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Title	Meteorological Date Report at Chaivo, northern Sakhalin, August 1995–August 1998
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Citation	低温科学. 物理篇. 資料集, 57, 1–18
Issue Date	1999-03-25
Doc URL	https://hdl.handle.net/2115/18816
Type	departmental bulletin paper
File Information	57_p1-18.pdf



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Meteorological Data Report at Chaivo, northern Sakhalin, August 1995 - August 1998 *, **

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(*Received January 1999*)

Abstract : Observations of meteorological and sea-ice variables were carried out at Chaivo, northern Sakhalin during the period from August 1995 to August 1998, as part of the Japan-Russia cooperative research project "Sea Ice Studies off the Okhotsk Sea Coast of Sakhalin". Time series data of wind, air temperature, humidity and solar radiation were summarized in this report.

要旨:「日本・ロシア両国によるオホーツク海・サハリン沖海氷の共同調査」の一環として、北サハリンのチャイボで、気象及び海氷の観測調査を1995年8月から1998年8月まで実施した。本報告では、オホーツク海とチャイボ湾とを結ぶクレイエ海峡に面する気象観測所で収集した風速、気温、湿度、日射量等の観測資料を提示する。

Key words : Meteorological variables, sea ice, Chaivo, northern Sakhalin, Sea of Okhotsk

キーワード: 気象要素、海氷、チャイボ、北サハリン、オホーツク海

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I. Introduction

As part of the Japan-Russia cooperative research project, "Sea Ice Studies off the Okhotsk Sea Coast of Sakhalin", observations of meteorological and sea-ice variables were carried out at Chaivo, northern Sakhalin (Fig. 1) during the period from August 1995 to August 1998 to characterize atmospheric variables and sea-ice formation in northern Sakhalin throughout all the year round. Time series of air temperature, humidity, wind speed and direction and radiation obtained at an automatic weather station of the Chaivo Research Station, located near the shore of Kleye Strait (Fig. 1) are shown in this report. Prior to this study, field experiments of meteorological and sea-ice studies were carried out on the landfast sea-ice at Kleye Strait during the winters of 1992 to 1995, as part of the Japan-Russia cooperative research project, "Sea Ice Studies off the Okhotsk Sea Coast of Sakhalin". Some of the meteorological variables and sea-ice characteristics obtained from those four-year field experiments were reported in Shirasawa *et al.* (1994 and 1996).

II. Meteorological variables at Chaivo Research Station

The Chaivo Research Station (52°21.50'N, 143°11.93'E) is located near the shore of Kleye Strait, which links Chaivo Bay to the Sea of Okhotsk (Fig. 1). The Chaivo Research Station is operated all the year round by the Sakhalin Oil and Gas Institute. An automatic weather station (Data Logger SQ-1201, Grant Instruments Ltd.) was installed on the roof of Chaivo Research Station about 6 m high from the ground in order to obtain general meteorological variables such as air temperature, humidity, wind speed and direction and radiation through all the year round (Fig. 2).

Time series records of air temperature at 1 m height from the roof of Chaivo Research Station (at 7 m high from the ground), humidity at 1 m height, wind speed and direction at 2.1 m height, and radiation at 0.85 m height are shown in Fig. 3. The maximum air temperature was observed at about 28°C in early July 1998, and the minimum temperature was about -36°C in early January 1998. The relatively stronger wind at about 25 m/s was observed at the beginning of December 1997. Windroses for each month are shown in Fig. 4, indicating that the predominant wind directions were WNW during November through March and S during the summer.

In this report all time is used in the Japanese Standard Time (JST). The wind direction is used in reference to the magnetic north, which is deviated 14° from the true north. The threshold value of wind speed is used as 0.3 m/s.

Acknowledgements. We wish to thank all staff at the Chaivo Research Station for their assistance and effort in the field and laboratory. We would also like to express our thanks to staff members of the lighthouse at Chaivo for their help in the field. Special thanks are due to Keiko Ishikawa, Eriko Uematsu and Miyako Yamatani for their assistance in data processing and drawing. Funding for this work was partly obtained from the Japanese Ministry of Education, Science and Culture (Monbusho) through grant-in-aid for the International Scientific Research Program "Sea Ice Studies off the Okhotsk Sea Coast of Sakhalin, Japan-Russia Cooperative Research" (No. 04041013) and through the Sea Ice Research Laboratory's Overseas Field Work Program.

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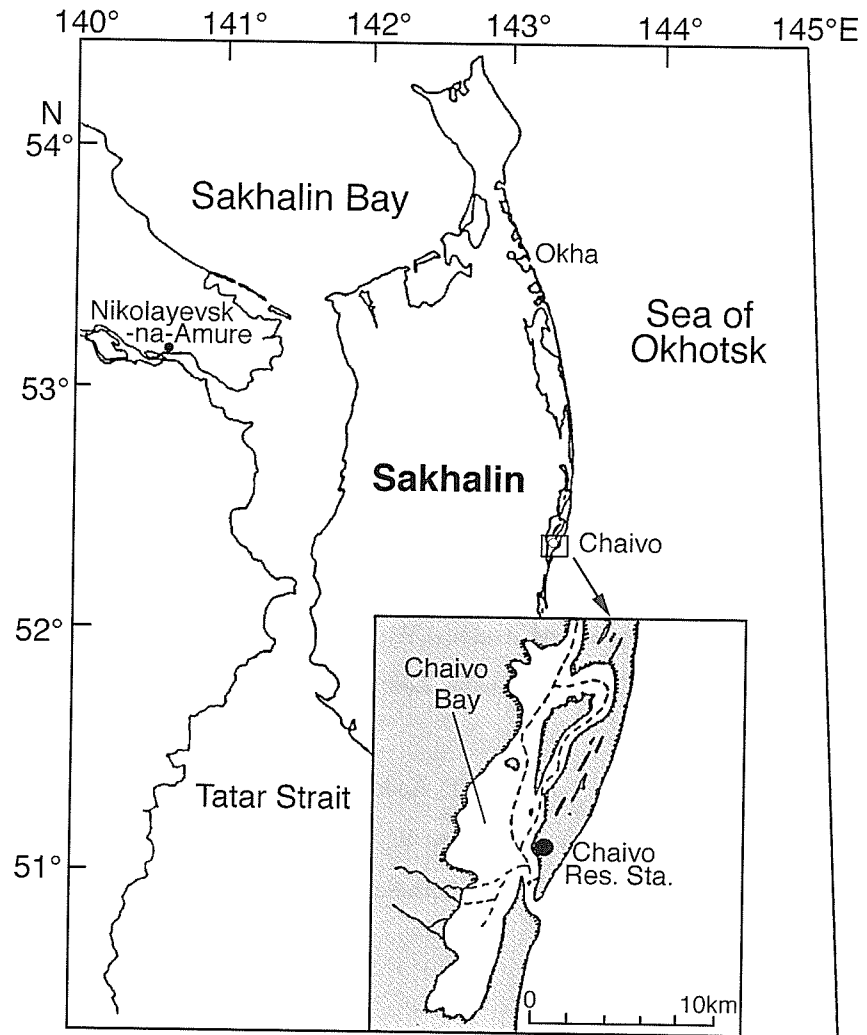


Fig. 1 Study area.



Fig. 2 An automatic weather station installed at Chaivo Research Station.

