CURRENT METER MEASUREMENTS
IN THE GULF OF ALASKA - PART I
RESULTS FROM NEG0A MOORINGS 60, 61, 62A

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Bernard Walter

Pacific Marine Environmental Laboratory
Seattle, Washington
May 1975
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CURRENT METER MEASUREMENTS
IN THE GULF OF ALASKA - PART I
RESULTS FROM NEGOA MOORINGS 60, 61, 62A

R. Michael Reynolds
Bernard Walter

Three moorings in the physical oceanographic study of the Northeast Gulf of Alaska, deployed in the last half of 1974, are described. Time series analysis of the moorings with a recently developed Aanderaa processing system is described, and time series analysis plots are presented.

1. INTRODUCTION

During 1974, the Institute of Marine Sciences of the University of Alaska and the Pacific Marine Environmental Laboratory (PMEL) of NOAA began a joint study of the physical oceanography of the Northeast Gulf of Alaska (NEGOA). Three moorings were deployed on the continental shelf. The purpose of these initial moorings is to begin describing the vertical and time variability of the currents in three areas of the shelf which have differing topographical environments. Figure 1 shows the positions and dates of the three moorings.

This memorandum is a summary of the data collected of these three moorings. The computer processing is briefly discussed, then the moorings are described, including a summary of the performance of the instruments. The data summaries are found in the appendices.
Figure 1. Location of NEGOA moorings 60, 61, 62A showing dates of deployment.
2. DATA PROCESSING OF AANDERAA CURRENT METER RECORDS

Figure 2 is a schematic of the data processing procedure. The original data tape is removed from the current meter without rewinding. This original tape is then re-recorded backwards onto a stronger 1.5 mil working tape which is used in all future data processing operations. The delicate 0.5 mil original Aanderaa tape is stored, and need not be replayed under normal circumstances. The purpose of this process is to minimize handling of the original tape.

The working tape is then played into the PMEL tape translating facility which generates a computer-compatible 7-track tape (556 bpi). The reader detects incorrect bit counts in any words, and an incorrect number of words in any data record. (A full discussion of the intricacies of the reader facility including software will appear in a forthcoming technical report.) At the time of translation, the data stream is checked by a bit display module and can be plotted on an analog chart.

Once the Aanderaa working tape has been translated onto a computer tape, two programs are required to edit the data for time-series analysis. The first program, AANCMRD, takes the first look at the data. As each data record is read, calibration equations are applied to the raw binary data giving physical values of speed, direction, etc. At this time, any irregularities from "dead zone" readings in speed or direction are noted and interpolated across. Also, magnetic deviation correction is applied, resulting in "true" compass directions, and all detected errors or interpolations are flagged. A binary tape with the processed data is created as well as a printer output. A sample of the printout is shown in Figure 3. On the
Figure 2. Block diagram of Aanderaa data processing.
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Table 3. Typical output from Program AANCMRD.
right hand are the Aanderaa binary coded raw data, and on the left hand are the calculated physical values.

The printout from AANCMRD is carefully analyzed for any systematic errors. Also, the validity of all detected errors is appraised. Time-marks taken from a mooring log are compared to the recorded data (for example, Fig. 3 shows change in values when the current meter enters the water, with the prior release of the rotor).

The second program, EDTDAT, completes the data editing. This program accepts hand editing via data cards, and interpolates or deletes any desired error records. Figure 4 is a sample of the final output of this program. Each sample is given a true GMT time. Then the data are formatted onto another binary file, ready for time-series analysis and plotting by the standard PMEL time-series analysis packages, CURPLT and TEMPLT (Halpern et al., 1974).

These packages provide a complete overview of the available data. The program CURPLT performs a time-series analysis of current vectors in a rectangular coordinate system and produces Calcomp plots of histogram statistics, time-series, progressive vector diagrams, and spectra (u, v, power and rotary spectra). TEMPLT performs one-dimensional time-series analysis of any scalars such as temperature, conductivity, or pressure. Again, Calcomp plots of histogram, time-series, and power spectrum are produced.
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Figure 4. Typical output from Program ETDAT.
3. THE MOORINGS

3.1 NEGOA 60

Mooring NEGOA 60 (Fig. 5) was designed and installed by the Institute of Marine Sciences, University of Alaska. The mooring depth was approximately 100 meters, and the position was 60° 5.4'N, 145° 40.7'W.

The subsurface mooring included 4 Aanderaa current meters located at 20, 30, 50 and 90 m depth. The sampling interval for the meters was 10 min. The mooring was deployed on 2 July 1974 and recovered in September. Because of weather problems, the meters were not recovered before the internal tapes had overrun.

During processing only the first 8000 data points (55.5 days) were considered, since weakening batteries began to generate excessive tape noise after this period. All four current meters produced clean readable tapes, and all sensors appear to have worked well.

3.2 NEGOA 61

Mooring NEGOA 61 was installed by PMEL at 59° 34.2'N, 145° 47.6'W in 173 m of water (Fig. 6). Five Aanderaa current meters were located at nominal depths of 20, 30, 50, 100 and 163 m depth. The sampling interval was 30 min, and all meters were operating on recovery. Table 1 shows the sensors included in the mooring and their performance.
Figure 5. MOORING NEGOLA 60
Figure 6. MOORING NEGGA 61
Table 1. Sensors Included in Mooring NEGOA 61

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<td>604</td>
<td>20</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>601</td>
<td>30</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>o</td>
<td>✓</td>
</tr>
<tr>
<td>711</td>
<td>50</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>o</td>
</tr>
<tr>
<td>603</td>
<td>100</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>602</td>
<td>163</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>o</td>
<td>30%</td>
</tr>
</tbody>
</table>

✓ sensor apparently 100% operational
o sensor not included
x sensor failed totally
30% data recovered

3.3 NEGOA 62A

Mooring 62A was installed by PMEL at 59° 34.4'N, 142° 10.5'W in 188 m of water (Fig. 7). Four Aanderaa current meters were located at 24, 50, 100 and 178 m depth. The sampling interval of the instruments was 30 min. This mooring is the first in a year long series of current meter data to be collected at this location. Table 2 shows the sensors included in the mooring and their performance.

Table 2. Sensors Included in Mooring NEGOA 62A

<table>
<thead>
<tr>
<th>Current Meter</th>
<th>Nominal Depth (m)</th>
<th>S</th>
<th>φ</th>
<th>T</th>
<th>P</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>598</td>
<td>20</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>617*</td>
<td>50</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>616+</td>
<td>100</td>
<td>60%</td>
<td>60%</td>
<td>60%</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>600</td>
<td>178</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>o</td>
<td>✓</td>
</tr>
</tbody>
</table>

✓ sensor apparently 100% operational
o sensor not included
* Even though the sensors appear operational this unit became defective after 30 days because of clock problems
+ Excessive noise requires extensive interpolation.
Figure 7. MOORING NEGOA 62A
4. ACKNOWLEDGMENTS

The electronic work was excellently done by Roy Newman and David Spell. James Holbrook was most helpful in sharing his experience and programming expertise. The patience of the NEGOA Project Office was most appreciated.
5. REFERENCES

APPENDIX A

TIME SERIES ANALYSIS OF DATA FROM

NEGOA 60

A.1. Current Meter 625 at 20 meters
A.2. Current Meter 412 at 30 meters
A.3. Current Meter 392 at 50 meters
A.4. Current Meter 624 at 90 meters
A.1. TIME SERIES ANALYSIS  Current Meter 625  Nominal Depth: 20m  
Part 1 of 2; 2 July - 1 August 1974

Mooring Designation NEQOA 60  
Location:  60° 5.4'N  145° 47.7'W  
Sensors:  Speed, Direction, Temperature, Pressure, Conductivity

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Mean (CM/SEC)</th>
<th>Variance (CM/SEC)</th>
<th>StDev (CM/SEC)</th>
<th>Skew</th>
<th>Kurt</th>
<th>Max (CM/SEC)</th>
<th>Min (CM/SEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>.17.94</td>
<td>87.33</td>
<td>9.34</td>
<td>.629</td>
<td>2.44</td>
<td>54.08</td>
<td>1.50</td>
</tr>
<tr>
<td>U</td>
<td>-8.98</td>
<td>141.45</td>
<td>11.89</td>
<td>-.017</td>
<td>2.79</td>
<td>29.42</td>
<td>-46.28</td>
</tr>
<tr>
<td>V</td>
<td>5.26</td>
<td>159.69</td>
<td>12.64</td>
<td>-.259</td>
<td>2.95</td>
<td>41.46</td>
<td>-36.58</td>
</tr>
</tbody>
</table>

S = SPEED  
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U  
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V  

![Graph of Speed (CM/SEC)](image1)  
![Graph of Direction (Degrees, TN)](image2)
HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 20.0 METERS.
A.1. TIME SERIES ANALYSIS  Current Meter 625  Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH   20.0 METERS.
A.1. TIME SERIES ANALYSIS  Current Meter 625  Part 1 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 20.0 METERS.
A.1. TIME SERIES ANALYSIS  Current Meter 625  Part 1 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH  20.0 METERS.
A.1. TIME SERIES ANALYSIS  Current Meter 625
Part 1 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGOA - 60
OBSERVATION PERIOD 30.0 DAYS FROM 0330 GMT 2 JUL 74.
DEPTH 20.0 METERS.
A.1. TIME SERIES ANALYSIS  Current Meter 625  
Part 1 of 2 (Continued)
A.1. TIME SERIES ANALYSIS  Current Meter 625  
Part 1 of 2 (Continued)

TEMPERATURE STATISTICS  LAT. 60 05.4N  LONG. 145 40.7W  
DEPTH 20.0 METERS  NUMBER OF OBSERVATIONS = 4320  
OBSERVATION PERIOD 30.0 DAYS FROM 0330 GMT 2 JUL 74  

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>(DEG C)</td>
<td>(DEG C)</td>
<td>(DEG C)</td>
<td></td>
<td></td>
<td>(DEG C)</td>
<td>(DEG C)</td>
</tr>
<tr>
<td>9.57</td>
<td>.50</td>
<td>.71</td>
<td>.68</td>
<td>3.86</td>
<td>12.17</td>
<td>7.29</td>
</tr>
</tbody>
</table>

![Temperature Histogram](image1)

![Temperature Spectrum](image2)
A.1. TIME SERIES ANALYSIS  Current Meter 625  Part 1 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 20.0 METERS.
A.1. TIME SERIES ANALYSIS Current Meter 625
Part 1 of 2 (Continued)

CONDUCTIVITY STATISTICS  LAT. 60.05.4N  LONG. 145.40.7W
DEPTH 20.0 METERS NUMBER OF OBSERVATIONS = 4320
OBSERVATION PERIOD 30.0 DAYS FROM 0330 GMT 2 JUL 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.55</td>
<td>.15</td>
<td>.38</td>
<td>.21</td>
<td>3.35</td>
<td>32.67</td>
<td>29.16</td>
</tr>
</tbody>
</table>

![Conductivity Spectrum](image1)

![Conductivity Distribution](image2)
A.1. TIME SERIES ANALYSIS  Current Meter 625  Part 1 of 2 (Continued)

HOURLY AVERAGES OF CONDUCTIVITY  DEPTH 20.0 METERS.
A.1. TIME SERIES ANALYSIS  Current Meter 625  
Part 1 of 2 (Continued)

DEPTH STATISTICS  LAT. 60° 05' 4N  LONG. 145° 40' 7W  
DEPTH 20.0 METERS  NUMBER OF OBSERVATIONS = 4320  
OBSERVATION PERIOD 30.0 DAYS FROM 0330 GMT 2 JUL 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.15</td>
<td>.52</td>
<td>.72</td>
<td>.19</td>
<td>3.29</td>
<td>21.69</td>
<td>17.07</td>
</tr>
</tbody>
</table>

![Depth Statistics Graph]

![Depth Spectrum Graph]

27
A.1. TIME SERIES ANALYSIS  Current Meter 625  Part 1 of 2 (Continued)

HOURLY AVERAGES OF DEPTH

DEPTH 20.0 METERS.
A.1. TIME SERIES ANALYSIS  Current Meter 625  Nominal Depth: 20m
Part 2 of 2; 1 August - 26 August 1974

Mooring Designation NEGOA 60
Location: 60° 5.4'N 145° 47.7'W
Sensors: Speed, Direction, Temperature, Pressure, Conductivity

<table>
<thead>
<tr>
<th>Mean</th>
<th>Variance</th>
<th>St-Dev</th>
<th>Skew</th>
<th>Kurt</th>
<th>Max</th>
<th>Min</th>
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</thead>
<tbody>
<tr>
<td>S</td>
<td>16.76</td>
<td>41.41</td>
<td>6.43</td>
<td>0.487</td>
<td>2.71</td>
<td>40.00</td>
</tr>
<tr>
<td>U</td>
<td>-5.16</td>
<td>144.18</td>
<td>12.01</td>
<td>0.133</td>
<td>2.53</td>
<td>28.80</td>
</tr>
<tr>
<td>V</td>
<td>-4.06</td>
<td>134.96</td>
<td>11.62</td>
<td>0.208</td>
<td>2.48</td>
<td>30.70</td>
</tr>
</tbody>
</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V
HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 20.0 METERS.
A.1. TIME SERIES ANALYSIS
Current Meter 625
Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION:
DEPTH 20.0 METERS.
A.I. TIME SERIES ANALYSIS  Current Meter 625  Part 2 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH  20.0 METERS.
A.1. TIME SERIES ANALYSIS  Current Meter 625  Part 2 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY

DEPTH 20.0 METERS.
PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGOA - 60 OBSERVATION PERIOD 25.5 DAYS FROM 0330 GMT 1 AUG 74. DEPTH 20.0 METERS.
A.1. TIME SERIES ANALYSIS  Current Meter 625
Part 2 of 2 (Continued)

SPECTRA OF CURRENT VELOCITY

DEPTH 20.0 METERS.

