```
c 1st line of header
        irec=irec+1
     read (16,99101,err=998,end=999)
   % moods_hdr_key,latitude,longitude,observation_dtg,
   %  number_of_parameters,instrument_type, quality_review_code,
   %  number_of_data_cycles, dsnum

99101  FORMAT (I8,1x,f8.4,1x,f9.4,1x,a14,
   %1x,i1,1x,i4,1x, i3, 1x, i5,1x,i7)

c 2nd line of header
        read(16,99102,err=998)
   % first_data_depth,last_data_depth,ocean_floor_depth,
   % bottom_depth_source,profile_over_land,
   % questionable_dtg_code,
   % all_salinities_zeros,all_temperatures_zeros,
   % salinity_spike,temperature_spike,
   % observation_too_deep,cast_number,cast_direction_code,ocl_tsproble_code

99102 FORMAT (3(I5,1x),8(i1,1x),i5,1x,a1,1x, i4)


 c 3rd line quality control
        read(16,99103,err=998)
   % program_version,
   % depth_exceed_env_levitus_temp,
   % mod_levitus_std_dev_temp,percent_levitus_temp_disagree,
   % depth_exceed_env_levitus_sal,
   % mod_levitus_std_dev_sal,percent_levitus_sal_disagree,
   % depth_exceed_env_navoclim_temp,
   % navoclim_std_dev_temp,percent_navoclim_temp_disagree,
   % depth_exceed_env_navoclim_sal,
   % navoclim_std_dev_sal,percent_navoclim_sal_disagree,
   % date_of_quality_review,
   % header_edit_history_flag,profile_edit_history_flag,
   % ctd_serial_number_flag

99103 FORMAT (f3.1,1x,4(i1,1x,f3.1,1x,i3,1x),a8,1x,
   % i1,1x,i1,1x,i1)
```

```
      c 4th line

      read(16,99104,err=998)

   % depth_precision,temperature_precision,salinity_precision,
   % sound_speed_precision, lat_precision,lon_precision,
   % wmo1770_instrument_code,wmo4770_recorder_code,
   % temperature_atypical,salinity_atypical,sound_speed_atypical,
   % wrong_location_code,

99104  FORMAT(i1,1x,i1,1x,i1,1x,i1,i1,i1,1x
   %i3,1x,i3,1x,3(i3,1x),i1)

c 5th line
      read(16,99105,err=998)
   % temperature_method, salinity_method,
   % nodc_station_qc_code,ref_sst,ref_sst_instrument,
   % digitization_method,digitization_interval,depth_fix_code,
   % temperature_noisy,high_vertical_gradient,
   % temperature_suspect,salinity_noisy,salinity_suspect,
   % density_inversion,temperature_coarse_resolution,
   % salinity_coarse_resolution,temperature_marked_as_salinity,
   % salinity_marked_as_temperature,nodc_temperature_code,
   % nodc_salinity_code,temperature_general_quality,
   % salinity_general_quality,sound_speed_general_quality,
   % edit_flag_program_version

99105  FORMAT(i3,1x,i3,1x,i1,1x,f8.4,1x,i2,1x,i2,1x,i2,1x,i1,1x,
   % 12(i2,1x),i3,1x,i3,1x,i3,f3.1)
ccccccccccccc

      do 500 imax= 1,NUMBER_OF_DATA_CYCLES
c read data arrays
      if(number_of_parameters.eq.4)then
    read(16,904,err=998)observation_depth(imax),
   & water_temperature(imax),salinity(imax),sound_speed(imax)
     endif
ccccccc
      if(number_of_parameters.eq.3)then
      read(16,903,err=998)observation_depth(imax),
   & water_temperature(imax),salinity(imax)
      endif
cccccccccccccccccccccccccccc
      if(number_of_parameters.eq.2)then
       read(16,902,err=998)observation_depth(imax),
```

```
     & water_temperature(imax)
       endif


904     FORMAT(f10.4,1x,f8.4,1x,f8.4,1x,f10.4)
903     FORMAT(f10.4,1x,f8.4,1x,f8.4)
902     FORMAT(f10.4,1x,f8.4)

500     continue
        write(*,*)'depth1',observation_depth(1)

cccccccccccccccccccccccccccccccccccccccc
ccccccccccccccccccccccccccccccccc
c finished reading data arrays.
ccccccccccccccccccccccccccccccccc
c read extra line if ctd_serial_number_flag=1
ccccccccccccccccccccccccccccccccc
c 10/2/00
     if(ctd_serial_number_flag.eq.1)then

c if serial numbers
        read(16,9016,err=998)pressure_sn,
     & temp1_sn,temp2_sn,cond1_sn,cond2_sn
        read(16,9017,err=998) sound_speed1_sn, sound_speed2_sn

         endif
         write(*,'(a)')pressure_sn

9016  FORMAT(a16,a16,a16,a16,a16)
9017  FORMAT (a16,a16)
 cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
c reading header changes history

   if(header_edit_history_flag.eq.1)then
    read(16,1041)hf,number_of_header_edits

       do 200 i=1,number_of_header_edits
     read(16,1043,err=998)header_attribute_name(i),
   % old_header_attribute_value(i),header_edit_code(i),
   % header_edit_date(i),person_identifier_h(i)
200     continue

   endif
        write(*,*)'nl-1',number_of_header_edits

1041  FORMAT (a3,1x,i5)
1043  FORMAT (a30,1x,a16,1x,i3,1x,a8,1x,i4)
```

```
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
c reading profile changes history

cccc read profile edit header
    if(profile_edit_history_flag.eq.1)then
     read(16,1041,err=998)pf,number_of_profile_edits
c read profile edit history
        do 201 i=1,number_of_profile_edits
         read(16,1044,err=998)depth_of_change(i),
   % parameter_code(i),old_value(i),profile_edit_code(i),
   % profile_edit_date(i),person_identifier_p(i)
201     continue
1044  FORMAT(f10.4,1x,i1,1x,f10.4,1x,i3,1x,a8,1x,i4)
c 9/5/00 changed depth_of_change from i5 to f10.4,
c was also missing 1x between i1,f10.4
    endif
        write(*,*)'nl-2',number_of_profile_edits
```

