# Naming conventions and formats of underway ship data files logged by the Scientific Computer System and submitted by the Office of Marine and Aviation Operations to the National Oceanographic Data Center as part of the NOAA Shipboard Sensor Data Acquisition project (version 1)

Editor and date of last update of this document: Steven Rutz, August 22, 2008

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## Introduction

The Scientific Computer System (SCS) of the NOAA Office of Marine and Aviation Operations (OMAO) logs data from various sensors aboard several NOAA vessels. As part of the NOAA Shipboard Sensor Data Acquisition (NSSDAC) project of the National Oceanographic Data Center (NODC), OMAO submits to NODC a standard suite of underway oceanographic and meteorological data collected during each cruise of a NOAA vessel with SCS. NODC holds the data in their archive and creates products from them. This document describes the naming conventions and formats of these data files.

In this document, italicized, boldfaced type indicates variable information (e.g., ***name of the vessel's captain***) and ellipses indicate that a sequence will continue indefinitely (e.g., ***P1, P2, ...***).

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## File naming conventions

Each data submission to NODC consists of multiple ASCII/text files collected during one or more cruises, and each cruise consists of one or more events (which are delineated by when the SCS is turned "on" and then "off"). For each event, OMAO generates four primary files:

| File name | Description |
|---|---|
| NODC_***XXX***.HDR | The header file for an event contains information about that event, the associated cruise for that event, and the instruments. |
| NODC_NAV1_***XXX***.ELG | The first navigation file for an event contains data from primary navigational instruments. |
| NODC_NAV2_***XXX***.ELG | The second navigation file for an event contains data from secondary navigational instruments. |
| NODC_OBS_***XXX***.ELG | The observation file for an event contains data from oceanographic and meteorological instruments. |

where ***XXX*** is the three-digit event number (001, 002, …). For a particular event, these four files have the same event number and are in the same file directory.

**Caveats**

- Variations in the file format, names, and directory structure in a data submission often occur. These variations are dependent on the configuration of each vessel's SCS.
- OMAO often generates and submits to NODC other SCS files during an event. Since their format and availability varies considerably with each data submission, their format and naming conventions are not described here. For completeness, NODC archives these files with the rest of the standard data submission.

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**Header file format**

Each row of a header file is left justified.

| **Row of file** | **Number of rows** | **Description** |
|---|---|---|
| EVENT HEADER FILE = ***PATH***:/NODC_***XXX***.HDR | one | The path and file name of this header file. ***PATH*** corresponds to the drive and path of this file on the shipboard computer with SCS. |
| EVENT STARTED MANUALLY | one | Indicates the start of an event. |
| START HEADER INFORMATION:: | one | Indicates start of the section with information about the cruise and data collection instruments. |
| ***cruise_parameter = value*** | one or more | Contains general information, where the ***cruise_parameter*** can include "Cruise ID", "Vessel Name", "Captain", "Chief Scientist" and other similar information. |
| ***instrument instrument_parameter = value*** | one or more | Information about each instrument that collected data that were recorded in the navigation and observation files during this event. The ***instrument_parameter*** can include "Model", "Calibration Date" and other similar information. |
| END HEADER INFORMATION:: | one | The end of the section with information about the cruise and data collection instruments. |
| START OUTPUT INFORMATION:: | one | The start of the section with information about the parameters recorded in the navigation and observation files. |
| File Name = ***filename1***, Log Rate = ***hh:mm:ss*** | one | ***filename1*** is the name of the file (without its extension) where either the primary navigational, secondary |

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|---|---|---|
| | | navigational, or the oceanographic and meteorological data are recorded. The log (i.e., sample) rate is recorded in hours (***hh***), minutes (***mm***), and seconds (***ss***). Usually the log rate is 30 seconds. |
| ***III - Instr-Param (Units)*** | one or more | ***III*** is a three-digit parameter identification number; ***Instr*** is a navigational, oceanographic, or meteorological instrument; ***Param*** is a parameter recorded in the file ***filename1***.ELG; and ***(Units)*** are the units of the recorded parameter. |
| File Name = ***filename2***, Log Rate = ***hh***:***mm***:***ss*** | one | ***filename2*** is the name of the file (without its extension) where either the primary navigational, secondary navigational, or the oceanographic and meteorological data are recorded. The log (i.e., sample) rate is recorded in hours (***hh***), minutes (***mm***), and seconds (***ss***). Usually the log rate is 30 seconds. |
| ***III - Instr-Param (Units)*** | one or more | ***III*** is a three-digit parameter identification number; ***Instr*** is a navigational, oceanographic, or meteorological instrument; ***Param*** is a parameter recorded in the file ***filename2***.ELG; and ***(Units)*** are the units of the recorded parameter. |
| File Name = ***filename3***, Log Rate = ***hh***:***mm***:***ss*** | one | ***filename3*** is the name of the file (without its extension) where either the primary navigational, secondary navigational, or the oceanographic and meteorological data are recorded. The log (i.e., sample) rate is recorded in hours (***hh***), minutes (***mm***), and seconds (***ss***). Usually the log rate is 30 seconds. |
| ***III - Instr-Param (Units)*** | one or more | ***III*** is a three-digit parameter identification number; ***Instr*** is a navigational, oceanographic, or meteorological instrument; ***Param*** is a parameter recorded in the file ***filename3***.ELG; and ***(Units)*** are the units of the recorded parameter. |
| END OUTPUT INFORMATION:: | one | The end of the section with information about the parameters recorded in the navigation and observation files. |
| EventStartTime: ***MM***/***DD***/***YYYY-hh***:***mm***:***ss*** | one | The timestamp at the beginning of the event, where ***MM*** is the numeric month, ***DD*** is the day, ***YYYY*** is the year, ***hh*** is the hour, ***mm*** is the minute, and ***ss*** is the second. |
| StartEventSnapShot | one | Indicates that the next three rows contain data from the primary navigation instruments that were recorded when the SCS event was started. |

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|---|---|---|
| ***MM*/*DD*/*YYYY-hh*:*mm*:*ss*,*P1,P2, ...*** | three | ***MM*/*DD*/*YYYY-hh*:*mm*:*ss*** is the timestamp and ***P1, P2, …*** are the comma-separated values recorded for each parameter in the primary navigation file in the order listed below the row "File Name = NODC_NAV1, Log Rate = ***hh:mm:ss***" in this header file. |
| EventStopTime: ***MM*/*DD*/*YYYY-hh*:*mm*:*ss*** | one | The timestamp at the end of the event. |
| StopEventSnapShot | one | Indicates that the next three rows contain data from the primary navigation instruments that were recorded when the SCS event was stopped. |
| ***MM/DD/YYYY-HH:MM:SS,P1,P2, ...*** | three | ***MM*/*DD*/*YYYY-hh*:*mm*:*ss*** is the timestamp and ***P1, P2, …*** are the comma-separated values recorded for each parameter in the primary navigation file in the order listed below the row "File Name = NODC_NAV1, Log Rate = ***hh:mm:ss***" in this header file. |

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**Navigation and observation files format**

Each row of a navigation or observation file is left justified. These files can be joined together with their common timestamp.

| **Row of file** | **Number of rows** | **Description** |
|---|---|---|
| ***MM*/*DD*/*YYYY-hh*:*mm*:*ss*,*P1,P2, ...*** | one or more | ***MM*/*DD*/*YYYY-hh*:*mm*:*ss*** is the timestamp and ***P1, P2, …*** are the comma-separated values recorded for each parameter in the order listed in the header file. |