INSTITUTION RESPONSIBLE FOR COLLECTING DATA:

NAME:

COUNTRY:

SHIP FROM WHICH DATA WERE COLLECTED:

SHIP NAME:

SHIP TYPE:

SHIP CALL SIGN:

LENGTH OF SHIP:

CRUISE IDENTIFIERS:

PROJECT:

CRUISE (LEG):

(OR SURVEY)

CHIEF SCIENTIST[1]:

START DATE OF CRUISE / LEG / SURVEY - DD/MM/YY:

END DATE OF CRUISE / LEG / SURVEY - DD/MM/YY:

PORT OF DEPARTURE (name and country):

PORT OF ARRIVAL (name and country):

PURPOSE OF CRUISE AND BRIEF NARRATIVE:

[1]Fill in adress (with phone, fax, e-mail). If bathymetric data do not originate from chief scientist please specify name and adress ot the originator.

SUPPORTING DOCUMENTATION FOR NAVIGATION DATA

NAVIGATION SYSTEM: systems should be clearly identified - avoid general terms such as satellite navigation or radio navigation systems - more precise information is required (e.g. Decca Hifix, LORAN C, GPS etc.).

*Prime Navaid:

Secondary Navaids:

DATUM: differences between geodetic datums, local datum and geocentric satellite navigational datum may amount to several hundred metres. It is important, therefore, that the datum should be specified when the geographic accuracy is better than 500 m, either by a recognised term (e.g. „Tokyo datum" WGS 84) or by quoting the reference ellipsoid constants a and 1/f and the datum translation components X0, Y0 and Z0 that give the coordinates of the centre of the datum relative to the geocentre.

METHOD OF DETERMINING ALONG TRACK POSITIONS:

ACCURACY ASSESSMENT: estimate the geographic accuracy of 95% of the navigation fixes circling one of the following:

    < 50m   < 100m   < 500m   < 2km   < 10km   >10km

ADDITIONAL COMMENTS[2]: include any additional information that has a bearing on the quality of the navigation, e.g. a) average number of good prime navaid fixes/day; b) identify any periods of suspect navigation (e.g. due to instrument malfunctions or lack of good fixes); c) relative position accuracy between tracks (for systematic surveys of large areas) etc.:

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[2]Please add information on checking and correcting of navigation data.

SUPPORTING DOCUMENTATION FOR SINGLE BEAM ECHO SOUNDING DATA

NAME AND TYPE OF ECHO SOUNDER:

TOTAL BEAM WIDTH (between the -3db points):

ECHO SOUNDING SIGNAL FREQUENCY (kHz):

TIMING ACCURACY (% of travel time): circle one of the following:

   < 0.1%   < 1%   < 2%   >2%

INSTRUMENTAL SAMPLING RATE (soundings/sec): enter the instrumental sampling rate or sweep rate i.e. the rate at which the data were originally collected. N. B. This is not the same as the digitization rate which, if regular, is entered under „SOUNDING SELECTION CRITERIA":

SOUNDING SELECTION CRITERIA: indicate the criteria used for extracting depth values from the echogram - such as a) peaks and troughs; b) points of change in slope; c) sea bed smooth between soundings within specified limits; d) values extracted at given time intervals - the interval should be specified; e) spot soundings etc.:

NOMINAL SOUND VELOCITY OF ECHO SOUNDER:

PROCEDURES FOR CORRECTING FOR SOUND VELOCITY: state clearly whether the soundings were corrected for sound velocity and, if so, by which method e.g. a) in situ measures at the time of survey; b) third edition NP 139 of the Hydrographic Department of the UK (recommended at the XIIth IHC, Monaco, 1982); c) Second Edition NP 139 - Matthews Tables; d) other (please specify):

DATUM CORRECTIONS: it is assumed that a) corrections will have been made for transducer depth (if not, then this should be clearly indicated, together with the transducer depth). Note - for towed transducers this may vary with ship speed and should be continually monitored; b) corrections will not have been made for the height of the tide unless appropriate (e.g. over seamounts or in shallow water) - any corrections made should be clearly indicated, together with tidal datum:

ADDITIONAL COMMENTS: report on malfunctions, errors or any other factors that have a bearing on the quality of the data:

SUPPORTING DOCUMENTATION FOR MULTIBEAM ECHO SOUNDING DATA (DRAFT)

An essential part of any digital data series is the documentation describing how the data were collected and processed, the instrumentation used, the methods used for correcting the data, the originator´s assessment of the quality of the data, the logging of instrument malfunction, etc.. For multibeam echo sounding, the recording of such metadata is particularly important due to the complexity of the system. Such metadata normally would be recorded in digital form, but might also be in hard copy form. Below is a listing of such data, but depending on the type of multibeam system in use, there may be need for recording of additional data, i.e., the listing is not necessarily comprehensive.