****

*****

Section 2) MOODS DoD Instrument Codes updated: 08/19/2002

0 Unknown instrument
1 Message data (regardless of instrument)
2 Mechanical Bathythermograph (MBT)
3 Selected Level BT (SBT)
4* SEABIRD CTD Time Series
5 Air-deployed CTD (AXCTD)
9 Ship deployed AXBT
10 Some unknown electronic temperature depth instrument
11 Expendable bathythermograph
12 Air deployed expendable bathythermograph
13 Submarine deployed expendable bathythermograph (SXBT)
14 Helicopter deployed expendable bathythermograph (HXBT)
15 Expendable sound velocity profiler (XSV)
16 Sound velocimeter
17 Submarine deployed sound velocity profiler (SXSV)
18* Time Series XBT (TSXBT)
19 Submarine deployed CTD
20 NAVOCEANO Digitized XBT
21 ODOM Digibar
25 Hydrocast: bottles and reversing thermometers
29 NODC Digital BT
.
30 Some unknown electronic salinity, temperature, depth
instruments
31 Salinity, temperature and depth probe (STD)
32 Low-resolution STD from NODC
33 Conductivity, temperature, depth probe (CTD)
34 CTD with bottles, reversing thermometers
35* CTD time series (YO-YO)
36 Sound velocity, salinity, temp, and depth (SVSTD)

37 Sippican XCTD
38 Seabird CTD SBE-19 (Seacat profiler)
39 Temperature, salinity microstructure profiler
40 Some unknown current profile instrument
41 Seabird CTD SBE-911 (deep ocean)
42 Seabird CTD SBE-25
43 Falmouth CTD
44 Idronaut CTD
.
60 Some unknown optical profile instruments
61 sxbt/xbt RTDHS message data
62 tesac RTDHS message data
63 ship obs (1 level) RTDHS message data
64 Palace/Apex floats RTDHS message data
65 Glider RTDHS message data

