



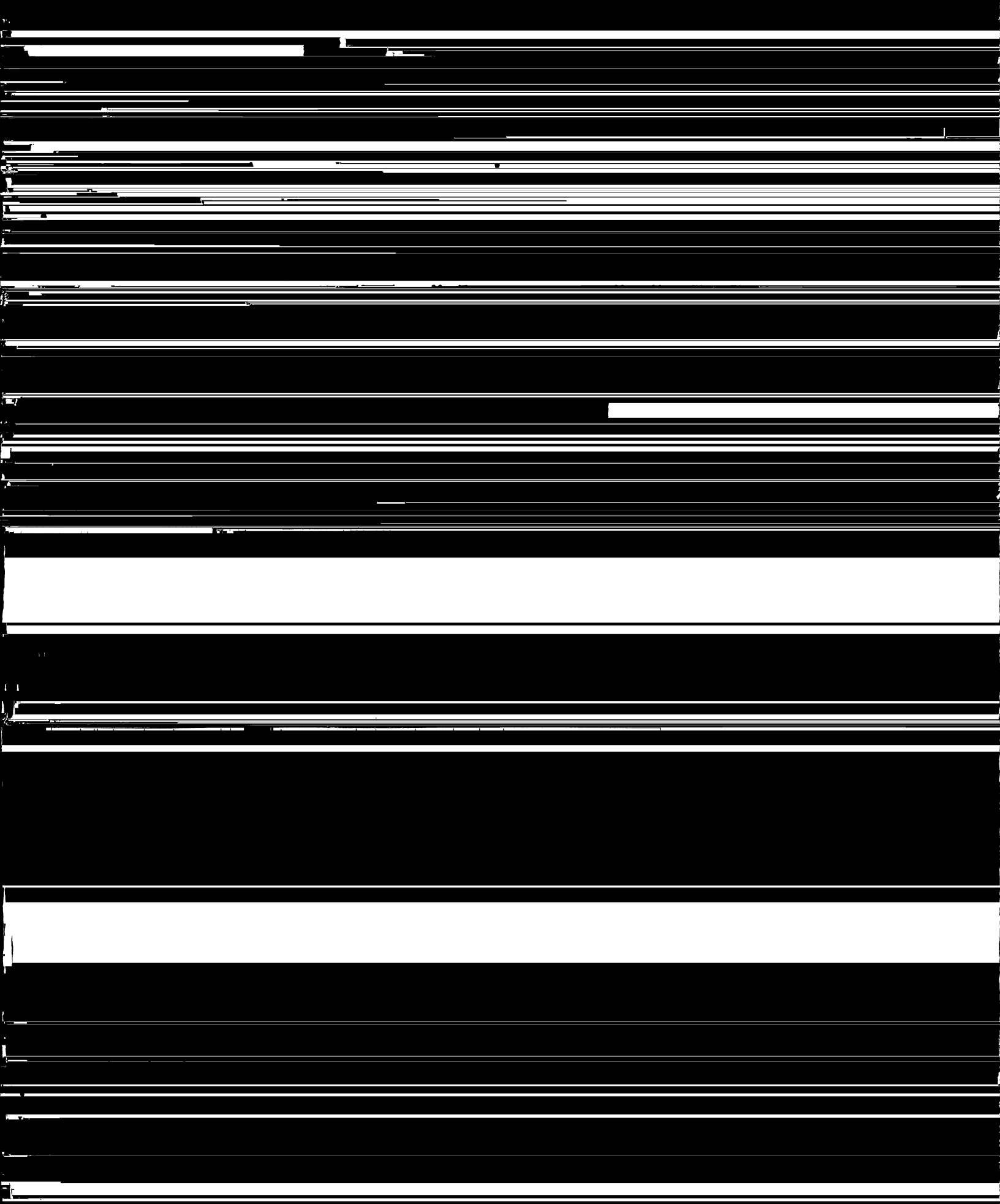
cal processes controlling the air-sea exchange of CO<sub>2</sub> and carbon sequestration in the ocean are poorly known. The results presented here for the southwest Pacific Sector of the Antarctic Circumpolar Current (ACC) indicate that both physical and biological processes are important factors influencing

