (M/S) 89.7
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 5 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:06:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.0
2	2.63E+08	23	0.	404	0.	
4	2.41E+08	43	0.	647	0.	ALT (KM)
6	1.35E+08	62	0.	944	0.	.144
8	7.89E+07	82	0.	1241	0.	
10	4.34E+07	102	0.	1538	0.	TEMP (C)
12	3.14E+07	122	0.	1835	0.	11.6
14	1.71E+07	142	0.	2132	0.	
16	1.03E+07	161	0.	2429	0.	DEWPOINT
18	1.03E+07	181	0.	2726	0.	.0
20	6.30E+06	201	0.	3023	0.	
22	4.57E+06	221	0.	3320	0.	TAS (M/S)
24	1.72E+06	241	0.	3617	0.	80.0
26	2.27E+06	260	0.	3914	0.	
28	2.87E+06	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.12E-04		0.		0.	0.
MED D	17		0		0	0

INTERVAL START:*20:06:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.3
2	1.87E+08	23	0.	404	0.	
4	1.87E+08	43	0.	647	0.	ALT (KM)
6	1.11E+08	62	0.	944	0.	.141
8	6.01E+07	82	0.	1241	0.	
10	3.12E+07	102	0.	1538	0.	TEMP (C)
12	2.35E+07	122	0.	1835	0.	11.6
14	1.06E+07	142	0.	2132	0.	
16	6.98E+06	161	0.	2429	0.	DEWPOINT
18	4.70E+06	181	0.	2726	0.	.0
20	1.77E+06	201	0.	3023	0.	
22	4.10E+06	221	0.	3320	0.	TAS (M/S)
24	4.11E+06	241	0.	3617	0.	77.7
26	1.17E+06	260	0.	3914	0.	
28	1.77E+06	280	0.	4211	0.	
30	5.85E+05	300	0.	4508	0.	
						TOTALS
LWC	4.53E-04		0.		0.	0.
MED D	17		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:07:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.0
2	6.78E+07	23	0.	404	0.	
4	6.00E+07	43	0.	647	0.	ALT (KM)
6	4.12E+07	62	0.	944	0.	.144
8	2.86E+07	82	0.	1241	0.	
10	1.88E+07	102	0.	1538	0.	TEMP (C)
12	7.61E+06	122	0.	1835	0.	11.3
14	1.75E+06	142	0.	2132	0.	
16	6.46E+06	161	0.	2429	0.	DEWPOINT
18	1.75E+06	181	0.	2726	0.	.0
20	1.77E+06	201	0.	3023	0.	
22	1.79E+06	221	0.	3320	0.	TAS (M/S)
24	2.34E+06	241	0.	3617	0.	77.8
26	5.98E+05	260	0.	3914	0.	
28	6.01E+05	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.08E-04		0.		0.	0.
MED D	17		0		0	0

INTERVAL START:*20:07:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1004.9
2	2.71E+07	23	0.	404	0.	
4	4.09E+07	43	0.	647	0.	ALT (KM)
6	2.54E+07	62	0.	944	0.	.145
8	1.21E+07	82	0.	1241	0.	
10	5.75E+06	102	0.	1538	0.	TEMP (C)
12	5.16E+06	122	0.	1835	0.	11.3
14	1.15E+06	142	0.	2132	0.	
16	5.75E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	1.14E+06	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.94E-05		0.		0.	0.
MED D	11		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 5 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:07:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.2
2	1.36E+07	23	0.	404	0.	
4	3.08E+07	43	0.	647	0.	ALT (KM)
6	2.01E+07	62	0.	944	0.	.142
8	6.49E+06	82	0.	1241	0.	
10	3.54E+06	102	0.	1538	0.	TEMP (C)
12	1.17E+06	122	0.	1835	0.	11.3
14	5.86E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	5.96E+05	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.34E-05		0.		0.	0.
MED D	9		0		0	0

INTERVAL START:*20:08:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.2
2	1.46E+07	23	0.	404	0.	
4	3.76E+07	43	0.	647	0.	ALT (KM)
6	1.76E+07	62	0.	944	0.	.142
8	9.98E+06	82	0.	1241	0.	
10	2.34E+06	102	0.	1538	0.	TEMP (C)
12	2.34E+06	122	0.	1835	0.	11.3
14	5.95E+05	142	0.	2132	0.	
16	5.92E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.52E-05		0.		0.	0.
MED D	8		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:08:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.0
2	2.34E+06	23	0.	404	0.	
4	1.23E+07	43	0.	647	0.	ALT (KM)
6	4.70E+06	62	0.	944	0.	.144
8	5.88E+05	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.0
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.62E-06		0.		0.	0.
MED D	5		0		0	0

INTERVAL START:*20:08:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.3
2	6.35E+06	23	0.	404	0.	
4	1.62E+07	43	0.	647	0.	ALT (KM)
6	4.05E+06	62	0.	944	0.	.141
8	2.89E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.19E-06		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 5 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:09:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.2
2	1.76E+06	23	0.	404	0.	
4	1.23E+07	43	0.	647	0.	ALT (KM)
6	5.26E+06	62	0.	944	0.	.143
8	2.34E+06	82	0.	1241	0.	
10	5.88E+05	102	0.	1538	0.	TEMP (C)
12	1.18E+06	122	0.	1835	0.	11.1
14	5.86E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.44E-06		0.		0.	0.
MED D	10		0		0	0

INTERVAL START:*20:09:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.1
2	3.46E+06	23	0.	404	0.	
4	1.38E+07	43	0.	647	0.	ALT (KM)
6	9.23E+06	62	0.	944	0.	.143
8	1.74E+06	82	0.	1241	0.	
10	1.73E+06	102	0.	1538	0.	TEMP (C)
12	5.72E+05	122	0.	1835	0.	11.1
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.4
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.65E-06		0.		0.	0.
MED D	7		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:09:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.1
2	7.48E+06	23	0.	404	0.	
4	1.90E+07	43	0.	647	0.	ALT (KM)
6	6.90E+06	62	0.	944	0.	.143
8	3.46E+06	82	0.	1241	0.	
10	5.75E+05	102	0.	1538	0.	TEMP (C)
12	5.78E+05	122	0.	1835	0.	11.1
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.4
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.26E-06		0.		0.	0.
MED D	7		0		0	0

INTERVAL START:*20:10:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.0
2	6.47E+06	23	0.	404	0.	
4	1.52E+07	43	0.	647	0.	ALT (KM)
6	5.84E+06	62	0.	944	0.	.144
8	4.10E+06	82	0.	1241	0.	
10	5.93E+05	102	0.	1538	0.	TEMP (C)
12	5.93E+05	122	0.	1835	0.	11.1
14	1.17E+06	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.0
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.06E-05		0.		0.	0.
MED D	9		0		0	0

PASS # 5 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:10:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.3
2	3.51E+06	23	0.	404	0.	
4	1.11E+07	43	0.	647	0.	ALT (KM)
6	4.68E+06	62	0.	944	0.	.141
8	2.34E+06	82	0.	1241	0.	
10	1.18E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.2
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.88E-06		0.		0.	0.
MED D	7		0		0	0

