

National Climatic Data Center

DATA DOCUMENTATION

FOR

DATASET 1173 (DSI-1173)

ICOADS

June 13, 2012

National Climatic Data Center
151 Patton Ave.
Asheville, NC 28801-5001 USA

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1. **Abstract:** International Comprehensive Ocean-Atmosphere Data Set (ICOADS) is the world's largest collection of marine surface in situ observations with 261+ million records for 1662-2007. ICOADS is developed and maintained as a cooperative effort between the National Center for Atmospheric Research (NCAR) and the National Oceanic and Atmospheric Administration (NOAA): specifically its Earth System Research Laboratory (ESRL) and its National Climatic Data Center (NCDC).

ICOADS is a collection of global marine surface observations from 1662-present. The coverage is global and sampling density varies depending on date and position relative to major ocean shipping routes.

ICOADS data are made available through observations that are taken primarily from ships (merchant, ocean research, fishing, navy, etc.) and moored and drifting buoys. Each report contains individual observations of meteorological and oceanographic variables, such as sea surface and air temperatures, winds, pressure, humidity, wet bulb, dew point, ocean waves and cloudiness.

All three U.S. ICOADS partners (NOAA/ESRL, NOAA/NCDC, NCAR) offer various data access and format options. To review all available options see the ICOADS [website](#).

2. **Element Names and Definitions:**

The format used for the ICOADS data set is the IMMA (International Maritime Meteorological Archive). All input data formats are converted into IMMA for ICOADS.

<http://www.ncdc.noaa.gov/oa/documentlibrary/vosclim/imma.pdf>

3. **Start Date:** 16621001

4. **Stop Date:** 20071231

5. **Coverage:**

- a. Southernmost Latitude: -90.0S
- b. Northernmost Latitude: 90.0N
- c. Westernmost Longitude: -180.0W
- d. Easternmost Longitude: 180.0E

6. **How to Order Data:**

Ask NCDC's Climate Services about the cost of obtaining this data set.

Phone: 828-271-4800

FAX: 828-271-4876

E-mail: NCDC.Orders@noaa.gov

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7. **Archiving Data Center:**

Archive Branch
National Climatic Data Center
151 Patton Avenue
Asheville, NC 28801

8. **Technical Contact:**

National Climatic Data Center
151 Patton Avenue
Asheville, NC 28801

9. **Known Uncorrected Problems:** All SEAS data (identifiable by DCK # 874) are considered erroneous and should not be used.

In July 2011 it was discovered that raw SEAS observations archived in DSI-1149 did not match the companion raw observations transmitted over the WMO Global Telecommunication System (GTS). When an observation is taken onboard a vessel using the SEAS software, one observation is formatted into the FM-13 SHIP format and transmitted instantly (e.g. in real time) over the GTS and another observation is formatted to the FM-13-similar SEAS format and stored on the hard drive and later recovered from the ship. These SEAS observations on the hard drive are then sent to NCDC for archiving and processing. Upon comparisons between the raw GTS transmissions and raw SEAS archive, it was found that all observations in the raw SEAS archive (DSI-1149) are erroneous and should no longer be used. To date, a fix for the erroneous SEAS observations has not been developed and it is not clear if such a fix is possible.

These data will be removed from the ICOADS dataset following Release 2.5 until a fix is identified and the data reprocessed.

10. **Quality Statement:** DCK 874 is erroneous and should not be used. This is the SEAS data described in the 'Known Uncorrected Problems' above. A solution has not been provided to date. All other data is considered valid.

11. **Essential Companion Datasets:**

12. **References:**

Woodruff, S., 2010: Archival of data other than in IMMT format: The International Maritime Meteorological Archive (IMMA) format [<http://icoads.noaa.gov/e-doc/imma/R2.5-imma.pdf>].

Woodruff, S.D., S.J. Worley, S.J. Lubker, Z. Ji, J.E. Freeman, D.I. Berry, P. Brohan, E.C. Kent, R.W. Reynolds, S.R. Smith, and C. Wilkinson, 2011: ICOADS Release 2.5: Extensions and enhancements to the surface marine meteorological archive. *Int. J. Climatol.* 31, 951-967, ([doi:10.1002/joc.2103](https://doi.org/10.1002/joc.2103)).

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