* = time series data
 (Section 7) Column definitions for all columns
updated: 11/28/2001

ALL_SALINITIES_ZEROS
definition:flag to indicate that no valid salinities exist in a profile if the number_of_parameters is 3 or 4.
special usage:
domain range: 0 or 1

ALL_TEMPERATURES_ZEROS
definition:flag to indicate that no valid temperature exist in a profile if the number_of_parameters is 3 or 4.
special usage:
domain range: 0 or 1

BOTTOM_DEPTH_SOURCE
definition: flag to indicate that the ocean_floor_depth value came from a bathymetry database, otherwise it was a collected measurement
special usage:
domain range: 0 = ship, 1 = dbdb5, 2 = dbdbv

DATE_OF_QUALITY_REVIEW
definition: date envelop checking routine was run on the profile
domain range: SEP-19-1995 to present

DEPTH_EXCEED_ENV_NAVOCLIM_SAL
definition: profile exceeded the maximum depth of the GDEM envelop for salinity
domain range: 0 or 1
note: NOT AVAILABLE AT PRESENT TIME

DEPTH_EXCEED_ENV_NAVOCLIM_TEMP
definition: profile exceeded the maximum depth of the GDEM envelop for temperature
domain range: 0 or 1

DEPTH_EXCEED_ENV_LEVITUS_SAL
definition: profile exceeded the maximum depth of the Levitus envelop for salinity
domain range: 0 or 1

DEPTH_EXCEED_ENV_LEVITUS_TEMP

definition: profile exceeded the maximum depth of the Levitus envelop for temperature
domain range: 0 or 1

FIRST_DATA_DEPTH
definition: the first depth (in meters) in the profile
special usage:used in retrievals to obtain data that extends from a desired depth
domain range: 0 to 6500 meters

INSTRUMENT_TYPE
definition: codes to designate the instrument that acquired the data
special usage: none
domain range: 0 to 99

LAST_DATA_DEPTH
definition: the last depth (in meters) in the profile
special usage: used in retrievals to obtain data that extends to a desired depth
domain range: 0 to 6500 meters

LATITUDE
definition:observation latitude in decimal degrees
special usage: north is positive, south is negative
domain range: -90 to +90

LONGITUDE
definition:observation longitude in decimal degrees east is positive, west is negative special usage: care must be taken around the date line. Example: to obtain the 20 degrees between -170 and 170 two ranges must be used for longitude: 1) longitude between 170 and 180 and 2) longitude between -180 and -170.
domain range: -180 to +180

NAVOCLIM_STD_DEV_SAL
Definition: Standard deviation used with the GDEM envelop for salinity

NAVOCLIM_STD_DEV_TEMP
definition: standard deviation used with the GDEM envelop for temperature
domain range: 1.0 to 5.0

MOD_LEVITUS_STD_DEV_SAL
definition: standard deviation used with the Levitus envelop for salinity
domain range: 1.0 to 5.0

MOD_LEVITUS_STD_DEV_TEMP
definition:standard deviation used with the Levitus envelop for temperature
domain range: 1.0 to 5.0

MOODS_HDR_KEY
definition: unique number assigned to each observation using an oracle sequence number
special usage: cluster shared by the following tables:
1) moods_profile_header, 2) moods_profile_element, 3) moods_ctd_serial_numbers
4)moods_header_edit_history and 5)moods_profile_edit_history
domain range: 1 to 99999999

NUMBER_OF_DATA_CYCLES
definition: number of levels or elements in the observation profile
special usage:No special restrictions, although there are many level=1 profiles from message data (ship reports)
domain range: 1 to 6500