INTERVAL START:*20:10:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.0
2	2.90E+06	23	0.	404	0.	
4	9.28E+06	43	0.	647	0.	ALT (KM)
6	5.20E+06	62	0.	944	0.	.144
8	2.32E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.53E-06		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:11:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.0
2	4.65E+06	23	0.	404	0.	
4	8.71E+06	43	0.	647	0.	ALT (KM)
6	5.80E+06	62	0.	944	0.	.144
8	2.32E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.1
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.66E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START:*20:11:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1005.1
2	5.81E+06	23	0.	404	0.	
4	1.92E+07	43	0.	647	0.	ALT (KM)
6	7.55E+06	62	0.	944	0.	.143
8	4.06E+06	82	0.	1241	0.	
10	1.16E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	11.1
14	5.83E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	9.07E-06		0.		0.	0.
MED D	8		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:11:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	6.40E+06	23	0.	404	0.
4	1.28E+07	43	0.	647	0.
6	4.08E+06	62	0.	944	0.
8	2.90E+06	82	0.	1241	0.
10	5.78E+05	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	4.57E-06		0.		0.
MED D	7		0		0

P (MB) 1005.3
ALT (KM) .142
TEMP (C) 11.1
DEWPOINT .0
TAS (M/S) 78.7
TOTALS 0. 0

INTERVAL START:*20:12:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	4.10E+06	23	0.	404	0.
4	1.06E+07	43	0.	647	0.
6	5.86E+06	62	0.	944	0.
8	2.34E+06	82	0.	1241	0.
10	1.18E+06	102	0.	1538	0.
12	1.76E+06	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	8.50E-06		0.		0.
MED D	9		0		0

P (MB) 1005.0
ALT (KM) .142
TEMP (C) 11.0
DEWPOINT .0
TAS (M/S) 77.9
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:12:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.21E+06	23	0.	404	0.
4	1.67E+07	43	0.	647	0.
6	2.92E+06	62	0.	944	0.
8	1.75E+06	82	0.	1241	0.
10	1.73E+06	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	5.20E-06		0.		0.
MED D	8		0		0

P (MB) 1005.0
ALT (KM) .144
TEMP (C) 11.0
DEWPOINT .0
TAS (M/S) 78.9
TOTALS 0. 0

INTERVAL START:*20:12:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.77E+06	23	0.	404	0.
4	1.80E+07	43	0.	647	0.
6	2.90E+06	62	0.	944	0.
8	3.48E+06	82	0.	1241	0.
10	1.74E+06	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	6.32E-06		0.		0.
MED D	8		0		0

P (MB) 1004.8
ALT (KM) .145
TEMP (C) 11.0
DEWPOINT .0
TAS (M/S) 78.9
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:13:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.90E+06	23	0.	404	0.
4	9.40E+06	43	0.	647	0.
6	4.71E+06	62	0.	944	0.
8	3.53E+06	82	0.	1241	0.
10	0.	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	4.16E-06		0.		0.
MED D	7		0		0

P (MB) 1005.4
ALT (KM) .141
TEMP (C) 11.0
DEWPOINT .0
TAS (M/S) 77.8
TOTALS 0. 0

INTERVAL START:*20:13:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	3.62E+06	23	0.	404	0.
4	1.81E+07	43	0.	647	0.
6	6.01E+06	62	0.	944	0.
8	2.99E+06	82	0.	1241	0.
10	2.39E+06	102	0.	1538	0.
12	6.10E+05	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	8.71E-06		0.		0.
MED D	8		0		0

P (MB) 1004.9
ALT (KM) .145
TEMP (C) 11.0
DEWPOINT .0
TAS (M/S) 76.3
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:13:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	3.00E+06	23	0.	404	0.
4	1.09E+07	43	0.	647	0.
6	5.38E+06	62	0.	944	0.
8	1.20E+06	82	0.	1241	0.
10	1.21E+06	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	4.41E-06		0.		0.
MED D	7		0		0

P (MB) 1005.2
ALT (KM) .143
TEMP (C) 11.0
DEWPOINT .0
TAS (M/S) 76.2
TOTALS 0. 0

INTERVAL START:*20:14:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	4.67E+06	23	0.	404	0.
4	8.14E+06	43	0.	647	0.
6	4.08E+06	62	0.	944	0.
8	1.15E+06	82	0.	1241	0.
10	0.	102	0.	1538	0.
12	1.17E+06	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	4.70E-06		0.		0.
MED D	8		0		0

P (MB) 1004.9
ALT (KM) .144
TEMP (C) 10.9
DEWPOINT .0
TAS (M/S) 76.5
TOTALS 0. 0

PASS # 5 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:14:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.27E+06	23	0.	404	0.
4	1.34E+07	43	0.	647	0.
6	7.57E+06	62	0.	944	0.
8	1.14E+06	82	0.	1241	0.
10	1.17E+06	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	5.76E+05	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	6.85E-06		0.		0.
MED D	8		0		0

P (MB) 1005.2
ALT (KM) .142
TEMP (C) 11.0
DEWPOINT .0
TAS (M/S) 78.6
TOTALS 0. 0

END OF PASS

INTERVAL START:*20:14:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	2.82E+06	23	0.	404	0.
4	1.55E+07	43	0.	647	0.
6	3.26E+06	62	0.	944	0.
8	3.31E+06	82	0.	1241	0.
10	1.12E+06	102	0.	1538	0.
12	5.83E+05	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	6.43E-06		0.		0.
MED D	8		0		0

P (MB) 1003.4
ALT (KM) .157
TEMP (C) 10.8
DEWPOINT .0
TAS (M/S) 82.5
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:15:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	3.19E+06	23	0.	404	0.
4	1.11E+07	43	0.	647	0.
6	6.32E+06	62	0.	944	0.
8	2.66E+06	82	0.	1241	0.
10	1.06E+06	102	0.	1538	0.
12	5.28E+05	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	5.16E+05	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	8.64E-06		0.		0.
MED D	9		0		0

P (MB) 1002.4
ALT (KM) .166
TEMP (C) 10.5
DEWPOINT .0
TAS (M/S) 86.9
TOTALS 0. 0

INTERVAL START:*20:15:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.51E+06	23	0.	404	0.
4	1.77E+07	43	0.	647	0.
6	5.00E+06	62	0.	944	0.
8	3.35E+06	82	0.	1241	0.
10	0.	102	0.	1538	0.
12	5.57E+05	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	5.88E-06		0.		0.
MED D	7		0		0

