

PRESENT STATUS
OF JMA-BAPMON

TOMOYUKI ITO

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MONITORING OFFICE
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JPN METEOROLOGICAL AGENCY
1-3-4, CHIYODAKU,
OTEMACHI, TOKYO 100.

JMA-BAPMON

RYORI (40N, 141E)

1976 WET/DRY DEPOSITION
TURBIDITY

1987 CO₂ (NDIR)

1990 CFCs, N₂O (ECD-GC)
Surface O₃ (UVabs)

1991 CH₄, CO (NDIR)
CCl₄, CH₃CCl₃ (ECD-GC)

MINAMITORISHIMA (24N, 152E)

1993 CO₂ (NDIR)

RYOFU-MARU (0~30N, 155E)
(5~35N, 135E)

1989 CO₂, CH₄, CFCs, N₂O
(SURFACE SEAWATER
AND AIR)

1992 CO₂, CH₄, CFCs, N₂O
(MIDDLE AND DEEP
SEAWATER)

CIVIL AVIATION
(MOT, JMA, JAL)

1992 CO₂ (SAMPLING)

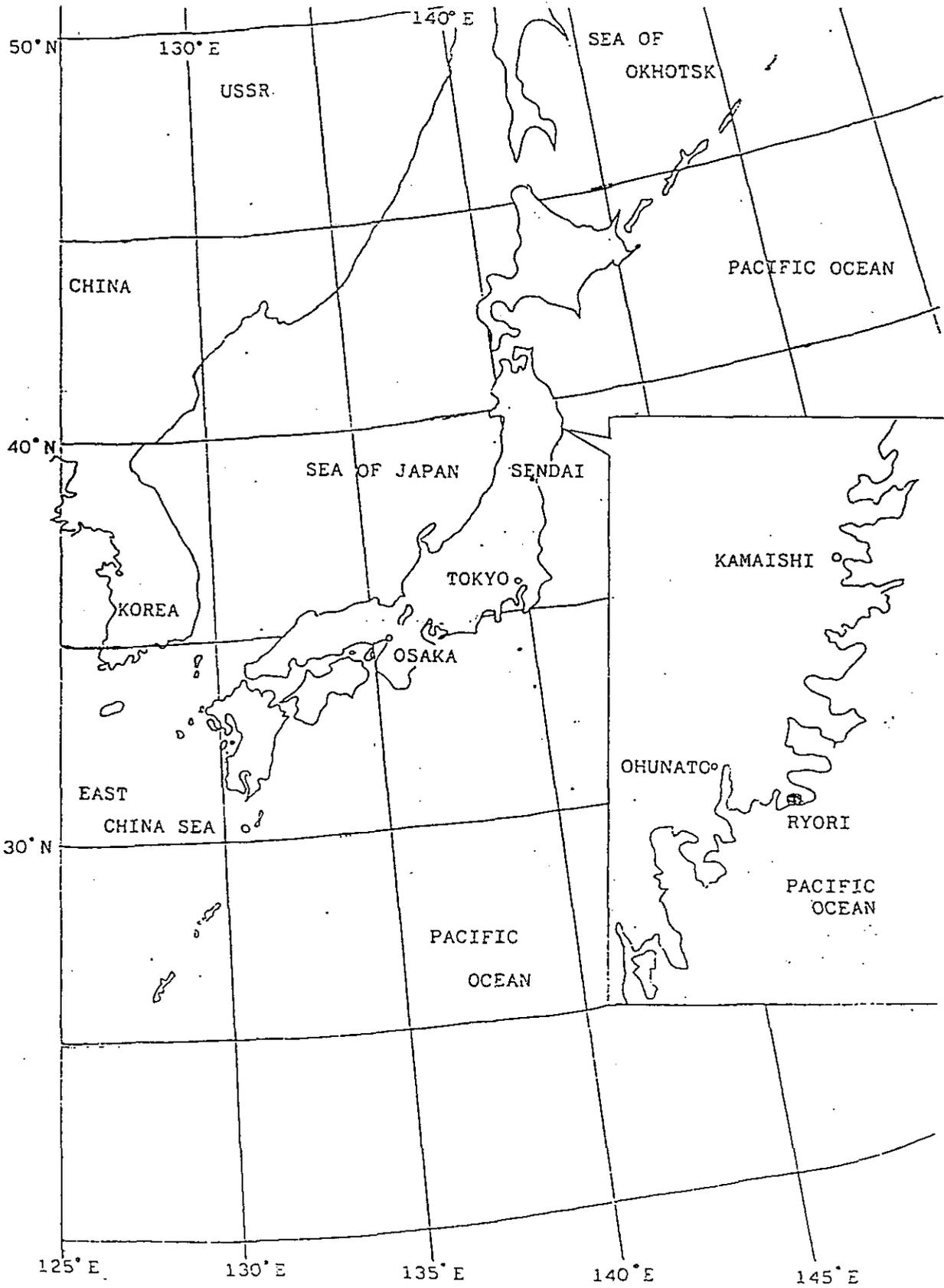
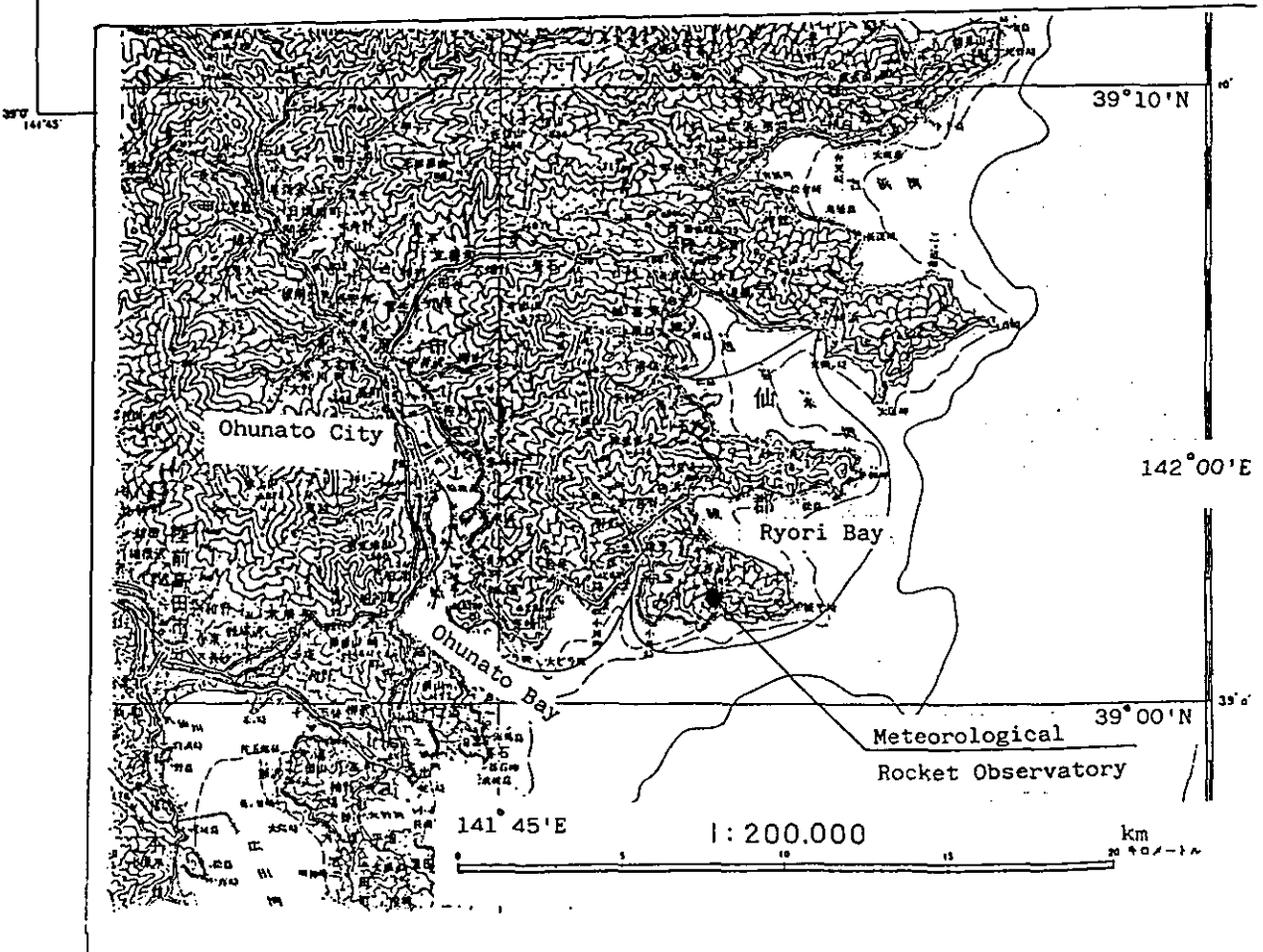
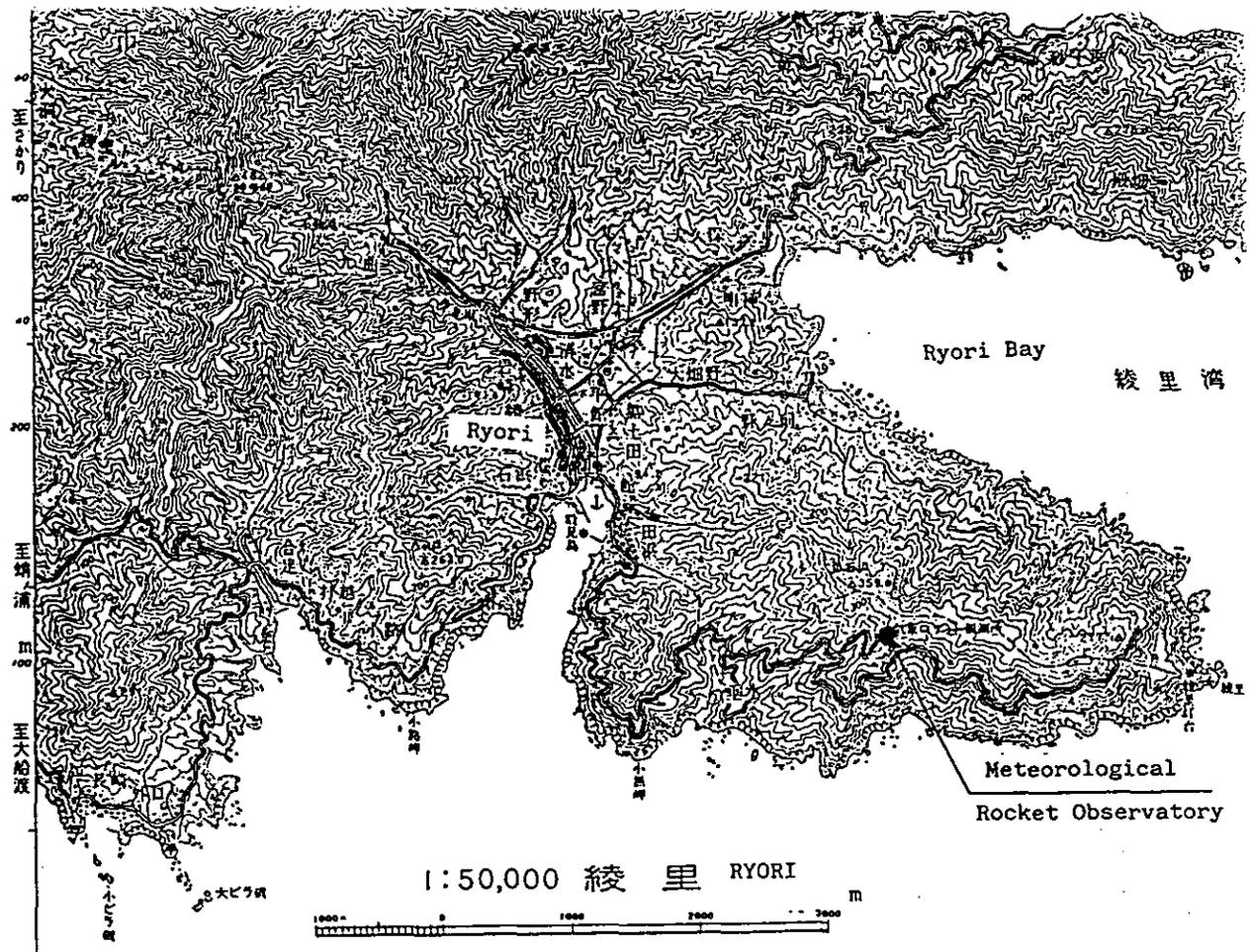
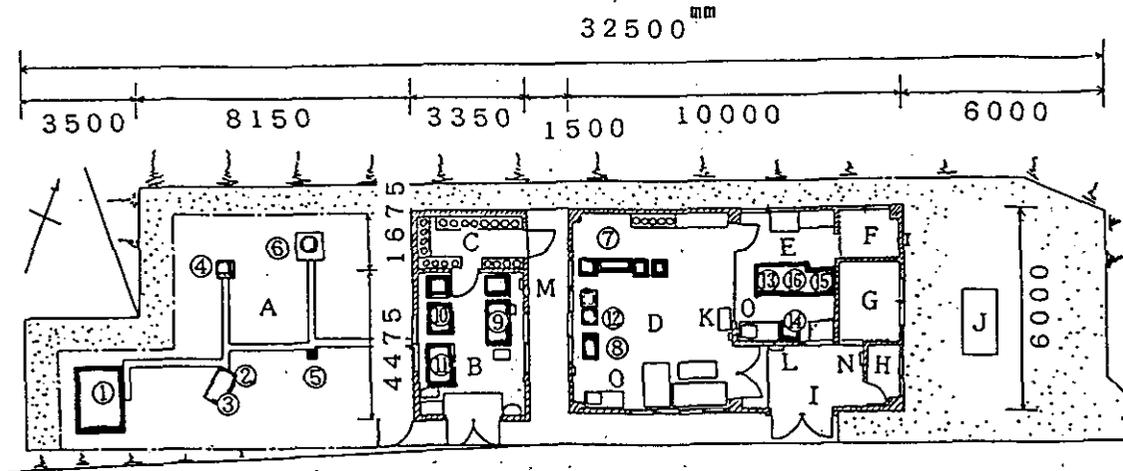