NUMBER_OF_PARAMETERS
definition: number of parameters in the profile
special usage:
2 = depth / temperature
3 = depth / temperature / salinity
4 = depth / temperature / salinity / sound speed
or 4 = depth / -99 / -99 / sound speed
or 4 = depth /temperature / -99 / sound speed
domain range: 2 to 4

OBSERVATION_DEPTH
definition: observation depth in meters
domain: 0 to 6500 meters

OBSERVATION_DTG
definition: date and time that the observation was collected in GMT
special usage: 1800 is used as a missing year designator
domain range: 1800 to current year

OBSERVATION_MONTH
definition: month that the observation was collected
special usage: No special restrictions
domain range: 1 to 12

OBSERVATION_TOO_DEEP
definition:flag to indicate the profile was too deep for the bathymetry of the ocean at that point.
special usage:according to guidelines from Steve Haeger, N3T memo of
May 1 1995 "Criteria for MOODS auto-editor"
1)
if(ocean_floor_depth is between 0 and 30
.and. last_data_depth.gt.60)OBSERVATION_TOO_DEEP=1
2)
if(ocean_floor_depth.is between 30 and 100
.and. last_data_depth.gt.(2*ocean_floor_depth))OBSERVATION_TOO_DEEP=1
3)
if(ocean_floor_depth between 100 and 500
.and. last_data_depth.gt.(4*ocean_floor_depth))OBSERVATION_TOO_DEEP=1
4)
if(ocean_floor_depth between 500 and 1000
last_data_depth.gt.(1.50*ocean_floor_depth))OBSERVATION_TOO_DEEP=1
5)
if(ocean_floor_depth.gt.1000
.and. last_data_depth.gt.(1.25*ocean_floor_depth))OBSERVATION_TOO_DEEP=1
domain range: 0 or 1

OBSERVATION_YEAR
definition: year that the observation was collected
special usage: 1800 is used as a missing year designator
domain range: 1800 to current year

OCEAN_FLOOR_DEPTH
definition: depth of ocean floor (measured or from DBDB5)
special usage: used in retrievals bases on bathymetry flag BOTTOM_DEPTH_DBDB5 designates value
source
domain range: 0 to 12000 meters

PERCENT_NAVOCLIM_SAL_DISAGREE
definition: percentage of the number of data cycles that fell outside of the GDEM salinity envelop
domain range: 0 to 100
note: NOT AVAILABLE AT PRESENT TIME

PERCENT_NAVOCLIM_TEMP_DISAGREE
definition: percentage of the number of data cycles that fell outside of the GDEM temperature envelop
domain range: 0 to 100

PERCENT_LEVITUS_SAL_DISAGREE
definition: percentage of the number of data cycles that fell outside of the Levitus salinity envelop
domain range: 0 to 100

PERCENT_LEVITUS_TEMP_DISAGREE
definition: percentage of the number of data cycles that fell outside of the Levitus temperature envelop
domain range: 0 to 100

PROFILE_OVER_LAND
definition: flag to inicate that the location is over land special usage:administrative use to possibly change location latitude or longitude to another hemisphere if data comparisions justify the change.
domain range: 0 – 3
0 = ocean, 1 = over land, 2 = over land(but in a lake or inland sea), 3 = not w/in lat/lon boundaries specified

PROGRAM_VERSION
definition: program version of envelop checking routine
domain range: 1.0

QUALITY_REVIEW_CODE
definition: quick reference for data quality based on flags and quality control results
special usage:
domain range: -9 – 31
-9   not reviewed
0   accepted station
1   coarse salinity resolution flag
2   salinity atypical profile flag
3   noisy salinity profile flag
4   salinity spike flag
5   salinity marked as temperature
6   all salinities zero
7   salinity suspect
8   salinity general quality flag
9   coarse temperature resolution flag
10   temperature atypical profile flag
11   noisy temperature profile flag
12   temperature spike flag
13   temperature marked as salinity
14   all temperatures zero
15   temperature suspect
16   temperature general quality flag
17   sound speed atypical profile flag
18   sound speed general quality flag
19   *both coarse temperature and salinity flags*
20   *both temperature and salinity atypical flags*
21   *both noisy temperature and salinity profile flags*