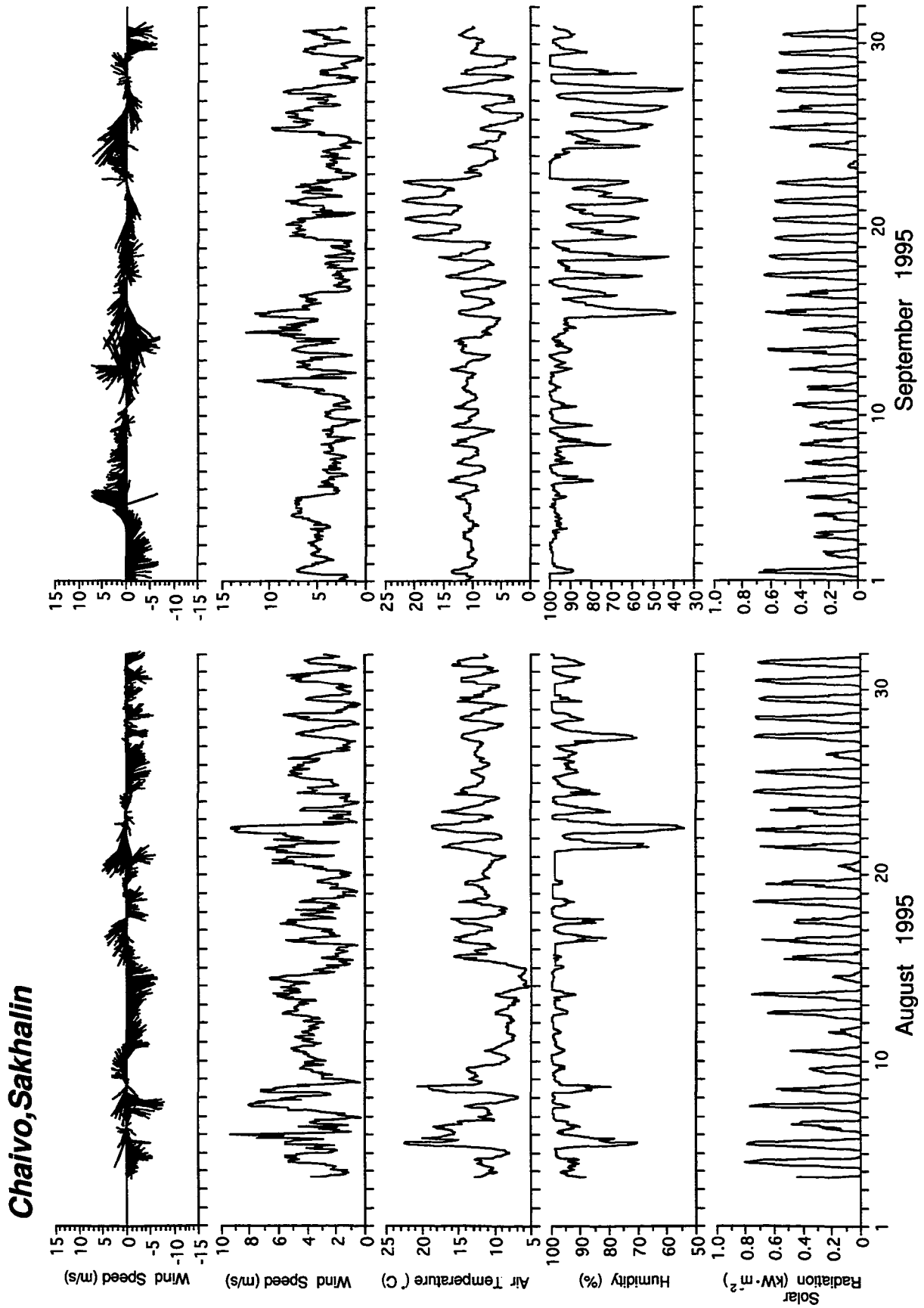
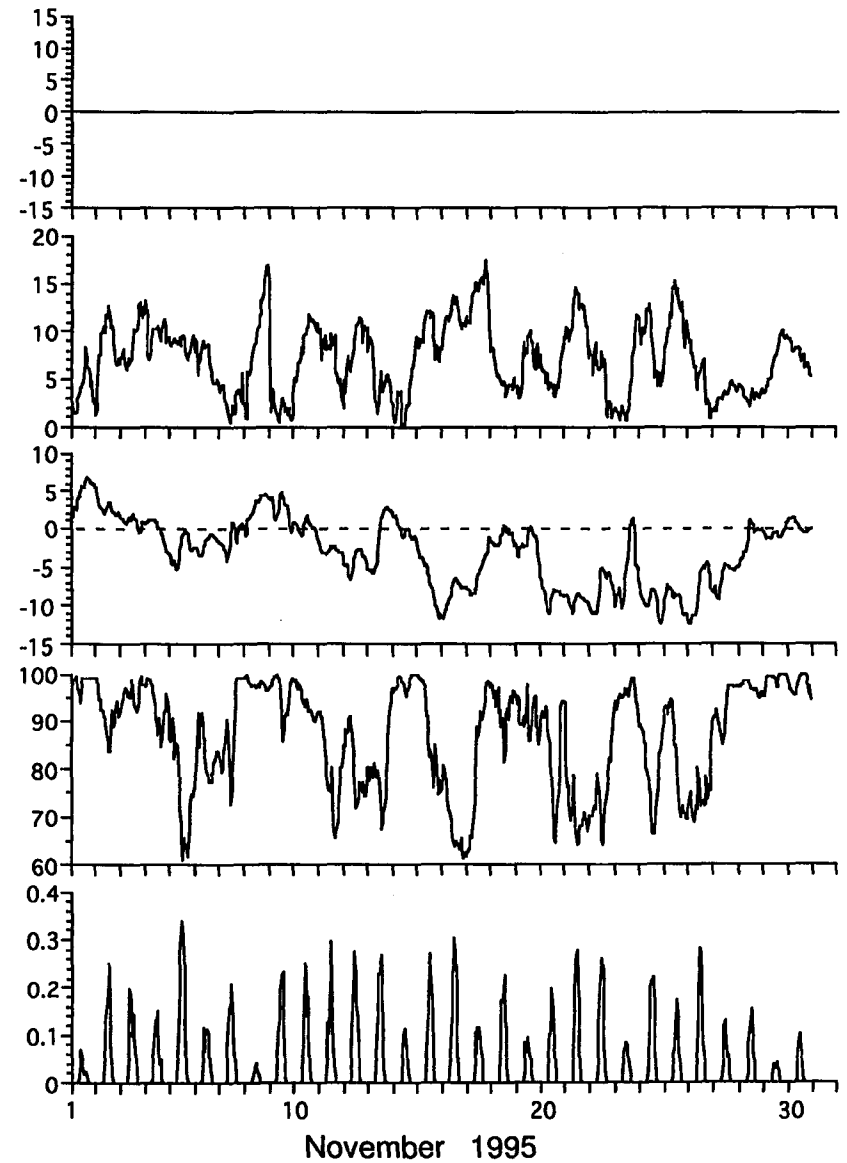
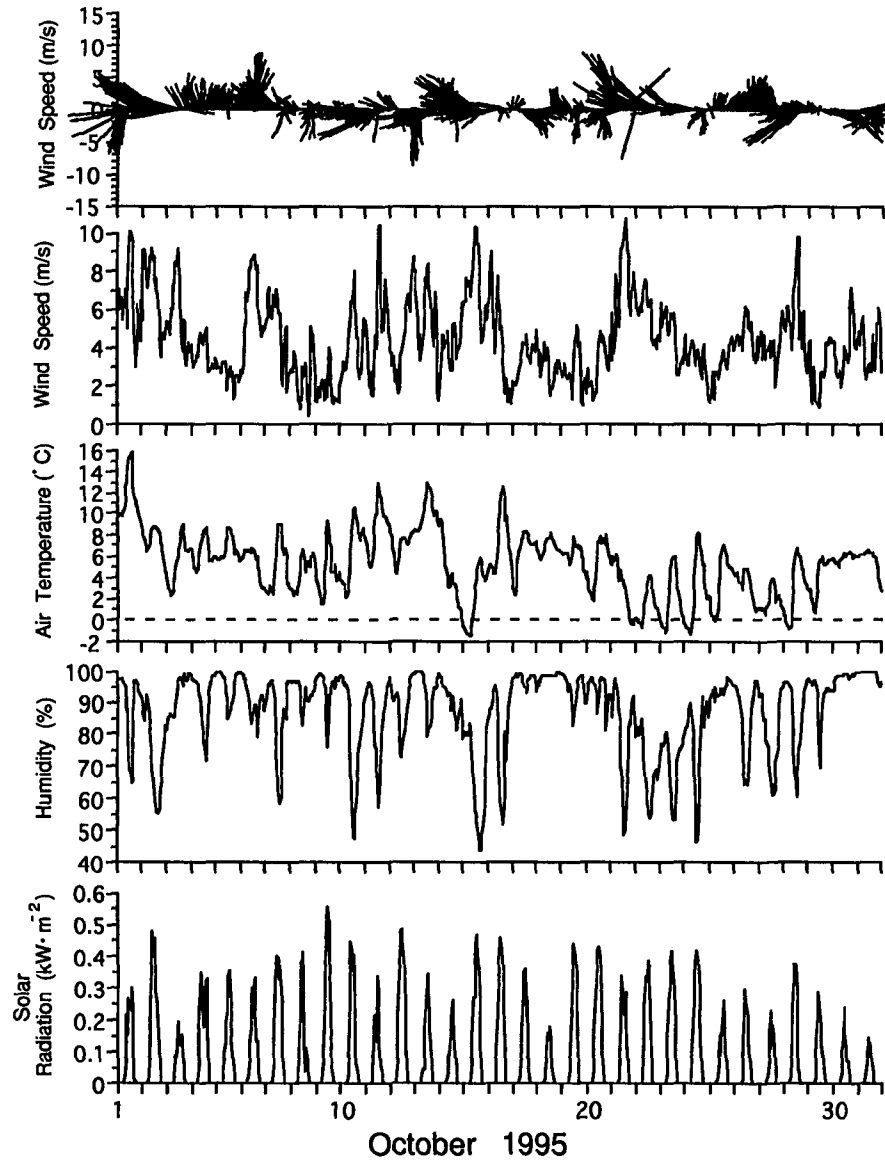
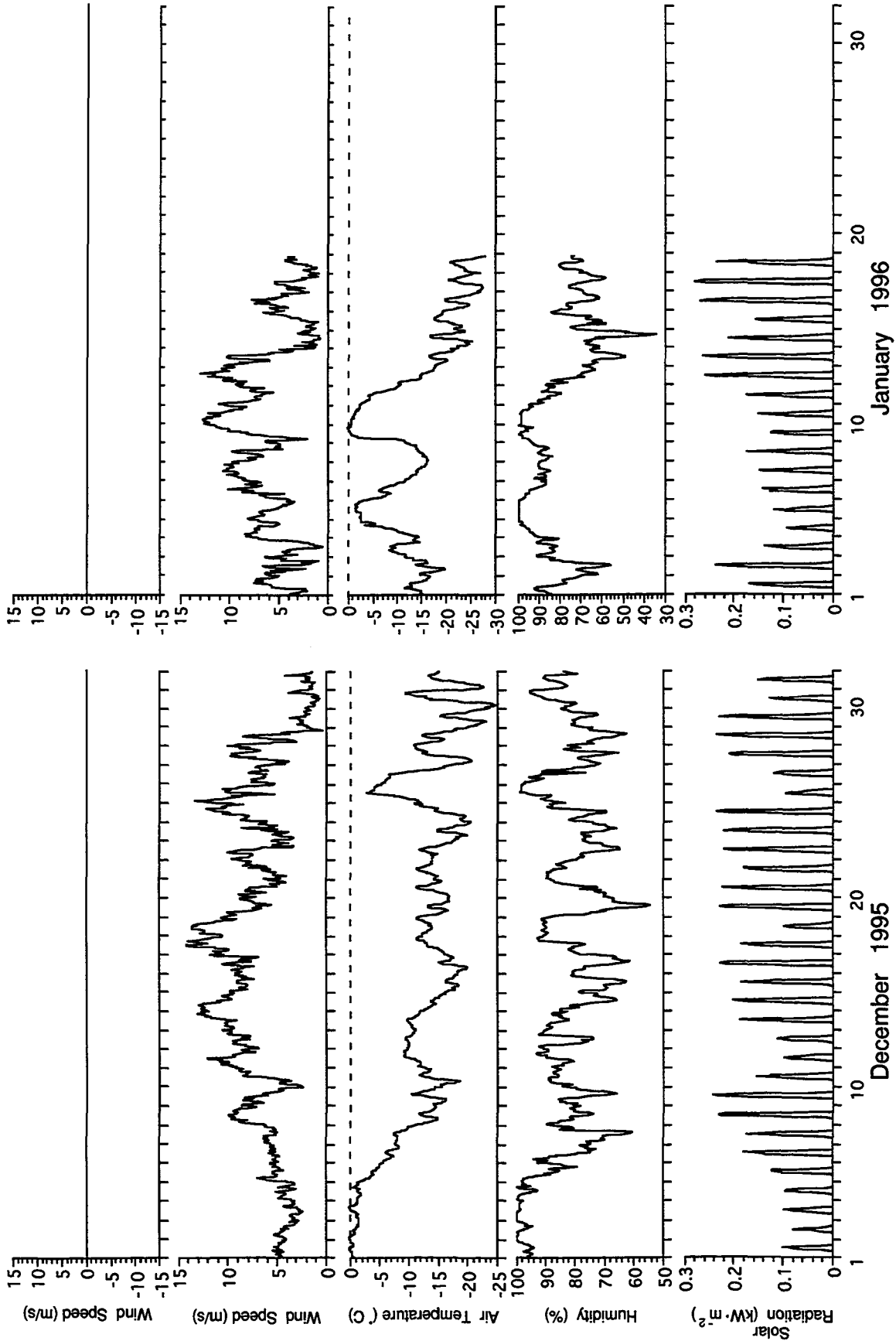