Fig. 1 The location of Ryori Meteorological Rocket Observatory



大気バックグラウンド汚染観測所見取図 (Jan. 1991-)

Background Air-Pollution Observatory since January 1991



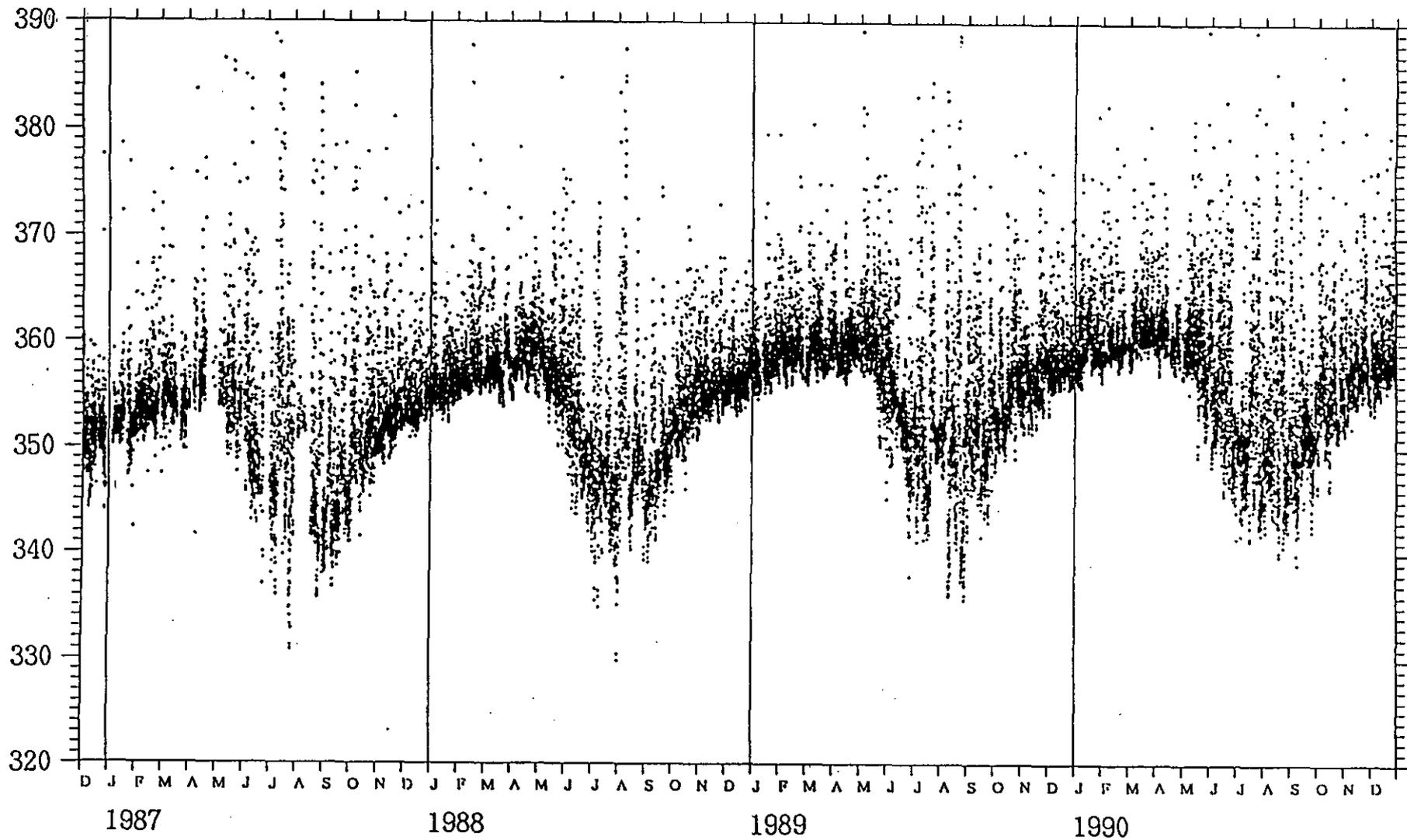
《観測装置関係 (Instruments)》

- ①降水・降下塵採取装置 (Rain Sample Gauge: Oct. 1975-1986. Renewed 1986-)
- ②全天日射計 (Pyranometer: Oct. 1975-)
- ③サンフォトメーター (Selfrecording Sunphotometer: Jan. 1988-)
- ④波長別自記直達日射計 (Wavelength-separated Pyrheliometer: Oct. 1975-Dec. 1987)
- ④温湿度計 (Thermometer and Dew-point Thermometer: Oct. 1975-)
- ⑤雨量計 (Rain Gauge: Oct. 1975-)
- ⑥測風柱 (Anemometer Tower: Oct. 1975-)
- ⑦大気二酸化炭素濃度観測装置 (Atmospheric CO₂: Dec. 1986-)
- ⑧地上オゾン濃度観測装置 (Surface Ozone: Dec. 1989-)
- ⑨大気フロン・一酸化二窒素濃度観測装置 (Atmospheric CFCs and N₂O: Dec. 1989-)
