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Outline of Oceanographic Conditions  
in the Northwestern Pacific  
during the Summer of 1998

by

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# Outline of Oceanographic Conditions in the Northwestern Pacific during the Summer of 1998

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## ABSTRACT

Oceanographic conditions in the Northwestern Pacific during the summer of 1998 are described using data obtained by salmon research vessels. Extent of the dichothermal structure was narrow in the Pacific region same as 1997. Sea surface temperature anomalies showed negative in June, slightly positive in July.

## INTRODUCTION

Oceanographic conditions in the Northwestern Pacific during the summer of 1998 are described using temperature and salinity data obtained by salmon research vessels. Extent of the dichothermal structure and temperature anomalies are analyzed.

## MATERIALS

Figure 1 shows the locations of CTD stations used in this report, and these data were observed by R/V *Wakatake-Mar*u and *Hokko-Mar*u. Hydrographic sections of temperature, salinity and temperature anomalies made with CTD data are shown in figure 3. The temperature anomalies of figure 3 are defined as the difference that subtracted mean(1992-1998) from 1998. Maps of SST anomalies (Fig.2) are adapted from "Monthly Ocean Report" issued by Japan Meteorological Agency. Monthly mean values used in the JMA maps are average from 1961 through 1990.

## RESULTS

### *1. Dichothermal structure*

The dichothermal structure, sub surface temperature minimum existing in around 100-200m depth, is extending 48-50 ° N of section 2 in usual years. This structure was not seen in this year same as last year. The structures shown with closed contour of 3 ° C were seen in sections 3 and 4 around 100-150m depth. Extents of these structures were almost same as last year.

In the Bering Sea, the water existing in the dichothermal structure had low temperature and high salinity characteristics compared with last year.

### *2. Temperature anomalies*

SST anomalies calculated by JMA were negative in June on the north of 35 ° N, and slightly positive in July (Fig.2). Temperature anomaly sections showed negative in surface layer and south of 45 ° N in section 2 (Fig.3).

## REFERENCES

- Japan Meteorological Agency (1998): Monthly Ocean Report, No.66-67.  
Segawa, K. (1998): Outline of oceanographic conditions in the Northwestern Pacific during the summer of 1997. Salmon Report Series, 45, 39-47.