Fig. 3 Daily values of air temperature, humidity, wind speed and incoming radiation during the period from August 1995 to August 1998 at Chaivo Research Station.

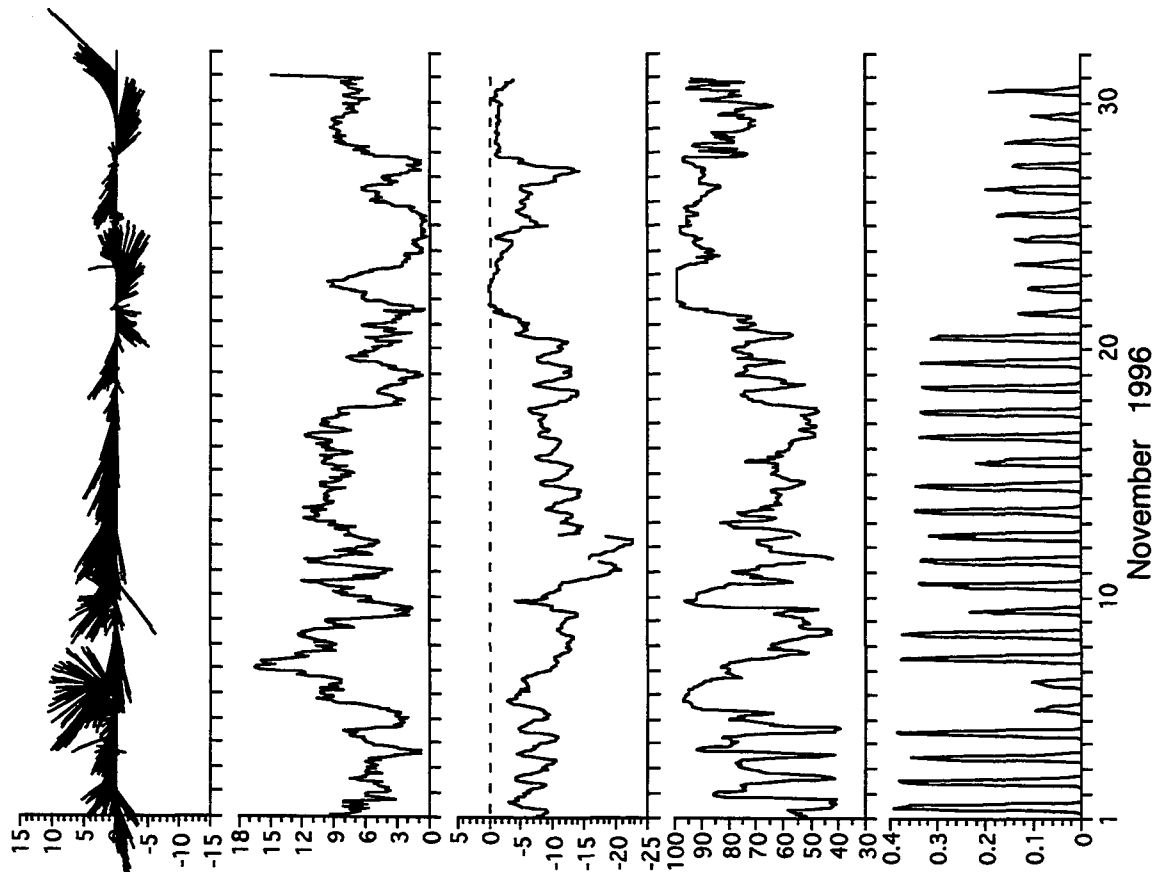
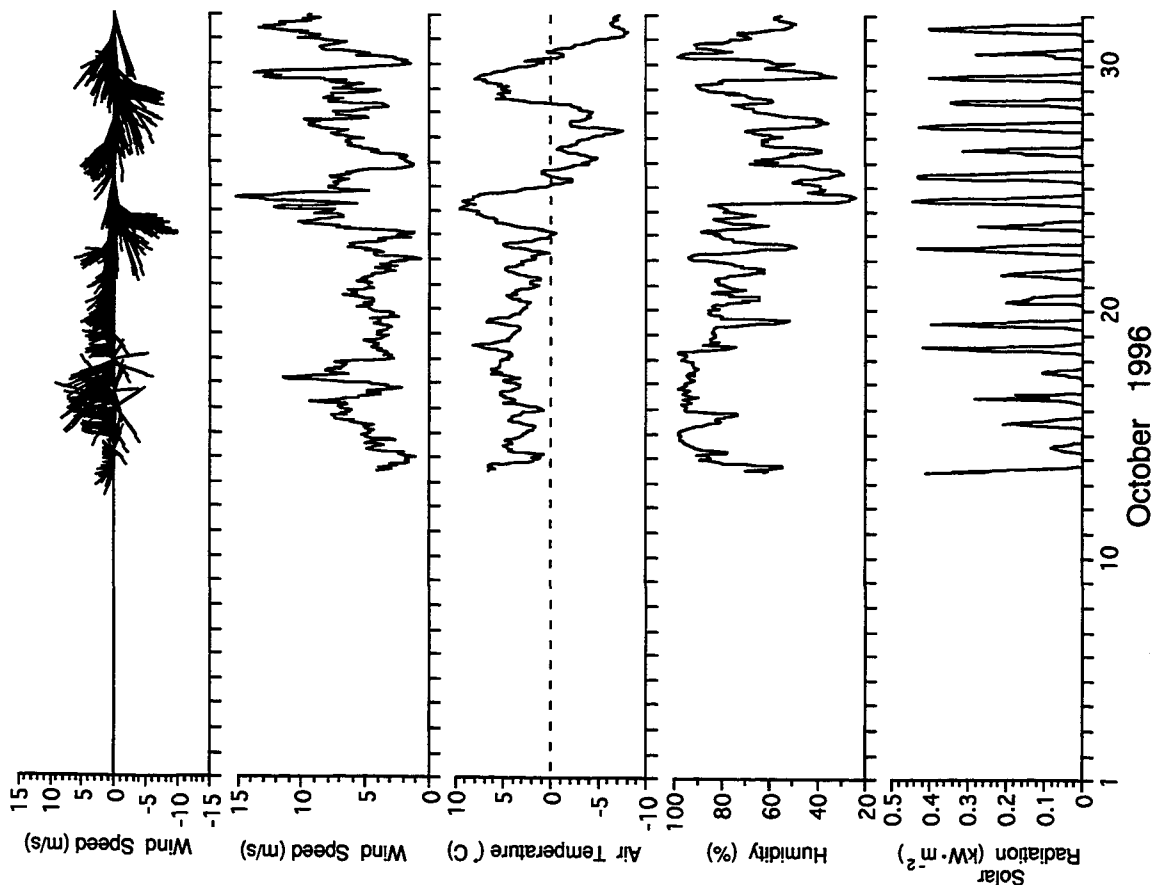
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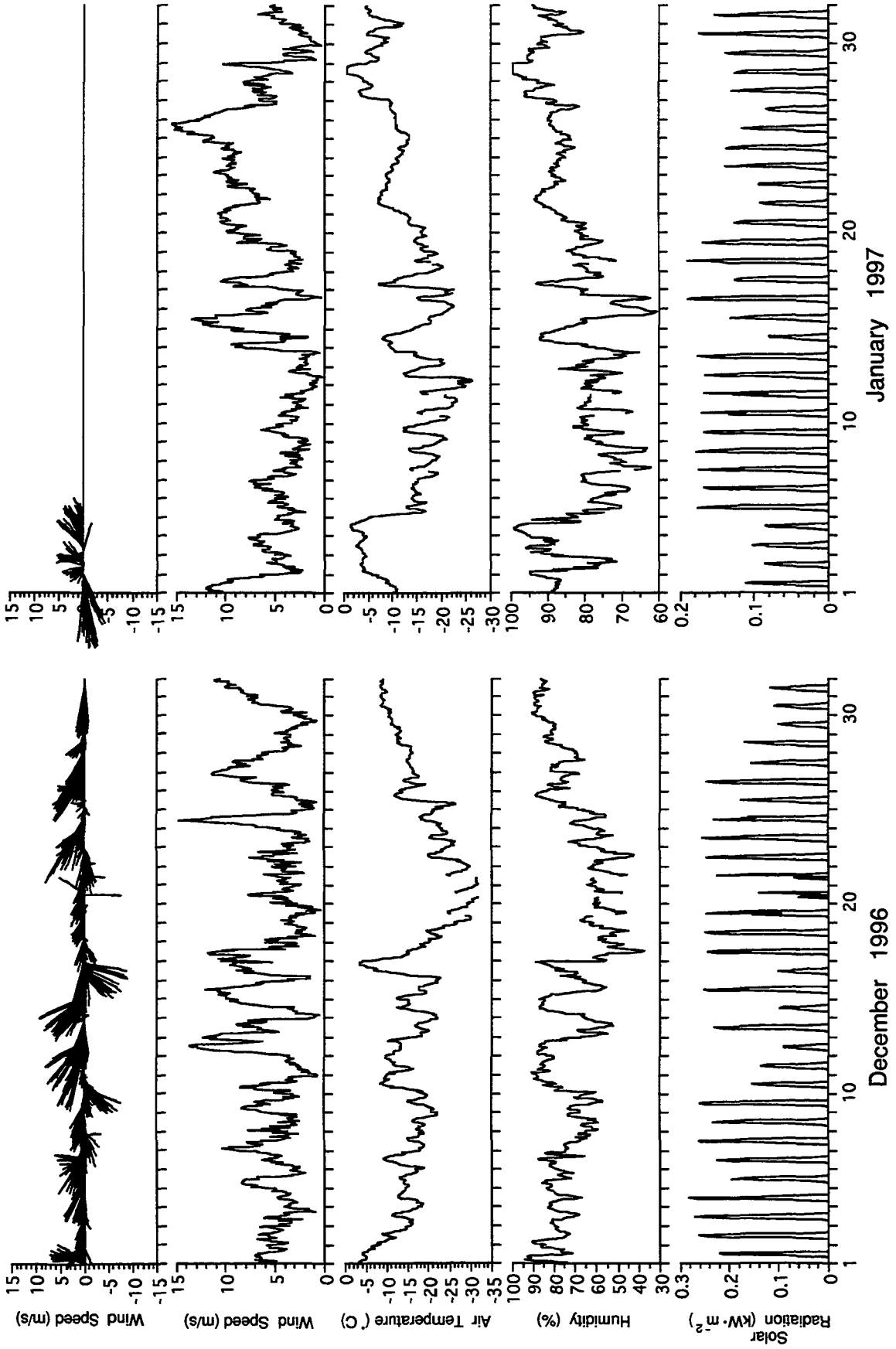