- ⑩大気メタン・一酸化炭素濃度観測装置 (Atmospheric CH₄ and CO: Dec. 1990-)
- ⑪大気四塩化炭素・メチルクロロフォルム濃度観測装置
(Atmospheric CCl₄ and CH₂Cl₂: Jan. 1991-)
- ⑫地上気象観測装置 (Surface Observation: Oct. 1975-)
- ⑬降水化学成分分析装置 (Chemical Composition Analysis of Precipitation: Oct. 1975-)
- ⑭純水製造装置 (Pure Water Maker: Oct. 1975-)
- ⑮乾燥器 (Dryer)
- ⑯pHメーター (pH meter: Oct. 1975-Dec. 1987. Jan. 1988-)

《設備関係 (Equipment)》

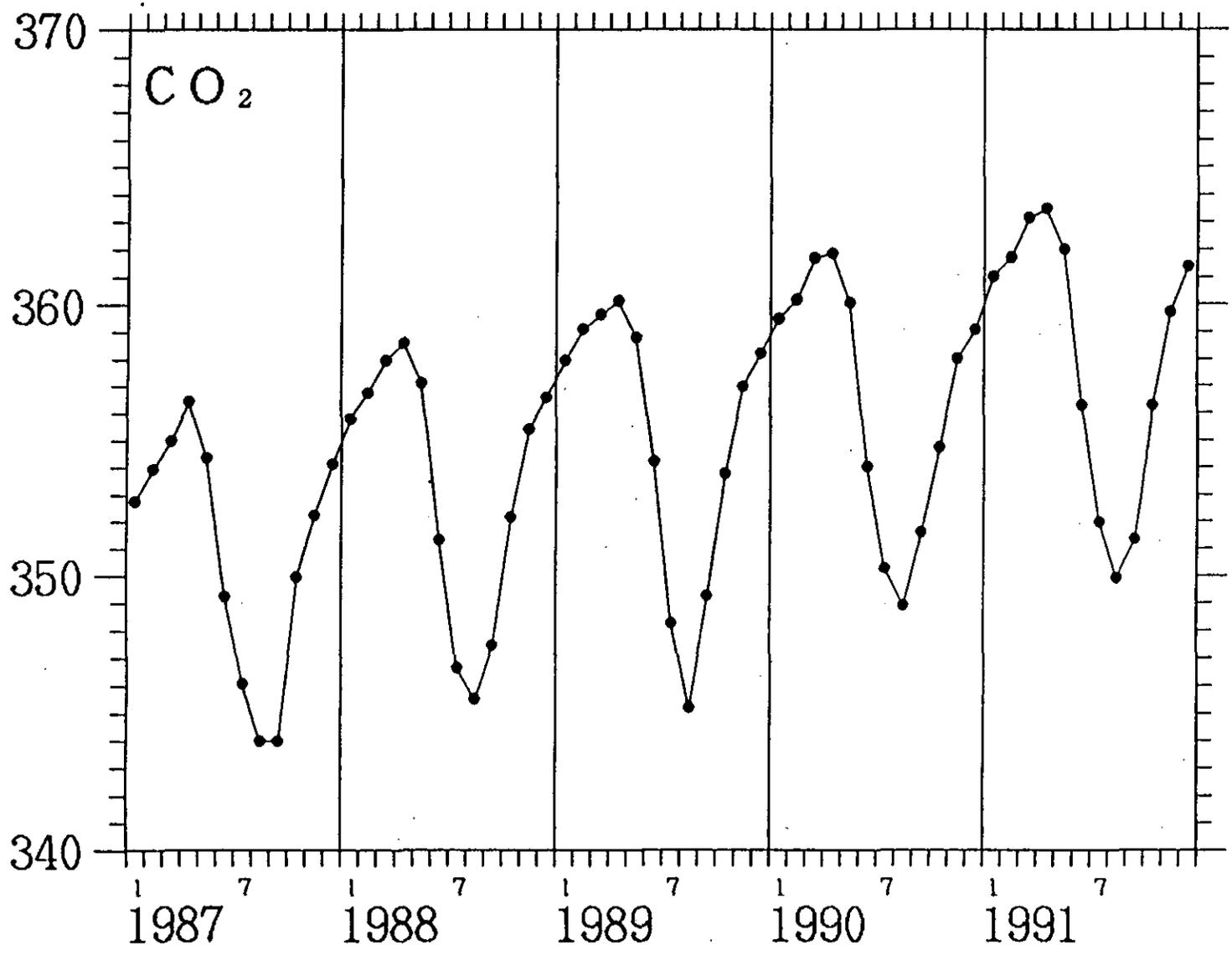
- A 露場 (Observation Field) B 新観測室 (Extended Observation Room)
- C シリンダー置き場 (Cylinder Store Room) D 観測室 (Observatory Room)
- E 降水分析室 (Precipitation Analysis Room) F 気圧計室 (Barometer Room)
- G 資料室 (Store Room) H トイレ (Lavatory) I 玄関 (Entrance)
- J キュービクル (Transformer) K 空調 (Air Conditioner) L 分電盤 (Terminal Box)
- M 換気扇 (Fan) N 警報装置 (Alarm) O 流し (Sink)