FREQUENCY (CYCLES/HOUR)

(Ch/Sec)²

FREQUENCY (CYCLES/HOUR)

PERIOD (HOURS)

ENERGY SPECTRUM

ROTARY SPECTRA.

NEGATIVE SPECTRUM

POSITIVE SPECTRUM

(Ch/Sec)²

FREQUENCY (CYCLES/HOUR)
### A.1. TIME SERIES ANALYSIS 
Current Meter 625  
Part 2 of 2 (Continued)

TEMPERATURE STATISTICS  
LAT. 60 05.4N  LONG. 145 40.7W  
DEPTH 20.0 METERS  NUMBER OF OBSERVATIONS = 3680  
OBSERVATION PERIOD 25.5 DAYS FROM 0330 GMT 1 AUG 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.17</td>
<td>.68</td>
<td>.82</td>
<td>-.26</td>
<td>2.41</td>
<td>13.18</td>
<td>8.87</td>
</tr>
</tbody>
</table>

![Temperature Histogram](image1)

**TEMPERATURE SPECTRUM.**  
PERIOD (HOURS)

![Temperature Spectrum](image2)
A.1. TIME SERIES ANALYSIS  Current Meter 625  Part 2 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 20.0 METERS.
A.1. TIME SERIES ANALYSIS Current Meter 625
Part 2 of 2 (Continued)

CONDUCTIVITY STATISTICS
LAT. 60 05.4N  LONG. 145 40.7W
DEPTH 20.0 METERS  NUMBER OF OBSERVATIONS = 3680
OBSERVATION PERIOD 25.5 DAYS FROM 0330 GMT 1 AUG 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>(MMHO)</td>
<td>(MMHO)</td>
<td>(MMHO)</td>
<td></td>
<td></td>
<td>(MMHO)</td>
<td>(MMHO)</td>
</tr>
<tr>
<td>31.44</td>
<td>.24</td>
<td>.49</td>
<td>.13</td>
<td>3.09</td>
<td>32.91</td>
<td>29.83</td>
</tr>
</tbody>
</table>

CONDUCTIVITY SPECTRUM

CONDUCTIVITY (MMHO)

OBSERVATIONS

CONDUCTIVITY (MMHO)

FREQUENCY (CYCLES/HOUR)

PERIOD (HOURS)
A.1. TIME SERIES ANALYSIS  Current Meter 625  Part 2 of 2 (Continued)

HOURLY AVERAGES OF CONDUCTIVITY DEPTH 20.0 METERS.
A.1. TIME SERIES ANALYSIS  Current Meter 625
Part 2 of 2 (Continued)

DEPTH STATISTICS  LAT. 60 05.4N  LONG. 145 40.7W
DEPTH 20.0 METERS  NUMBER OF OBSERVATIONS = 3680
OBSERVATION PERIOD  25.5 DAYS FROM 0330 GMT  1 AUG 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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</thead>
<tbody>
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<td>19.03</td>
<td>.39</td>
<td>.63</td>
<td>.05</td>
<td>2.48</td>
<td>20.15</td>
<td>17.84</td>
</tr>
</tbody>
</table>

![Depth Statistics Chart]

![Depth Spectrum Chart]
A.1. TIME SERIES ANALYSIS  Current Meter 625  Part 2 of 2 (Continued)

HOURLY AVERAGES OF DEPTH  DEPTH 20.0 METERS.
A.2. TIME SERIES ANALYSIS  Current Meter 412  Nominal Depth: 30m  
Part 1 of 2; 2 July - 1 August 1974  

Mooring Designation NEGOA 60  
Location: 60° 5.4'N 145° 47.7'W  
Sensors: Speed, Direction, Temperature  

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Mean (CM/SEC)</th>
<th>Variance (CM/SEC)²</th>
<th>Std. Dev (CM/SEC)</th>
<th>Skew</th>
<th>Kurt</th>
<th>Max (CM/SEC)</th>
<th>Min (CM/SEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>13.19</td>
<td>36.94</td>
<td>6.08</td>
<td>.962</td>
<td>3.25</td>
<td>35.12</td>
<td>2.32</td>
</tr>
<tr>
<td>U</td>
<td>7.54</td>
<td>73.22</td>
<td>8.55</td>
<td>-.028</td>
<td>2.73</td>
<td>31.83</td>
<td>-19.72</td>
</tr>
<tr>
<td>V</td>
<td>-2.51</td>
<td>74.58</td>
<td>8.64</td>
<td>.270</td>
<td>2.58</td>
<td>23.26</td>
<td>-25.34</td>
</tr>
</tbody>
</table>

S = SPEED  
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U  
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V  

![Histogram of Speed](image1)  
![Histogram of Direction](image2)
A.2. TIME SERIES ANALYSIS  Current Meter 412  Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH  30.0 METERS.
A.2. TIME SERIES ANALYSIS  Current Meter 412  Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH  30.0 METERS.
A.2. TIME SERIES ANALYSIS  Current Meter 412  Part 1 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH  30.0 METERS.

![Graph showing hourly averages of east-west components of current velocity.](image)
A.2. TIME SERIES ANALYSIS  Current Meter 412  Part 1 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY

DEPTH 30.0 METERS.
A.2. TIME SERIES ANALYSIS  Current Meter 412  
Part 1 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEG0A - 60  
OBSERVATION PERIOD 30.0 DAYS FROM 0342 GMT 2 JUL 74.  
DEPTH 30.0 METERS.
A.2. TIME SERIES ANALYSIS  Current Meter 412
Part 1 of 2 (Continued)

SPECTRA OF CURRENT VELOCITY
DEPTH 30.0 METERS.

SPECTRA OF CURRENT VELOCITY
DEPTH 30.0 METERS.

ROTARY SPECTRA.
A.2. TIME SERIES ANALYSIS  Current Meter 412
Part 1 of 2 (Continued)

TEMPERATURE STATISTICS  LAT. 60 05.4N  LONG. 145 40.7W
DEPTH 30.0 METERS  NUMBER OF OBSERVATIONS = 4320
OBSERVATION PERIOD 30.0 DAYS FROM 0342 GMT 2 JUL 74

MEAN  VARIANCE  ST-DEV  SKEW  KURT  MAX  MIN
(DEG C)  (DEG C)  (DEG C)  (DEG C)  (DEG C)
8.18  .42  .65  -.08  2.44  9.79  6.43

TEMPERATURE SPECTRUM.

PERIOD (HOURS)

TEMPERATURE (DEG C)

FREQUENCY (CYCLES/HOUR)
HOURLY AVERAGES OF TEMPERATURE DEPTH 30.0 METERS.
A.2. TIME SERIES ANALYSIS  Current Meter 412  Nominal Depth: 30m  
Part 2 of 2; 1 August - 26 August 1974

Mooring Designation NEGOA 60
Location: 60° 5.4'N  145° 47.7'W
Sensors:  Speed, Direction, Temperature

<table>
<thead>
<tr>
<th></th>
<th>MEAN (CM/SEC)</th>
<th>VARIANCE (CM/SEC)^2</th>
<th>ST-DEV (CM/SEC)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (CM/SEC)</th>
<th>MIN (CM/SEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
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<td>29.56</td>
<td>5.44</td>
<td>1.034</td>
<td></td>
<td>4.37</td>
<td>36.35</td>
</tr>
<tr>
<td>U</td>
<td>3.88</td>
<td>89.18</td>
<td>9.44</td>
<td>.227</td>
<td></td>
<td>2.81</td>
<td>33.32</td>
</tr>
<tr>
<td>V</td>
<td>4.52</td>
<td>82.70</td>
<td>9.09</td>
<td>-.115</td>
<td></td>
<td>2.67</td>
<td>33.72</td>
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</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

[Graphs showing distribution of speed and direction]
A.2. TIME SERIES ANALYSIS  Current Meter 412  Part 2 of 2  (Continued)

HOURLY VECTOR AVERAGES OF SPEED.

DEPTH 30.0 METERS.
A.2. TIME SERIES ANALYSIS  Current Meter 412  Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH  30.0 METERS.
A.2. TIME SERIES ANALYSIS  Current Meter 412  Part 2 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 30.0 METERS.
HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 30.0 METERS.
A.2. TIME SERIES ANALYSIS  Current Meter 412  
Part 2 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGOA - 60 OBSERVATION PERIOD 24.5 DAYS FROM 0342 GMT 1 AUG 74.  
DEPTH 30.0 METERS.
A.2. TIME SERIES ANALYSIS  
Current Meter 412  
Part 2 of 2 (Continued)
A.2. TIME SERIES ANALYSIS  Current Meter 412  
Part 2 of 2 (Continued)

TEMPERATURE STATISTICS  
LAT.  60 05.4N  LONG.  145 40.7W  
DEPTH  30.0 METERS  NUMBER OF OBSERVATIONS = 3529  
OBSERVATION PERIOD  24.5 DAYS FROM 0342 GMT  1 AUG 74

<table>
<thead>
<tr>
<th>MEAN</th>
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<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.24</td>
<td>1.08</td>
<td>1.04</td>
<td>.50</td>
<td>2.22</td>
<td>12.26</td>
<td>7.29</td>
</tr>
</tbody>
</table>

![Temperature Statistics Graph]

![Temperature Spectrum Graph]
A.2. TIME SERIES ANALYSIS  Current Meter 412  Part 2 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 30.0 METERS.
A.3. TIME SERIES ANALYSIS  Current Meter 392  Nominal Depth: 50m
Part 1 of 2; 2 July - 1 August 1974

Mooring Designation NEGOA 60
Location: 60° 5.4' S 145° 47.7' W
Sensors: Speed, Direction, Temperature

<table>
<thead>
<tr>
<th></th>
<th>MEAN (CM/SEC)</th>
<th>VARIANCE (CM/SEC)²</th>
<th>ST-DEV (CM/SEC)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (CM/SEC)</th>
<th>MIN (CM/SEC)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>10.62</td>
<td>11.60</td>
<td>3.41</td>
<td>.712</td>
<td>.316</td>
<td>23.23</td>
<td>2.32</td>
</tr>
<tr>
<td>V</td>
<td>.60</td>
<td>74.18</td>
<td>8.61</td>
<td>-21</td>
<td>20.75</td>
<td>20.75</td>
<td>-21.58</td>
</tr>
</tbody>
</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Histogram of Speed](image1)

![Histogram of Direction](image2)
A.3. TIME SERIES ANALYSIS  Current Meter 392  Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH  50.0 METERS.
A.3. TIME SERIES ANALYSIS  Current Meter 392  Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH  50.0 METERS.
A.3. TIME SERIES ANALYSIS

Current Meter 392

Part 1 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY

DEPTH 50.0 METERS.
A.3. TIME SERIES ANALYSIS

Current Meter 392

Part 1 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY

DEPTH 50.0 METERS.
A.3. 'TIME SERIES ANALYSIS  Current Meter 392
Part 1 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGOA - 60
OBSERVATION PERIOD 30.0 DAYS FROM 0324 GMT 2 JUL 74.
DEPTH 50.0 METERS.
A.3. TIME SERIES ANALYSIS  Current Meter 392
Part 1 of 2 (Continued)
A.3. TIME SERIES ANALYSIS  Current Meter 392  
Part 1 of 2 (Continued)

TEMPERATURE STATISTICS  
LAT. 60 05.4N  LONG. 145 40.7W  
DEPTH 50.0 METERS  NUMBER OF OBSERVATIONS = 4320  
OBSERVATION PERIOD 30.0 DAYS FROM 0324 GMT 2 JUL 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.04</td>
<td>0.08</td>
<td>0.28</td>
<td>1.55</td>
<td>5.23</td>
<td>7.62</td>
<td>5.52</td>
</tr>
</tbody>
</table>

TEMPERATURE SPECTRUM.

![Temperature Spectrum](image)

TEMPERATURE SPECTRUM.

