

ICOS in a nutshell

- Producing harmonised European-wide measurements on carbon cycle, on greenhouse gas emissions and on atmospheric concentrations of greenhouse gases
- Integrating atmosphere, ecosystem and ocean observations across the Europe and beyond
- Central Facilities for data processing, quality control, calibration, instrument development and training
- Reliable data curation and open data access through the ICOS Carbon Portal
- State-of-the-art infrastructure for the European research community, policy makers and public



Knowledge Through Observations

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More information on ICOS data
can be found at www.icos-cp.eu.

ICOS | 
INTEGRATED
CARBON
OBSERVATION
SYSTEM



RELIABLE GREENHOUSE GAS DATA NEEDED FOR DECISIONS

Many human activities, such as transportation and industrial operations, produce emissions that are leading to more greenhouse gases in the atmosphere, and ultimately to climate change. As a result, many other natural processes are being changed and disturbed as well.

To make informed and sustainable decisions on any climate related matter, it is vital to base the decisions on scientific knowledge about natural processes and human emissions.

FIGURING OUT HOW EARTH IS BREATHING

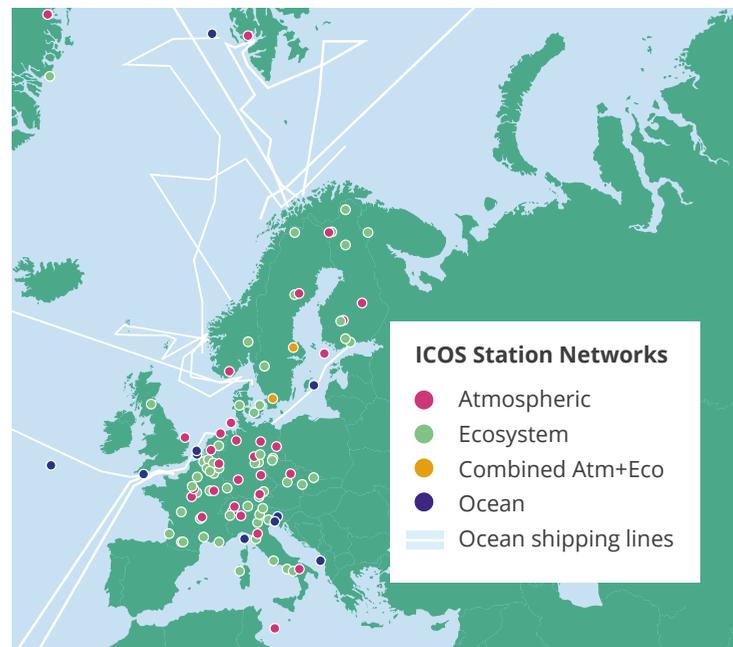
ICOS, Integrated Carbon Observation System, produces high-quality and open greenhouse gas data, which is based on the observations made on its over 140 measurement stations across the Europe and beyond. The greenhouse gas data is needed to understand and mitigate climate change.

ICOS RESEARCH INFRASTRUCTURE AIMS TO:

- Quantify and understand the greenhouse gas emissions and sinks and the whole carbon cycle in the Europe and the neighbouring regions
- Provide long-term integrated observations on how much greenhouse gases we have in the atmosphere, and what are the fluxes between atmosphere, land and ocean surfaces
- Predict on how the carbon cycle, the emissions and sinks will behave in the future
- Communicate this scientific knowledge for the benefit of decision making, innovation and society.

STANDARDIZED MEASUREMENTS ACROSS EUROPE

ICOS Research Infrastructure integrates atmosphere, ecosystem and ocean greenhouse gas observational networks in order to provide data for a full European carbon balance and its trends.



PRODUCING RELIABLE, LONG-TERM DATA

In the past, measurements of greenhouse gases in Europe have suffered from varying methods, discontinuity and lack of sustainability.

However, decisions related to climate change, as well as any scientific results must be based on reliable data. The only way to have this, is to produce standardised, quality controlled and precise measurements, that are comparable with each other. This is the key focus of ICOS.

DATA PRODUCTION PROCESS