PPMV

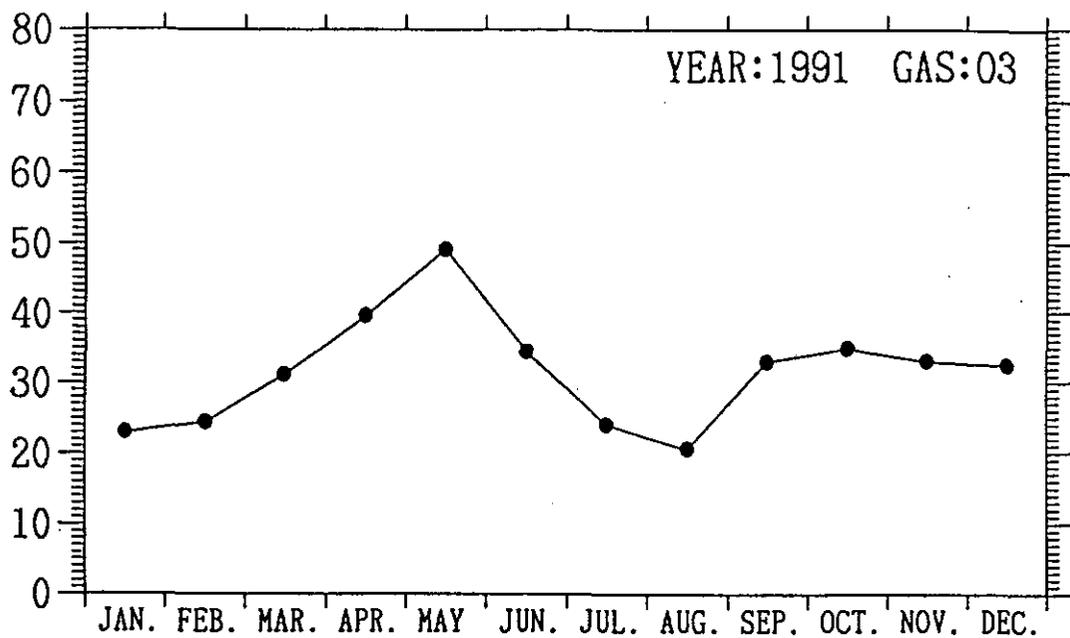


PPMV

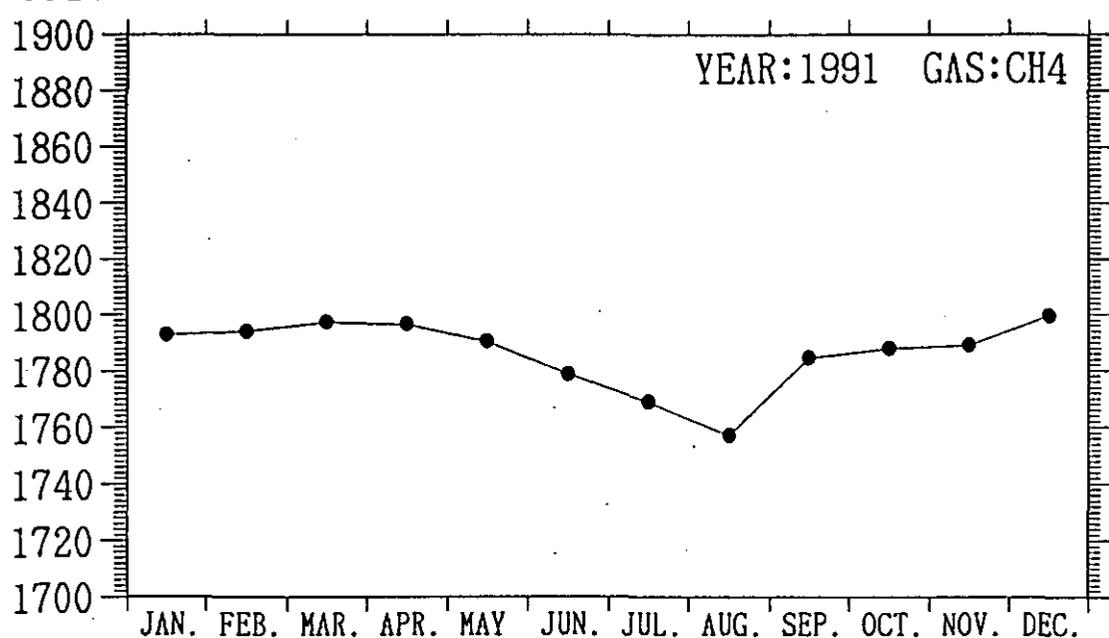
RYORI