P (MB) 1003.3
ALT (KM) .158
TEMP (C) 10.9
DEWPOINT .0
TAS (M/S) 82.4
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:17:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	2.80E+08	23	0.	404	0.
4	4.77E+08	43	0.	647	0.
6	5.08E+08	62	1.08E+04	944	0.
8	4.34E+08	82	0.	1241	0.
10	3.45E+08	102	0.	1538	0.
12	2.54E+08	122	0.	1835	0.
14	1.75E+08	142	0.	2132	0.
16	1.23E+08	161	0.	2429	0.
18	1.38E+08	181	0.	2726	0.
20	7.48E+07	201	0.	3023	0.
22	5.98E+07	221	0.	3320	0.
24	2.72E+07	241	0.	3617	0.
26	1.51E+07	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	5.20E-03		2.79E-05		0.
MED D	17		62		0

P (MB) 1018.8
ALT (KM) .029
TEMP (C) 11.9
DEWPOINT .0
TAS (M/S) 75.7
TOTALS 2.79E-05 62

INTERVAL START:*20:17:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	2.91E+08	23	0.	404	0.
4	6.89E+08	43	0.	647	0.
6	6.76E+08	62	0.	944	0.
8	6.34E+08	82	0.	1241	0.
10	4.82E+08	102	0.	1538	0.
12	3.67E+08	122	0.	1835	0.
14	2.39E+08	142	0.	2132	0.
16	1.84E+08	161	0.	2429	0.
18	1.92E+08	181	0.	2726	0.
20	1.20E+08	201	0.	3023	0.
22	9.88E+07	221	0.	3320	0.
24	6.18E+07	241	0.	3617	0.
26	2.60E+07	260	0.	3914	0.
28	1.19E+06	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	8.10E-03		0.		0.
MED D	18		0		0

P (MB) 1018.5
ALT (KM) .032
TEMP (C) 11.7
DEWPOINT .0
TAS (M/S) 77.4
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:17:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	2.96E+08	23	0.	404	0.
4	6.50E+08	43	0.	647	0.
6	6.67E+08	62	0.	944	0.
8	5.82E+08	82	0.	1241	0.
10	4.19E+08	102	0.	1538	0.
12	3.32E+08	122	0.	1835	0.
14	2.14E+08	142	0.	2132	0.
16	1.78E+08	161	0.	2429	0.
18	2.25E+08	181	0.	2726	0.
20	1.39E+08	201	0.	3023	0.
22	1.01E+08	221	0.	3320	0.
24	5.65E+07	241	0.	3617	0.
26	2.86E+07	260	0.	3914	0.
28	4.67E+06	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	8.28E-03		0.		0.
MED D	18		0		0

P (MB) 1018.6
ALT (KM) .031
TEMP (C) 11.8
DEWPOINT .0
TAS (M/S) 78.5
TOTALS 0. 0

INTERVAL START:*20:18:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	2.15E+08	23	0.	404	0.
4	4.72E+08	43	0.	647	0.
6	4.64E+08	62	0.	944	0.
8	4.45E+08	82	0.	1241	0.
10	3.68E+08	102	0.	1538	0.
12	2.84E+08	122	0.	1835	0.
14	2.20E+08	142	0.	2132	0.
16	2.02E+08	161	0.	2429	0.
18	2.53E+08	181	0.	2726	0.
20	2.28E+08	201	0.	3023	0.
22	2.01E+08	221	0.	3320	0.
24	1.40E+08	241	0.	3617	0.
26	1.29E+08	260	0.	3914	0.
28	3.00E+07	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	1.38E-02		0.		0.
MED D	21		0		0

P (MB) 1018.9
ALT (KM) .028
TEMP (C) 11.7
DEWPOINT .0
TAS (M/S) 77.8
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:18:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1019.4
2	8.69E+07	23	0.	404	0.	
4	1.77E+08	43	0.	647	0.	ALT (KM)
6	1.71E+08	62	0.	944	0.	.024
8	1.93E+08	82	0.	1241	0.	
10	1.64E+08	102	0.	1538	0.	TEMP (C)
12	1.60E+08	122	0.	1835	0.	11.7
14	1.24E+08	142	0.	2132	0.	
16	1.21E+08	161	0.	2429	0.	DEWPOINT
18	1.97E+08	181	0.	2726	0.	.0
20	2.03E+08	201	0.	3023	0.	
22	2.28E+08	221	0.	3320	0.	TAS (M/S)
24	2.74E+08	241	0.	3617	0.	77.9
26	3.40E+08	260	0.	3914	0.	
28	1.57E+08	280	0.	4211	0.	
30	1.76E+06	300	0.	4508	0.	
						TOTALS
LWC	2.10E-02		0.		0.	0.
MED D	24		0		0	0

INTERVAL START:*20:18:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.9
2	2.75E+07	23	0.	404	0.	
4	4.14E+07	43	0.	647	0.	ALT (KM)
6	3.74E+07	62	0.	944	0.	.028
8	4.08E+07	82	0.	1241	0.	
10	3.74E+07	102	0.	1538	0.	TEMP (C)
12	2.99E+07	122	0.	1835	0.	11.7
14	2.98E+07	142	0.	2132	0.	
16	2.92E+07	161	0.	2429	0.	DEWPOINT
18	2.51E+07	181	0.	2726	0.	.0
20	2.57E+07	201	0.	3023	0.	
22	3.39E+07	221	0.	3320	0.	TAS (M/S)
24	4.20E+07	241	0.	3617	0.	78.2
26	5.95E+07	260	0.	3914	0.	
28	2.97E+07	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.50E-03		0.		0.	0.
MED D	25		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:19:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1018.9
2	5.35E+06	23	0.	404	0.	
4	1.60E+07	43	0.	647	0.	ALT (KM)
6	1.07E+07	62	0.	944	0.	.029
8	1.19E+07	82	0.	1241	0.	
10	9.52E+06	102	0.	1538	0.	TEMP (C)
12	5.34E+06	122	0.	1835	0.	11.8
14	5.95E+06	142	0.	2132	0.	
16	5.96E+06	161	0.	2429	0.	DEWPOINT
18	2.36E+06	181	0.	2726	0.	.0
20	5.95E+05	201	0.	3023	0.	
22	1.00E+06	221	0.	3320	0.	TAS (M/S)
24	1.79E+06	241	0.	3617	0.	76.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.42E-04		0.		0.	0.
MED D	16		0		0	0

INTERVAL START:*20:19:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1019.2
2	7.16E+06	23	0.	404	0.	
4	1.55E+07	43	0.	647	0.	ALT (KM)
6	1.19E+07	62	0.	944	0.	.026
8	1.79E+06	82	0.	1241	0.	
10	1.19E+06	102	0.	1538	0.	TEMP (C)
12	1.20E+06	122	0.	1835	0.	11.8
14	2.38E+06	142	0.	2132	0.	
16	1.80E+06	161	0.	2429	0.	DEWPOINT
18	5.98E+05	181	0.	2726	0.	.0
20	5.98E+05	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.30E-05		0.		0.	0.
MED D	15		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:19:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	6.91E+07	23	0.	404	0.
4	1.20E+08	43	0.	647	0.
6	9.04E+07	62	0.	944	0.
8	4.60E+07	82	0.	1241	0.
10	3.37E+07	102	0.	1538	0.
12	1.89E+07	122	0.	1835	0.
14	1.71E+07	142	0.	2132	0.
16	1.12E+07	161	0.	2429	0.
18	8.26E+06	181	0.	2726	0.
20	1.76E+06	201	0.	3023	0.
22	5.87E+05	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	3.08E-04		0.		0.
MED D	13		0		0