Front [Molinelli, 1981; Piola and Georgi, 1982], and therefore the biological pump may have an important influence on the carbon content of this water mass. A recent investigation of SAMW/AAIW cycling confirms that winter convection, subduction, and diapycnal mixing all play a role in the re-

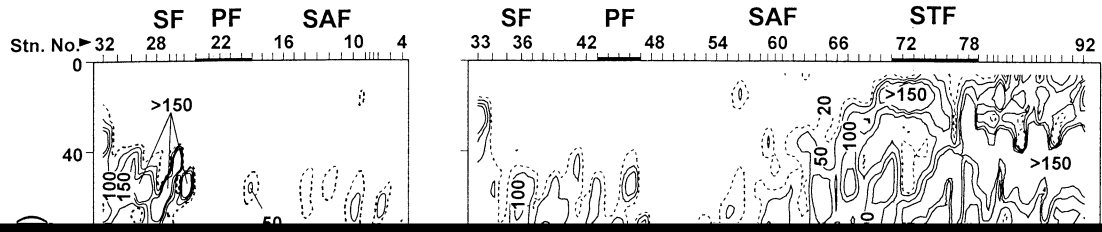
150° 160° 170° 180° 170°

Kevlar line. Subsamples were collected for phytoplankton

until processing on shore. In the laboratory, filters were  $\sim$  much, if not all, of the water column. Here we identify the



SF PF SAF SF PF SAF STF



**Table 2.** Weather Condition, Sea State, Euphotic Zone Depth, and Irradiance Along P15S

Station Number	Weather	Wind Speed, m s <sup>-1</sup>	Wave Height, m	Euphotic Zone, m	PAR <sub>1200</sub> , <sup>a</sup> μmol m <sup>-2</sup> s <sup>-1</sup>
33	snow flurries	8.31	0.9 - 1.5	75	280