![Temperature Spectrum](image)

67
A.3. TIME SERIES ANALYSIS  Current Meter 392  Part 1 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 50.0 METERS.
A.3. TIME SERIES ANALYSIS  Current Meter 392  Nominal Depth: 50m
Part 2 of 2; 1 August - 26 August 1974

Mooring Designation NEGOA 60
Location: 60° 5.4'N 145° 47.7'W
Sensors: Speed, Direction, Temperature

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>(CM/SEC)</td>
<td>(CM/SEC)²</td>
<td>(CM/SEC)</td>
<td></td>
<td></td>
<td>(CM/SEC)</td>
<td>(CM/SEC)</td>
</tr>
<tr>
<td>S</td>
<td>10.71</td>
<td>10.22</td>
<td>3.20</td>
<td>.688</td>
<td>3.38</td>
<td>22.41</td>
</tr>
<tr>
<td>U</td>
<td>-1.77</td>
<td>45.01</td>
<td>6.71</td>
<td>.183</td>
<td>1.85</td>
<td>14.99</td>
</tr>
<tr>
<td>V</td>
<td>-1.25</td>
<td>75.32</td>
<td>8.68</td>
<td>.125</td>
<td>1.90</td>
<td>19.89</td>
</tr>
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</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Graph of Speed (CM/SEC)](image)

![Graph of Direction (Degrees, TN)](image)
A.3. TIME SERIES ANALYSIS  Current Meter 392  Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 50.0 METERS.
A.3. TIME SERIES ANALYSIS  Current Meter 392  Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH  50.0 METERS.
A.3. TIME SERIES ANALYSIS  Current Meter 392  Part 2 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH  50.0 METERS.
A.3. TIME SERIES ANALYSIS Current Meter 392 Part 2 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY

DEPTH 50.0 METERS.
A.3. TIME SERIES ANALYSIS  Current Meter 392
Part 2 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEG0A - 60
OBSERVATION PERIOD 24.3 DAYS FROM 0324 GMT 1 AUG 74.
DEPTH 50.0 METERS.
A.3. TIME SERIES ANALYSIS  Current Meter 392
Part 2 of 2 (Continued)

SPECTRA OF CURRENT VELOCITY
DEPTH 50.0 METERS.

ROTARY SPECTRA.
A.3. TIME SERIES ANALYSIS  Current Meter 392
Part 2 of 2 (Continued)

TEMPERATURE STATISTICS  
LAT. 60 05.4N  LONG. 145 40.7W
DEPTH 50.0 METERS  
NUMBER OF OBSERVATIONS = 3497
OBSERVATION PERIOD 24.3 DAYS FROM 0324 GMT 1 AUG 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.49</td>
<td>.16</td>
<td>.40</td>
<td>.60</td>
<td>3.07</td>
<td>8.19</td>
<td>5.75</td>
</tr>
</tbody>
</table>

TEMPERATURE SPECTRUM.

TEMPERATURE (DEG C)

OBSERVATIONS

PERIOD (HOURS)

TEMPERATURE SPECTRUM.

FREQUENCY (CYCLES/HOUR)
A.3. TIME SERIES ANALYSIS  Current Meter 392  Part 2 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 50.0 METERS.
A.4. TIME SERIES ANALYSIS  Current meter 624  Nominal depth: 90m
Part 1 of 2; 2 July - 1 August 1974

Mooring Designation NEGOA 60
Location: 60° 5.4'N  145° 47.7'W
Sensors: Speed, Direction, Temperature, Conductivity

<table>
<thead>
<tr>
<th></th>
<th>MEAN (CM/SEC)</th>
<th>VARIANCE (CM/SEC)^2</th>
<th>ST-DEV (CM/SEC)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (CM/SEC)</th>
<th>MIN (CM/SEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>9.52</td>
<td>13.81</td>
<td>3.72</td>
<td>.358</td>
<td>2.47</td>
<td>23.03</td>
<td>1.50</td>
</tr>
<tr>
<td>U</td>
<td>.23</td>
<td>30.77</td>
<td>5.55</td>
<td>-.136</td>
<td>2.16</td>
<td>15.12</td>
<td>-14.18</td>
</tr>
<tr>
<td>V</td>
<td>-1.21</td>
<td>72.16</td>
<td>8.49</td>
<td>.070</td>
<td>1.99</td>
<td>20.45</td>
<td>-20.75</td>
</tr>
</tbody>
</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Histogram of Speed (CM/SEC)]

![Histogram of Direction (Degrees, TN)]

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A.4. TIME SERIES ANALYSIS Current Meter 624 Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF SPEED. DEPTH 90.0 METERS.
A.4. TIME SERIES ANALYSIS  Current Meter 624  Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH  90.0 METERS.

![Graph showing hourly vector averages of direction](image)
A.4. TIME SERIES ANALYSIS  Current Meter 624  Part 1 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH  90.0 METERS.
A.4. TIME SERIES ANALYSIS
Current Meter 624 Part 1 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY

DEPTH 90.0 METERS.
A.4. TIME SERIES ANALYSIS  Current Meter 624
Part 1 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGDA - 60
OBSERVATION PERIOD 30.0 DAYS FROM 0336 GMT 2 JUL 74.
DEPTH 90.0 METERS.
A.4. TIME SERIES ANALYSIS  Current Meter 624
Part 1 of 2 (Continued)

SPECTRA OF CURRENT VELOCITY
DEPTH 90.0 METERS.

ENERGY SPECTRUM

ROTARY SPECTRA.
A.4. TIME SERIES ANALYSIS  Current Meter 624
Part 1 of 2 (Continued)

TEMPERATURE STATISTICS
LAT. 60 05.4N  LONG. 145 40.7W
DEPTH 90.0 METERS  NUMBER OF OBSERVATIONS = 4320
OBSERVATION PERIOD  30.0 DAYS FROM 0336 GMT  2 JUL 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.08</td>
<td>.03</td>
<td>.18</td>
<td>.76</td>
<td>2.58</td>
<td>5.59</td>
<td>4.80</td>
</tr>
</tbody>
</table>

TEMPERATURE SPECTRUM.
PERIOD (HOURS)

TEMPERATURE (DEG C)

FREQUENCY (CYCLES/HOUR)
A.4. TIME SERIES ANALYSIS Current Meter 624 Part 1 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE DEPTH 90.0 METERS.
A.4. TIME SERIES ANALYSIS  Current Meter 624
Part 1 of 2 (Continued)

CONDUCTIVITY STATISTICS  LAT. 60 05.4N  LONG. 145 40.7W
DEPTH 90.0 METERS  NUMBER OF OBSERVATIONS = 4320
OBSERVATION PERIOD 30.0 DAYS FROM 0336 GMT  2 JUL 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.73</td>
<td>.02</td>
<td>.14</td>
<td>-.97</td>
<td>23.21</td>
<td>28.11</td>
<td>25.88</td>
</tr>
</tbody>
</table>

CONDUCTIVITY (MMHO)

CONDUCTIVITY SPECTRUM.

PERIOD (HOURS)

FREQUENCY (CYCLES/HOUR)
A.4. TIME SERIES ANALYSIS  Current Meter 624  Part 2 of 2 (Continued)

HOURLY AVERAGES OF CONDUCTIVITY  DEPTH 90.0 METERS.

![Graph showing hourly averages of conductivity depth 90.0 meters.](image)
A.4. TIME SERIES ANALYSIS  Current Meter 624  Nominal Depth: 90m  
Part 2 of 2; 1 August - 26 August 1974  

Mooring Designation NEQA 60  
Location: 60° 5.4'N  145° 47.7'W  
Sensors: Speed, Direction, Temperature, Conductivity  

<table>
<thead>
<tr>
<th></th>
<th>MEAN (CM/SEC)</th>
<th>VARIANCE (CM/SEC)^2</th>
<th>ST-DEV (CM/SEC)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (CM/SEC)</th>
<th>MIN (CM/SEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
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<td>17.99</td>
<td>4.24</td>
<td>.631</td>
<td>.631</td>
<td>2.95</td>
<td>27.17</td>
</tr>
<tr>
<td>U</td>
<td>.87</td>
<td>34.63</td>
<td>5.89</td>
<td>-.254</td>
<td>-.254</td>
<td>2.52</td>
<td>17.22</td>
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<tr>
<td>V</td>
<td>-.97</td>
<td>75.71</td>
<td>8.76</td>
<td>.320</td>
<td>.320</td>
<td>2.31</td>
<td>23.46</td>
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</table>

S = SPEED  
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U  
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V  

![Histogram of Speed](image1)  
![Histogram of Direction](image2)
A.4. TIME SERIES ANALYSIS
Current Meter 624 Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 90.0 METERS.
A.4. TIME SERIES ANALYSIS  Current Meter 624  Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH 90.0 METERS.
A.4. TIME SERIES ANALYSIS  Current Meter 624  Part 2 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 90.0 METERS.
A.4. TIME SERIES ANALYSIS  Current Meter 624
Part 2 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGGA - 60
OBSERVATION PERIOD 25.6 DAYS FROM 0336 GMT 1 AUG 74.
DEPTH  90.0 METERS.
A.4. TIME SERIES ANALYSIS  Current Meter 624  Part 2 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 90.0 METERS.
A.4. TIME SERIES ANALYSIS  Current Meter 624  
Part 2 of 2 (Continued)

SPECTRA OF CURRENT VELOCITY    DEPTH 90.0 METERS.

PERIOD (HOURS)                  PERIOD (HOURS)

SPECTRA OF CURRENT VELOCITY

FREQUENCY (CYCLES/HOUR)

ROTARY SPECTRA.

FREQUENCY (CYCLES/HOUR)
A.4. TIME SERIES ANALYSIS Current Meter 624
Part 2 of 2 (Continued)

TEMPERATURE STATISTICS
LAT. 60 05.4N  LONG. 145 40.7W
DEPTH 90.0 METERS
NUMBER OF OBSERVATIONS = 3680
OBSERVATION PERIOD 25.5 DAYS FROM 0336 GMT 1 AUG 74

<table>
<thead>
<tr>
<th>MEAN (DEG C)</th>
<th>VARIANCE (DEG C)</th>
<th>ST-DEV (DEG C)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (DEG C)</th>
<th>MIN (DEG C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.35</td>
<td>.03</td>
<td>.18</td>
<td>.25</td>
<td>3.04</td>
<td>5.88</td>
<td>4.98</td>
</tr>
</tbody>
</table>

![Temperature Statistics Graph]

![Temperature Spectrum Graph]
A.4. TIME SERIES ANALYSIS Current Meter 624 Part 2 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE DEPTH 90.0 METERS.
**Time Series Analysis**

**Current Meter 624**

#### Conductivity Statistics

<table>
<thead>
<tr>
<th>Lat. 60 05.4N</th>
<th>Long. 145 40.7W</th>
<th>Depth 90.0 Meters</th>
<th>Number of Observations = 3680</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation Period = 25.5 Days from 0336 GMT 1 Aug 74</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Variance</th>
<th>Standard Deviation</th>
<th>Skew</th>
<th>Kurtosis</th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conductivity (MMHO)</td>
<td>27.93</td>
<td>0.02</td>
<td>0.14</td>
<td>0.11</td>
<td>3.12</td>
<td>28.37</td>
<td>27.41</td>
</tr>
</tbody>
</table>

**Conductivity Spectrum**

- **Period (hours)**: From 0.001 to 10 hours
- **Frequency (cycles/hour)**: From 10 to 100 cycles/hour
- **Conductivity (MMHO)**: 10^-7 to 10^-1 MMHO

---

**Graphs**

1. **Conductivity Distribution**: Observations over Conductivity (MMHO) ranges from 28.0 to 30.0 MMHO.
2. **Conductivity Spectrum**: Peaks at periodicities of approximately 0.1 hours and 1 hour.
HOURLY AVERAGES OF CONDUCTIVITY  DEPTH 90.0 METERS.
APPENDIX B

TIME SERIES ANALYSIS OF DATA FROM
NEGOA 61

B.1. Current Meter 604 at 20 meters
B.2. Current Meter 601 at 30 meters*
B.3. Current Meter 711 at 50 meters
B.4. Current Meter 603 at 100 meters
B.5. Current Meter 602 at 162 meters

*Rotor defective for this instrument.
B.1. TIME SERIES ANALYSIS  Current Meter 604  Nominal Depth: 20m
Part 1 of 2; 16 August - 15 October 1974

Moorings Designation  NEGOA 61
Location:  59° 34.2'N 145° 47.7'W
Sensors:  Speed, Direction, Temperature, Conductivity, Pressure

<table>
<thead>
<tr>
<th>S</th>
<th>U</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.51</td>
<td>18.21</td>
<td>4.12</td>
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<tr>
<td>283.63</td>
<td>360.19</td>
<td>331.68</td>
</tr>
<tr>
<td>16.84</td>
<td>18.98</td>
<td>18.21</td>
</tr>
<tr>
<td>1.341</td>
<td>-.766</td>
<td>.172</td>
</tr>
<tr>
<td>4.59</td>
<td>3.77</td>
<td>4.12</td>
</tr>
<tr>
<td>110.70</td>
<td>33.72</td>
<td>97.50</td>
</tr>
<tr>
<td>1.50</td>
<td>-90.52</td>
<td>-61.82</td>
</tr>
</tbody>
</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V
B.1. TIME SERIES ANALYSIS
Current Meter 604 Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH 20.0 METERS.
HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 20.0 METERS.
B.1. TIME SERIES ANALYSIS  Current Meter 604  Part 1 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 20.0 METERS.

