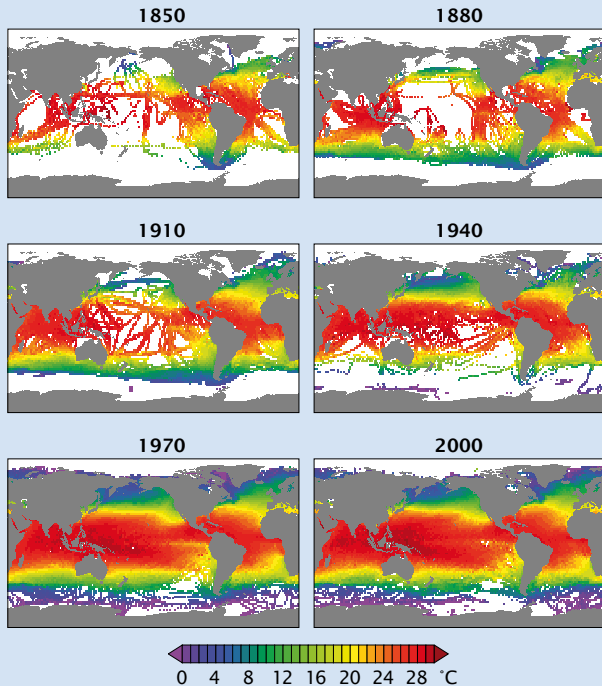## ICOADS | Products and Information

ICOADS can be downloaded in a variety of formats and either individual observations or summary statistics are available.
For more details, including how to download subsets of observations, visit the data products page on the ICOADS website:
http://icoads.noaa.gov/products.html

ICOADS | Data Rescue

ICOADS has always worked closely with initiatives that extend the climate record through new sources of historical information. Ship logbooks containing weather observations digitized by citizen science initiatives like *Old Weather* and *Weather Detective* have been selected to help to improve data coverage in regions and periods where observations in ICOADS are sparse.

1850   1880
1910   1940
1970   2000

0   4   8   12   16   20   24   28   ℃

Annual average sea surface temperature
from ICOADS, as reported

ICOADS in Numbers

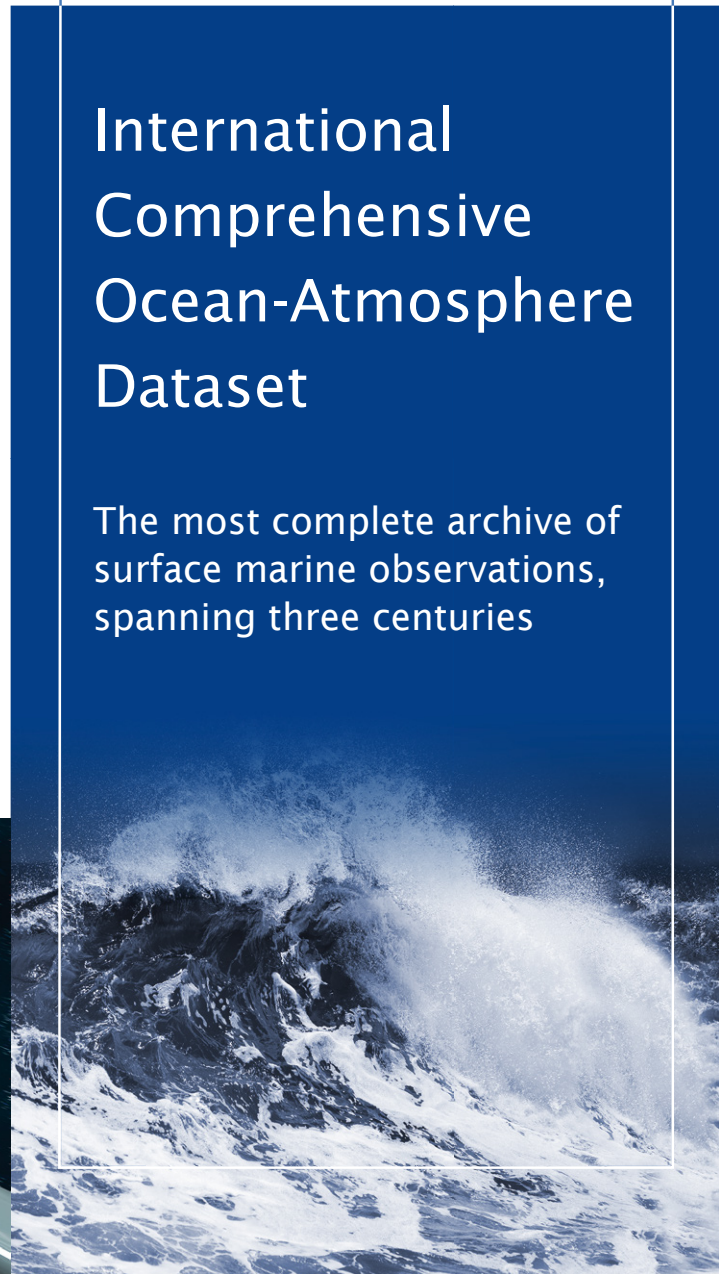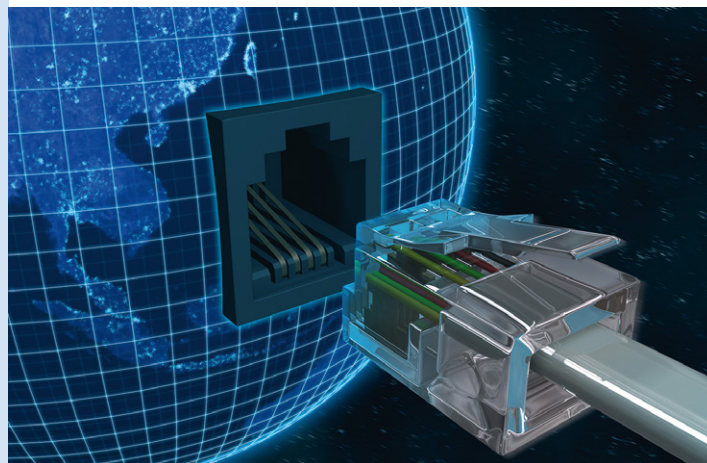|	
1662	first observations
455 million	number of observations
>10 Terabyte	data served as individual observations, data subsets and summary statistics
Users from 78	different countries have downloaded data from the most recent release