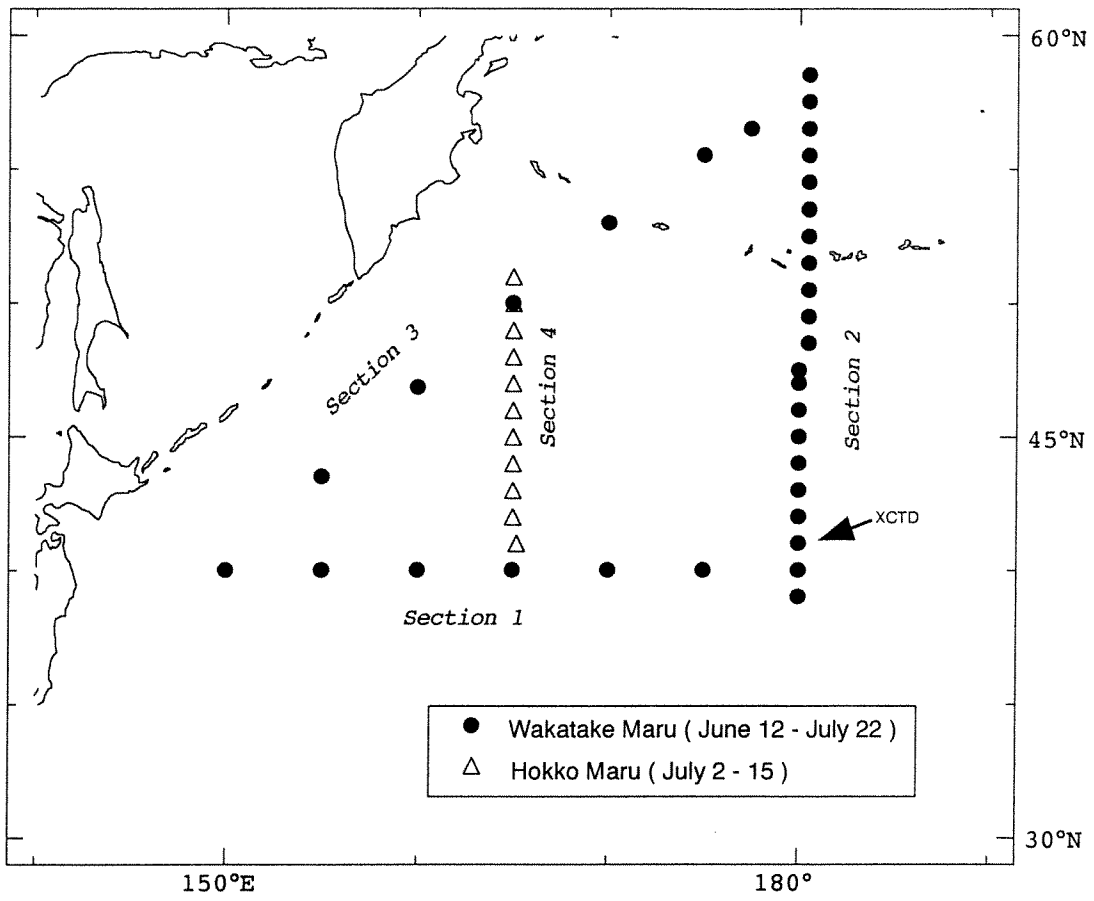


Fig.1. CTD Stations used in this report.

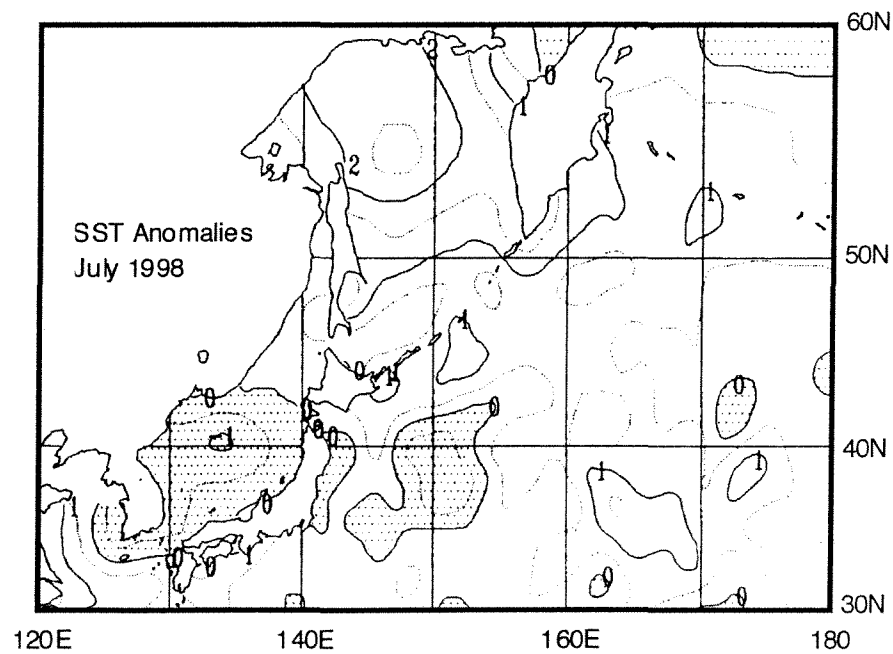
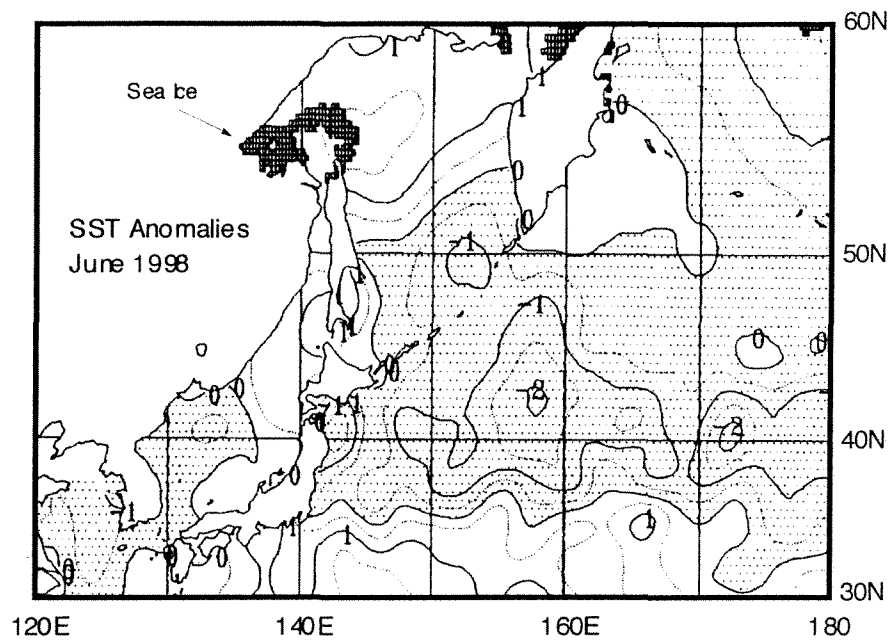
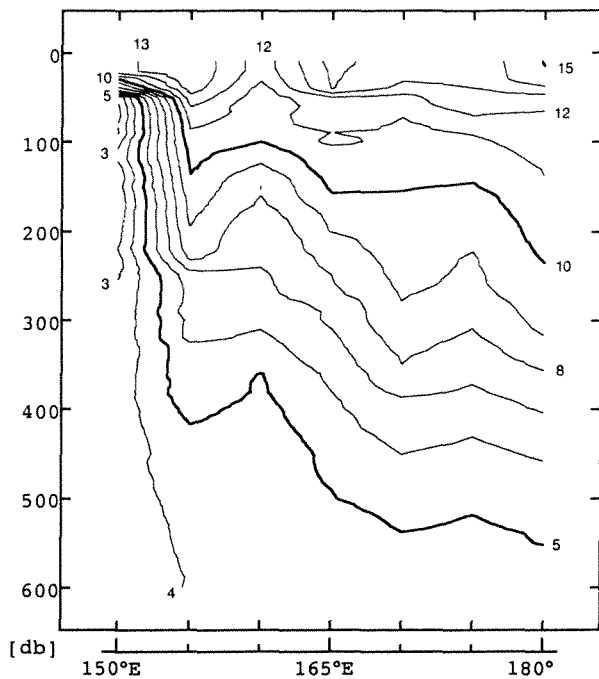
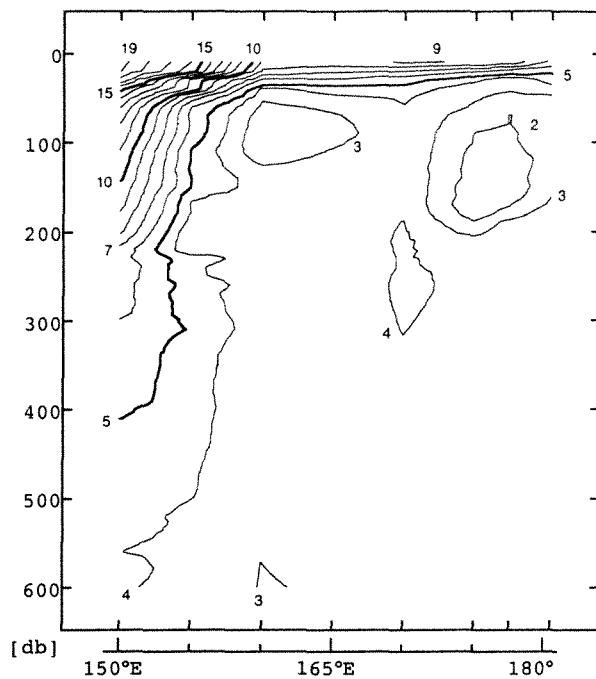