[Graph showing hourly averages of north-south components of current velocity over a period from August to October 1974.]
PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEG0A - 61
OBSERVATION PERIOD 60.0 DAYS FROM 1000 GMT 16 AUG 74.
DEPTH 20.0 METERS.
B.1. TIME SERIES ANALYSIS  Current Meter 604
Part 1 of 2 (Continued)
### B.1. TIME SERIES ANALYSIS  
Current Meter 604  
Part 1 of 2 (Continued)

**TEMPERATURE STATISTICS**  
**LAT.** 59° 34.2' N  
**LONG.** 145° 47.7' W  
**DEPTH** 20.0 METERS  
**NUMBER OF OBSERVATIONS** = 2880  
**OBSERVATION PERIOD** 60.0 DAYS FROM 1000 GMT 16 AUG 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<td>10.59</td>
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<td>1.38</td>
<td>-0.32</td>
<td></td>
<td>2.40</td>
<td>13.48</td>
</tr>
</tbody>
</table>

---

![Temperature Observations Histogram](image1)

![Temperature Spectrum](image2)
HOURLY AVERAGES OF TEMPERATURE DEPTH 20.0 METERS.
B.1. TIME SERIES ANALYSIS  Current Meter 604  
Part 1 of 2 (Continued)

CONDUCTIVITY STATISTICS  LAT. 59 34.2N  LONG. 145 47.7W  
DEPTH 20.0 METERS  NUMBER OF OBSERVATIONS = 2880  
OBSERVATION PERIOD  60.0 DAYS FROM 1000 GMT 16 AUG 74

<table>
<thead>
<tr>
<th>MEAN (MMHO)</th>
<th>VARIANCE (MMHO)</th>
<th>ST-DEV (MMHO)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (MMHO)</th>
<th>MIN (MMHO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.83</td>
<td>1.23</td>
<td>1.11</td>
<td>.15</td>
<td>2.34</td>
<td>38.41</td>
<td>32.87</td>
</tr>
</tbody>
</table>

CONDUCTIVITY SPECTRUM.

PERIOD (HOURS)

CONDUCTIVITY (MMHO)

OBSERVATIONS

FREQUENCY (CYCLES/HOUR)

(MMHO)
B.I. TIME SERIES ANALYSIS
Current Meter 604
Part 1 of 2
(Continued)

HOURLY AVERAGES OF CONDUCTIVITY DEPTH 20.0 METERS.
B.I. TIME SERIES ANALYSIS  Current Meter 604
Part 1 of 2 (Continued)

DEPTH STATISTICS
LAT. 59 34.2N  LONG. 145 47.7W
DEPTH 20.0 METERS  NUMBER OF OBSERVATIONS = 2880
OBSERVATION PERIOD 60.0 DAYS FROM 1000 GMT 16 AUG 74

MEAN VARIANCE ST-DEV SKEW KURT MAX MIN
(METER) (METERS) (METER) (METER) (METER) (METER)
23.36 1.06 1.03 -.02 2.08 26.30 20.98

DEPTH SPECTRUM.
PERIOD (HOURS)

DEPTH (METERS)

FREQUENCY (CYCLES/HOUR)
B.1. TIME SERIES ANALYSIS  Current Meter 604  Part 1 of 2 (Continued)

HOURLY AVERAGES OF DEPTH  DEPTH 20.0 METERS.
B.1. TIME SERIES ANALYSIS  Current Meter 604  Nominal Depth: 20m
Part 2 of 2; 16 October - 21 November 1974

Mooring Designation  NEGOA 61
Location:  59° 34.2'N  145° 47.7'W
Sensors:  Speed, Direction, Temperature, Conductivity, Pressure

<table>
<thead>
<tr>
<th></th>
<th>MEAN (CM/SEC)</th>
<th>VARIANCE (CM/SEC)²</th>
<th>ST-DEV (CM/SEC)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (CM/SEC)</th>
<th>MIN (CM/SEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>54.58</td>
<td>524.19</td>
<td>22.90</td>
<td>.351</td>
<td>2.47</td>
<td>122.18</td>
<td>3.96</td>
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<td>U</td>
<td>-43.28</td>
<td>718.29</td>
<td>26.80</td>
<td>.159</td>
<td>3.06</td>
<td>43.84</td>
<td>-119.42</td>
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<tr>
<td>V</td>
<td>4.00</td>
<td>895.21</td>
<td>29.92</td>
<td>.204</td>
<td>2.01</td>
<td>99.82</td>
<td>-91.32</td>
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</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Histogram of Speed](image1)

![Histogram of Direction](image2)
B.1. TIME SERIES ANALYSIS  Current Meter 604  Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 20.0 METERS.
HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH 20.0 METERS.
HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 20.0 METERS.
HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY DEPTH 20.0 METERS.
PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEG00A - 61
OBSERVATION PERIOD 36.5 DAYS FROM 1000 GMT 15 OCT 74.
DEPTH 20.0 METERS.
B.1. TIME SERIES ANALYSIS  Current Meter 604  
Part 2 of 2 (Continued)
B.I. TIME SERIES ANALYSIS  Current Meter 604  
Part 2 of 2 (Continued)

TEMPERATURE STATISTICS  
LAT. 59°34.2'N  LONG. 145°47.7'W  
DEPTH 20.0 METERS  
NUMBER OF OBSERVATIONS = 1753  
OBSERVATION PERIOD 36.5 DAYS FROM 1000 GMT 15 OCT 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<tbody>
<tr>
<td>8.59</td>
<td>.48</td>
<td>.69</td>
<td>.24</td>
<td>2.24</td>
<td>10.11</td>
<td>7.05</td>
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</tbody>
</table>

![Temperature Data Chart](image)

![Temperature Spectrum](image)
HOURLY AVERAGES OF TEMPERATURE DEPTH 20.0 METERS.
**B.1. TIME SERIES ANALYSIS**  
Current Meter 604  
Part 2 of 2 (Continued)

**CONDUCTIVITY STATISTICS**  
LAT. 59 34.2N  
LON. 145 47.7W  
DEPTH 20.0 METERS  
NUMBER OF OBSERVATIONS = 1753  
OBSERVATION PERIOD 36.5 DAYS FROM 1000 GMT 15 OCT 74

<table>
<thead>
<tr>
<th>MEAN (MMHO)</th>
<th>VARIANCE (MMHO)</th>
<th>ST-DEV (MMHO)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (MMHO)</th>
<th>MIN (MMHO)</th>
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<td>.60</td>
<td>- .70</td>
<td>3.55</td>
<td>35.10</td>
<td>31.86</td>
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</table>

![Conductivity Spectrum](image)

**CONDUCTIVITY SPECTRUM.**

**PERIOD (HOURS)**

**FREQUENCY (CYCLES/HOUR)**
HOURLY AVERAGES OF CONDUCTIVITY DEPTH 20.0 METERS.
B.I. TIME SERIES ANALYSIS  Current Meter 604
Part 2 of 2 (Continued)

DEPTH STATISTICS
LAT. 59 34.2N  LONG. 145 47.7W
DEPTH 20.0 METERS  NUMBER OF OBSERVATIONS = 1753
OBSERVATION PERIOD  36.5 DAYS FROM 1000 GMT  15 OCT 74

MEAN VARIANCE ST-DEV  SKEW  KURT  MAX  MIN
(METER) (METERS) (METER)  (METER)  (METER)  (METER)
24.03  1.67  1.29  .00  3.55  30.55  20.98
HOURLY AVERAGES OF DEPTH 20.0 METERS.
B.2. TIME SERIES ANALYSIS  Current Meter 601  Nominal Depth: 30m
Part 1 of 2; 16 August - 15 October 1974

Mooring Designation  NEGOA 61
Location:  59° 34.2'N  145° 47.7'W
Sensors:  Speed, Direction, Temperature

TEMPERATURE STATISTICS  LAT.  59° 34.2'N  LONG. 145° 47.7'W
DEPTH 30.0 METERS  NUMBER OF OBSERVATIONS = 2880
OBSERVATION PERIOD  60.0 DAYS FROM 0932 GMT 16 AUG 74

MEAN         VARIANCE        ST-DEV        SKEW        KURT        MAX        MIN
(°C)          (°C)          (°C)          (°C)          (°C)          (°C)          (°C)
9.22          2.87          1.69          .05           1.81         13.38         6.19

TEMPERATURE OBSERVATIONS:

TEMPERATURE SPECTRUM:

TEMPERATURE (°C)

FREQUENCY (CYCLES/HOUR)

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B.2. TIME SERIES ANALYSIS  Current Meter 601  Part 1 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 30.0 METERS.
### B.2. TIME SERIES ANALYSIS  Current Meter 601

Part 1 of 2 (Continued)

<table>
<thead>
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<th></th>
<th>CONDUCTIVITY STATISTICS</th>
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<tr>
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</tr>
<tr>
<td><strong>LONG.</strong></td>
<td>145 47.7W</td>
</tr>
<tr>
<td><strong>DEPTH</strong></td>
<td>30.0 METERS</td>
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<tr>
<td><strong>NUMBER OF OBSERVATIONS</strong></td>
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<tr>
<td><strong>OBSERVATION PERIOD</strong></td>
<td>60.0 DAYS FROM 0932 GMT 16 AUG 74</td>
</tr>
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<table>
<thead>
<tr>
<th><strong>MEAN</strong></th>
<th><strong>VARIANCE</strong></th>
<th><strong>ST-DEV</strong></th>
<th><strong>SKEW</strong></th>
<th><strong>KURT</strong></th>
<th><strong>MAX</strong></th>
<th><strong>MIN</strong></th>
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<tr>
<td>(MMHO)</td>
<td>(MMHO)</td>
<td>(MMHO)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>33.96</td>
<td>1.49</td>
<td>1.22</td>
<td>.16</td>
<td>2.17</td>
<td>37.52</td>
<td>31.15</td>
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</table>

#### Conductivity Statistics

- **Mean Conductivity**: 33.96 MMHO
- **Variance**: 1.49 MMHO
- **Standard Deviation**: 1.22 MMHO
- **Skewness**: 0.16
- **Kurtosis**: 2.17
- **Maximum Conductivity**: 37.52 MMHO
- **Minimum Conductivity**: 31.15 MMHO

#### Conductivity Spectrum

- **Period (Hours)**
- **Conductivity (MMHO)**

#### Conductivity Spectrum

- **Frequency (Cycles/Hour)**
- **Conductivity (MMHO)**
HOURLY AVERAGES OF CONDUCTIVITY  DEPTH 30.0 METERS.
B.2. TIME SERIES ANALYSIS  Current Meter 601  Nominal Depth: 30m
Part 2 of 2; 16 October - 21 November 1974

Moorings Designation  NEGOA 61
Location: 59° 34.2' N  145° 47.7' W
Sensors:  Speed, Direction, Temperature

TEMPERATURE STATISTICS  LAT. 59° 34.2' N  LONG. 145° 47.7' W
DEPTH 30.0 METERS  NUMBER OF OBSERVATIONS = 1748
OBSERVATION PERIOD 36.4 DAYS FROM 0932 GMT 15 OCT 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<tr>
<td>8.65</td>
<td>.47</td>
<td>.69</td>
<td>.11</td>
<td>4.42</td>
<td>10.12</td>
<td>3.18</td>
</tr>
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</table>

![Temperature Observations](image1)

![Temperature Spectrum](image2)
B.2. TIME SERIES ANALYSIS  Current Meter 601  
Part 2 of 2 (Continued)

CONDUCTIVITY STATISTICS  
LAT.  59 34.2N  LONG. 145 47.7W  
DEPTH  30.0 METERS  NUMBER OF OBSERVATIONS = 1748  
OBSERVATION PERIOD  36.4 DAYS FROM 0932 GMT 15 OCT 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<td>-.51</td>
<td>3.40</td>
<td>34.23</td>
<td>31.36</td>
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CONDUCTIVITY SPECTRUM.