P (MB) 1019.1
ALT (KM) .027
TEMP (C) 11.8
DEWPOINT .0
TAS (M/S) 77.3
TOTALS 0. 0

INTERVAL START:*20:20:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.36E+08	23	0.	404	0.
4	1.94E+08	43	0.	647	0.
6	1.62E+08	62	0.	944	0.
8	1.31E+08	82	0.	1241	0.
10	1.00E+08	102	0.	1538	0.
12	8.13E+07	122	0.	1835	0.
14	5.95E+07	142	0.	2132	0.
16	4.42E+07	161	0.	2429	0.
18	2.42E+07	181	0.	2726	0.
20	4.72E+06	201	0.	3023	0.
22	5.90E+05	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	9.73E-04		0.		0.
MED D	14		0		0

P (MB) 1019.0
ALT (KM) .027
TEMP (C) 11.9
DEWPOINT .0
TAS (M/S) 77.7
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:20:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.47E+08	23	0.	404	0.
4	2.53E+08	43	0.	647	0.
6	1.94E+08	62	0.	944	0.
8	1.48E+08	82	0.	1241	0.
10	9.82E+07	102	0.	1538	0.
12	8.17E+07	122	0.	1835	0.
14	6.06E+07	142	0.	2132	0.
16	5.18E+07	161	0.	2429	0.
18	3.82E+07	181	0.	2726	0.
20	9.98E+06	201	0.	3023	0.
22	2.34E+06	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	1.17E+06	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	1.21E-03		0.		0.
MED D	15		0		0

P (MB) 1019.4
ALT (KM) .024
TEMP (C) 12.0
DEWPOINT .0
TAS (M/S) 77.7
TOTALS 0. 0

INTERVAL START:*20:20:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	2.24E+07	23	0.	404	0.
4	3.89E+07	43	0.	647	0.
6	3.71E+07	62	0.	944	0.
8	3.36E+07	82	0.	1241	0.
10	2.36E+07	102	0.	1538	0.
12	2.24E+07	122	0.	1835	0.
14	1.01E+07	142	0.	2132	0.
16	8.25E+06	161	0.	2429	0.
18	6.49E+06	181	0.	2726	0.
20	2.36E+06	201	0.	3023	0.
22	5.89E+05	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	2.35E-04		0.		0.
MED D	14		0		0

P (MB) 1019.7
ALT (KM) .021
TEMP (C) 12.0
DEWPOINT .0
TAS (M/S) 77.3
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 6 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:21:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1019.5
2	1.18E+06	23	0.	404	0.	
4	7.68E+06	43	0.	647	0.	ALT (KM)
6	5.29E+06	62	0.	944	0.	.023
8	1.18E+06	82	0.	1241	0.	
10	1.17E+06	102	0.	1538	0.	TEMP (C)
12	2.36E+06	122	0.	1835	0.	12.0
14	0.	142	0.	2132	0.	
16	1.77E+06	161	0.	2429	0.	DEWPOINT
18	5.84E+05	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.4
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.00E-05		0.		0.	0.
MED D	15		0		0	0

INTERVAL START:*20:21:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1019.4
2	1.19E+06	23	0.	404	0.	
4	2.37E+06	43	0.	647	0.	ALT (KM)
6	5.92E+05	62	0.	944	0.	.024
8	5.92E+05	82	0.	1241	0.	
10	1.20E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	12.0
14	0.	142	0.	2132	0.	
16	5.96E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	6.01E+05	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.0
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.15E-05		0.		0.	0.
MED D	21		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:21:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1019.5
2	6.51E+06	23	0.	404	0.	
4	1.77E+07	43	0.	647	0.	ALT (KM)
6	1.77E+07	62	0.	944	0.	.023
8	2.07E+07	82	0.	1241	0.	
10	2.48E+07	102	0.	1538	0.	TEMP (C)
12	2.30E+07	122	0.	1835	0.	12.0
14	1.71E+07	142	0.	2132	0.	
16	1.89E+07	161	0.	2429	0.	DEWPOINT
18	2.78E+07	181	0.	2726	0.	.0
20	2.01E+07	201	0.	3023	0.	
22	3.36E+07	221	0.	3320	0.	TAS (M/S)
24	4.19E+07	241	0.	3617	0.	77.5
26	5.31E+07	260	0.	3914	0.	
28	3.01E+07	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.23E-03		0.		0.	0.
MED D	25		0		0	0

INTERVAL START:*20:22:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1019.6
2	0.	23	0.	404	0.	
4	0.	43	0.	647	0.	ALT (KM)
6	1.19E+06	62	0.	944	0.	.022
8	2.37E+06	82	0.	1241	0.	
10	1.79E+06	102	0.	1538	0.	TEMP (C)
12	5.95E+05	122	0.	1835	0.	12.1
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.83E-06		0.		0.	0.
MED D	9		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 6 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING

INTERVAL START: 20:22:20

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1019.3
2	0.	23	0.	404	0.	
4	1.79E+06	43	0.	647	0.	ALT (KM)
6	2.98E+06	62	0.	944	0.	.025
8	1.19E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	5.94E+05	122	0.	1835	0.	12.1
14	1.19E+06	142	0.	2132	0.	
16	5.97E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	5.97E+05	201	0.	3023	0.	
22	1.18E+06	221	0.	3320	0.	TAS (M/S)
24	5.97E+05	241	0.	3617	0.	76.9
26	1.19E+06	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.80E-05		0.		0.	0.
MED D	23		0		0	0

INTERVAL START: 20:22:40

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1014.5
2	2.35E+06	23	0.	404	0.	
4	5.27E+06	43	0.	647	0.	ALT (KM)
6	7.03E+06	62	0.	944	0.	.065
8	1.35E+07	82	0.	1241	0.	
10	1.64E+07	102	0.	1538	0.	TEMP (C)
12	1.41E+07	122	0.	1835	0.	12.0
14	1.47E+07	142	0.	2132	0.	
16	8.81E+06	161	0.	2429	0.	DEWPOINT
18	2.87E+07	181	0.	2726	0.	.0
20	1.94E+07	201	0.	3023	0.	
22	1.76E+07	221	0.	3320	0.	TAS (M/S)
24	1.73E+07	241	0.	3617	0.	78.3
26	1.76E+07	260	0.	3914	0.	
28	1.29E+07	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.55E-03		0.		0.	0.
MED D	23		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING