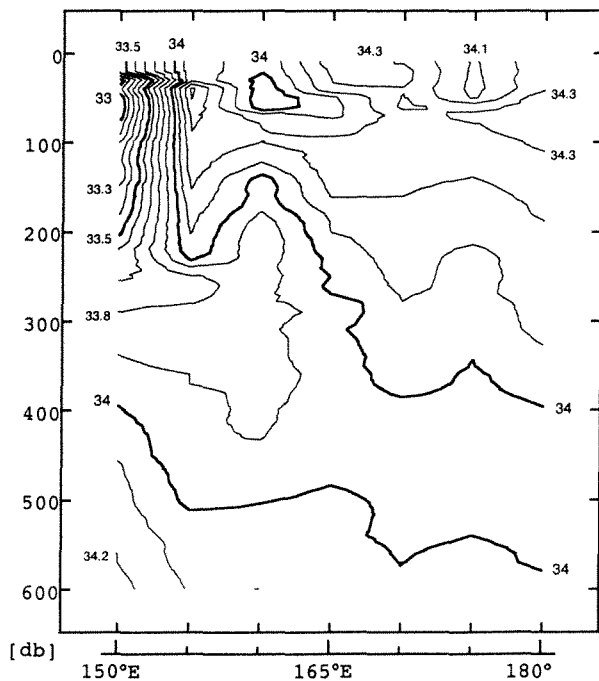
Fig. 2. SST anomalies from monthly mean ( 1961-1990 ).  
 Shaded shows negative.  
 Adapted from the Monthly Ocean Report.