CONDUCTIVITY (MMHO)

OBSERVATIONS

PERIOD (HOURS)

FREQUENCY (CYCLES/HOUR)
B.2. TIME SERIES ANALYSIS Current Meter 601 Part 2 of 2 (Continued)

HOURLY AVERAGES OF CONDUCTIVITY DEPTH 30.0 METERS.
B.3. TIME SERIES ANALYSIS  Current Meter 711  Nominal Depth: 50m  
Part 1 of 2; 16 August - 15 October 1974  
Mooring Designation NEGOA 67  
Location: 59°34.2'N  145° 47.7'W  
Sensors:  Speed, Direction, Temperature  

<table>
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<th>Mean</th>
<th>Variance</th>
<th>St-Dev</th>
<th>Skew</th>
<th>Kurt</th>
<th>Max</th>
<th>Min</th>
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<td>23.45</td>
<td>132.17</td>
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<td>1.485</td>
<td>6.21</td>
<td>89.38</td>
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<td>16.57</td>
<td>-0.410</td>
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S = SPEED  
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U  
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V  

[Histogram of Speed (CM/SEC)]  
[Histogram of Direction (Degrees TN)]
B.3. TIME SERIES ANALYSIS
Current Meter 711 Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION,
DEPT 50.0 METERS.
B.3. TIME SERIES ANALYSIS

Current Meter 711

Part 1 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 50.0 METERS.
B.3. TIME SERIES ANALYSIS
Current Meter 711 Part 1 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 50.0 METERS.
8.3. TIME SERIES ANALYSIS  Current Meter 711
Part 1 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGAA - 61
OBSERVATION PERIOD 60.0 DAYS FROM 1004 GMT 16 AUG 74.
DEPTH 50.0 METERS.
B.3. TIME SERIES ANALYSIS  Current Meter 711
Part 1 of 2 (Continued)
B.3. TIME SERIES ANALYSIS  Current Meter 711
Part 1 of 2 (Continued)

TEMPERATURE STATISTICS  LAT. 59.34.2N  LONG. 145.47.7W  
DEPTH 50.0 METERS  NUMBER OF OBSERVATIONS = 2880  
OBSERVATION PERIOD 60.0 DAYS FROM 1004 GMT 16 AUG 74

<table>
<thead>
<tr>
<th>MEAN</th>
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<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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</thead>
<tbody>
<tr>
<td>7.36</td>
<td>2.03</td>
<td>1.42</td>
<td>1.09</td>
<td>3.17</td>
<td>12.00</td>
<td>5.71</td>
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---

**TEMPERATURE SPECTRUM.**

**PERIOD (HOURS)**

**TEMPERATURE (DEG C)**

**FREQUENCY (CYCLES/HOUR)**
B.3. TIME SERIES ANALYSIS  Current Meter 711  Part 1 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 50.0 METERS.
B.3. TIME SERIES ANALYSIS  Current Meter 711  Nominal Depth: 50m  
Part 2 of 2; 16 October - 21 November 1974

Mooring Designation  NEGOA 61  
Location: 59° 34.2'N  145° 47.7W  
Sensors:  Speed, Direction, Temperature

<table>
<thead>
<tr>
<th>Sensor</th>
<th>MEAN (CM/SEC)</th>
<th>VARIANCE (CM/SEC^2)</th>
<th>ST-DEV (CM/SEC)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (CM/SEC)</th>
<th>MIN (CM/SEC)</th>
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<tr>
<td>S</td>
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S = SPEED  
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U  
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V  

![Graph of observations vs speed (CM/SEC)](image)  
![Graph of observations vs direction (degrees, TN)](image)
HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 50.0 METERS.
B.3. TIME SERIES ANALYSIS  Current Meter 711  Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH  50.0 METERS.
HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY DEPTH 50.0 METERS.
B.3. TIME SERIES ANALYSIS  Current Meter 711  Part 2 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 50.0 METERS.
B.3. TIME SERIES ANALYSIS  Current Meter 711
Part 2 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGOA - 61
OBSERVATION PERIOD 36.5 DAYS FROM 1004 GMT 15 OCT 74.
DEPTH  50.0 METERS.
B.3. TIME SERIES ANALYSIS  
Current Meter 711
Part 2 of 2 (Continued)

SPECTRA OF CURRENT VELOCITY

DEPTH 50.0 METERS.

SPECTRA OF CURRENT VELOCITY

FREQUENCY (CYCLES/HOUR)

FREQUENCY (CYCLES/HOUR)

ROTARY SPECTRA.

NEGATIVE SPECTRUM

POSITIVE SPECTRUM

FREQUENCY (CYCLES/HOUR)
B.3. TIME SERIES ANALYSIS  Current Meter 711  
Part 2 of 2 (Continued)

TEMPERATURE STATISTICS  
LAT. 59 34.2N  LONG. 145 47.7W  
DEPTH 50.0 METERS  NUMBER OF OBSERVATIONS = 1753  
OBSERVATION PERIOD 36.5 DAYS FROM 1004 GMT 15 OCT 74

<table>
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<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<td>8.70</td>
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<td>.65</td>
<td>2.35</td>
<td>10.26</td>
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</table>

![Temperature Histogram](image1)

![Temperature Spectrum](image2)
B.3. TIME SERIES ANALYSIS  Current Meter 711  Part 2 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 50.0 METERS.

---

**Diagram:**

A graph showing hourly averages of temperature at a depth of 50.0 meters.

**Graph Details:**

- Y-axis: Temperature (°C) ranging from 4.0 to 14.0
- X-axis: Dates from October 18, 1974, to December 1, 1974

---

**Note:** The graph depicts a trend in temperature changes over the specified period.
8.4. TIME SERIES ANALYSIS  Current Meter 603  Nominal Depth: 100m  
Part 7 of 2; 16 August - 21 November 1974

Moorings Designation: NEGA 61
Location: 59° 34.2'N  145° 47.7'W
Sensors: Speed, Direction, Temperature

<table>
<thead>
<tr>
<th></th>
<th>MEAN (CM/SEC)</th>
<th>VARIANCE (CM/SEC)^2</th>
<th>ST-DEV (CM/SEC)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (CM/SEC)</th>
<th>MIN (CM/SEC)</th>
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<td>3.30</td>
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<td>44.65</td>
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<td>U</td>
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<td>18.91</td>
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<td>34.88</td>
<td>-10.94</td>
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S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY. EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY. NORTH = POSITIVE V
HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 100.0 METERS.
6.4. **TIME SERIES ANALYSIS Current Meter 603** Part 1 of 2 (Continued)

**HOURLY VECTORS AVERAGES OF DIRECTION**

**DEPTH 100.0 METERS**
HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 100.0 METERS.
B.4. TIME SERIES ANALYSIS  Current Meter 603  Part 1 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 100.0 METERS.
B.4. TIME SERIES ANALYSIS  Current Meter 603  
Part 1 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGOA - 61  
OBSERVATION PERIOD 60.0 DAYS FROM 1036 GMT 16 AUG 74.  
DEPTH 100.0 METERS.
B.4. TIME SERIES ANALYSIS  Current Meter 603
Part 1 of 2 (Continued)
B.4. TIME SERIES ANALYSIS  Current Meter 603  
Part 1 of 2 (Continued)

TEMPERATURE STATISTICS  
LAT. 59 34.2N  LONG. 145 47.7W  
DEPTH 100.0 METERS  NUMBER OF OBSERVATIONS = 2880  
OBSERVATION PERIOD 60.0 DAYS FROM 1036 GMT 16 AUG 74

<table>
<thead>
<tr>
<th>MEAN (DEG C)</th>
<th>VARIANCE (DEG C)</th>
<th>ST-DEV (DEG C)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (DEG C)</th>
<th>MIN (DEG C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.68</td>
<td>.40</td>
<td>.63</td>
<td>3.65</td>
<td>19.89</td>
<td>9.86</td>
<td>5.05</td>
</tr>
</tbody>
</table>

![Temperature Spectrum Diagram]

![Temperature Histogram]

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B.4. TIME SERIES ANALYSIS  Current Meter 603  Part 1 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 100.0 METERS.

![Graph showing temperature changes over time.]

---

14.0  13.0  12.0  11.0  10.0  9.0  8.0  7.0  6.0  5.0  4.0

Aug 74  Sep 74  Oct 74
B.4. TIME SERIES ANALYSIS  Current Meter 603  Nominal Depth: 100m
Part 2 of 2; 16 October - 21 November 1974

Mooring Designation NEGOA 61
Location: 59° 34.2'N 145° 47.7'W
Sensors: Speed, Direction, Temperature

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Mean (CM/SEC)</th>
<th>Variance (CM/SEC)^2</th>
<th>Std-Dev (CM/SEC)</th>
<th>Skew</th>
<th>Kurt</th>
<th>Max (CM/SEC)</th>
<th>Min (CM/SEC)</th>
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<td>12.50</td>
<td>2.204</td>
<td>7.64</td>
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<td>1.50</td>
</tr>
<tr>
<td>U</td>
<td>-8.15</td>
<td>130.83</td>
<td>11.44</td>
<td>-2.203</td>
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<td>1.973</td>
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<td>52.79</td>
<td>-26.57</td>
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S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V
B.4. TIME SERIES ANALYSIS  Current Meter 603  Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 100.0 METERS.
B.4. TIME SERIES ANALYSIS Current Meter 603 Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.

DEPTH 1000-0 METERS.
B.4. TIME SERIES ANALYSIS  Current Meter 603  Part 2 Of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 100.0 METERS.
B.4. TIME SERIES ANALYSIS

Current Meter 603  Part 2 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY

DEPTH 100.0 METERS.
B.4. TIME SERIES ANALYSIS  Current Meter 603
Part 2 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEBOA - 61
OBSERVATION PERIOD 36.5 DAYS FROM 1036 GMT 15 OCT 74.
DEPTH 100.0 METERS.
B.4. TIME SERIES ANALYSIS  Current Meter 604  
Part 2 of 2 (Continued)
B.4. TIME SERIES ANALYSIS  Current Meter 603  
Part 2 of 2 (Continued)

TEMPERATURE STATISTICS  
LAT. 59 34.2N  
LONG. 145 47.7W  
DEPTH 100.0 METERS  
NUMBER OF OBSERVATIONS = 1753  
OBSERVATION PERIOD 36.5 DAYS FROM 1036 GMT 15 OCT 74

<table>
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<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.35</td>
<td>.60</td>
<td>.78</td>
<td>.25</td>
<td>3.10</td>
<td>10.09</td>
<td>5.94</td>
</tr>
</tbody>
</table>

---

**Temperature Spectrum**

Period (Hours): 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0 14.0

Frequency (Cycles/Hour): 10^{-9} 10^{-8} 10^{-7} 10^{-6} 10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 1 10

Temperature (Deg C): 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7

---

**Observations**

<table>
<thead>
<tr>
<th>TEMPERATURE (Deg C)</th>
<th>OBSERVATIONS</th>
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</thead>
<tbody>
<tr>
<td>4.0</td>
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<tr>
<td>5.0</td>
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<td>6.0</td>
<td></td>
</tr>
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<td>7.0</td>
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<tr>
<td>8.0</td>
<td></td>
</tr>
<tr>
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<td>11.0</td>
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<td></td>
</tr>
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170
HOURLY AVERAGES OF TEMPERATURE DEPTH 100.0 METERS.
TIME SERIES ANALYSIS

Current Meter 602
Nominal Depth: 162m
Part 1 of 2; 16 August - 15 October 1974

Mooring Designation: NEGOA 61
Location: 59° 34.2'N 145° 47.7'W
Sensors: Speed, Direction, Temperature

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Mean</th>
<th>Variance</th>
<th>St-Dev</th>
<th>Skew</th>
<th>Kurt</th>
<th>Max</th>
<th>Min</th>
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<td>225.56</td>
<td>15.02</td>
<td>.747</td>
<td>2.86</td>
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<td>3.41</td>
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<td>438.17</td>
<td>20.93</td>
<td>-.499</td>
<td>2.46</td>
<td>42.88</td>
<td>-78.64</td>
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<tr>
<td>V</td>
<td>-6.87</td>
<td>561.09</td>
<td>23.69</td>
<td>-.302</td>
<td>2.16</td>
<td>53.01</td>
<td>-73.64</td>
</tr>
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</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

- Diagram of observations against speed (cm/sec)
- Diagram of observations against direction (degrees, TN)
B.5. TIME SERIES ANALYSIS
Current Meter 602  Part 1 of 2 (continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 162.0 METERS.
B.5. TIME SERIES ANALYSIS  Current Meter 602  Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH 162.0 METERS.
B.5. TIME SERIES ANALYSIS  Current Meter 602  Part 1 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY

DEPTH 162.0 METERS.
8.5. TIME SERIES ANALYSIS
Current Meter 602 Part 1 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 162.0 METERS.
PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGOA - 61
OBSERVATION PERIOD 60.0 DAYS FROM 0908 GMT 16 AUG 74.
DEPTH 162.0 METERS.
SPECTRA OF CURRENT VELOCITY

DEPTH 162.0 METERS.