INTERVAL START: 20:23:00

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1007.2
2	9.62E+06	23	0.	404	0.	
4	1.22E+07	43	0.	647	0.	ALT (KM)
6	8.49E+06	62	0.	944	0.	.126
8	8.64E+06	82	0.	1241	0.	
10	8.11E+06	102	0.	1538	0.	TEMP (C)
12	2.69E+06	122	0.	1835	0.	11.6
14	6.41E+06	142	0.	2132	0.	
16	5.46E+06	161	0.	2429	0.	DEWPOINT
18	9.70E+06	181	0.	2726	0.	.0
20	8.12E+06	201	0.	3023	0.	
22	1.17E+07	221	0.	3320	0.	TAS (M/S)
24	1.33E+07	241	0.	3617	0.	82.4
26	1.39E+07	260	0.	3914	0.	
28	3.74E+06	280	0.	4211	0.	
30	5.29E+05	300	0.	4508	0.	
						TOTALS
LWC	8.78E-04		0.		0.	0.
MED D	24		0		0	0

INTERVAL START: 20:23:20

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 1000.1
2	2.74E+07	23	0.	404	0.	
4	4.95E+07	43	0.	647	0.	ALT (KM)
6	5.10E+07	62	0.	944	0.	.185
8	4.63E+07	82	0.	1241	0.	
10	3.32E+07	102	0.	1538	0.	TEMP (C)
12	3.37E+07	122	0.	1835	0.	10.8
14	3.32E+07	142	0.	2132	0.	
16	4.20E+07	161	0.	2429	0.	DEWPOINT
18	5.79E+07	181	0.	2726	0.	.0
20	6.16E+07	201	0.	3023	0.	
22	7.06E+07	221	0.	3320	0.	TAS (M/S)
24	5.58E+07	241	0.	3617	0.	86.7
26	7.89E+07	260	0.	3914	0.	
28	5.21E+07	280	0.	4211	0.	
30	1.05E+06	300	0.	4508	0.	
						TOTALS
LWC	5.60E-03		0.		0.	0.
MED D	24		0		0	0

END OF PASS

AFWL MARINE LAYER STUDY BY AFGL — PASS # 7 DATA

FLIGHT E78-23 ON 10 JUL 78 — 20 SECOND AVERAGING
INTERVAL START: 20:24:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.9
2	1.36E+07	23	0.	404	0.	
4	1.66E+07	43	0.	647	0.	ALT (KM)
6	2.19E+07	62	0.	944	0.	.220
8	7.70E+06	82	0.	1241	0.	
10	4.14E+06	102	0.	1538	0.	TEMP (C)
12	3.54E+06	122	0.	1835	0.	11.0
14	2.36E+06	142	0.	2132	0.	
16	5.87E+05	161	0.	2429	0.	DEWPOINT
18	5.97E+05	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	5.97E+05	221	0.	3320	0.	TAS (M/S)
24	1.18E+06	241	0.	3617	0.	76.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.04E-05		0.		0.	0.
MED D	15		0		0	0

INTERVAL START: 20:24:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.6
2	8.16E+06	23	0.	404	0.	
4	5.84E+06	43	0.	647	0.	ALT (KM)
6	7.58E+06	62	0.	944	0.	.223
8	4.66E+06	82	0.	1241	0.	
10	1.76E+06	102	0.	1538	0.	TEMP (C)
12	1.16E+06	122	0.	1835	0.	10.7
14	5.82E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.12E-05		0.		0.	0.
MED D	9		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 — 20 SECOND AVERAGING
INTERVAL START: 20:25:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.5
2	0.	23	0.	404	0.	
4	2.34E+06	43	0.	647	0.	ALT (KM)
6	5.81E+06	62	0.	944	0.	.224
8	5.78E+05	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	1.16E+06	122	0.	1835	0.	10.7
14	0.	142	0.	2132	0.	
16	1.17E+06	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	9.41E-06		0.		0.	0.
MED D	15		0		0	0

INTERVAL START: 20:25:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.2
2	1.18E+06	23	0.	404	0.	
4	8.22E+06	43	0.	647	0.	ALT (KM)
6	6.45E+06	62	0.	944	0.	.226
8	1.77E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	5.84E+05	122	0.	1835	0.	10.6
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.53E-06		0.		0.	0.
MED D	7		0		0	0

PASS # 7 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 20:25:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.6
2	2.40E+06	23	0.	404	0.	
4	1.73E+07	43	0.	647	0.	ALT (KM)
6	4.78E+06	62	0.	944	0.	.223
8	1.19E+06	82	0.	1241	0.	
10	5.94E+05	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.7
14	0.	142	0.	2132	0.	
16	6.01E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.6
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.73E-06		0.		0.	0.
MED D	9		0		0	0

INTERVAL START: 20:26:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.6
2	2.99E+06	23	0.	404	0.	
4	9.53E+06	43	0.	647	0.	ALT (KM)
6	9.54E+06	62	0.	944	0.	.223
8	5.97E+05	82	0.	1241	0.	
10	1.79E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.8
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.66E-06		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 20:26:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.1
2	3.56E+06	23	0.	404	0.	
4	2.02E+07	43	0.	647	0.	ALT (KM)
6	7.71E+06	62	0.	944	0.	.227
8	3.57E+06	82	0.	1241	0.	
10	1.18E+06	102	0.	1538	0.	TEMP (C)
12	5.93E+05	122	0.	1835	0.	10.6
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.28E-06		0.		0.	0.
MED D	7		0		0	0

INTERVAL START: 20:26:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.6
2	2.40E+06	23	0.	404	0.	
4	1.14E+07	43	0.	647	0.	ALT (KM)
6	1.02E+07	62	0.	944	0.	.223
8	2.99E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	6.03E+05	122	0.	1835	0.	10.7
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.4
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.53E-06		0.		0.	0.
MED D	7		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 7 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:27:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.6
2	2.88E+06	23	0.	404	0.	
4	1.56E+07	43	0.	647	0.	ALT (KM)
6	1.04E+07	62	0.	944	0.	.223
8	3.52E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	5.73E+05	122	0.	1835	0.	10.5
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.21E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START:*20:27:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.1
2	3.46E+06	23	0.	404	0.	
4	1.27E+07	43	0.	647	0.	ALT (KM)
6	6.92E+06	62	0.	944	0.	.227
8	0.	82	0.	1241	0.	
10	5.77E+05	102	0.	1538	0.	TEMP (C)
12	5.77E+05	122	0.	1835	0.	10.5
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.2
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.65E-06		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:27:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.9
2	2.32E+06	23	0.	404	0.	
4	1.16E+07	43	0.	647	0.	ALT (KM)
6	4.04E+06	62	0.	944	0.	.220
8	2.31E+06	82	0.	1241	0.	
10	1.73E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.5
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	79.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.35E-06		0.		0.	0.
MED D	8		0		0	0

INTERVAL START:*20:28:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.5
2	3.53E+06	23	0.	404	0.	
4	1.47E+07	43	0.	647	0.	ALT (KM)
6	7.04E+06	62	0.	944	0.	.224
8	1.77E+06	82	0.	1241	0.	
10	1.76E+06	102	0.	1538	0.	TEMP (C)
12	5.82E+05	122	0.	1835	0.	10.5
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.22E-06		0.		0.	0.
MED D	8		0		0	0