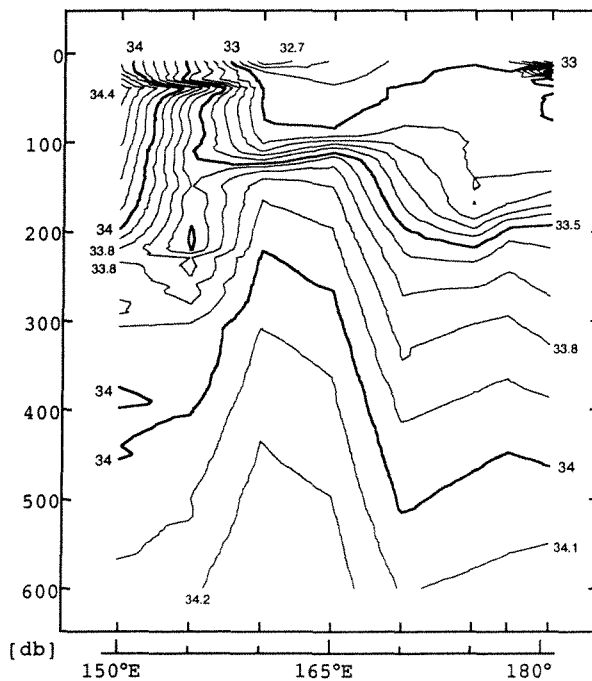
(a-1) Temperature, Section 1



(a-3) Temperature, Section 3



(b-1) Salinity, Section 1



(b-3) Salinity, Section 3

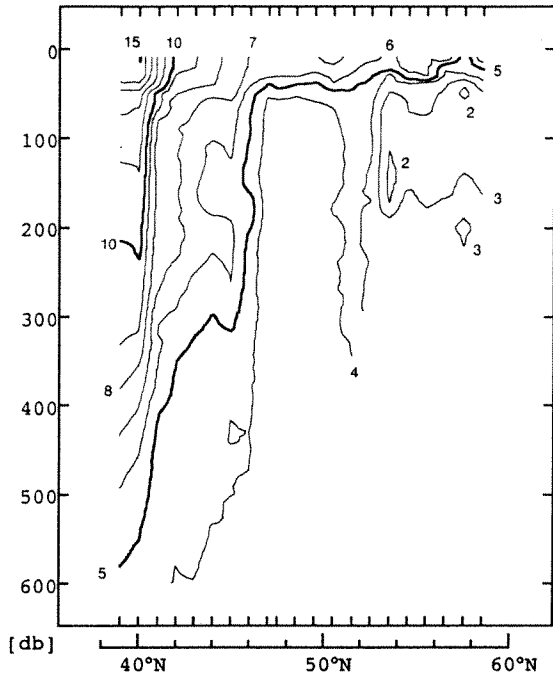
Fig.3. Hydrographic sections along axes shown in Fig.1.

(a)Temperature. Contour interval is 1°C.

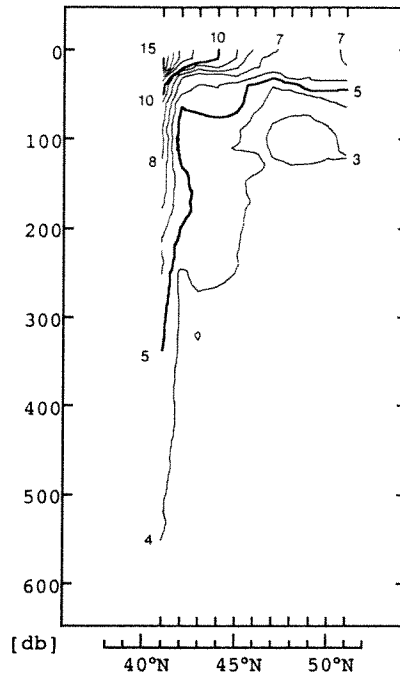
(b)Salinity. Contour interval is 0.1psu.

(c)Temperature anomalies of 1998 from mean(1992-1998).