QUESTIONABLE_DTG_CODE
definition:flag to indicate that the date/time was invalid and has been changed to allow insertion into the database.
special usage: If the year was unknown 1800 was substituted If the month was unknown the profile was not used. If the day was unknown the 15th was used.
domain range: any valid date

SALINITY
definition: salinity
domain: 0 to 50

SALINITY_SPIKE
definition:flag to indicate that the salinity values did not fluctuate more than .5 ppt/meter in opposite directions throughout the profile
special usage:Slope comparison of not more than 2 in one direction immediately followed by a slope of not more than 2 (in the opposite direction of the previous slope).
domain range: 0 to 1

SOUND_SPEED
definition: sound speed in meters/second
domain:

TEMPERATURE_SPIKE
definition:flag to indicate that the temperature values did not fluctuate more than .5 degrees/meter in opposite directions throughout the profile
special usage:Slope comparison of not more than 2 in one direction immediately followed by a slope of not more than 2 (in the opposite direction of the previous slope).
domain range: 0 to 1

WATER_TEMPERATURE
definition: water temperature in degrees Celcius
domain: -3 to 40

CAST_NUMBER
Definition: Sequential number representing each over-the side operation or discrete sampling at a station
Domain: 0 - 99999

CAST_DIRECTION_CODE
Definition: Direction of the cast (up or down)
Domain: D or U

DAY_OF_YEAR
Definition: Julian day of the year
Domain: 1 – 366

OCL_TSPROBE_CODE
Definition: Ocean Climate Laboratory probe codes
Domain: 1 – 9999

OCL_TSPROBE_CODE   OCL_TSPROB_TYPE
----
0 BOT   BOTTLE DATA
1 MBT   MECHANICAL BATHYTHERMOGRAPH,TYPE UNKNOWN
2 XBT   EXPENDABLE BATHYTHERMOGRAPH,TYPE UNKNOWN
3 DBT   DIGITAL BATHYTHERMOGRAPH,TYPE UNKNOWN
4 CTD   CONDUCTIVITY/TEMPERATURE DEVICE,TYPE UNKNOWN
5 STD   SALINITY/TEMPERATURE DEVICE,TYPE UNKNOWN
6 XCTD EXPENDABLE CONDUCTIVITY/TEMPERATURE DEVICE,TYPE KNOWN
101 MBT   GM-39 (RUSSIA)
207 XBT   T7 (SIPPICAN)
208 XBT   T4 (SIPPICAN)
209 XBT   T6 (SIPPICAN)
210 XBT   T5 (SIPPICAN)
211 XBT   T10(SIPPICAN)
212 XBT   T11(SIPPICAN)
213 XBT   FAST DEEP (SIPPICAN)
214 XBT   DEEP BLUE (SIPPICAN)
215 XBT   T4 (TSK)
216 XBT   T6 (TSK)
217 XBT   T7 (TSK)
218 XBT   (MHI, ACADEMY OF SCIENCE, UKRAINE)
219 XBT   T5 (TSK)
220 XBT   T10 (TSK)
221 XBT   XBT-1 (SPARTAN)
222 XBT   XBT-3 (SPARTAN)
223 XBT   XBT-4 (SPARTAN)
224 XBT   XBT-5 (SPARTAN)
225 XBT   XBT-5DB (SPARTAN)
226 XBT   XBT-6 (SPARTAN)
227 XBT   XBT-7 (SPARTAN)
228 XBT   XBT-7DB (SPARTAN)
229 XBT   XBT-10 (SPARTAN)
230 XBT   XBT-20 (SPARTAN)
231 XBT   XBT-20DB (SPARTAN)
201 XBT   T7 (UNKNOWN BRAND)
202 XBT   T4 (UNKNOWN BRAND)
203 XBT   T6 (UNKNOWN BRAND)
204 XBT   T5 (UNKNOWN BRAND)
205 XBT   T10(UNKNOWN BRAND)
206 XBT   T11(UNKNOWN BRAND)
401 CTD   SBE-9 (Deep ocean precision CTD, Seabird Elec)
402 CTD   ISTOK
403 CTD   EG+G MARK III (EG+G Ocean products)
404 CTD   NEIL BROWN (MARK) IIIB
405 CTD   SEACAT (Seabird Electronics, unspecified model)
406 CTD   GUILDLINE (type unknown)
407 CTD   (MHI, ACADEMY OF SCIENCE, UKRAINE)
408 CTD   (INST OCEANOGRAPHY),ACADEMY OF SCIENCE, RUSSIA
409 CTD   (STD KROSSBIM ROSSETTES)
410 CTD   SEABIRD (Seabird Electronics, type unknown)
411 CTD   SBE-911 PLUS (Seabird Electronics)