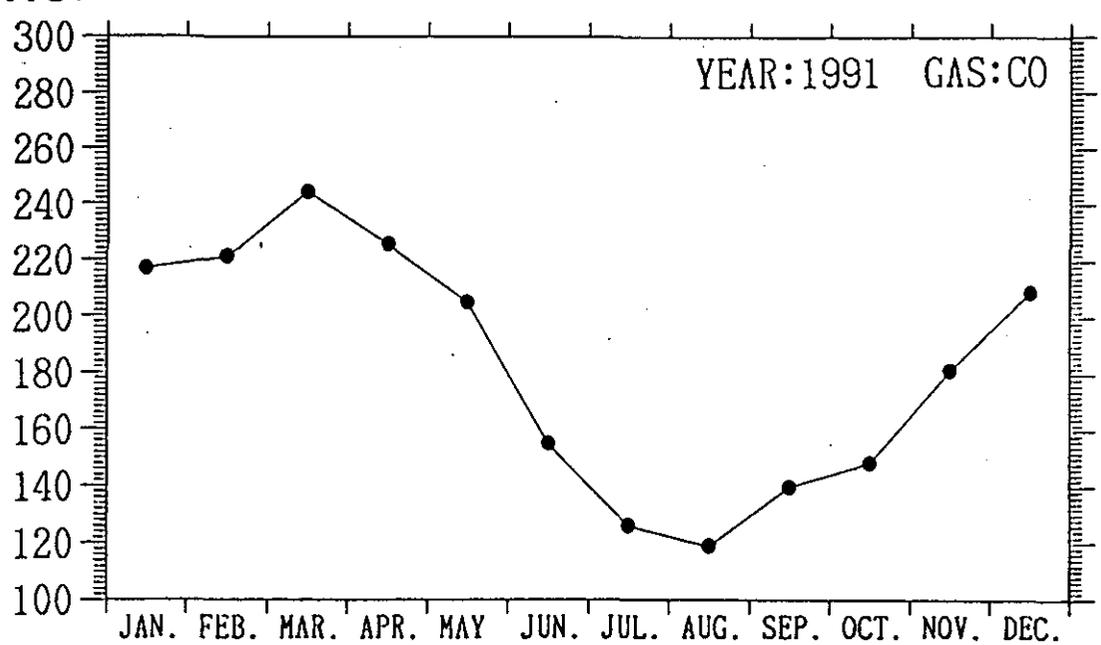
PPBV



PPBV

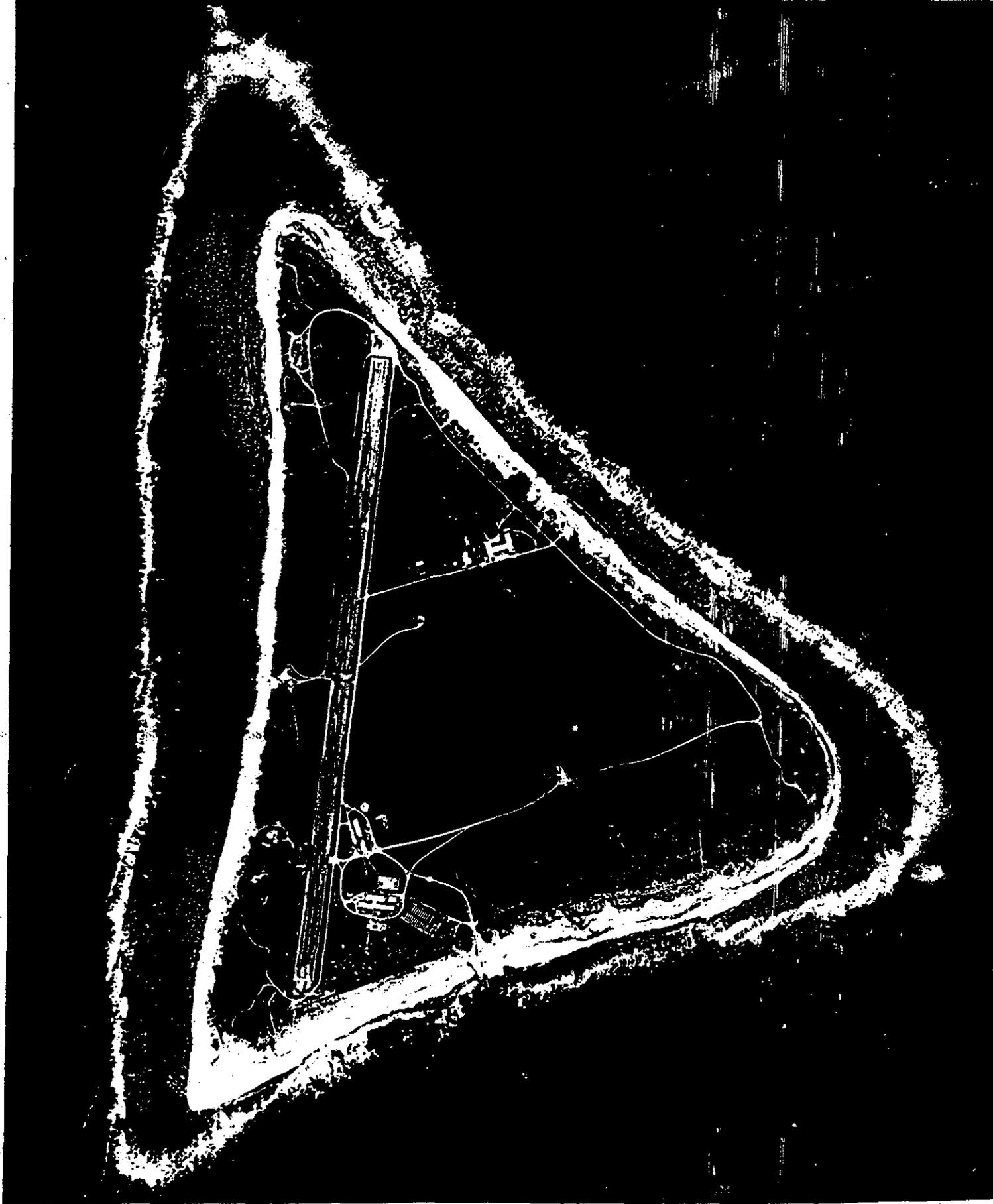


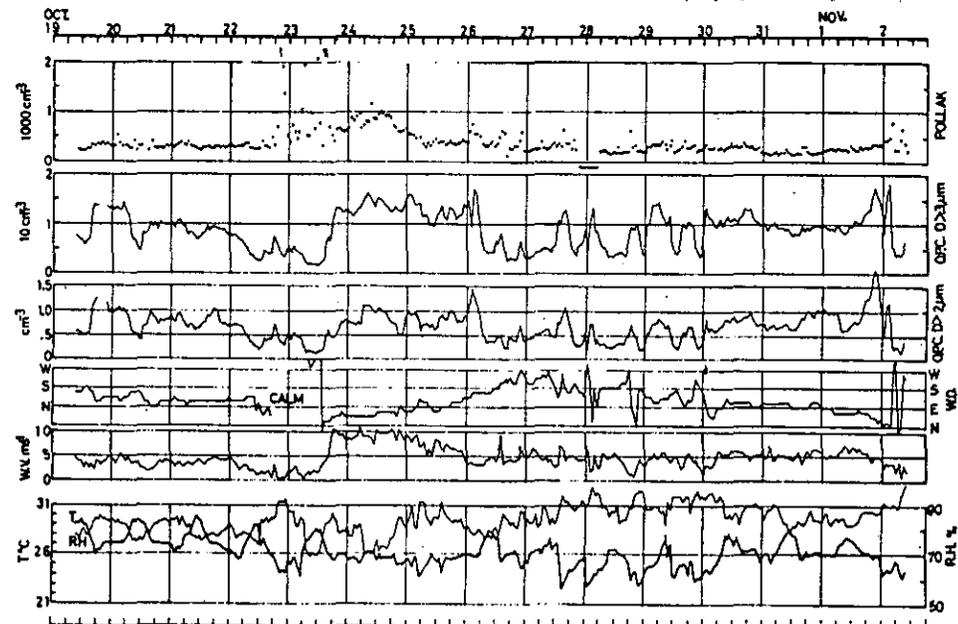