NAME AND TYPE, INCLUDING MODEL, OF MULTIBEAM ECHO SOUNDER:

(serial numbers for component parts of a system, which may impact the observations, can be usefully recorded and may be noted under additional comments when equipment is changed).

TOTAL WIDTH OF ARRAY:

USABLE WIDTH OF ARRAY:
(under certain conditions the total array may not meet the desired accuracy standard causing certain beams to be eliminated from use)

INDIVIDUAL BEAM WIDTH:
(it is recognized that some systems have variable beam widths and these should be recorded)

FREQUENCY OF THE SOUNDING SIGNAL (kHz):
(if variable frequencies are used, each frequency must be recorded along with its time of use)

INSTRUMENTAL SAMPLING RATE (sounding/sec):
(the ping rate, which may be variable depending on depth, must be included in the record)

DATA RECORDING:
Time resolution (navigation) : hundreds of a second (0.01 s) or
ten-thousands of a minute (0.0001 mn)

Time resolution (sounding-two way travel times): hundreds of milliseconds (0.01 ms)

Date: Century and year (CCYY), month (MM) and day of the month (DD) or
Century and year (CCYY), Julian day (DDD)

Depth resolution: tenths of a metre (0.1 m)

Depth null value: „Zero" is recommended, see paragraph 4.4.5.6

Horizontal resolution: Tenths of a metre (0.1 m)

Speed: Hundreds of a knot (0.01 kn)

Heading: Tenths of a degree (0.1°)

Roll and pitch: Tenths of a degree (0.1°)

Geographic position: Degrees of million (+/- DD.DDDDDD and +/- DD.DDDDDD) or
Degrees and minutes to hundred-thousands (+/-DD +/-MM.MMMMM
and +/-MM.MMMMM)

OFFSET DISTANCES[3]:
(offsets between navigational instrumentation and the bathymetric transducer system must be documented)

CROSS-TRACK OFFSET CONVENTION:
(the cross-track offset convention used, port to starboard (negative to positive) recorded in tenth of metres)

VERTICAL DATUM:

(where tides are applicable, indicate vertical datum, including information to clearly indicate the source of tidal corrector applied, i.e., actual or predicted tides and station used)

TRANSDUCER DEPTH CORRECTION:
(indicate any transducer depth corrections applied and note that for towed transducers this depth may vary with the ship speed and should be continously monitored)

NOMINAL SOUND VELOCITY:
(state nominal mean sound velocity in water, i.e., 1500 m/s)

SOUND VELOCITY CORRECTIONS:

(state clearly the methods used for sound velocity correction and the method used to obtain correctors, e.g., a) in situ measurements at the time of survey; b) Third Edtion NP139 of the Hydrographic Department of the UK; c) Second Edition NP139 - Metthews Tables, or d) other, (please specify for systems where beamforming is used to maintain a vertical transmit beam, indicate the sound velocity of the water at the keel)

DATA REDUCTION SOFTWARE:

(indicate the type and version of any software used for data aquisition and reduction, including use of filtering of detected errors, and any quality enheancement procedures used such as along-track averaging and also, crossreferencing and adjustments to navigation information must be fully documented)

DATA STRUCTURES AND FORMAT:

(details about the data structure and format in which data are presented must be documented)

ENVIROMENTAL DATA:

(since multibeam data quality is particularly sensitive to enviromental conditions, parameters such as the sound-velocity profile, surface water sound speed (ksv), weather and sea state must be given)

ADDITIONAL COMMENTS:

(complete documentation to describe how the data were collected and processed is essential and the record must indicate any malfunctions to hardware or software or other errors that have a bearing on the quality of the data; note that a data quality parameter should be included in the data structure and the form used, i.e., codes, should be fully documented)

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[3]Specify wether or not offset distances are applied