412 CTD   BISSETT-BERMAN (type unknown)
413 CTD   JASUS (by M. Du Chaffaut and T. Labadie)
414 CTD   PLESSEY 9040
415 CTD   PLESSEY 9400
416 CTD   PLESSEY 9041
417 CTD   PLESSEY 9060
418 CTD   NEIL BROWN MARK III
419 CTD   HYDRO PRODUCTS 612/912S
420 CTD   NEIL BROWN SMART CTD
421 CTD   PLESSEY (type unknown)
422 CTD   PLESSEY/GRUNDY (type unknown)
423 CTD   NEIL BROWN DRCM
424 CTD   SBE-102 (Seabird Electronics)
425 CTD   SBE-911 (Seabird Electronics)
426 CTD   OCEAN CASSETTE
427 CTD   NEIL BROWN (type unknown)
428 CTD   BECKMAN RS5-3
429 CTD   SBE-19 (SEACAT profiler, Seabird Electronics)
430 CTD   GUILDLINE 8700 aka MARK II
431 CTD   GUILDLINE 8701 (analog CTD)
432 CTD   GUILDLINE 8701 MODIFIED
433 CTD   GUILDLINE 8705
434 CTD   GUILDLINE 8706
435 CTD   GUILDLINE 8709 (portable)
436 CTD   GUILDLINE 8755
437 CTD   GUILDLINE 8770 (portable)
438 CTD   GUILDLINE 8737 "WOCE" (WOCE-specifications)
439 CTD   FSI CTD (Falmouth Scientific, Inc.)
440 CTD   BISSETT-BERMAN 9006
441 CTD   BISSETT-BERMAN 9040-2A
501 STD   PLESSEY 9006
502 STD   PLESSEY 8400
503 STD   PLESSEY 9040
504 STD   PLESSEY 9041
505 STD   ED 9071
506 STD   APMCRO 12
507 STD   Hydrolab in situ salinometer (ca 1960s)
508 STD   AML STD-12 (aka AML CTD-12)
509 STD   BISSETT-BERMAN 9040
601 XCTD   STANDARD (SIPPICAN)
602 XCTD   DEEP (SIPPICAN)
603 XCTD   AXCTD (SIPPICAN)
604 XCTD   SXCTD (SIPPICAN)

HEADER_EDIT_HISTORY_FLAG
Definition: Flag set to determine if any edits have been made to the header of the profile
Domain: 0 or 1

HEADER_ATTRIBUTE_NAME
Definition: The header attribute name which was edited
Domain: 30 character field

OLD_HEADER_ATTRIBUTE_VALUE
Definition: The old header attribute value
Domain: 16 character field

HEADER_EDIT_CODE
Definition: The code defining what change was made to the header
Domain: 1 = security_key, 2 = moods_classification, 3 = enclosure, 4 = observation_dtg, 5 = probe_type, 6 = duplicate_suspect_code, 7 = latitude, 8 = longitude
Domain: 1 - 999

HEADER_EDIT_DATE
Definition: The date the header edit was made
Domain: any valid date