ROTARY SPECTRA.
B.5. TIME SERIES ANALYSIS  Current Meter 602
Part 1 of 2 (Continued)

TEMPERATURE STATISTICS  LAT.  59° 34.2' N   LONG.  145° 47.7' W
DEPTH 162.0 METERS  NUMBER OF OBSERVATIONS = 2880
OBSERVATION PERIOD  60.0 DAYS FROM 0908 GMT 16 AUG 74

MEAN     VARIANCE     ST-DEV     SKEW     KURT     MAX     MIN
(DEG C)   (DEG C)    (DEG C)   (DEG C)   (DEG C)   (DEG C)   (DEG C)
5.30      .10         .32       6.08      50.99     8.74      4.78

TEMPERATURE SPECTRUM

PERIOD (HOURS)

TEMPERATURE (DEG C)

OBSERVATIONS
B.5. TIME SERIES ANALYSIS
Current Meter 602 Part 1 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE DEPTH 182.0 METERS.
B.5. TIME SERIES ANALYSIS  Current Meter 602  Nominal Depth: 162m
Part 2 of 2; 16 October - 21 November 1974

Mooring kegignation NEGOA 61
Location: 59° 34.2'N 145° 47.7'W
Sensors:  Speed, Direction, Temperature

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<td>-1.06</td>
<td>2.38</td>
<td>44.91</td>
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<tr>
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<td>631.42</td>
<td>25.13</td>
<td>-1.412</td>
<td>2.97</td>
<td>67.18</td>
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S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Graph of Speed vs. Observations](image1)

![Graph of Direction vs. Observations](image2)
HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 162.0 METERS.
HOURLY VECTOR AVERAGES OF DIRECTION.

DEPTH 162.0 METERS.
B.5. TIME SERIES ANALYSIS  Current Meter 602  Part 2 Of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 162.0 METERS.

[Graph showing hourly averages of east-west components of current velocity over time]
HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 162.0 METERS.

[Graph showing hourly averages of north-south components of current velocity with depth 162.0 meters.]

100 50
x....
50 z (J
w ~ 0
i=100
0 I
100 50
I
100 50

15 20 25 30 1 NOV 74
DEC 74

15 NOV 74 20 25 30 1 DEC 74
B.5. TIME SERIES ANALYSIS  Current Meter 602
Part 2 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGOA - 61 OBSERVATION PERIOD 36.5 DAYS FROM 0908 GMT 15 OCT 74.
DEPTH 162.0 METERS.
B.5. TIME SERIES ANALYSIS  Current Meter 602
Part 2 of 2 (Continued)

SPECTRA OF CURRENT VELOCITY

DEPTH 162.0 METERS.

ENERGY SPECTRUM

ROTARY SPECTRA.
### B.5. TIME SERIES ANALYSIS

**Current Meter 602**

**Part 2 of 2 (Continued)**

**TEMPERATURE STATISTICS**  
**LAT. 59 34.2N**  
**LONG. 145 47.7W**  
**DEPTH 162.0 METERS**  
**NUMBER OF OBSERVATIONS = 1752**  
**OBSERVATION PERIOD 36.5 DAYS FROM 0908 GMT 15 OCT 74**

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<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<td>6.79</td>
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<td>.33</td>
<td>2.17</td>
<td>9.83</td>
<td>4.89</td>
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**TEMPERATURE SPECTRUM.**

**PERIOD (HOURS)**

**TEMPERATURE (DEG C)**

**OBSERVATIONS**

--

188
B.5. TIME SERIES ANALYSIS  Current Meter 602  Part 2 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 162.0 METERS.
APPENDIX C

TIME SERIES ANALYSIS OF DATA FROM NEGOA 62A

C.1 Current Meter 598 at 20 meters
C.2 Current Meter 617 at 50 meters
C.3 Current Meter 616 at 100 meters
C.4 Current Meter 600 at 178 meters
C.1.  TIME SERIES ANALYSIS  Current Meter 598  Nominal Depth: 20m  
Part 1 of 3; 17 August - 16 October 1974  

Mooring Designation  NEGOA 62A  
Location:  59° 34.4'N  142° 10.5'W  
Sensors:  Speed, Direction, Temperature, Conductivity, Pressure  

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Mean</th>
<th>Variance</th>
<th>Std Dev</th>
<th>Skew</th>
<th>Kurt</th>
<th>Max</th>
<th>Min</th>
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</thead>
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<td>236.36</td>
<td>15.37</td>
<td>1.536</td>
<td>6.10</td>
<td>97.41</td>
<td>1.50</td>
</tr>
<tr>
<td>U</td>
<td>-2.85</td>
<td>278.40</td>
<td>16.69</td>
<td>-0.594</td>
<td>4.31</td>
<td>78.05</td>
<td>-89.28</td>
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<tr>
<td>V</td>
<td>13.34</td>
<td>345.92</td>
<td>18.60</td>
<td>0.675</td>
<td>4.03</td>
<td>95.96</td>
<td>-43.07</td>
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S = SPEED  
U = EAST-WEST COMPONENT OF VELOCITY. EAST = POSITIVE U  
V = NORTH-SOUTH COMPONENT OF VELOCITY. NORTH = POSITIVE V  

![Graph of Speed Distributions](image1)

![Graph of Direction Distributions](image2)
C.1. TIME SERIES ANALYSIS  Current Meter 598  Part 1 of 3 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.

DEPTH 24.0 METERS.
HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 24.0 METERS.
HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 24.0 METERS.
PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF CURRENTS
OBSERVATION PERIOD 61.0 DAYS FROM 0000 GMT 17 AUG 74.
DEPTH 24.0 METERS.
C.1. TIME SERIES ANALYSIS  Current Meter 598
Part 1 of 3 (Continued)

SPECTRA OF CURRENT VELOCITY
DEPTH 24.0 METERS.

PERIOD (HOURS)

FREQUENCY (CYCLES/HOUR)

ROTARY SPECTRA.

NEGATIVE SPECTRUM

POSITIVE SPECTRUM

198
TEMPERATURE STATISTICS
LAT. 59 34.4N LONG. 142 10.5W
DEPTH 25.0 METERS
NUMBER OF OBSERVATIONS - 2880
OBSERVATION PERIOD 60.0 DAYS FROM 0000 GMT 17 AUG 74

MEAN VARIANCE ST-DEV SKEW KURT MAX MIN
(DEC C) (DEC C) (DEC C) (DEC C) (DEC C)
10.33 2.09 1.44 .18 1.81 13.10 7.08
C.1. TIME SERIES ANALYSIS  Current Meter 598  Part 1 of 3 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 25.0 METERS,
CONDUCTIVITY STATISTICS
LAT. 34.4 N  LONG. 142.10 W
DEPTH 25.0 METERS  NUMBER OF OBSERVATIONS = 2880
OBSERVATION PERIOD 60.0 DAYS FROM 0000 GMT 17 AUG 74

MEAN  VARIANCE  ST-DEV  SKEW  KURT  MAX  MIN
(MMHO)  (MMHO)  (MMHO)  (MMHO)  (MMHO)  (MMHO)
31.48  1.12  1.06  .24  1.87  33.67  29.08

CONDUCTIVITY SPECTRUM.

CONDUCTIVITY (MMHO)

OBSERVATIONS

CONDUCTIVITY SPECTRUM.

PERIOD (HOURS)

FREQUENCY (CYCLES/HOUR)
C.1. TIME SERIES ANALYSIS
Current Meter 598  Part 1 of 3 (continued)

HOURLY AVERAGES OF CONDUCTIVITY DEPTH 25.0 METERS.
DEPTH STATISTICS
LAT. 59 34.4N LONG. 142 10.5W
DEPTH 25.0 METERS NUMBER OF OBSERVATIONS = 2880
OBSERVATION PERIOD 60.0 DAYS FROM 0000 GMT 17 AUG 74

MEAN VARIANCE ST-DEV SKEW KURT MAX MIN
(METER) (METERS) (METER)
25.00 1.19 1.09 -.15 2.35 29.85 21.09

DEPTH SPECTRUM.
FREQUENCY (CYCLES/HOUR)
C.1. TIME SERIES ANALYSIS  Current Meter 598  Part 1 of 3 (Continued)

HOURLY AVERAGES OF DEPTH  DEPTH 25.0 METERS.
C.1. TIME SERIES ANALYSIS  Current Meter 598  Nominal Depth: 20m
Part 2 of 3; 17 October - 16 December 1974

Mooring Designation  NEG0A 62A
Location:  59° 34.4'N  142° 10.5'W
Sensors:  Speed, Direction, Temperature, Conductivity, Pressure

<table>
<thead>
<tr>
<th>S</th>
<th>U</th>
<th>V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Variance</td>
<td>St-Dev</td>
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<td>358.54</td>
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<tr>
<td>-12.29</td>
<td>635.17</td>
<td>25.20</td>
</tr>
<tr>
<td>31.71</td>
<td>631.36</td>
<td>25.13</td>
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</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Graph of Speed (CM/SEC)](image1)

![Graph of Direction (Degrees, TN)](image2)
Hourly Vector Averages of Speed.

Depth 24.0 Meters.
HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH  24.0 METERS.
C.I. TIME SERIES ANALYSIS Current Meter 598 Part 2 of 3 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY

DEPTH 24.0 METERS.
C.1. TIME SERIES ANALYSIS
Current Meter 598 Part 2 of 3 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 24.0 METERS.
C.1. TIME SERIES ANALYSIS  Current Meter 598  
Part 2 of 3 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF CURRENTS  
OBSERVATION PERIOD 60.0 DAYS FROM 0000 GMT 17 OCT 74.  
DEPTH 24.0 METERS.
C.1. TIME SERIES ANALYSIS  Current Meter 598
Part 2 of 3 (Continued)
C.1. TIME SERIES ANALYSIS  Current Meter 598
Part 2 of 3 (Continued)

TEMPERATURE STATISTICS  LAT: 59 34.4N  LONG: 142 10.5W
DEPTH 25.0 METERS  NUMBER OF OBSERVATIONS = 2880
OBSERVATION PERIOD 60.0 DAYS FROM 0000 GMT 16 OCT 74

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<thead>
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<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<td>.60</td>
<td>2.50</td>
<td>9.68</td>
<td>6.77</td>
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![Histogram of Temperature Observations]

![Temperature Spectrum]

212
HOURLY AVERAGES OF TEMPERATURE, DEPTH 25.0 METERS.

---

Graphs showing temperature variations over time from October to December 1974.
CONDUCTIVITY STATISTICS  
LAT. 59°34.4′ N  
LONG. 142°10.5′ W  
DEPTH 25.0 METERS  
NUMBER OF OBSERVATIONS = 2880  
OBSERVATION PERIOD 60.0 DAYS FROM 0000 GMT 16 OCT 74  

<table>
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<tr>
<th>MEAN (MMHO)</th>
<th>VARIANCE (MMHO)</th>
<th>ST-DEV (MMHO)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (MMHO)</th>
<th>MIN (MMHO)</th>
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<td>.76</td>
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<td>30.98</td>
<td>28.56</td>
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CONDUCTIVITY SPECTRUM.

CONDUCTIVITY (MMHO)

OBSERVATIONS

CONDUCTIVITY (MMHO)

CONDUCTIVITY SPECTRUM.

PERIOD (HOURS)

FREQUENCY (CYCLES/HOUR)

214
C.1. TIME SERIES ANALYSIS  Current Meter 598  Part 2 of 3 (Continued)

HOURLY AVERAGES OF CONDUCTIVITY  DEPTH 25.0 METERS.
C.I. TIME SERIES ANALYSIS  Current Meter 598
Part 2 of 3 (Continued)

DEPTH STATISTICS  LAT. 59 34.4N  LONG. 142 10.5W
DEPTH 25.0 METERS  NUMBER OF OBSERVATIONS = 2880
OBSERVATION PERIOD  60.0 DAYS FROM 0000 GMT 16 OCT 74

MEAN VARIANCE ST-DEV SKEW KURT MAX MIN
(METER) (METERS) (METER) (METER) (METER) (METER)
24.55 2.85 1.69 -.09 3.43 30.61 19.43
C.I. TIME SERIES ANALYSIS  Current Meter 598  Part 2 of 3 (Continued)  

HOURLY AVERAGES OF DEPTH  25.0 METERS.