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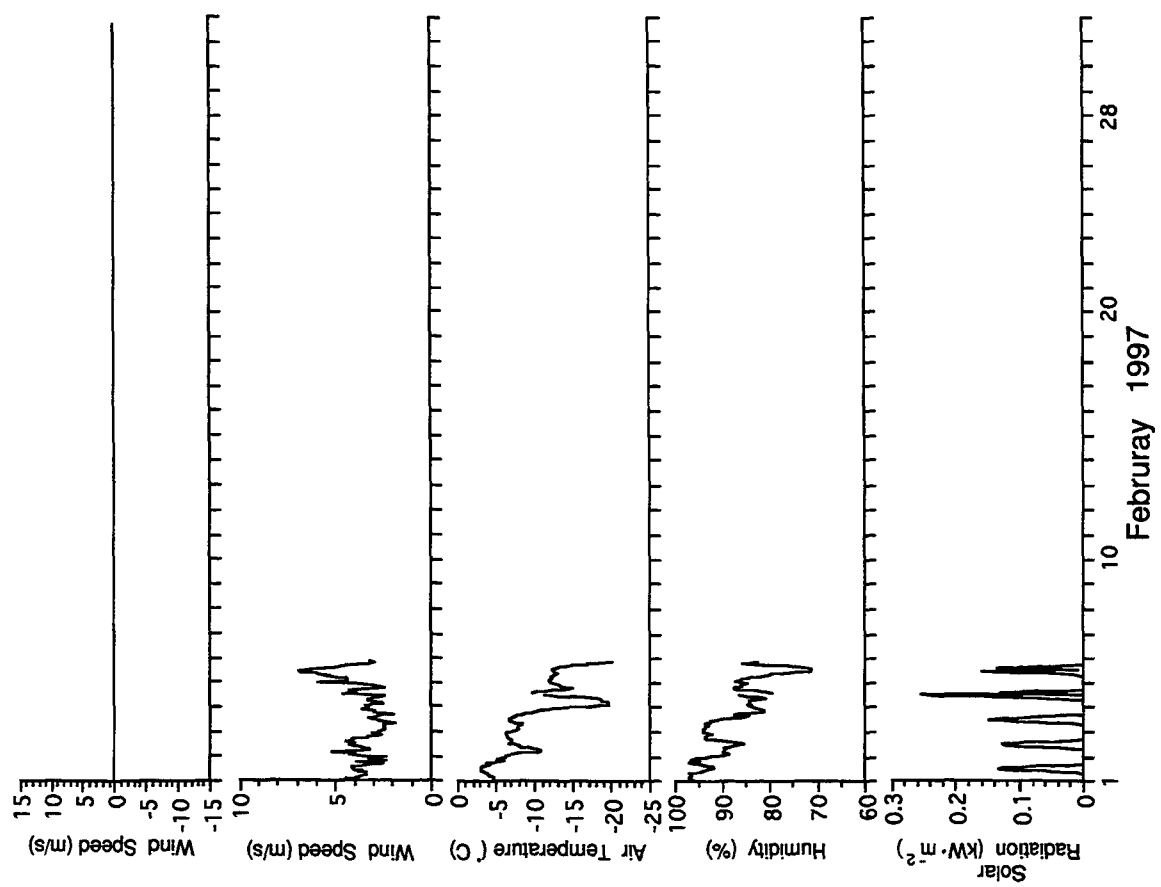
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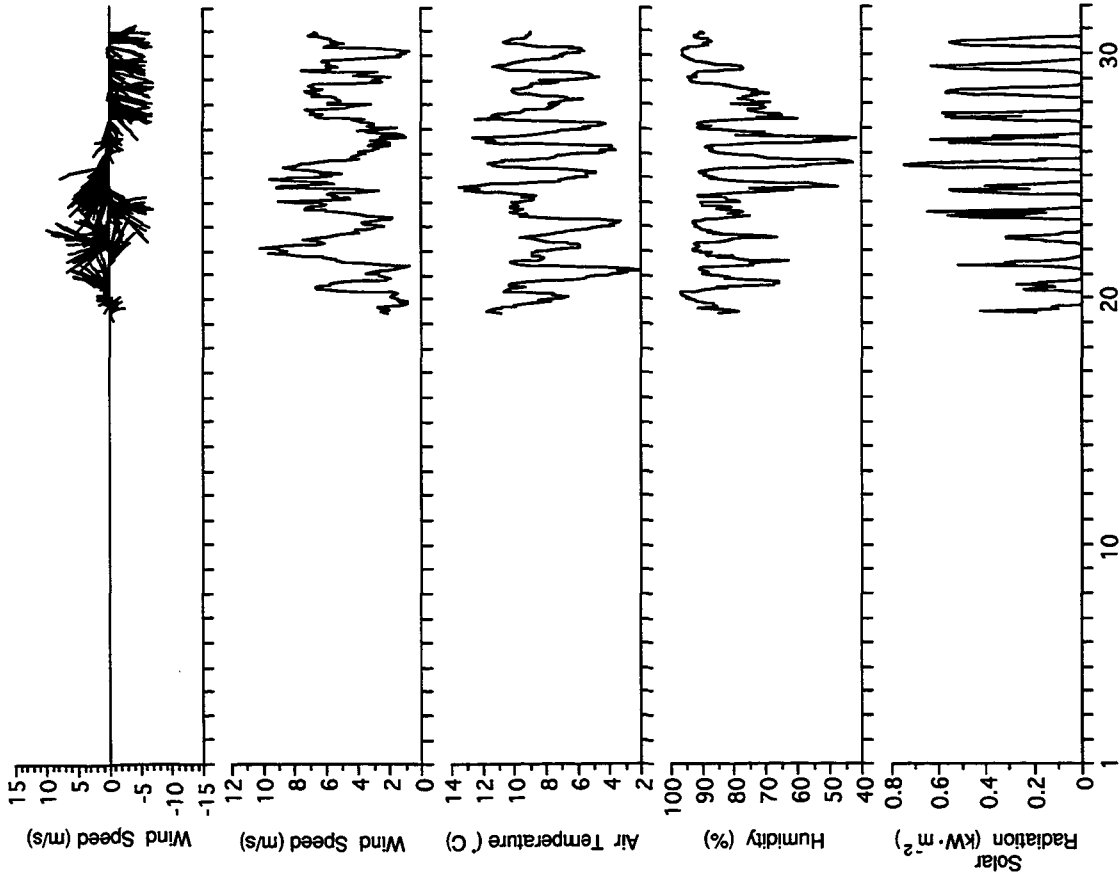
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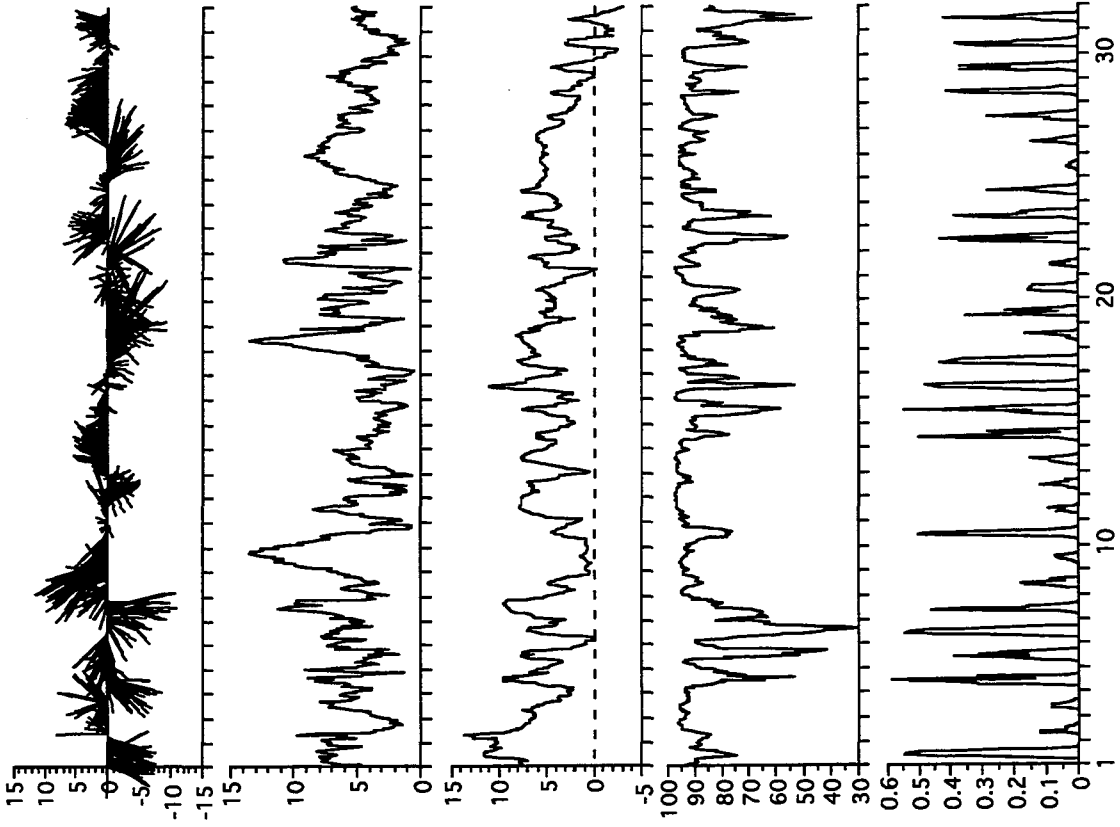
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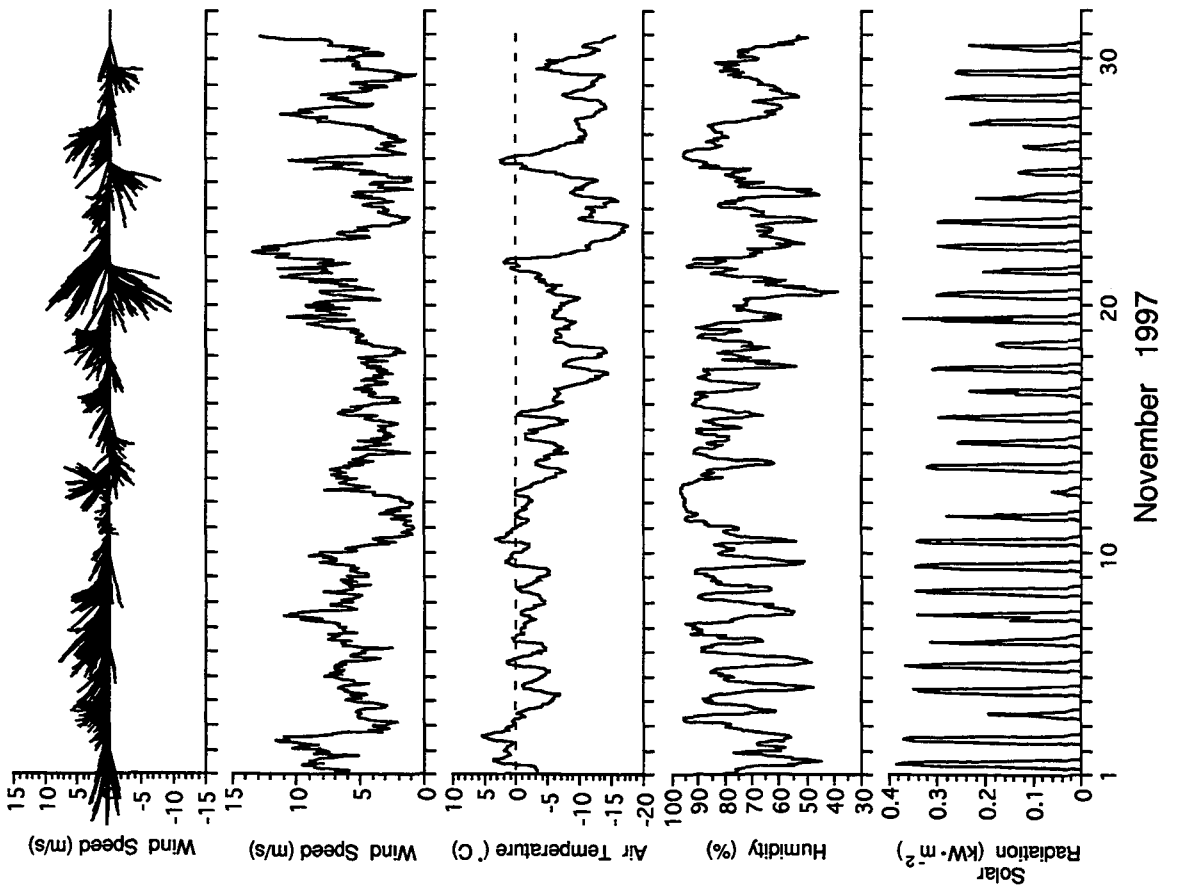