ICOADS | Partners

ICOADS is a collaborative effort, the core team is able to call on an international partnership for help and scientific advice.

ICOADS
CEN
CIRES
Deutscher Wetterdienst
DWD
Met Office
NCAR
National Oceanography Centre
NATURAL ENVIRONMENT RESEARCH COUNCIL
noaa
ICOADS

ICOADS | Contacts

Any questions? Email icoads@noaa.gov
or visit http://icoads.noaa.gov/

ICOADS

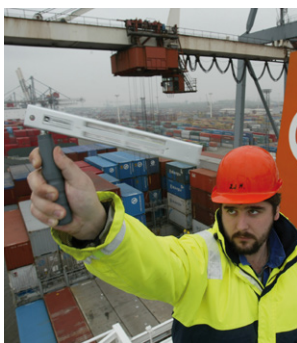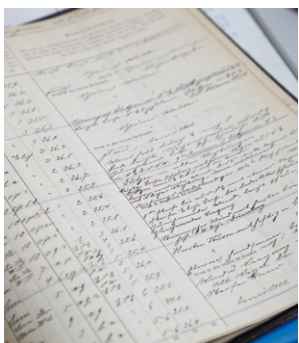## International Comprehensive Ocean-Atmosphere Dataset

The most complete archive of surface marine observations, spanning three centuries

ICOADS The Dataset

The ICOADS is the world's most extensive surface marine meteorological data collection. Building on extensive national and international partnerships, ICOADS provides thousands of users with easy access to many different data sources in a consistent format. Data sources range from early non-instrumental ship observations to more recent measurements from automatic measurement systems including moored buoys and surface drifters. Each new release of ICOADS has enriched spatial and temporal coverage and data and metadata quality has been improved.

ICOADS meets the needs of different types of users by providing both individual observations and also monthly gridded summary data. Monthly updates make sure the dataset is kept up to date.

ICOADS The Climate Record

ICOADS underpins a wide range of climate products including the global surface temperature record, winds, pressure, humidity, clouds and estimates of air-sea exchange. ICOADS is used as input data for many well-used sources of marine climate information, including reanalyses and gridded analyses of sea surface temperature. Papers describing datasets using ICOADS as input data were cited in the scientific literature more than six thousand times during 2015.

Atmospheric, Ocean & Coupled Reanalyses

Gridded analyses e.g. SST & air temperature

Satellite - *in situ* specific humidity (g kg⁻¹)
DOI: 10.1002/joc.4150
Satellite calibration & validation

Climate assessments

Direct use of ICOADS for research
ICOADS publications cited in more than 1,000 peer-reviewed journal articles – citations for derived products such as reanalyses and gridded datasets exceed 40,000

Common archive format
Preserves original data format
Quality assurance
Duplicate management
Traceability
Online access
Expert advice

ICOADS

Focus for
Marine data recovery
Advances in marine climatology
Added-value from ICOADS community

Coastal & Island stations

Ship data

Navy data

Research Vessel & Oceanographic

Experiments & Expeditions

Drifting buoy

Historical

Moored buoy

Ice stations