PASS # 7 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:28:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.5
2	2.92E+06	23	0.	404	0.	
4	1.40E+07	43	0.	647	0.	ALT (KM)
6	4.68E+06	62	0.	944	0.	.224
8	2.91E+06	82	0.	1241	0.	
10	5.89E+05	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.4
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.2
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.80E-06		0.		0.	0.
MED D	7		0		0	0

INTERVAL START:*20:28:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.8
2	5.23E+06	23	0.	404	0.	
4	1.05E+07	43	0.	647	0.	ALT (KM)
6	5.26E+06	62	0.	944	0.	.221
8	5.81E+05	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.4
14	0.	142	0.	2132	0.	
16	5.83E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.6
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.22E-06		0.		0.	0.
MED D	9		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:29:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 996.0
2	3.54E+06	23	0.	404	0.	
4	1.78E+07	43	0.	647	0.	ALT (KM)
6	7.13E+06	62	0.	944	0.	.219
8	5.92E+05	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	5.96E+05	122	0.	1835	0.	10.5
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.85E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START:*20:29:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.1
2	5.36E+06	23	0.	404	0.	
4	1.97E+07	43	0.	647	0.	ALT (KM)
6	3.59E+06	62	0.	944	0.	.227
8	1.19E+06	82	0.	1241	0.	
10	1.20E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.4
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.6
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.69E-06		0.		0.	0.
MED D	6		0		0	0

PASS # 7 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:29:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.7
2	4.78E+06	23	0.	404	0.	
4	7.13E+06	43	0.	647	0.	ALT (KM)
6	7.14E+06	62	0.	944	0.	.222
8	1.78E+06	82	0.	1241	0.	
10	1.80E+06	102	0.	1538	0.	TEMP (C)
12	6.00E+05	122	0.	1835	0.	10.5
14	5.89E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.47E-06		0.		0.	0.
MED D	9		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:30:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.3
2	6.37E+06	23	0.	404	0.	
4	7.53E+06	43	0.	647	0.	ALT (KM)
6	5.80E+06	62	0.	944	0.	.225
8	0.	82	0.	1241	0.	
10	5.83E+05	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.3
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.87E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START:*20:30:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.1
2	5.93E+06	23	0.	404	0.	
4	1.55E+07	43	0.	647	0.	ALT (KM)
6	2.37E+06	62	0.	944	0.	.227
8	2.38E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.4
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.0
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.39E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START:*20:30:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.3
2	5.22E+06	23	0.	404	0.	
4	1.45E+07	43	0.	647	0.	ALT (KM)
6	7.54E+06	62	0.	944	0.	.225
8	1.74E+06	82	0.	1241	0.	
10	1.16E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.3
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.56E-06		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS #7 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:31:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.5
2	6.40E+06	23	0.	404	0.	
4	1.46E+07	43	0.	647	0.	ALT (KM)
6	8.14E+06	62	0.	944	0.	.224
8	2.33E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.3
14	1.17E+06	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.26E-06		0.		0.	0.
MED D	8		0		0	0

INTERVAL START:*20:31:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 994.8
2	5.89E+06	23	0.	404	0.	
4	1.35E+07	43	0.	647	0.	ALT (KM)
6	4.12E+06	62	0.	944	0.	.229
8	2.34E+06	82	0.	1241	0.	
10	1.75E+06	102	0.	1538	0.	TEMP (C)
12	5.78E+05	122	0.	1835	0.	10.1
14	5.86E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.46E-06		0.		0.	0.
MED D	9		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:31:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.3
2	4.09E+06	23	0.	404	0.	
4	1.23E+07	43	0.	647	0.	ALT (KM)
6	6.46E+06	62	0.	944	0.	.225
8	3.54E+06	82	0.	1241	0.	
10	5.92E+05	102	0.	1538	0.	TEMP (C)
12	5.89E+05	122	0.	1835	0.	10.3
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.0
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.62E-06		0.		0.	0.
MED D	7		0		0	0

INTERVAL START:*20:32:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 995.6
2	5.92E+06	23	0.	404	0.	
4	1.95E+07	43	0.	647	0.	ALT (KM)
6	7.13E+06	62	0.	944	0.	.223
8	1.78E+06	82	0.	1241	0.	
10	5.91E+05	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.2
14	5.98E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.3
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.05E-06		0.		0.	0.
MED D	7		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 7 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:32:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	1.77E+06	23	0.	404	0.
4	1.66E+07	43	0.	647	0.
6	1.13E+07	62	0.	944	0.
8	1.19E+06	82	0.	1241	0.
10	2.97E+06	102	0.	1538	0.
12	5.88E+05	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	9.48E-06		0.		0.
MED D	8		0		0

P (MB) 995.6
ALT (KM) .223
TEMP (C) 10.3
DEWPOINT .0
TAS (M/S) 77.1
TOTALS 0.
0

END OF PASS

INTERVAL START:*20:32:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	4.06E+06	23	0.	404	0.
4	1.23E+07	43	0.	647	0.
6	8.25E+06	62	0.	944	0.
8	1.17E+06	82	0.	1241	0.
10	5.88E+05	102	0.	1538	0.
12	0.	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	4.57E-06		0.		0.
MED D	6		0		0

P (MB) 994.3
ALT (KM) .234
TEMP (C) 10.4
DEWPOINT .0
TAS (M/S) 78.2
TOTALS 0.
0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:33:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	4.39E+06	23	0.	404	0.
4	1.81E+07	43	0.	647	0.
6	9.36E+06	62	0.	944	0.
8	2.17E+06	82	0.	1241	0.
10	5.40E+05	102	0.	1538	0.
12	5.60E+05	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	6.95E-06		0.		0.
MED D	6		0		0

P (MB) 991.7
ALT (KM) .256
TEMP (C) 10.2
DEWPOINT .0
TAS (M/S) 83.0
TOTALS 0.
0

INTERVAL START:*20:33:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	6.20E+06	23	0.	404	0.
4	1.41E+07	43	0.	647	0.
6	7.34E+06	62	1.00E+04	944	0.
8	1.13E+06	82	0.	1241	0.
10	1.13E+06	102	0.	1538	0.
12	5.58E+05	122	0.	1835	0.
14	1.11E+06	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	9.48E-06		2.60E-05		0.
MED D	10		62		0

P (MB) 986.3
ALT (KM) .302
TEMP (C) 9.8
DEWPOINT .0
TAS (M/S) 80.7
TOTALS 2.60E-05
62

PASS # 8 DATA

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:34:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.54E+06	23	0.	404	0.
4	2.08E+07	43	0.	647	0.
6	3.65E+06	62	0.	944	0.
8	3.72E+06	82	0.	1241	0.
10	6.15E+05	102	0.	1538	0.
12	1.22E+06	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	7.95E-06		0.		0.
MED D	8		0		0

P (MB) 985.6
ALT (KM) .307
TEMP (C) 10.0
DEWPOINT .0
TAS (M/S) 74.6
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:34:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	5.29E+06	23	0.	404	0.
4	1.35E+07	43	0.	647	0.
6	7.62E+06	62	0.	944	0.
8	3.52E+06	82	0.	1241	0.
10	2.36E+06	102	0.	1538	0.
12	5.85E+05	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	9.00E-06		0.		0.
MED D	8		0		0

