

Measurement of Atmospheric Trace Gases
by Volunteer Observing Ship
- Container Cargo Ship between Australia and Japan -

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NIES

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1. Focus

Atmospheric Trace Gases in Both Hemispheres
Including Greenhouse Gases (GHGs)
Role of Inter-Tropical Convergence Zone (ITCZ)
Validation of Model (GCM etc.)

2. Objective

- a) Latitudinal Distribution or Variability
- b) Temporal Variability
- c) Surface vs. Free-atmosphere
- d) Volunteer vs. Special Observing Platform

3. Activity

- a) Basic Operation (Long-Term Monitoring)
 - *Frequent Measurement:
 - 8-9 Cruises per Year
 - 21 Bottles per Cruise (Austral to Jpn)
 - *Bottle Sampling: CO₂, CH₄, N₂O, CFC, etc.
- b) Extra (Shot-Type Research)
 - *CO On-Board Instrumental
 - *DMS etc. Absorption Tube

4. Preliminary Result

- a) Only One Cruise on 26 Nov - 5 Dec 1991
- b) Meeting against a Typhoon
- c) Meteorological examination

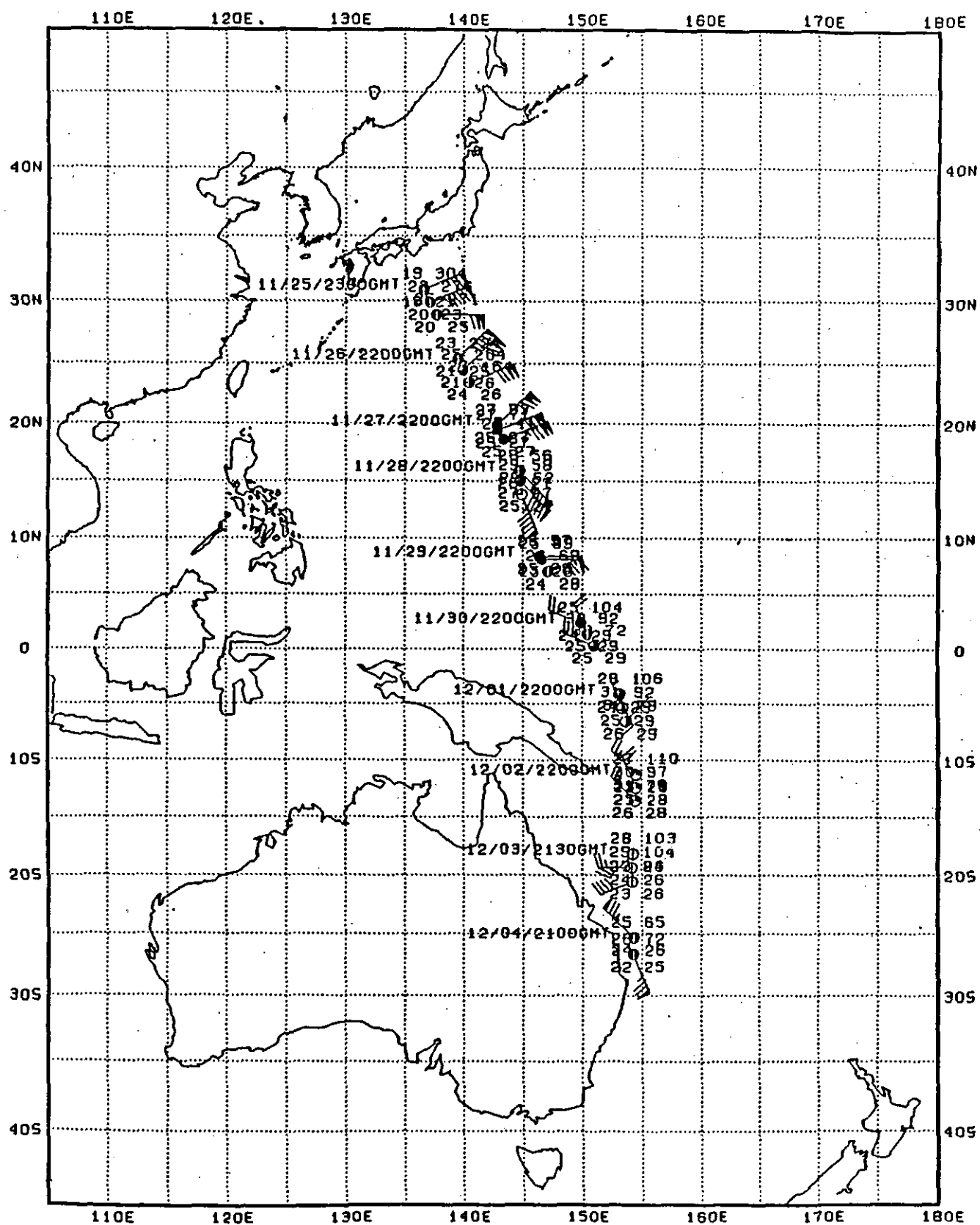
Volunteer vs. Special Observing Platform