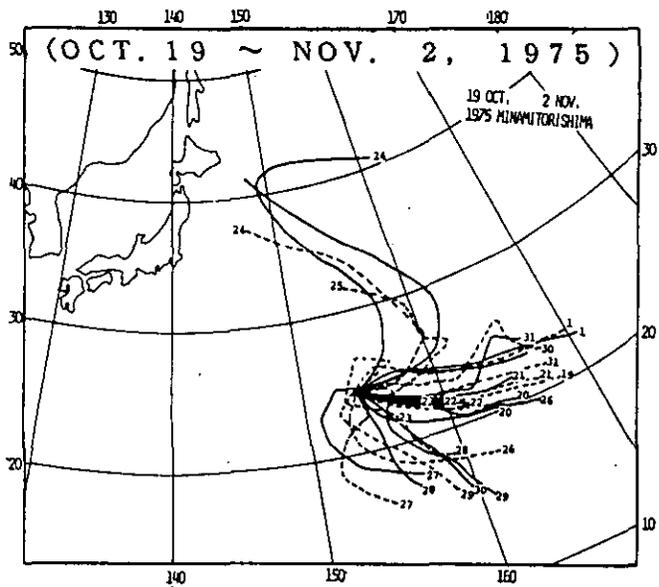
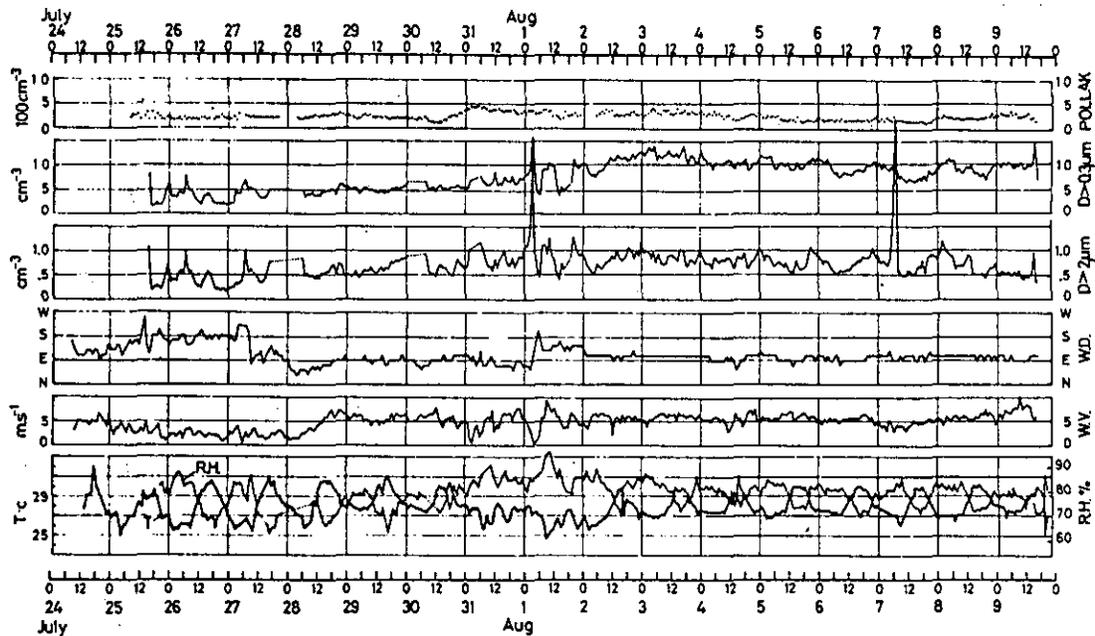
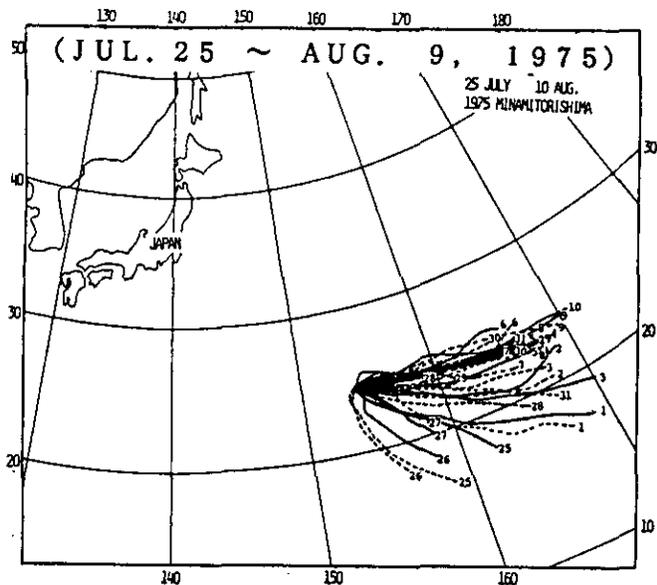
PPBV