P (MB) 985.5
ALT (KM) .309
TEMP (C) 9.7
DEWPOINT .0
TAS (M/S) 78.0
TOTALS 0. 0

INTERVAL START:*20:34:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	4.87E+06	23	0.	404	0.
4	1.63E+07	43	0.	647	0.
6	6.67E+06	62	0.	944	0.
8	3.03E+06	82	0.	1241	0.
10	1.81E+06	102	0.	1538	0.
12	1.22E+06	122	0.	1835	0.
14	0.	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	9.29E-06		0.		0.
MED D	8		0		0

P (MB) 985.2
ALT (KM) .311
TEMP (C) 9.7
DEWPOINT .0
TAS (M/S) 75.3
TOTALS 0. 0

INTERVAL START:*20:34:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE
2	4.77E+06	23	0.	404	0.
4	1.49E+07	43	0.	647	0.
6	7.22E+06	62	0.	944	0.
8	1.20E+06	82	0.	1241	0.
10	1.19E+06	102	0.	1538	0.
12	5.93E+05	122	0.	1835	0.
14	6.03E+05	142	0.	2132	0.
16	0.	161	0.	2429	0.
18	0.	181	0.	2726	0.
20	0.	201	0.	3023	0.
22	0.	221	0.	3320	0.
24	0.	241	0.	3617	0.
26	0.	260	0.	3914	0.
28	0.	280	0.	4211	0.
30	0.	300	0.	4508	0.
LWC	8.15E-06		0.		0.
MED D	9		0		0

P (MB) 986.3
ALT (KM) .302
TEMP (C) 10.0
DEWPOINT .0
TAS (M/S) 76.5
TOTALS 0. 0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 8 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 20:35:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
2	4.84E+06	23	0.	404	0.	P (MB) 986.1
4	1.33E+07	43	0.	647	0.	
6	7.27E+06	62	0.	944	0.	ALT (KM) .304
8	4.25E+06	82	0.	1241	0.	
10	6.07E+05	102	0.	1538	0.	TEMP (C) 9.9
12	1.21E+06	122	0.	1835	0.	
14	0.	142	0.	2132	0.	DEWPOINT .0
16	0.	161	0.	2429	0.	
18	0.	181	0.	2726	0.	
20	0.	201	0.	3023	0.	TAS (M/S) 75.5
22	0.	221	0.	3320	0.	
24	0.	241	0.	3617	0.	
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	TOTALS
LWC	8.55E-06		0.		0.	0.
MED D	8		0		0	0

INTERVAL START: 20:35:20
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
2	5.99E+06	23	0.	404	0.	P (MB) 986.0
4	1.80E+07	43	2.28E+04	647	0.	
6	1.14E+07	62	0.	944	0.	ALT (KM) .304
8	2.39E+06	82	0.	1241	0.	
10	6.00E+05	102	0.	1538	0.	TEMP (C) 9.9
12	1.20E+06	122	0.	1835	0.	
14	5.91E+05	142	0.	2132	0.	DEWPOINT .0
16	0.	161	0.	2429	0.	
18	0.	181	0.	2726	0.	
20	0.	201	0.	3023	0.	TAS (M/S) 76.3
22	0.	221	0.	3320	0.	
24	0.	241	0.	3617	0.	
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	TOTALS
LWC	1.07E-05		1.91E-05		0.	1.91E-05
MED D	8		43		0	43

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START: 20:35:40
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
2	7.80E+06	23	0.	404	0.	P (MB) 986.3
4	1.68E+07	43	0.	647	0.	
6	7.18E+06	62	0.	944	0.	ALT (KM) .302
8	6.04E+05	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C) 10.1
12	0.	122	0.	1835	0.	
14	6.09E+05	142	0.	2132	0.	DEWPOINT .0
16	0.	161	0.	2429	0.	
18	0.	181	0.	2726	0.	
20	0.	201	0.	3023	0.	TAS (M/S) 76.2
22	0.	221	0.	3320	0.	
24	0.	241	0.	3617	0.	
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	TOTALS
LWC	5.94E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START: 20:36:00
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
2	9.72E+06	23	0.	404	0.	P (MB) 985.7
4	1.52E+07	43	0.	647	0.	
6	6.69E+06	62	0.	944	0.	ALT (KM) .307
8	3.03E+06	82	0.	1241	0.	
10	1.22E+06	102	0.	1538	0.	TEMP (C) 9.9
12	6.15E+05	122	0.	1835	0.	
14	6.01E+05	142	0.	2132	0.	DEWPOINT .0
16	0.	161	0.	2429	0.	
18	0.	181	0.	2726	0.	
20	0.	201	0.	3023	0.	TAS (M/S) 75.2
22	0.	221	0.	3320	0.	
24	0.	241	0.	3617	0.	
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	TOTALS
LWC	9.24E-06		0.		0.	0.
MED D	8		0		0	0

AFWL MARINE LAYER STUDY BY AFGL — PASS # 8 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING

INTERVAL START:*20:36:20*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MU)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.4
2	2.98E+06	23	0.	404	0.	
4	2.03E+07	43	0.	647	0.	ALT (KM)
6	8.35E+06	62	0.	944	0.	.310
8	1.20E+06	82	0.	1241	0.	
10	5.97E+05	102	0.	1538	0.	TEMP (C)
12	5.91E+05	122	0.	1835	0.	9.7
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.8
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.40E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START:*20:36:40*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MU)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.5
2	4.14E+06	23	0.	404	0.	
4	1.48E+07	43	0.	647	0.	ALT (KM)
6	7.69E+06	62	0.	944	0.	.308
8	3.55E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	9.9
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.3
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.37E-06		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING

INTERVAL START:*20:37:00*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MU)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.6
2	3.01E+06	23	0.	404	0.	
4	1.20E+07	43	0.	647	0.	ALT (KM)
6	6.62E+06	62	0.	944	0.	.306
8	2.40E+06	82	0.	1241	0.	
10	1.80E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.0
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.2
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.18E-06		0.		0.	0.
MED D	7		0		0	0

INTERVAL START:*20:37:20*

PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MU)

TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.4
2	3.66E+06	23	0.	404	0.	
4	1.70E+07	43	0.	647	0.	ALT (KM)
6	4.26E+06	62	0.	944	0.	.309
8	1.82E+06	82	0.	1241	0.	
10	1.83E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	6.06E+05	201	0.	3023	0.	
22	6.12E+05	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	75.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.77E-05		0.		0.	0.
MED D	20		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:37:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.2
2	1.77E+06	23	0.	404	0.	
4	1.18E+07	43	0.	647	0.	ALT (KM)
6	5.33E+06	62	0.	944	0.	.311
8	2.38E+06	82	0.	1241	0.	
10	1.77E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	9.9
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.77E-06		0.		0.	0.
MED D	7		0		0	0