41

fog

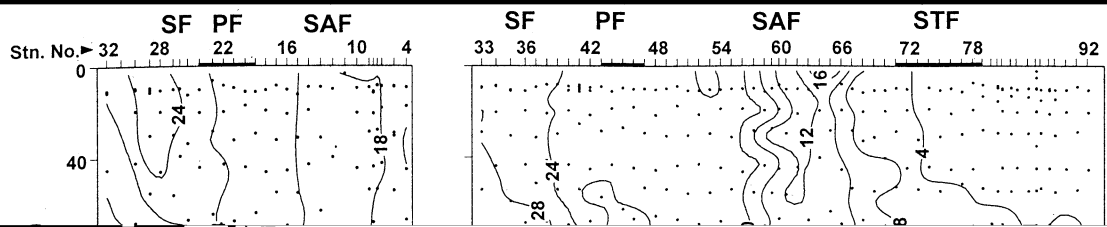
10.4

1.0 - 1.0

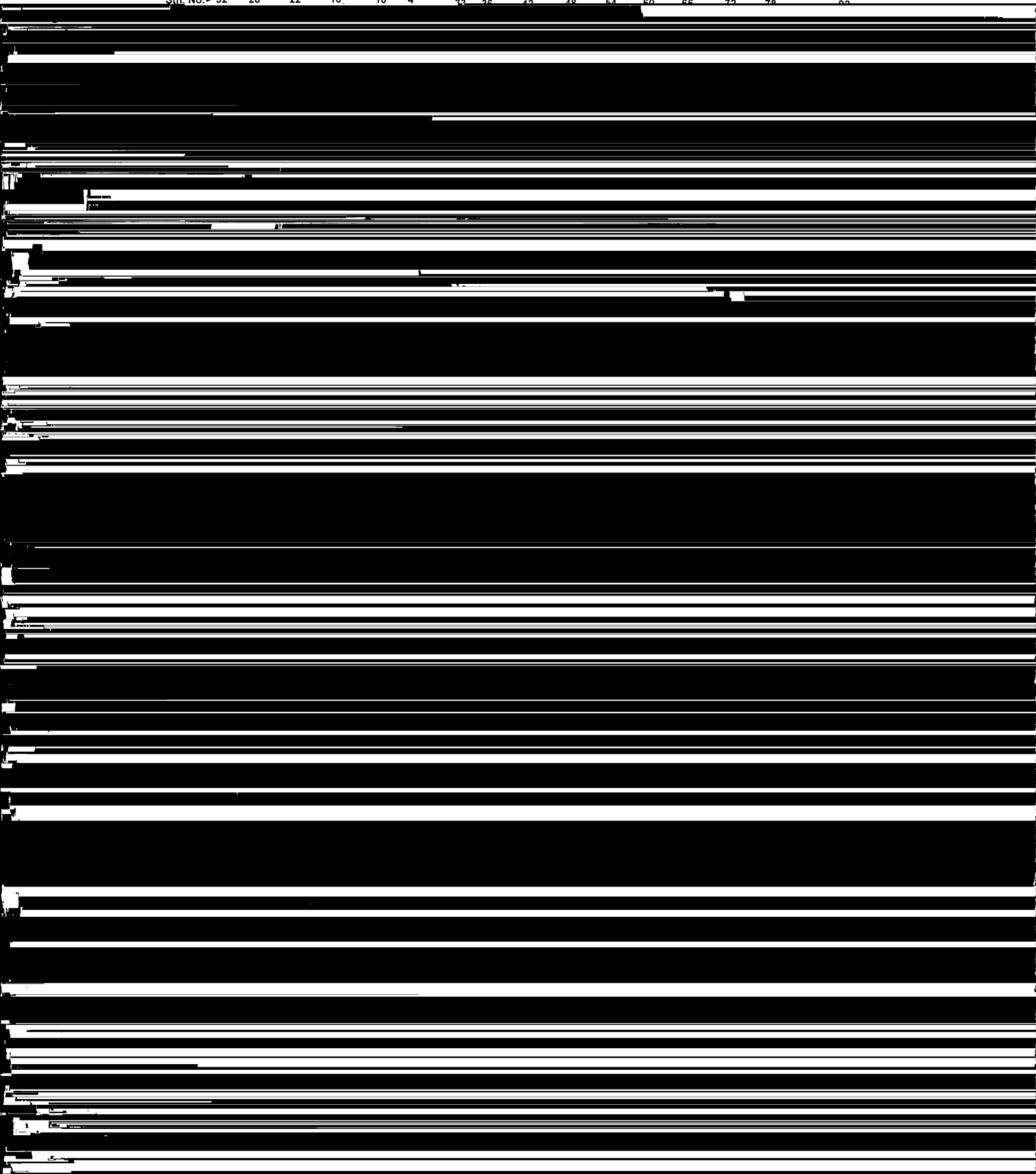
50

670





Stn. No. ▶	32	28	22	16	10	4	32	26	20	14	8	2	32	26	20	14	8	2	32	26	20	14	8	2	32	26	20	14	8	2
	SF	PF	SAF	SF	PF	SAF	SF	PF	SAF	SF	PF	SAF	SF	PF	SAF	SF	PF	SAF	SF	PF	SAF	SF	PF	SAF	SF	PF	SAF	SF	PF	SAF



