

Cape Grim BAPS

An overview

TRACE GAS WORKSHOP

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I seek to:

- Introduce the site at Cape Grim,
- Emphasise the importance of keeping such a station focussed on **research**,
- highlight some of the issues involved in data collection,
- briefly discuss the current management structure.

Cape Grim BAPS

- History
- Overview of Operations
- Physical
 - Geography
 - Measurement site
 - Administration site
 - Summary - species measured
 - Data Collection
- Logistical
 - Management Group
 - Working Group
 - Cape Grim Operations

Baseline

“Measuring the atmosphere under conditions that are representative in the global sense.”

Measurements made under these conditions are looking for :

- 1) Absolute measurements of constituents and state of the atmosphere.
- 2) The way the atmosphere changes over hours, days, weeks and years.

Cape Grim Baseline Air Pollution Station*

History

1972 UN resolution called for the establishment of a world-wide network of stations monitoring the atmosphere, including a number of "Global" stations to measure the background atmosphere.

1976 Following the investigation of a number of possible sites, a caravan was located at Cape Grim to begin measurements.

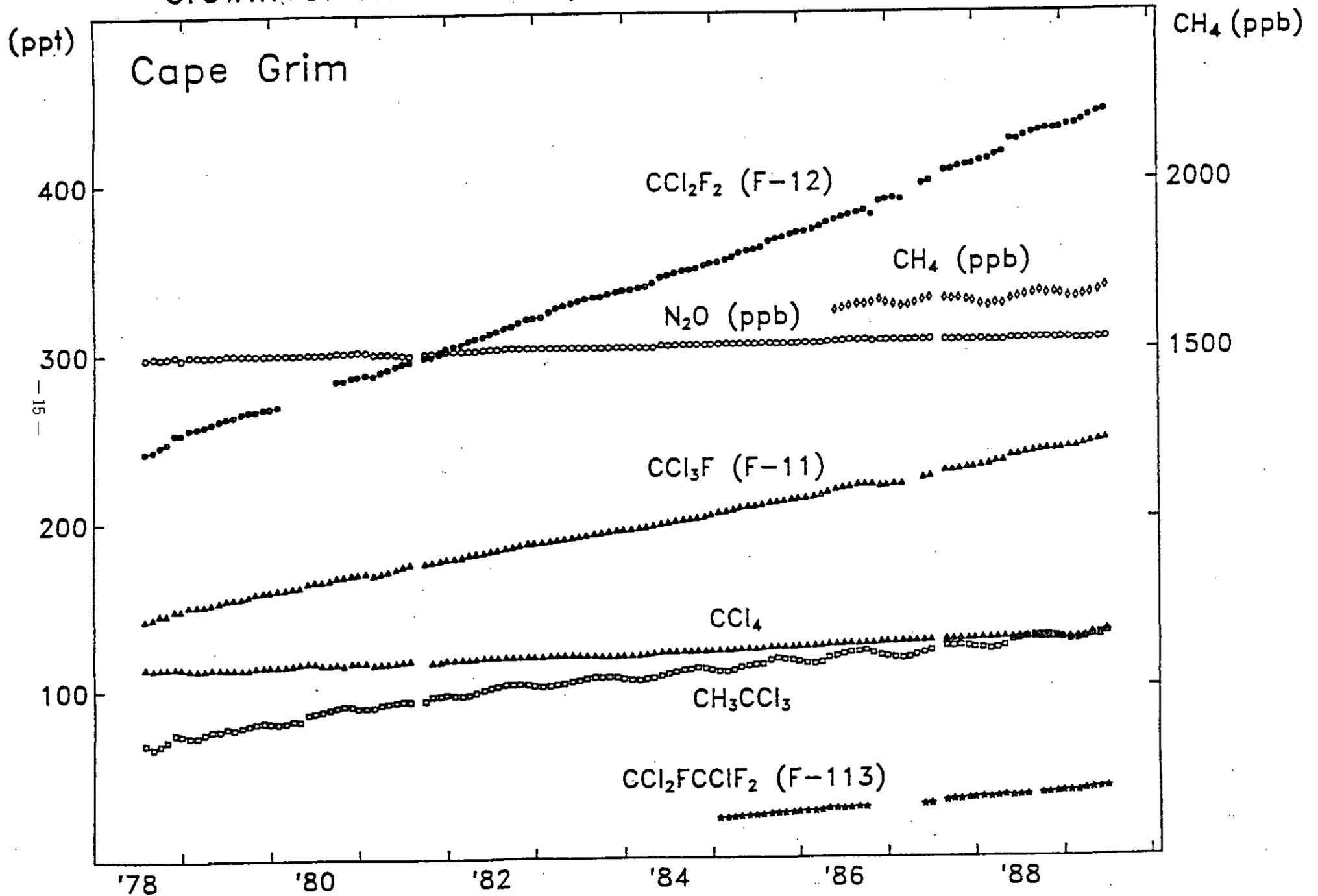
1981 Permanent buildings opened on the site at Cape Grim.

* Jointly managed by the Bureau of Meteorology and the CSIRO Division of Atmospheric Research.

→ GAW

→ GEF

Growth of Halocarbons, Nitrous Oxide and Methane



CGBAPS Data Collection

General Principle

Data collected at CGBAPS (from samples analysed at Cape Grim and elsewhere) belongs to CGBAPS.