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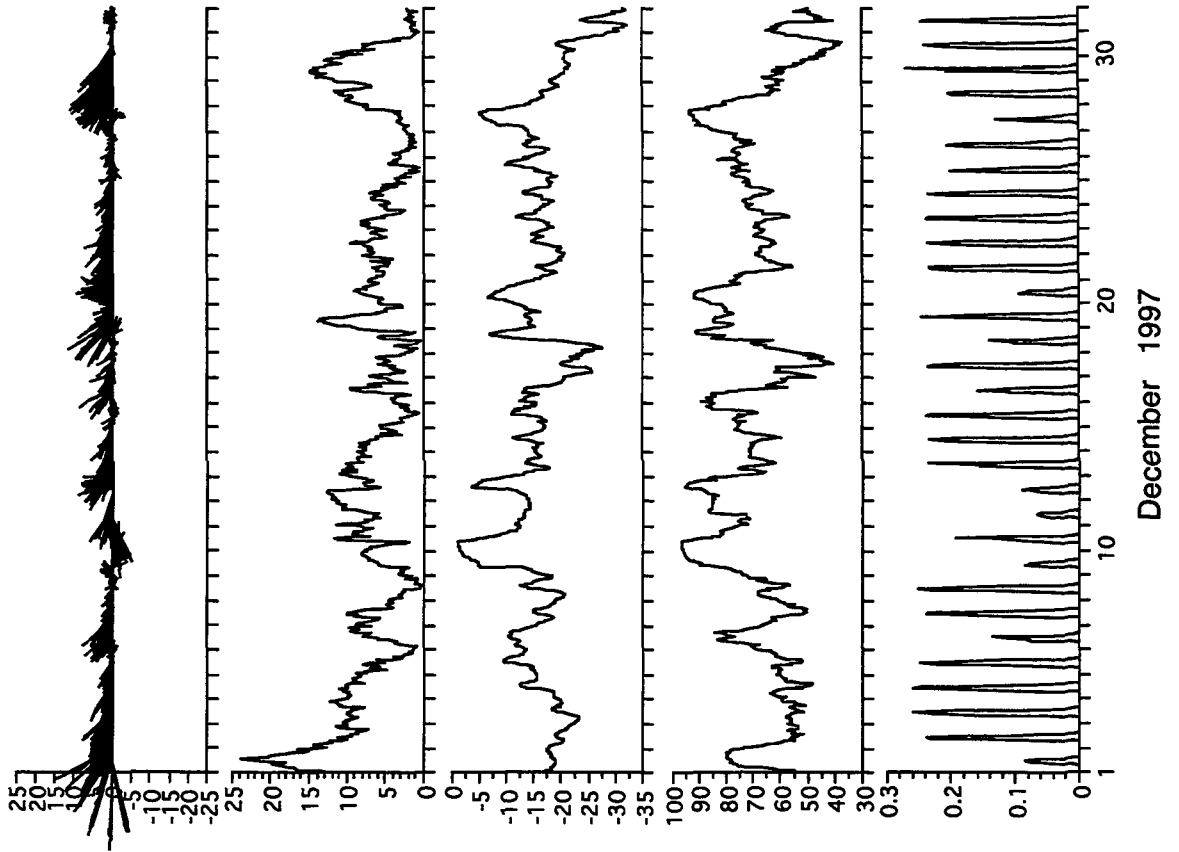