PERSON_IDENTIFIER_H
Definition: The person who made the edit to the header.
Domain:

PROFILE_EDIT_HISTORY_FLAG
Definition: Flag set to determine if any edits have been made to any level of the profile itself.
Domain: 0 or 1

DEPTH_OF_CHANGE
Definition: The depth (or level) at which the profile was edited
Domain:

PARAMETER_CODE
Definition: The code defining which parameter was edited
Domain: 1 = depth 2 = temperature 3 = salinity 4 = sound speed

OLD_PARAMETER_VALUE
Definition: The old profile value
Domain:

PROFILE_EDIT_CODE
Definition: The code defining what change was made to the profile
Domain:
 1 = surface chops (stores only the first level and last level chops…not the entire range)
 2 = bottom chops (stores only the first level and last level chops…not the entire range)
 3 – 5 = Nulling out (-99) of /t/s/ss (temperature,salinity,sound velocity) fields due to   spikes, etc.
 6 – 8 = Interpolation of /t/s/ss fields which includes smoothing algorithm for noisy data
 9 = Temperature spike correction
 10 = Salinity spike correction
 11 = Sound speed spike correction
 12 = Salinity corrections applied from bottle data analysis
 13 = Salinity corrections applied due to re-calibration of the CTD
 14 = delete level(s)
 15 = Addition of a level
 16 = surface nulls (stores only the first level and last level nulls….not the entire range)
 17 = bottom nulls (stores only the first level and last level nulls….not the entire range)
 996 – 999 = Any other corrections applied to d/t/s/ss fields
 996 = change depth value
 997 = change temperature value
 998 = change salinity value

PROFILE_EDIT_DATE
Definition: The date the profile edit was made
Domain: any valid date

PERSON_IDENTIFIER_P

Definition: The person who made the edit to the profile (level)
Domain:

CTD_SERIAL_NUMBER_FLAG
Defintiion: Flag set to determine if sensor serial numbers are to follow in the format (ctd only)
Domain: 0 = No or 1 = Yes

PRESSURE_SN
Definition: The serial number of the pressure sensor used on a specific ctd package
Domain: 0 – 9999999999999999 A-Z

TEMP1_SN
Definition: The serial number of the primary temperature sensor on a specific ctd package
Domain: 0 – 9999999999999999 A-Z

TEMP2_SN
Definition: The serial number of the secondary temperature sensor on a specific ctd package
Domain: 0 – 9999999999999999 A-Z

COND1_SN
Definition: The serial number of the primary conductivity sensor on a specific ctd package
Domain: 0 – 9999999999999999 A-Z

COND2_SN
Definition: The serial number of the secondary conductivity sensor on a specific ctd package
Domain: 0 – 9999999999999999 A-Z

SOUND_SPEED1_SN
Definition: The serial number of the primary sound speed sensor on a specific ctd
Domain: 0 – 9999999999999999 A-Z

SOUND_SPEED2_SN
Definition: The serial number of the secondary sound speed sensor on a specific ctd
Domain: 0 – 9999999999999999 A-Z

DEPTH_PRECISION
Definition: The reported precision of the depth field (number of digits to the right of the decimal)
Domain: 0 - 4

TEMPERATURE_PRECISION
Definition: The reported precision of the temperature field (number of digits to the right of the decimal)
Domain: 0 - 4

SALINITY_PRECISION
Definition: The reported precision of the salinity field (number of digits to the right of the decimal)
Domain: 0 - 4

SOUND_SPEED_PRECISION
Definition: The reported precision of the sound speed field (number of digits to the right of the decimal)
Domain: 0 - 4

LAT_PRECISION
Definition: The reported precision of the latitude field (number of digits to the right of the decimal)
Domain: 0 - 7

LON_PRECISION

Definition: The reported precision of the longitude field (number of digits to the right of the decimal)
Domain: 0 - 7

WMO1770_INSTRUMENT_CODE
Definition: World Meteorlogical Organization instrument codes
Domain: 1 – 999