INTERVAL START:*20:38:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.1
2	2.35E+06	23	0.	404	0.	
4	1.69E+07	43	0.	647	0.	ALT (KM)
6	9.36E+06	62	0.	944	0.	.312
8	4.08E+06	82	0.	1241	0.	
10	5.82E+05	102	0.	1538	0.	TEMP (C)
12	5.87E+05	122	0.	1835	0.	10.0
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.3
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.04E-06		0.		0.	0.
MED D	7		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:38:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.8
2	4.16E+06	23	0.	404	0.	
4	9.52E+06	43	0.	647	0.	ALT (KM)
6	6.55E+06	62	0.	944	0.	.306
8	1.13E+06	82	0.	1241	0.	
10	1.18E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.57E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START:*20:38:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.9
2	4.81E+06	23	0.	404	0.	
4	1.26E+07	43	0.	647	0.	ALT (KM)
6	4.83E+06	62	0.	944	0.	.305
8	1.19E+06	82	0.	1241	0.	
10	6.04E+05	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.75E-06		0.		0.	0.
MED D	6		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 8 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:39:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.3
2	1.17E+06	23	0.	404	0.	
4	9.43E+06	43	0.	647	0.	ALT (KM)
6	5.30E+06	62	0.	944	0.	.310
8	2.34E+06	82	0.	1241	0.	
10	5.98E+05	102	0.	1538	0.	TEMP (C)
12	1.18E+06	122	0.	1835	0.	10.1
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.7
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.46E-06		0.		0.	0.
MED D	8		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:39:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.3
2	2.96E+06	23	0.	404	0.	
4	1.65E+07	43	0.	647	0.	ALT (KM)
6	6.53E+06	62	0.	944	0.	.311
8	1.18E+06	82	0.	1241	0.	
10	1.19E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.1
14	5.90E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.4
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	6.89E-06		0.		0.	0.
MED D	8		0		0	0

INTERVAL START:*20:39:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.3
2	4.10E+06	23	0.	404	0.	
4	8.23E+06	43	0.	647	0.	ALT (KM)
6	7.01E+06	62	0.	944	0.	.310
8	3.50E+06	82	0.	1241	0.	
10	5.90E+05	102	0.	1538	0.	TEMP (C)
12	1.18E+06	122	0.	1835	0.	10.1
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.9
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	7.51E-06		0.		0.	0.
MED D	8		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:40:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 984.9
2	5.30E+06	23	0.	404	0.	
4	6.48E+06	43	0.	647	0.	ALT (KM)
6	3.54E+06	62	0.	944	0.	.314
8	2.36E+06	82	0.	1241	0.	
10	5.94E+05	102	0.	1538	0.	TEMP (C)
12	5.97E+05	122	0.	1835	0.	10.1
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.6
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	4.72E-06		0.		0.	0.
MED D	8		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 8 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:40:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 984.1
2	4.70E+06	23	0.	404	0.	
4	1.36E+07	43	0.	647	0.	ALT (KM)
6	5.90E+06	62	0.	944	0.	.320
8	5.88E+06	82	0.	1241	0.	
10	2.19E+06	102	0.	1538	0.	TEMP (C)
12	5.1E+05	122	0.	1835	0.	10.0
14	5.[illegible]E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.6
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.04E-05		0.		0.	0.
MED D	8		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:41:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.4
2	5.39E+06	23	0.	404	0.	
4	1.08E+07	43	0.	647	0.	ALT (KM)
6	4.77E+06	62	0.	944	0.	.309
8	2.96E+06	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.4
14	6.10E+05	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.4
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.77E-06		0.		0.	0.
MED D	8		0		0	0

INTERVAL START:*20:40:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 985.1
2	1.74E+06	23	0.	404	0.	
4	1.34E+07	43	0.	647	0.	ALT (KM)
6	4.67E+06	62	0.	944	0.	.312
8	5.79E+05	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	5.81E+05	122	0.	1835	0.	10.2
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.5
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	3.80E-06		0.		0.	0.
MED D	6		0		0	0

INTERVAL START:*20:41:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 987.1
2	2.99E+06	23	0.	404	0.	
4	1.13E+07	43	0.	647	0.	ALT (KM)
6	5.37E+06	62	0.	944	0.	.295
8	1.19E+06	82	0.	1241	0.	
10	1.20E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.6
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	6.01E+05	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	77.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	8.16E-06		0.		0.	0.
MED D	10		0		0	0

AFWL MARINE LAYER STUDY BY AFGL

PASS # 8 DATA

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:41:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 984.8
2	1.20E+06	23	0.	404	0.	
4	1.50E+07	43	0.	647	0.	ALT (KM)
6	3.00E+06	62	0.	944	0.	.314
8	6.00E+05	82	0.	1241	0.	
10	1.19E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.3
14	1.82E+06	142	0.	2132	0.	
16	5.93E+05	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	76.3
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.18E-05		0.		0.	0.
MED D	14		0		0	0

END OF PASS

INTERVAL START:*20:42:00*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 984.5
2	4.12E+06	23	0.	404	0.	
4	1.05E+07	43	0.	647	0.	ALT (KM)
6	5.85E+06	62	0.	944	0.	.317
8	2.94E+06	82	6.24E+03	1241	0.	
10	1.17E+06	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	10.4
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	78.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	5.49E-06		3.67E-05		0.	3.67E-05
MED D	7		82		0	82

AFWL MARINE LAYER STUDY BY AFGL

FLIGHT E78-23 ON 10 JUL 78 20 SECOND AVERAGING
INTERVAL START:*20:42:20*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 975.2
2	2.79E+06	23	0.	404	0.	
4	1.40E+07	43	0.	647	0.	ALT (KM)
6	5.02E+06	62	0.	944	0.	.396
8	5.48E+05	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	9.7
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	82.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	2.83E-06		0.		0.	0.
MED D	5		0		0	0

INTERVAL START:*20:42:40*
PARTICLE SIZE DISTRIBUTIONS (NUMBER/M**3-MM)
TYPE: RAIN

SIZE (MU)	SCATTER PROBE	SIZE (MU)	CLOUD PROBE	SIZE (MU)	PRECIP PROBE	
						P (MB) 959.8
2	4.79E+06	23	0.	404	0.	
4	8.04E+06	43	0.	647	0.	ALT (KM)
6	1.60E+06	62	0.	944	0.	.529
8	5.24E+05	82	0.	1241	0.	
10	0.	102	0.	1538	0.	TEMP (C)
12	0.	122	0.	1835	0.	8.7
14	0.	142	0.	2132	0.	
16	0.	161	0.	2429	0.	DEWPOINT
18	0.	181	0.	2726	0.	.0
20	0.	201	0.	3023	0.	
22	0.	221	0.	3320	0.	TAS (M/S)
24	0.	241	0.	3617	0.	86.1
26	0.	260	0.	3914	0.	
28	0.	280	0.	4211	0.	
30	0.	300	0.	4508	0.	
						TOTALS
LWC	1.46E-06		0.		0.	0.
MED D	5		0		0	0