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Chaivo, Sakhalin

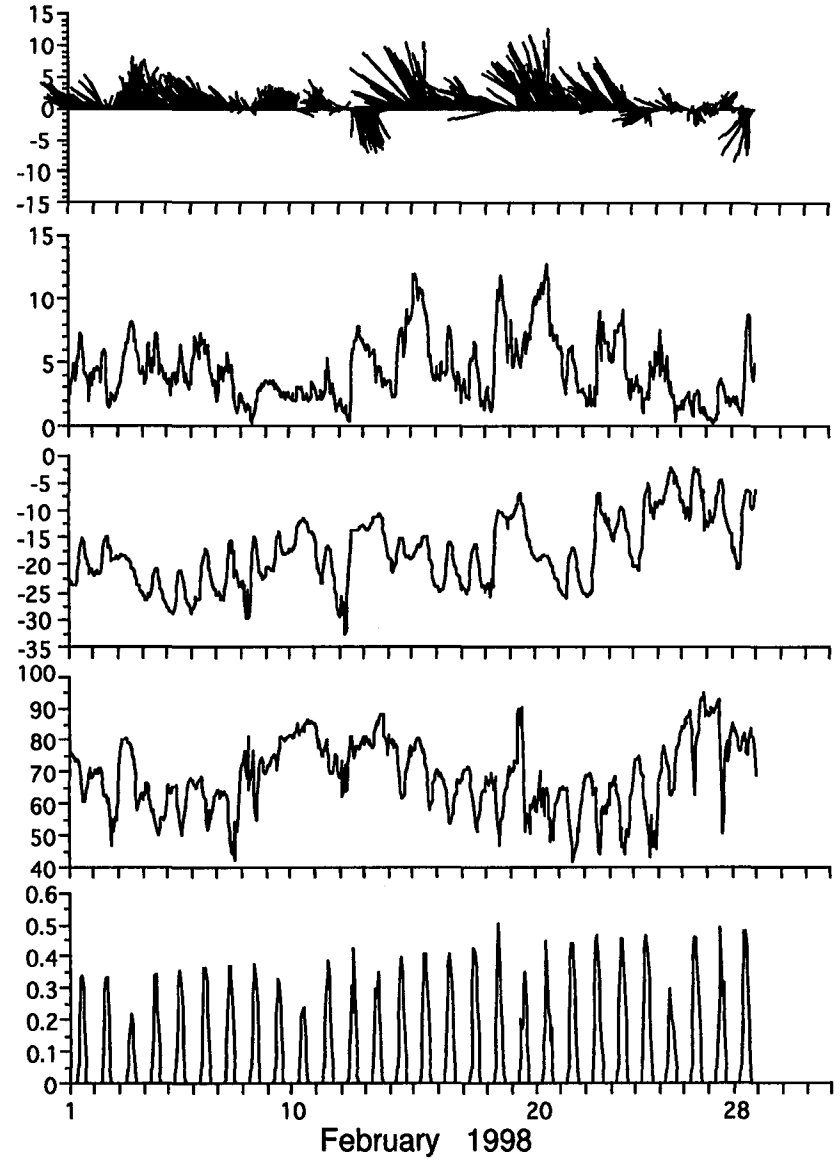
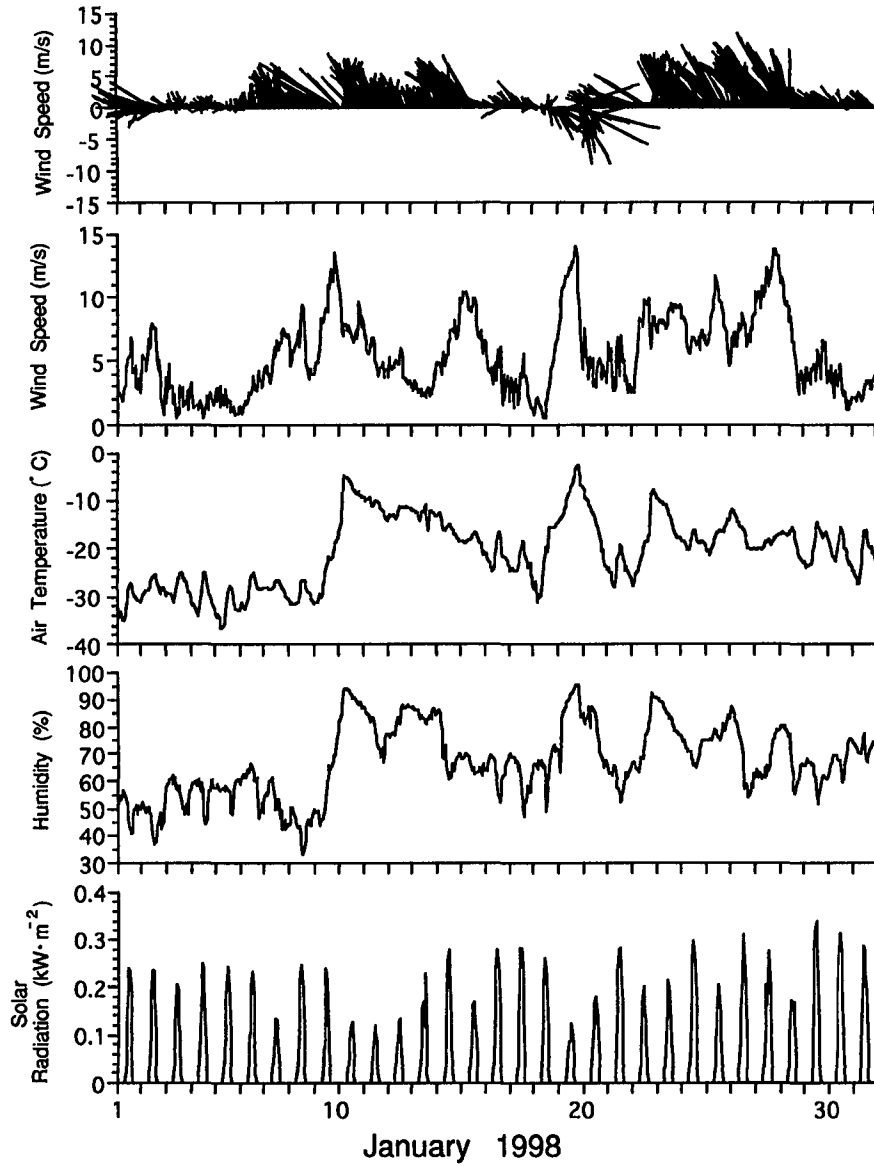