SF PF

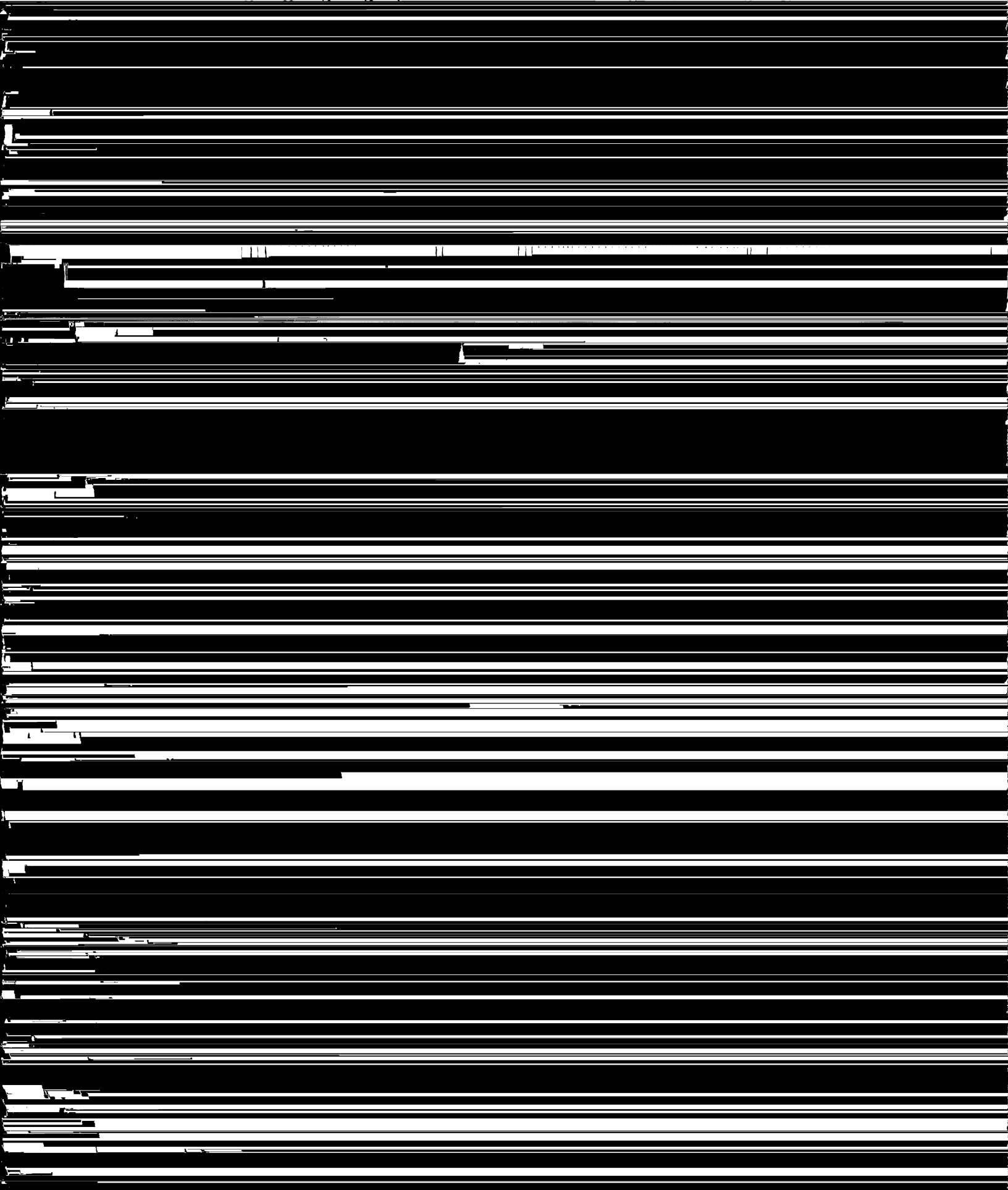
SAF

SF

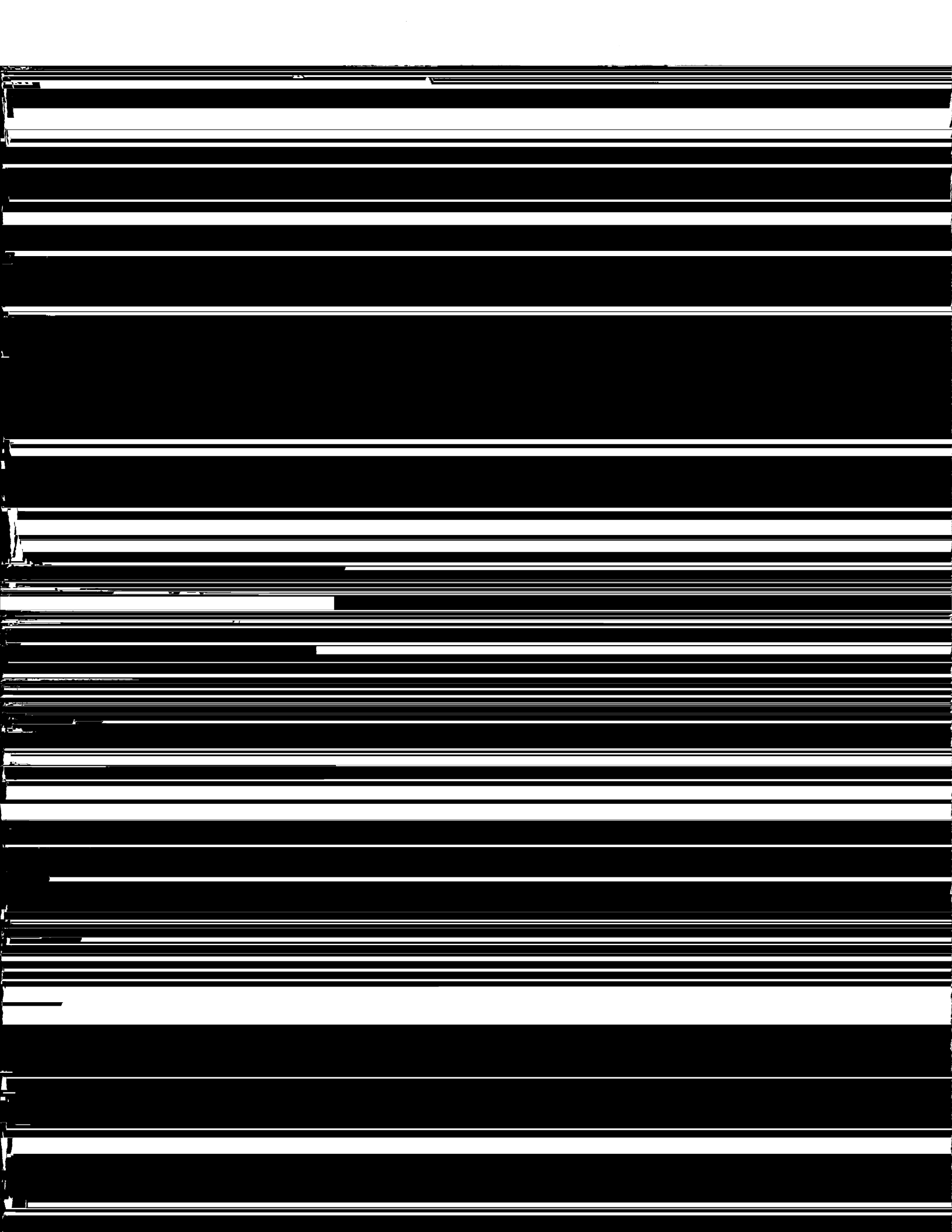
PF

SAF

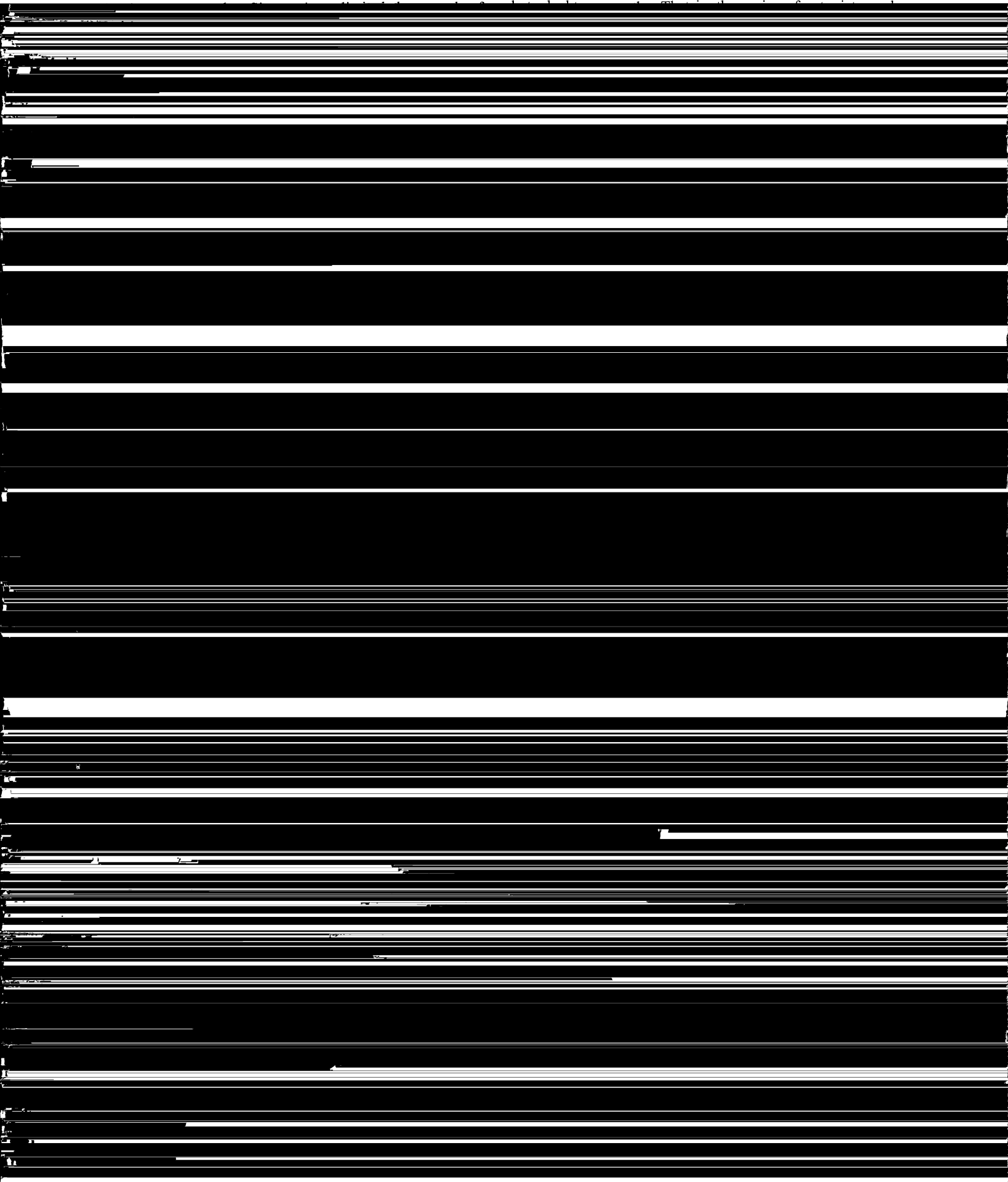
STF











Bakker, D.C.E., H.J.W. de Baar, and U.V. Bathmann, Changes of *South Pacific*, pp. 194-210, Natl. Acad. Sci., Washington, D. C., 1986.



lected on a Climate and Global Change Cruise (WOCE Sections

Rintoul, S.R., J.R. Donguy, and D.H. Roemmich, Seasonal evolution