OCT 11

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14

21

28

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42

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16

23

30

37

44

51

18

25

32

39

46

53
C.1. TIME SERIES ANALYSIS  Current Meter 598  Nominal Depth: 20m  
Part 3 of 3; 16 December - 2 February 1975

Mooring Designation  NEG0A 62A
Location:  59° 34.4'N  142° 10.5'W
Sensors:  Speed, Direction, Temperature, Conductivity, Pressure

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Mean</th>
<th>Variance</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>Max</th>
<th>Min</th>
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</thead>
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<td>258.12</td>
<td>16.07</td>
<td>.927</td>
<td>3.74</td>
<td>98.93</td>
<td>1.50</td>
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<tr>
<td>U</td>
<td>.77</td>
<td>658.49</td>
<td>25.66</td>
<td>-.401</td>
<td>2.95</td>
<td>66.33</td>
<td>-95.76</td>
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<tr>
<td>V</td>
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<td>-.325</td>
<td>3.20</td>
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S = SPEED  
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U  
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Speed Distribution](chart1.png)  
![Direction Distribution](chart2.png)
HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 24.0 METERS.
HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH 24.0 METERS.
C.1. TIME SERIES ANALYSIS  Current Meter 598  Part 3 of 3 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 24.0 METERS.
C.1. TIME SERIES ANALYSIS  Current Meter 598  (Part 3 of 3 (Continued))

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 24.0 METERS.
PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NE00A - 62A
OBSERVATION PERIOD 47.7 DAYS FROM 0000 GMT 16 DEC 74.
DEPTH 24.0 METERS.
C.1. TIME SERIES ANALYSIS  Current Meter 598  
Part 3 of 3 (Continued)
C.I. TIME SERIES ANALYSIS Current Meter 598  
Part 3 of 3 (Continued) 

TEMPERATURE STATISTICS  LAT. 59° 34.4'N  LONG. 142° 10.5'W  
DEPTH 25.0 METERS  NUMBER OF OBSERVATIONS = 2337  
OBSERVATION PERIOD 48.7 DAYS FROM 0000 GMT 15 DEC 74  

MEAN VARIANCE ST-DEV  SKEW  KURT  MAX  MIN  
(DEG C)  (DEG C)  (DEG C)  
6.21  .69  .83  .16  1.64  7.77  4.70  

TEMPERATURE SPECTRUM.  
PERIOD (HOURS) 

TEMPERATURE (DEG C)
HOURLY AVERAGES OF TEMPERATURE DEPTH 25.0 METERS.
C.1. TIME SERIES ANALYSIS  Current Meter 598  
Part 3 of 3 (Continued)

CONDUCTIVITY STATISTICS  LAT. 59 34.4N  LONG. 142 10.5W  
DEPTH 25.0 METERS  NUMBER OF OBSERVATIONS = 2337  
OBSERVATION PERIOD 48.7 DAYS FROM 0000 GMT 15 DEC 74  

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<tbody>
<tr>
<td>28.02</td>
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<td>.68</td>
<td>.22</td>
<td>1.71</td>
<td>29.48</td>
<td>26.86</td>
</tr>
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</table>

CONDUCTIVITY SPECTRUM.

CONDUCTIVITY (MMHO)

OBSERVATIONS

CONDUCTIVITY (MMHO)

CONDUCTIVITY SPECTRUM.

PERIOD (HOURS)

FREQUENCY (CYCLES/HOUR)
HOURLY AVERAGES OF CONDUCTIVITY DEPTH 25.0 METERS.
C.I. TIME SERIES ANALYSIS  Current Meter 598
Part 3 of 3 (Continued)

DEPTH STATISTICS
LAT. 59.34.4N  LONG. 142 10.5W
DEPTH 25.0 METERS  NUMBER OF OBSERVATIONS = 2337
OBSERVATION PERIOD  48.7 DAYS FROM 0000 GMT 15 DEC 74

<table>
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<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<tbody>
<tr>
<td>24.15</td>
<td>5.50</td>
<td>2.35</td>
<td>1.36</td>
<td>17.39</td>
<td>50.56</td>
<td>15.50</td>
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DEPTH SPECTRUM.

DEPTH (METERS)

FREQUENCY (CYCLES/HOUR)

229
C.1. TIME SERIES ANALYSIS Current Meter-598 Part 3 of 3 (Continued)

HOURLY AVERAGES OF DEPTH DEPTH 25.0 METERS.
C.2. TIME SERIES ANALYSIS  Current Meter 617  Nominal Depth: 50m  
Part i of i; 17 August - 5 October 1974  

Mooring Designation  NEGOA 62A  
Location: 59° 34.4'N  142° 10.5'W  
Sensors: Speed, Direction, Temperature  

<table>
<thead>
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<th></th>
<th>MEAN</th>
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<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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</thead>
<tbody>
<tr>
<td>S</td>
<td>19.03</td>
<td>117.22</td>
<td>10.83</td>
<td>1.608</td>
<td>11.08</td>
<td>130.65</td>
<td>1.50</td>
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<tr>
<td>U</td>
<td>-4.16</td>
<td>168.92</td>
<td>13.00</td>
<td>-.386</td>
<td>4.71</td>
<td>44.93</td>
<td>-90.91</td>
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<tr>
<td>V</td>
<td>10.14</td>
<td>190.39</td>
<td>13.80</td>
<td>.421</td>
<td>4.64</td>
<td>98.21</td>
<td>-28.38</td>
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S = SPEED  
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U  
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V  

![Histogram of Speed](image1)  
![Histogram of Direction](image2)
C.2. TIME SERIES ANALYSIS Current Meter 617 Part 1 of 1 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.

50.0 METERS.
C.2. TIME SERIES ANALYSIS  Current Meter 617  Part 1 of 1 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.

DEPTH 50.0 METERS.
C.2. TIME SERIES ANALYSIS  Current Meter 617  Part 1 of 1 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 50.0 METERS.
C.2. TIME SERIES ANALYSIS  Current Meter 617  Part 1 of 1 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 50.0 METERS.

[Graph showing hourly averages of north-south components of current velocity over a period from August 10 to October 15, 1974.]
C.2. TIME SERIES ANALYSIS  Current Meter 617
Part 1 of 1 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEG0A - 62A
OBSERVATION PERIOD 48.3 DAYS FROM 0102 GMT 17 AUG 74.
DEPTH 50.0 METERS.
C.2. TIME SERIES ANALYSIS Current Meter 617
Part 1 of 1 (Continued)

SPECTRA OF CURRENT VELOCITY
DEPTH 50.0 METERS.

PERIOD (HOURS)

FREQUENCY (CYCLES/HOUR)

[Graph showing rotary spectra]

[Graph showing energy spectrum]

[Graph showing current velocity spectra]
C.2. TIME SERIES ANALYSIS  Current Meter 617
Part 1 of 1 (Continued)

TEMPERATURE STATISTICS  LAT. 59 34.4N  LONG. 142 10.5W
DEPTH 50.0 METERS  NUMBER OF OBSERVATIONS = 2319
OBSERVATION PERIOD 48.3 DAYS FROM 0102 GMT 17 AUG 74

<table>
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<tr>
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<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<td>1.01</td>
<td>1.78</td>
<td>6.45</td>
<td>11.89</td>
<td>5.90</td>
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</table>

![Temperature Spectrum](image)

238
C.2. TIME SERIES ANALYSIS  Current Meter 617  Part 1 of 1 (Continued)

HOURLY AVERAGES OF TEMPERATURE DEPTH 50.0 METERS.
C.3. TIME SERIES ANALYSIS  Current Meter 616  Nominal Depth: 100m
Part 1 of 2; 17 August - 16 November 1974

Mooring Designation  NEGOA 62A
Location: 59° 34.4'N  142° 10.5'W
Sensors:  Speed, Direction, Temperature

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>18.10</td>
<td>63.30</td>
<td>7.96</td>
<td>1.233</td>
<td>5.54</td>
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<td>U</td>
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<td>135.84</td>
<td>11.65</td>
<td>0.192</td>
<td>2.91</td>
<td>40.27</td>
<td>-46.04</td>
</tr>
<tr>
<td>V</td>
<td>9.39</td>
<td>142.61</td>
<td>11.94</td>
<td>0.027</td>
<td>3.39</td>
<td>54.73</td>
<td>-26.52</td>
</tr>
</tbody>
</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Graph of Speed Distributions](image)

![Graph of Direction Distributions](image)
C.3. TIME SERIES ANALYSIS  Current Meter 616  Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 100.0 METERS.
C.3. TIME SERIES ANALYSIS  Current Meter 616  Part 1 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH 100.0 METERS.
HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY

DEPTH 100.0 METERS.
C.3. TIME SERIES ANALYSIS  Current Meter 616  Part 1 of 2 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY DEPTH 100.0 METERS.
C.3. TIME SERIES ANALYSIS  Current Meter 616  
Part 1 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEGON - 62A  
OBSERVATION PERIOD 60.0 DAYS FROM 0034 GMT 17 AUG 74.  
DEPTH 100.0 METERS.
C.3. TIME SERIES ANALYSIS  Current Meter 616
Part 1 of 2 (Continued)
### C.3. TIME SERIES ANALYSIS  Current Meter 616

Part 1 of 2 (Continued)

**TEMPERATURE STATISTICS**  
LAT. 59 34.4N  LONG. 142 10.5W  
DEEP 100.0 METERS  
NUMBER OF OBSERVATIONS = 2880  
OBSERVATION PERIOD  60.0 DAYS FROM 0034 GMT 17 AUG 74

<table>
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<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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</thead>
<tbody>
<tr>
<td>5.47</td>
<td>.06</td>
<td>.24</td>
<td>-83</td>
<td>5.40</td>
<td>6.49</td>
<td>4.47</td>
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</table>

**TEMPERATURE (DEG C)**

![](image1)

**TEMPERATURE SPECTRUM**

![](image2)
C.3. TIME SERIES ANALYSIS  Current Meter 616  Part 1 of 2 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 100.0 METERS.
C.3. TIME SERIES ANALYSIS  Current Meter 616  Nominal Depth: 100m
Part 2 of 2; 16 October - 20 November 1974

Mooring Designation  NEGOA 62A
Location:  59° 34.4'N  142° 10.5'W
Sensors:  Speed, Direction, Temperature

<table>
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<tbody>
<tr>
<td>S</td>
<td>29.13</td>
<td>80.61</td>
<td>8.98</td>
<td>0.592</td>
<td>3.30</td>
<td>68.19</td>
<td>9.49</td>
</tr>
<tr>
<td>U</td>
<td>-11.60</td>
<td>203.61</td>
<td>14.27</td>
<td>0.628</td>
<td>3.10</td>
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<td>-45.44</td>
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<tr>
<td>V</td>
<td>19.36</td>
<td>215.81</td>
<td>14.69</td>
<td>-0.569</td>
<td>3.57</td>
<td>67.32</td>
<td>-28.75</td>
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S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Graph of Speed Distribution](image1)

![Graph of Direction Distribution](image2)
C.3. TIME SERIES ANALYSIS  Current Meter 616  Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 100.0 METERS.

[Graph showing hourly vector averages of speed with depth of 100.0 meters.]
C.3. TIME SERIES ANALYSIS Current Meter 616 Part 2 of 2 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.

DEEP 1000 D METERS.

[Graph showing hourly vector averages of direction with depth 1000 meters.]
C.3. TIME SERIES ANALYSIS  Current Meter 616  Part 2 of 2 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 100.0 METERS.

[Graph showing hourly averages of east-west components of current velocity from Oct 74 to Nov 74]
C.3. TIME SERIES ANALYSIS  
Current Meter 616  
Part 2 of 2 (Continued)
C.3. TIME SERIES ANALYSIS  Current Meter 616
Part 2 of 2 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEG0A - 62A
OBSERVATION PERIOD 34.4 DAYS FROM 0034 GMT 16 OCT 74.
DEPTH 100.0 METERS.
C.3. TIME SERIES ANALYSIS  Current Meter 616  
Part 2 of 2 (Continued)  

SPECTRA OF CURRENT VELOCITY  

DEPTH 100.0 METERS.  

ROTARY SPECTRA.
C.3. TIME SERIES ANALYSIS  Current Meter 616  
Part 2 of 2 (Continued)

TEMPERATURE STATISTICS  LAT. 59 34.4N  LONG. 142 10.5W  
DEPTH 100.0 METERS  NUMBER OF OBSERVATIONS = 1652  
OBSERVATION PERIOD  34.4 DAYS FROM 0034 GMT 16 OCT 74

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<th>MEAN</th>
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<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<tr>
<td>6.04</td>
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<td>0.61</td>
<td>1.06</td>
<td>3.39</td>
<td>7.90</td>
<td>5.15</td>
</tr>
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</table>

![Temperature Spectrum](image)

![Observations vs Temperature](image)
C.4. TIME SERIES ANALYSIS  Current Meter 600  Nominal Depth: 178m
Part 1 of 3; 17 August - 16 October 1974

Mooring Designation NEGOA 62A
Location:  59° 34.4' N  142° 10.5' W
Sensors:  Speed, Direction, Temperature, Conductivity

<table>
<thead>
<tr>
<th>Mean</th>
<th>Variance</th>
<th>St-Dev</th>
<th>Skew</th>
<th>Kurt</th>
<th>Max</th>
<th>Min</th>
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</thead>
<tbody>
<tr>
<td>S</td>
<td>14.08</td>
<td>49.42</td>
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<td>.909</td>
<td>4.00</td>
<td>45.11</td>
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<tr>
<td>U</td>
<td>1.21</td>
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<td>.014</td>
<td>2.59</td>
<td>26.01</td>
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<tr>
<td>V</td>
<td>3.57</td>
<td>151.22</td>
<td>12.30</td>
<td>-.099</td>
<td>2.96</td>
<td>40.65</td>
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</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Histogram of Speed](image1)

![Histogram of Direction](image2)
HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600 Part 1 of 3 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600  Part 1 of 3 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 178.0 METERS.