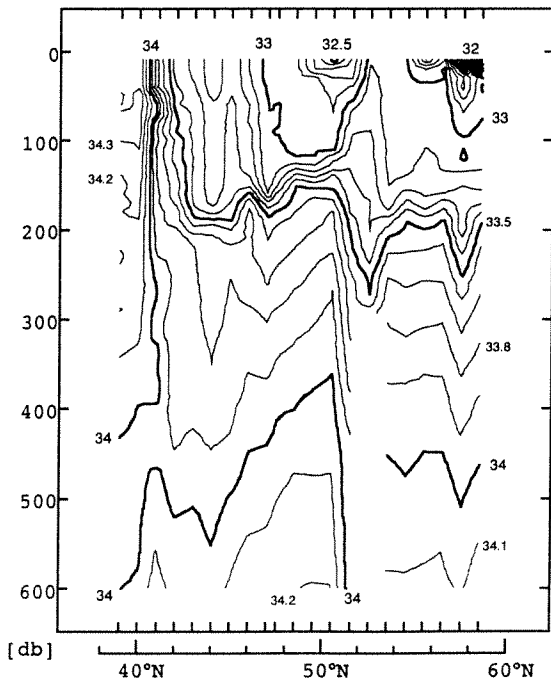
Contour interval is 1°C. Negative areas are shaded.



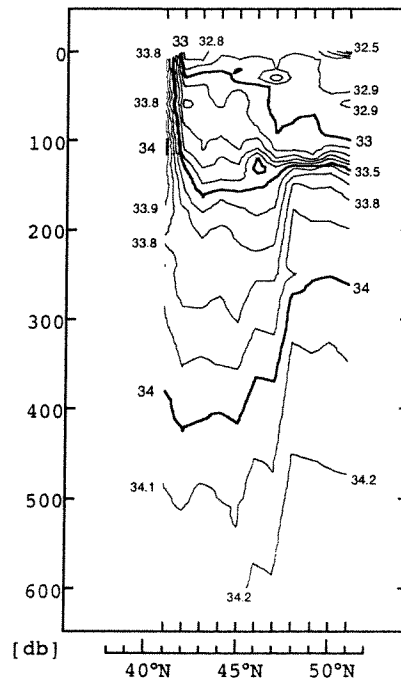
(a-2) Temperature, Section2



(a-4) Temperature, Section4

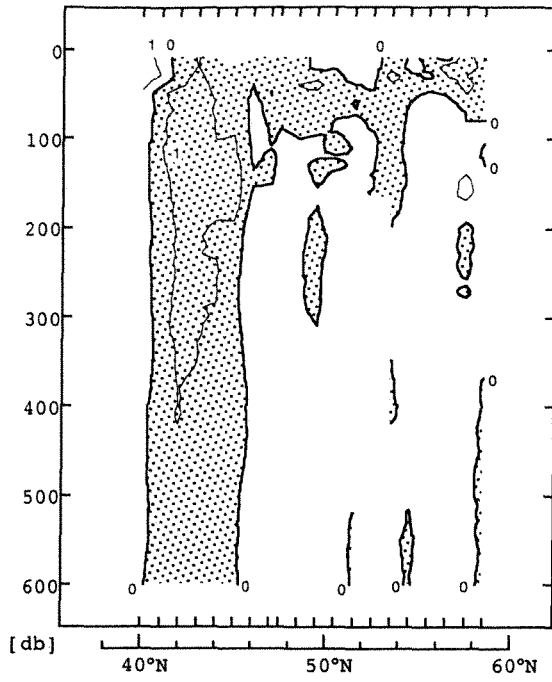


(b-2) Salinity, Section2

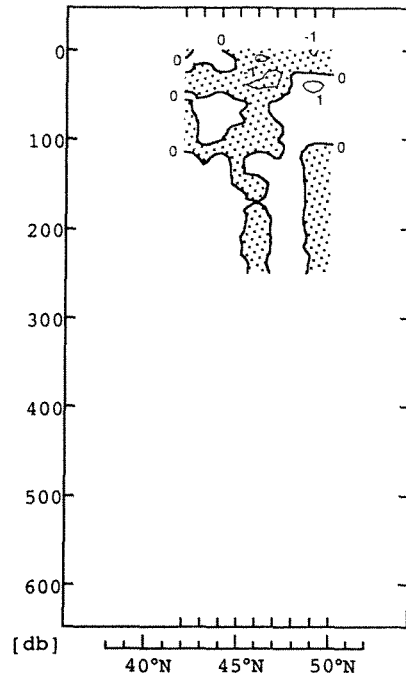


(b-4) Salinity, Section4

Fig. 3. Continued.



(c-2) Temperature anomalies, Section 2



(c-4) Temperature anomalies, Section 4

Fig. 3. Continued.