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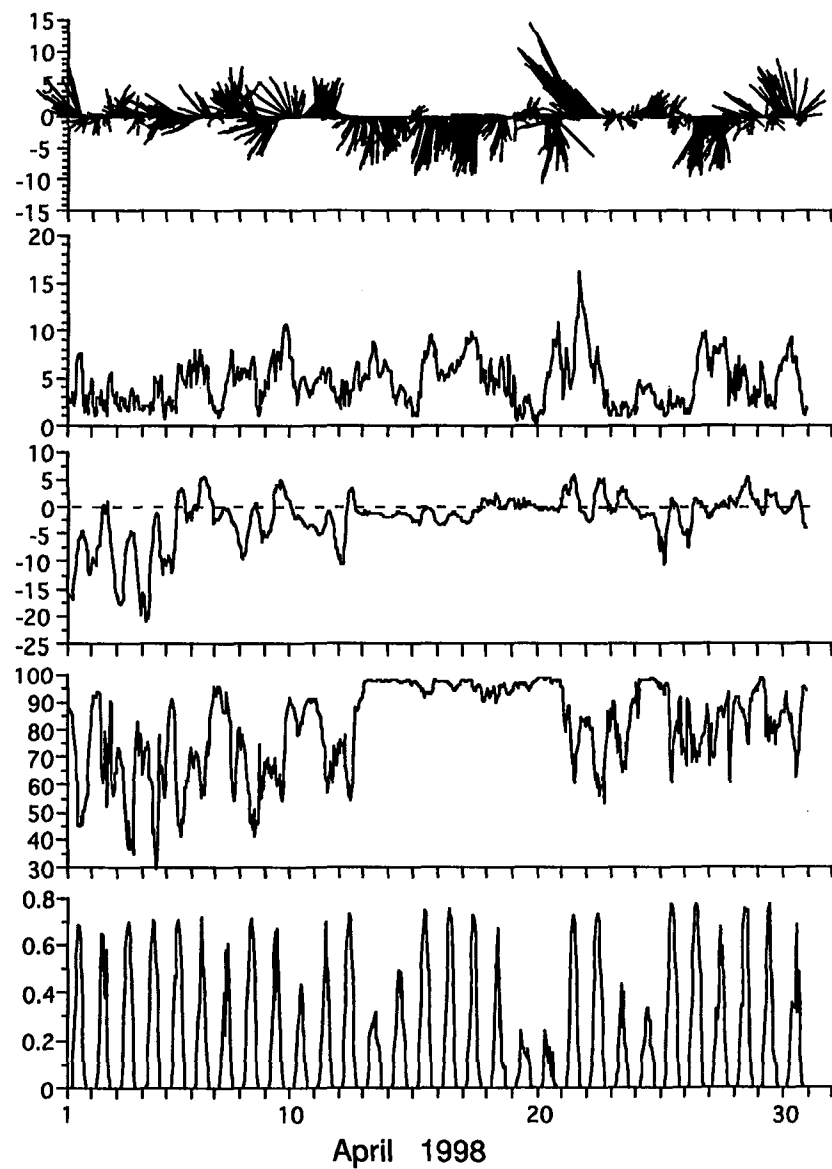
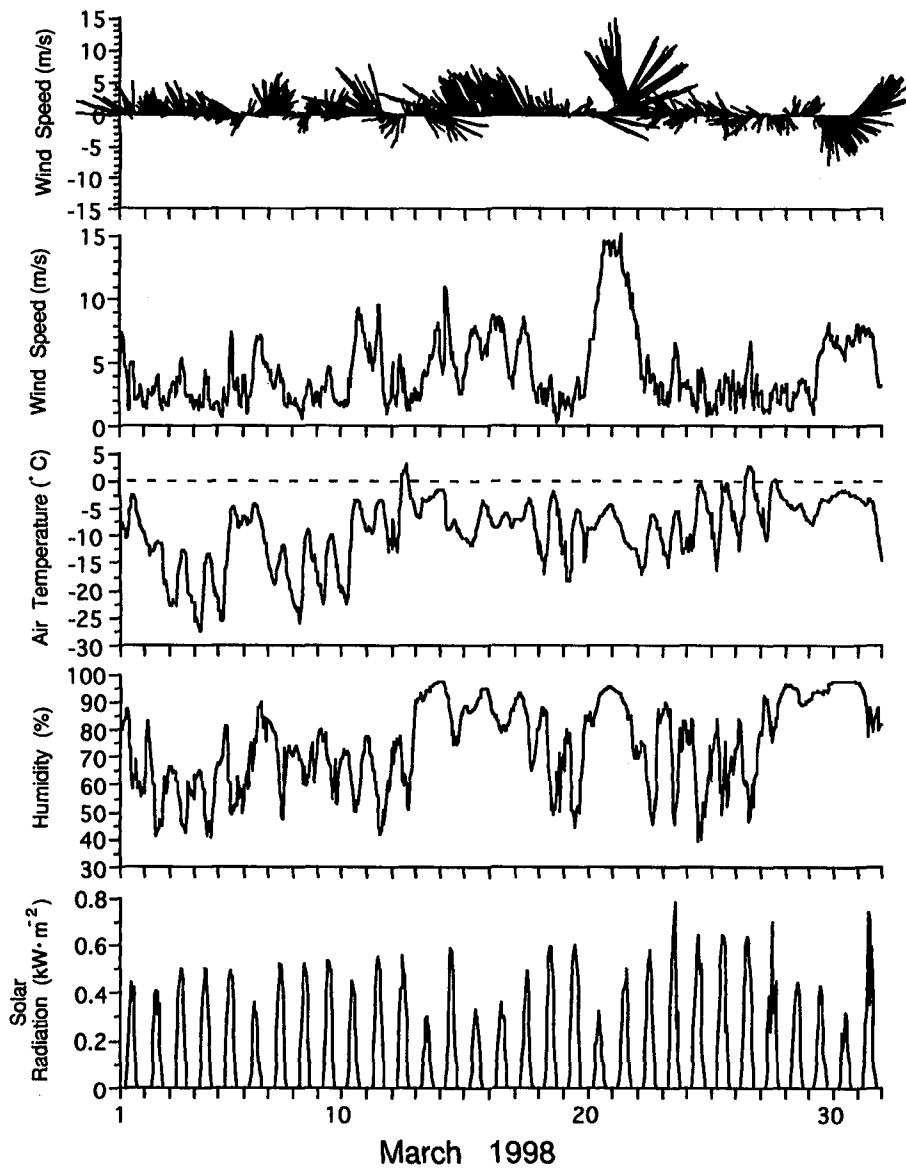


