

# Old diving tank air extends CSIRO Air Archive

March 3 2010

---

Atmospheric scientists believe air contained in disused dive tanks can potentially extend what is already the longest record of greenhouse gases in the Southern Hemisphere.

Their serendipitous finding emerged after a Melbourne recreational diver contacted CSIRO Marine and Atmospheric Research (CMAR) Laboratories at Aspendale offering a very old air sample contained in a long-disused SCUBA compressed air tank.

Now, the scientists are ready to start a search for SCUBA tanks or other compressed air tanks filled before 1970.

"Our record from Cape Grim in Tasmania presently extends back to 1978, but this finding has taken it back to at least 1970 for some greenhouse gases," says Dr Paul Fraser, who leads the [greenhouse gas](#) research team for CSIRO.

CSIRO and the Australian Bureau of Meteorology maintain an air archive consisting of clean air sampled directly from the atmosphere at the baseline station at Cape Grim Tasmania, commencing in 1978, that is the oldest and most extensive in the world.

Funded and managed by the Bureau, the Cape Grim Station detects atmospheric changes as part of a scientific research program jointly supervised by CMAR and the Bureau. Extensive data are collected for studies of sources and sinks of greenhouse and ozone-depleting gases.

The data are used in assessments of past and likely future [atmospheric composition](#).

According to the diving diary of the SCUBA tank's owner, Mr J. Allport of Beaumaris, the tank was last filled in 1968 and last used in 1970. A diving service company in Melbourne's CBD filled the tank and it therefore contains ambient air from the city precinct.

Analysis of the air sample using a range of detectors has generated new trace gas data on; propellants, refrigerants and aluminium smelter emissions (HFCS and PFCs), present in the global background atmosphere of 1968, but not widely used in Melbourne at that time.

"If tanks were filled in a clean coastal environment their usefulness in measuring greenhouse gases such as carbon dioxide, methane, nitrous oxide and chloro-fluorocarbons (CFCs) is much broader," Dr Fraser said.

Provided by CSIRO Australia

Citation: Old diving tank air extends CSIRO Air Archive (2010, March 3) retrieved 23 June 2024 from <https://phys.org/news/2010-03-tank-air-csiro-archive.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.