- All final data must be relayed back to CGBAPS for archiving
- Lead Scientists have first use of the data collected
- Keeping this data available for long periods of time poses a major challenge

Baseline Selection Criteria

Real Time Data Selection (the "baseline switch")

(e.g. Hivol samplers, rainfall collection, flask filling)

Wind	190-280°
Particles (CN)	< 600cm ⁻³

N.B. Background CN count	summer	~ 500 cm ⁻³
	winter	~ 100 cm ⁻³

Post Processing

CO₂

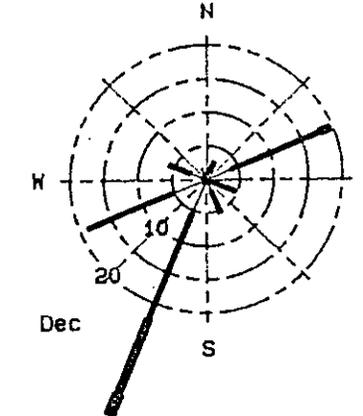
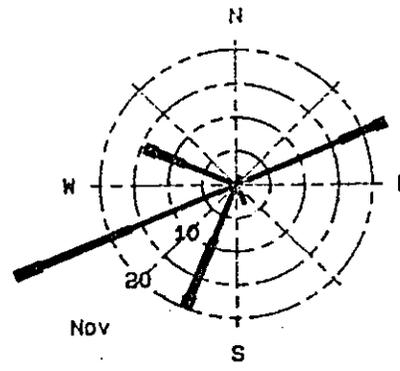
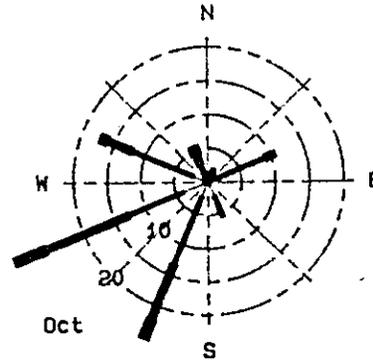
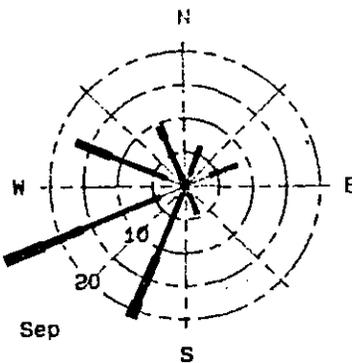
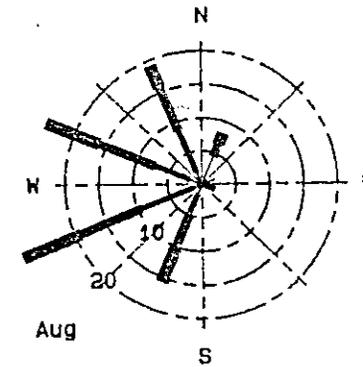
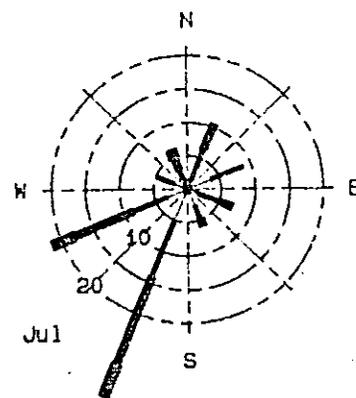
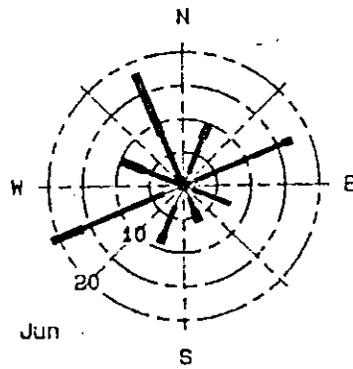
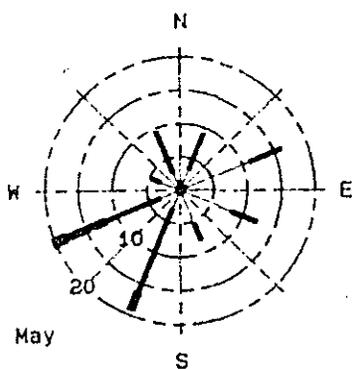
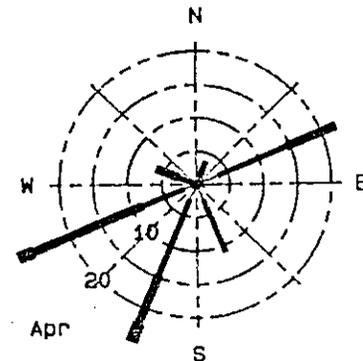
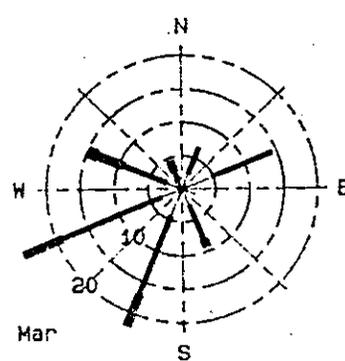
Wind 190-280°

One of 5 consecutive hours in which the concentration varies by <0.3ppmv

CO

Wind	190-280° > 9km hr ⁻¹
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Cape Grim Monthly 50 m Vector Wind Rose for 1991



< 20 20- 40 40- 60 > 60 km/h

Management Structure CGBAPS

Management Group

(Long term goals)



Working Group

(Scientific Oversight)

[Oic + Lead Scientists, ~15]



Operational Staff

(Running the station)

[Oic+2 computing + 2 technical + 1 Administration]