	Volunteer	Special
Frequency	High	Low
Flexibility in Time/Space	Low	High
Cost	Low	High

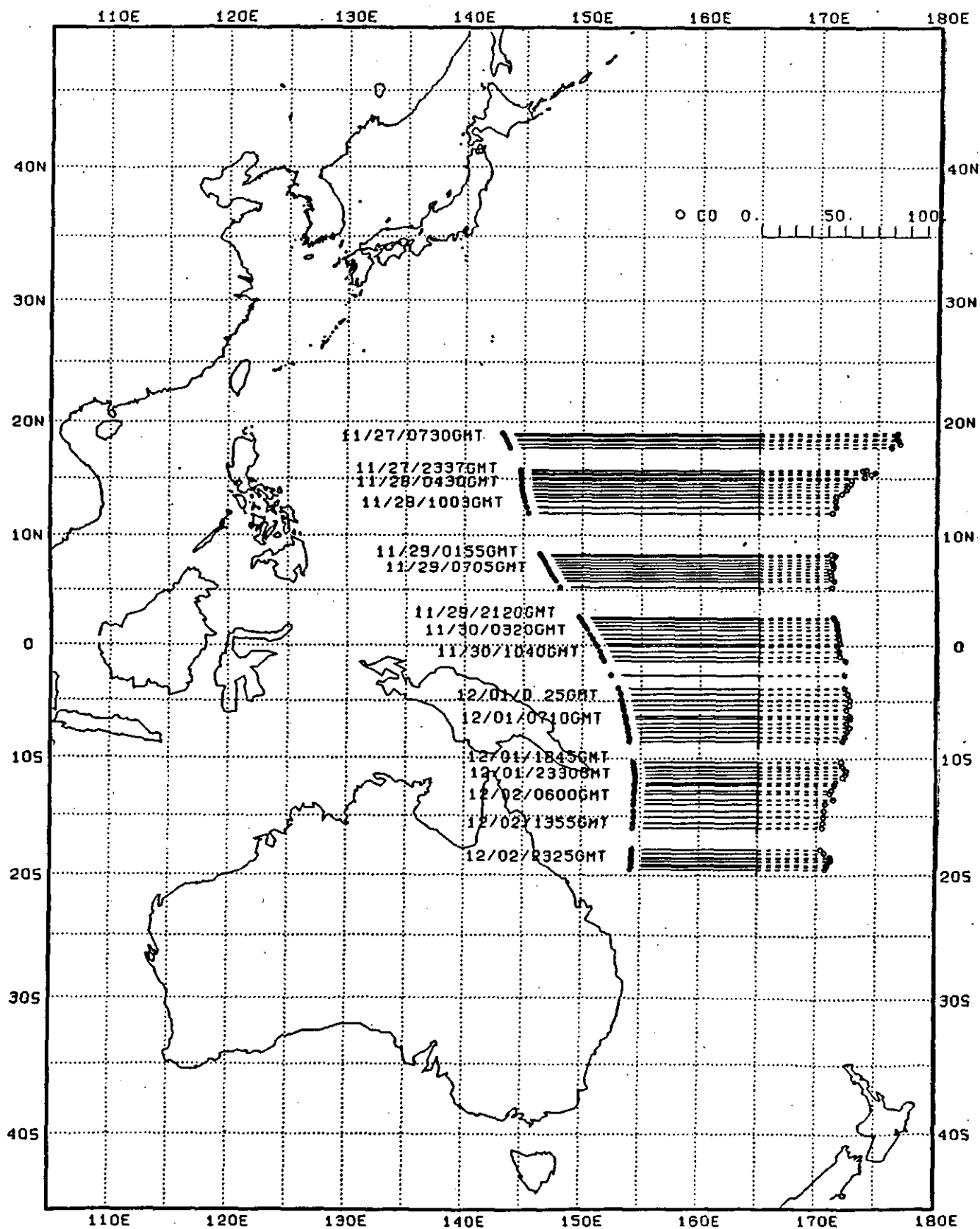
As for Marine Observation/Measurement

	Volunteer	Special
Depth Profile	Difficult	Possible
Chem. Subst. in Water	Possible	Easy
Marine Atmsph.	Possible	Easy