CONCENTRATION AT RYORI

ELEMENT (UNIT)	1990	1991
CO ₂ (ppmv)	356.7	358.2
CFC-11 (ppbv)	0.27	0.29
N ₂ O (ppbv)	306	309
surf. O ₃ (ppbv)		31.7
CH ₄ (ppmv)		1.79
CO (ppmv)		0.18





MARCUS, 1975

TEMPORAL VARIATION OF AIRMASS TRAJECTRY,
AEROSOL CONCENTRATION AND METEOROLOGICAL
PARAMETER AT MINAMITORISHIMA

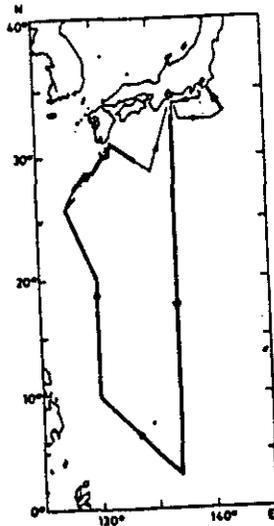


Fig. 3

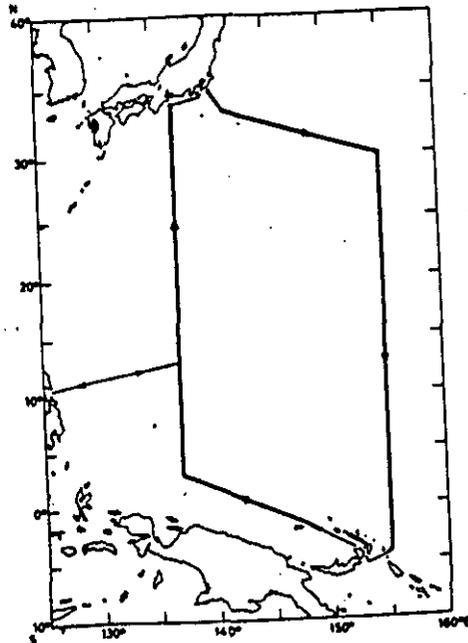


Fig. 4

Fig. 3. Cruise track of the R/V Ryofu Maru. Jan. 20–Feb. 27, 1990. Observations were performed on thick lines.
 Fig. 4. Cruise track of the R/V Ryofu Maru. June 14–Aug. 3, 1990. Observations were performed on thick lines.

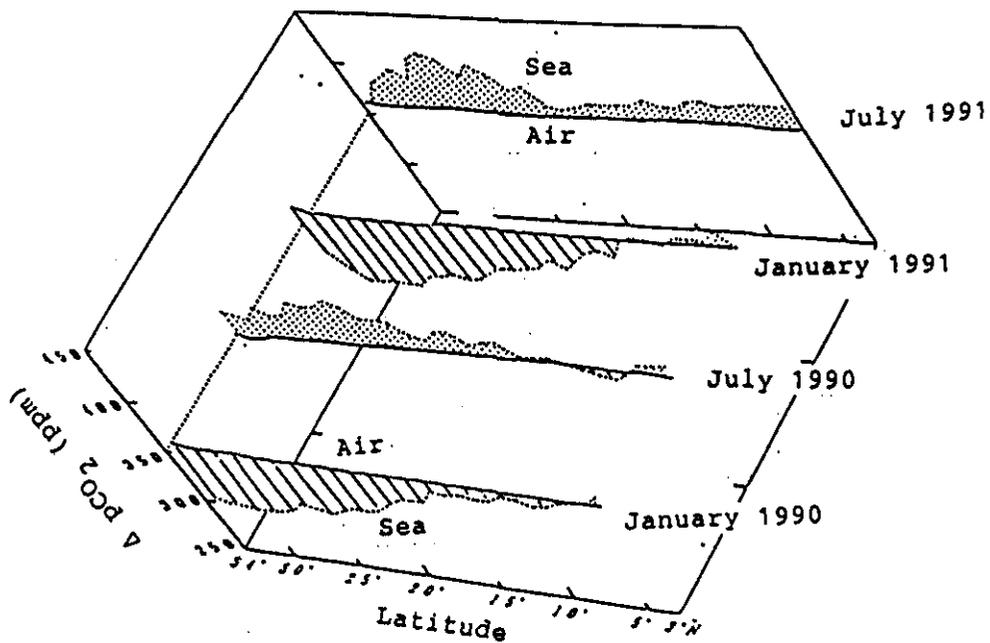


Figure 5: Time series of meridional distribution of $p\text{CO}_2$ at 137°E from 1990 to 1991.