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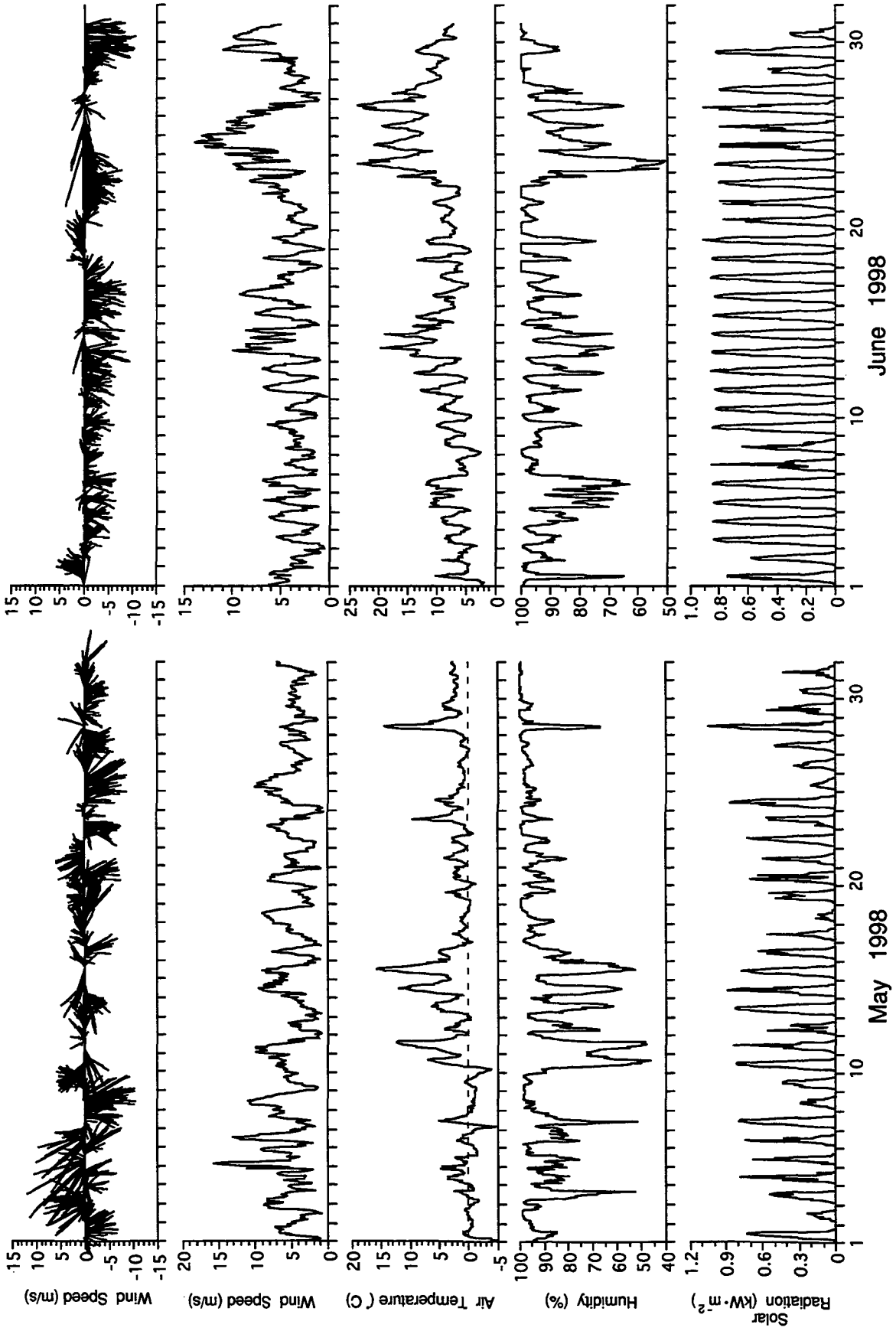
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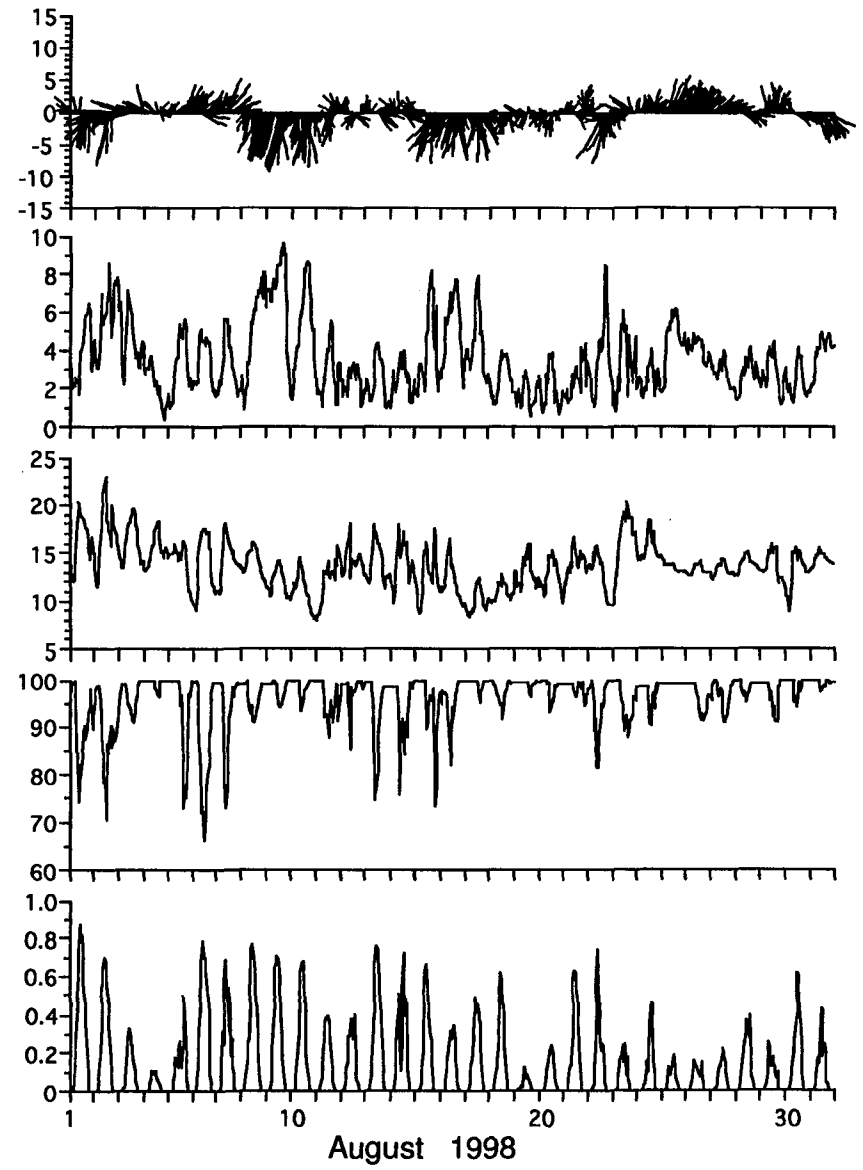
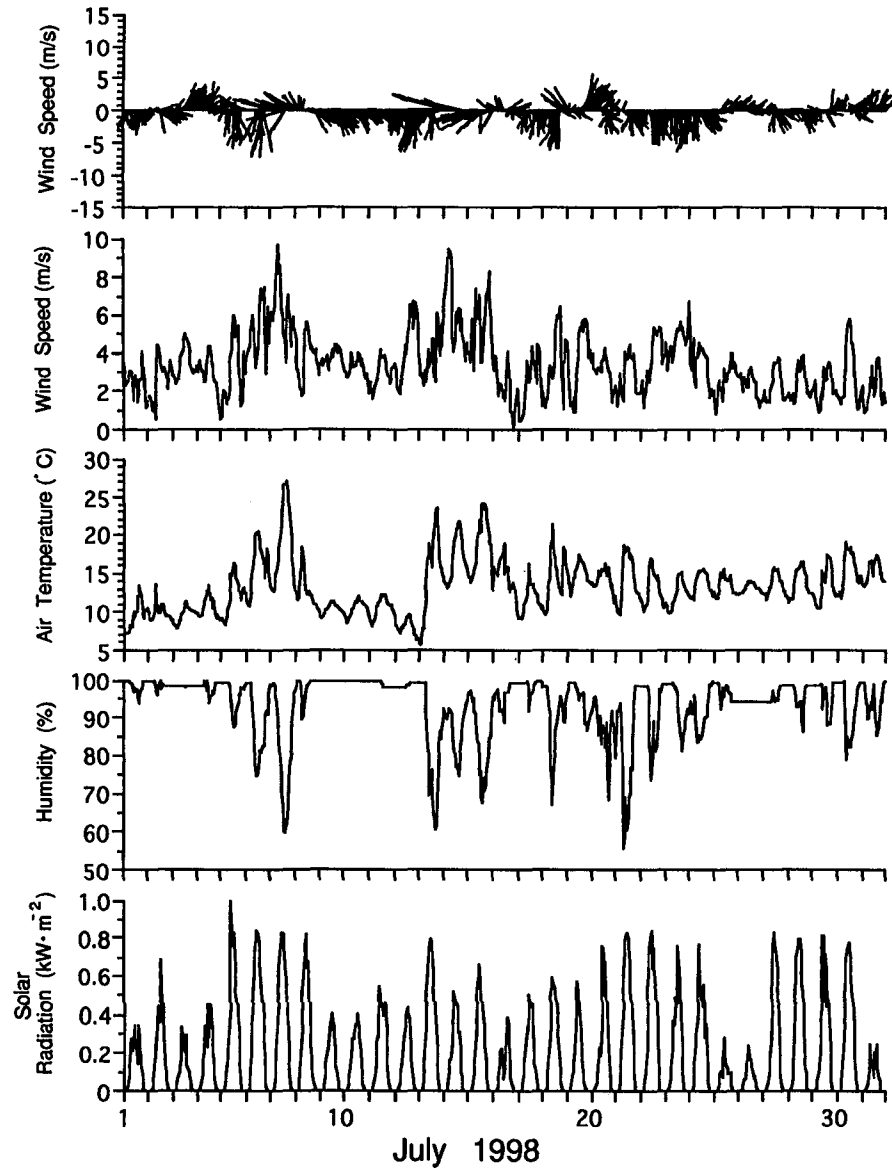
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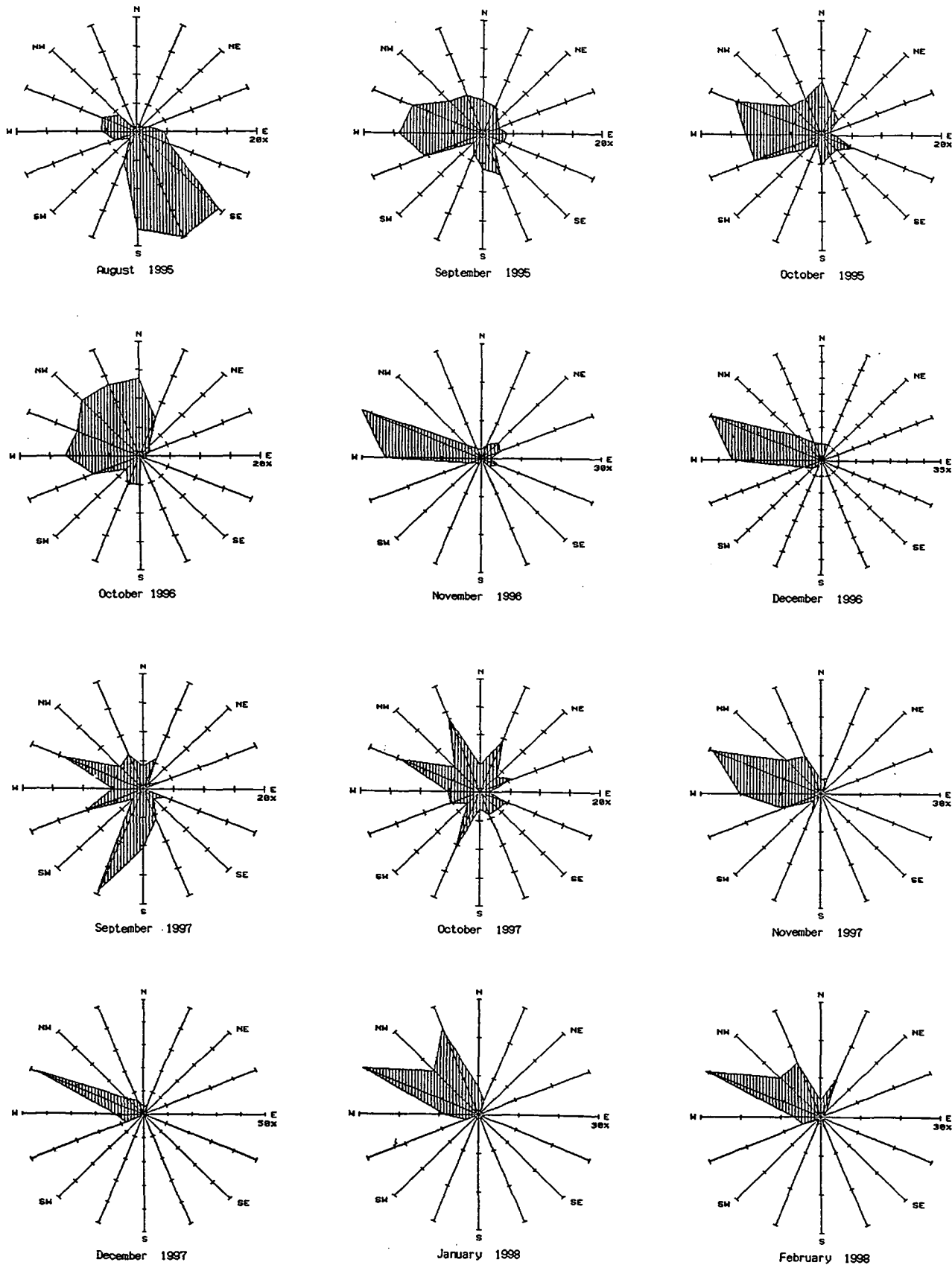


Fig. 4 Windroses for each month during the period from August 1995 to August 1998 at Chaivo Research Station.