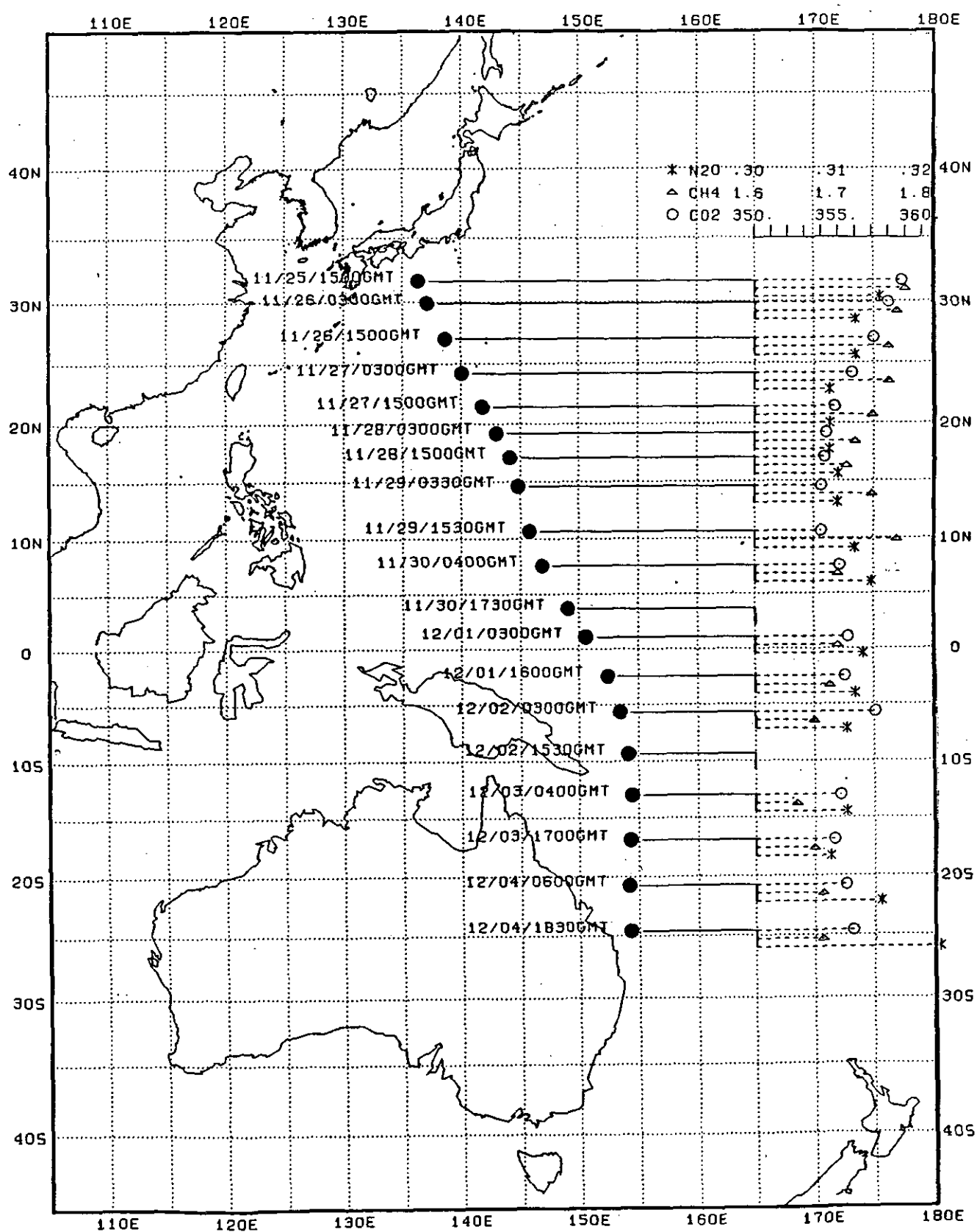
Weather Condition



Concentration (ppbv)



Concentration (ppm)



Nov. 27-Dec. 5 1991