...
C.4. TIME SERIES ANALYSIS Current Meter 600 Part 1 of 3 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600
Part 1 of 3 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF CURRENTS
OBSERVATION PERIOD 61.0 DAYS FROM 0036 GMT 17 AUG 74.
DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600
Part 1 of 3 (Continued)

SPECTRA OF CURRENT VELOCITY

DEPTH 178.0 METERS.

PERIOD (HOURS)

FREQUENCY (CYCLES/HOUR)

(㎝/SEC)²

ENERGY SPECTRUM

U SPECTRUM

V SPECTRUM

ROTARY SPECTRA.

NEGATIVE SPECTRUM

POSITIVE SPECTRUM

FREQUENCY (CYCLES/HOUR)
C.4. TIME SERIES ANALYSIS  Current Meter 600
Part 1 of 3 (Continued)

TEMPERATURE STATISTICS  LAT. 59 34.4N  LONG. 142 10.5W
DEPTH 178.0 METERS  NUMBER OF OBSERVATIONS = 2880
OBSERVATION PERIOD  60.0 DAYS FROM 0036 GMT 17 AUG 74

<table>
<thead>
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<th>MEAN</th>
<th>VARIANCE</th>
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<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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</thead>
<tbody>
<tr>
<td>5.33</td>
<td>.01</td>
<td>.08</td>
<td>-1.05</td>
<td>8.01</td>
<td>5.55</td>
<td>4.73</td>
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</table>

![Temperature Statistics Diagram]

![Temperature Spectrum Diagram]
HOURLY AVERAGES OF TEMPERATURE DEPTH 178.0 METERS.

\[ \text{(DEG C)} \]

[Graph showing temperature fluctuations from August to October 1974]
C.4. TIME SERIES ANALYSIS  Current Meter 600
Part 1 of 3 (Continued)

CONDUCTIVITY STATISTICS  LAT. 59 34.4N  LONG. 142 10.5W
DEPTH 178.0 METERS  NUMBER OF OBSERVATIONS = 2880
OBSERVATION PERIOD  60.0 DAYS FROM 0036 GMT 17 AUG 74

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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</thead>
<tbody>
<tr>
<td>32.27</td>
<td>.04</td>
<td>.20</td>
<td>-.12</td>
<td>4.47</td>
<td>32.87</td>
<td>31.60</td>
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CONDUCTIVITY SPECTRUM.

CONDUCTIVITY (MMHO)

CONDUCTIVITY SPECTRUM.

PERIOD (HOURS)

FREQUENCY (CYCLES/HOUR)
HOURLY AVERAGES OF CONDUCTIVITY DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600  Nominal Depth: 178m
Part 2 of 3; 17 October - 16 December 1974

Mooring Designation NEGOA 62A
Location: 59° 34.4'N  142° 10.5'W
Sensors:  Speed, Direction, Temperature, Conductivity

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Mean (CM/SEC)</th>
<th>Variance (CM/SEC)²</th>
<th>St-Dev (CM/SEC)</th>
<th>Skew</th>
<th>Kurt</th>
<th>Max (CM/SEC)</th>
<th>Min (CM/SEC)</th>
</tr>
</thead>
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<tr>
<td>S</td>
<td>21.32</td>
<td>125.90</td>
<td>11.22</td>
<td>.749</td>
<td>3.12</td>
<td>62.22</td>
<td>1.50</td>
</tr>
<tr>
<td>U</td>
<td>-4.67</td>
<td>154.71</td>
<td>12.44</td>
<td>-.525</td>
<td>3.50</td>
<td>30.04</td>
<td>-53.40</td>
</tr>
<tr>
<td>V</td>
<td>11.63</td>
<td>268.58</td>
<td>16.39</td>
<td>-.324</td>
<td>3.14</td>
<td>55.72</td>
<td>-42.20</td>
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</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY. EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY. NORTH = POSITIVE V

![Speed Distribution](image1)

![Direction Distribution](image2)
C.4. TIME SERIES ANALYSIS  Current Meter 600  Part 2 of 3 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 178.0 METERS.

[Graph showing hourly vector averages of speed over depth 178.0 meters with data from October 17, 1974, to December 30, 1974.]
C.4. TIME SERIES ANALYSIS  Current Meter 600  Part 2 of 3 (Continued)

HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH 178.0 METERS.

![Graph showing hourly vector averages of direction over time.](image-url)
C.4. TIME SERIES ANALYSIS  Current Meter 600  Part 2 of 3 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 178.0 METERS.
HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600
Part 2 of 3 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF CURRENTS
OBSERVATION PERIOD 60.0 DAYS FROM 0036 GMT 17 OCT 74.
DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600
Part 2 of 3 (Continued)

SPECTRA OF CURRENT VELOCITY

DEPTH 178.0 METERS.

PERIOD (HOURS)

FREQUENCY (CYCLES/HOUR)

(1/(CMSEC)^2)

+ U SPECTRUM
- V SPECTRUM

ENERGY SPECTRUM

FREQUENCY (CYCLES/HOUR)

(1/(CMSEC)^2)

ROTOR SPECTRA

NEGATIVE SPECTRUM

POSITIVE SPECTRUM

FREQUENCY (CYCLES/HOUR)

(1/(CMSEC)^2)
C.4. TIME SERIES ANALYSIS  Current Meter 600  
Part 2 of 3 (Continued)

TEMPERATURE STATISTICS  
LAT. 59 34.4N  LONG. 142 10.5W  
DEPTH 178.0 METERS  
NUMBER OF OBSERVATIONS = 2880  
OBSERVATION PERIOD 60.0 DAYS FROM 0036 GMT 16 OCT 74

<table>
<thead>
<tr>
<th>MEAN (DEG C)</th>
<th>VARIANCE (DEG C)</th>
<th>ST-DEV (DEG C)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (DEG C)</th>
<th>MIN (DEG C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.58</td>
<td>0.08</td>
<td>0.29</td>
<td>2.17</td>
<td>11.09</td>
<td>7.51</td>
<td>4.89</td>
</tr>
</tbody>
</table>

**TEMPERATURE SPECTRUM**

PERIOD (HOURS)

**TEMPERATURE (DEG C)**

![Temperature Observations Graph](chart)

![Temperature Spectrum Graph](chart)
C.4. TIME SERIES ANALYSIS  Current Meter 600  Part 2 of 3 (Continued)

HOURLY AVERAGES OF TEMPERATURE  DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600
Part 2 of 3 (Continued)

CONDUCTIVITY STATISTICS  
LAT. 59 34.4N  LONG. 142 10.5W  
DEPTH 178.0 METERS  NUMBER OF OBSERVATIONS = 2880  
OBSERVATION PERIOD  60.0 DAYS FROM 0036 GMT 16 OCT 74

<table>
<thead>
<tr>
<th>Mean (MMHO)</th>
<th>Variance (MMHO)</th>
<th>St-Dev (MMHO)</th>
<th>Skew</th>
<th>Kurt</th>
<th>Max (MMHO)</th>
<th>Min (MMHO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.14</td>
<td>.07</td>
<td>.26</td>
<td>-.62</td>
<td>4.40</td>
<td>33.02</td>
<td>30.11</td>
</tr>
</tbody>
</table>

![Observations vs Conductivity](image1)

![Conductivity Spectrum](image2)
HOURLY AVERAGES OF CONDUCTIVITY  DEPTH 178.0 METERS.

[Graph of hourly averages]

[Graph of hourly averages]
C.4. TIME SERIES ANALYSIS  Current Meter 600  Nominal Depth: 178m
Part 3 of 3; 16 December 1974 - 2 February 1975

Mooring Designation NEGOA 62A
Location: 59° 34.4'N 142° 10.5'W
Sensors: Speed, Direction, Temperature, Conductivity

<table>
<thead>
<tr>
<th></th>
<th>MEAN (CM/SEC)</th>
<th>VARIANCE (CM/SEC)^2</th>
<th>ST-DEV (CM/SEC)</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX (CM/SEC)</th>
<th>MIN (CM/SEC)</th>
</tr>
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<tbody>
<tr>
<td>S</td>
<td>23.22</td>
<td>134.20</td>
<td>11.58</td>
<td>0.62</td>
<td>4.42</td>
<td>84.71</td>
<td>1.09</td>
</tr>
<tr>
<td>U</td>
<td>-1.94</td>
<td>191.92</td>
<td>13.85</td>
<td>-0.148</td>
<td>2.49</td>
<td>31.84</td>
<td>-42.16</td>
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<tr>
<td>V</td>
<td>9.39</td>
<td>389.47</td>
<td>19.74</td>
<td>-0.102</td>
<td>3.01</td>
<td>83.99</td>
<td>-46.69</td>
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</table>

S = SPEED
U = EAST-WEST COMPONENT OF VELOCITY, EAST = POSITIVE U
V = NORTH-SOUTH COMPONENT OF VELOCITY, NORTH = POSITIVE V

![Graph of observations vs. speed (cm/sec)]

![Graph of observations vs. direction (degrees, TN)]
C.4. TIME SERIES ANALYSIS  Current Meter 600  Part 3 of 3 (Continued)

HOURLY VECTOR AVERAGES OF SPEED.
DEPTH 178.0 METERS.
HOURLY VECTOR AVERAGES OF DIRECTION.
DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600  Part 3 of 3 (Continued)

HOURLY AVERAGES OF EAST-WEST COMPONENTS OF CURRENT VELOCITY
DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600  Part 3 of 3 (Continued)

HOURLY AVERAGES OF NORTH-SOUTH COMPONENTS OF CURRENT VELOCITY
DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600
Part 3 of 3 (Continued)
C.4. TIME SERIES ANALYSIS Current Meter 600
Part 3 of 3 (Continued)

PROGRESSIVE VECTOR DIAGRAM OF HOURLY AVERAGES OF NEMOA - 62A
OBSERVATION PERIOD 47.7 DAYS FROM 0036 GMT 16 DEC 74.
DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600
Part 3 of 3 (Continued)

TEMPERATURE STATISTICS  LAT. 59 34.4N  LONG. 142 10.5W
DEPTH 178.0 METERS  NUMBER OF OBSERVATIONS = 2337
OBSERVATION PERIOD 48.7 DAYS FROM 0036 GMT 15 DEC 74

MEAN VARIANCE  ST-DEV  SKEW  KURT  MAX  MIN
(DEG C)  (DEG C)  (DEG C)  (DEG C)  (DEG C)  (DEG C)
5.96  .13  .35  .26  3.16  7.03  4.64

TEMPERATURE SPECTRUM.

PERIOD (HOURS)

TEMPERATURE (DEG C)

OBSERVATIONS

TEMPERATURE SPECTRUM.

FREQUENCY (CYCLES/HOUR)
C.4. TIME SERIES ANALYSIS Current Meter 600 Part 3 of 3 (Continued)

HOURLY AVERAGES OF TEMPERATURE DEPTH 178.0 METERS.
C.4. TIME SERIES ANALYSIS  Current Meter 600
Part 3 of 3 (Continued)

<table>
<thead>
<tr>
<th>MEAN</th>
<th>VARIANCE</th>
<th>ST-DEV</th>
<th>SKEW</th>
<th>KURT</th>
<th>MAX</th>
<th>MIN</th>
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<td>32.59</td>
<td>0.09</td>
<td>.31</td>
<td>-0.53</td>
<td>4.36</td>
<td>33.47</td>
<td>31.01</td>
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conductivity statistics
LAT. 59 34.4N  LONG. 142 10.5W
DEPTH 178.0 METERS  NUMBER OF OBSERVATIONS = 2337
OBSERVATION PERIOD 48.7 DAYS FROM 0036 GMT 15 DEC 74

CONDUCTIVITY SPECTRUM.

**Observations**

<table>
<thead>
<tr>
<th>Conductivity (MMHO)</th>
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<tbody>
<tr>
<td>26.0</td>
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<tr>
<td>500</td>
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**Conductivity Spectrum.**

**Period (Hours)**

<table>
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<th>Frequency (Cycles/Hour)</th>
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<tbody>
<tr>
<td>10^-6</td>
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<tr>
<td>10^0</td>
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C.4. TIME SERIES ANALYSIS
Current Meter 600 Part 3 of 3 (Continued)

HOURLY AVERAGES OF CONDUCTIVITY
DEPTH 178.0 METERS.