03/09/2001 NEW_MOODS_FALL_RATE_COEF.lst (WMO1770)

WMO1770_INSTRUMENT_CODE	WMO1770_INSTRUMENT_TYPE
1	Sippican T-4
2	Sippican T-4
11	Sippican T-5
21	Sippican Fast Deep
31	Sippican T-6
32	Sippican T-6
41	Sippican T-7
42	Sippican T-7
51	Sippican Deep Blue
52	Sippican Deep Blue
61	Sippican T-10
71	Sippican T-11
201	TSK T-4
202	TSK T-4
211	TSK T-6
212	TSK T-6
221	TSK T-7
222	TSK T-7
231	TSK T-5
241	TSK T-10
251	TSK Deep Blue
252	TSK Deep Blue
261	TSK Deep AXBT
401	Sparton XBT-1
411	Sparton XBT-3
421	Sparton XBT-4
431	Sparton XBT-5
441	Sparton XBT-5DB
451	Sparton XBT-6
461	Sparton XBT-7
462	Sparton XBT-7
471	Sparton XBT-7DB
481	Sparton XBT-10
491	Sparton XBT-20
501	Sparton XBT-20DB
700	Sippican XCTD standard
710	Sippican XCTD deep
720	Sippican AXCTD
730	Sippican SXCTD
741	TSK XCTD
751	TSK AXCTD
761	Sparton XCTD standard
800	Mechanical XBT
810	Hydrocast
820	Thermistor Chain

830	CTD
831	CTD - P-ALACE float
840	P-ALACE float-PROVOR- no conductivity sensor
841	P-ALACE float-PROVOR- Seabird conductivity sensor
842	P-ALACE float-PROVOR- FSI conductivity sensor
845	P-ALACE float-Web Research- no conductivity sensor
846	P-ALACE float-Web Research- Seabird conductivity sensor
847	P-ALACE float-Web Research- FSI conductivity sensor
850	P-ALACE float-SOLO- no conductivity sensor
851	P-ALACE float-SOLO- Seabird conductivity sensor
852	P-ALACE float-SOLO- FSI conductivity sensor
855	P-ALACE float-NINJA- no conductivity sensor
856	P-ALACE float-NINJA- Seabird conductivity sensor
857	P-ALACE float-NINJA- FSI conductivity sensor
858	P-ALACE float-NEMO- TSK conductivity sensor
859	P-ALACE float-NEMO- no conductivity sensor
860	P-ALACE float-NEMO- Seabird conductivity sensor
861	P-ALACE float-NEMO- FSI conductivity sensor
900	Sippican T-12

WMO4770_RECORDER_CODE
Definition: World Meteorlogical Organization recorder codes
Domain:

WMO4770_RECORDER_CODE	WMO4770_RECORDER_TYPE
1	Sippican strip chart recorder
2	Sippican MK2ASSQ-61
3	Sippican MK-9
4	Sippican ANBHQ-7MK8
5	Sippican MK-12
6	Sippican MK-21
10	Sparton SOC BTSV Processor Model 100
11	Lockheed-Sanders Model OL5005
20	Argos XBT-ST
21	CLS-ARGOS Protecno XBT-ST Model-1
22	CLS-ARGOS Protecno XBT-ST Model-2
30	BATHY Systems SA-810
31	Scripps Metrobyte controller
32	Murayama Denki Z-60-16 III
33	Murayama Denki Z-60-16 II
34	Protecno ETSM2
35	Nautilus Marine Service NMS-XBT
40	TSK MK-2A
41	TSK MK-2S
42	TSK MK-30
43	TSK MK-30N
45	TSK MK-100
46	TSK MK-130 compatible recorder for both XBT and XCTD
47	TSK MK-1130A XCTD
48	TSK AXBT receiver MK-300
50	JMA ASTOS
60	P-ALACE float-ARGOS communications- sampling on up transit
61	P-ALACE float-ARGOS communications- sampling on down transit
62	P-ALACE float-Orbcomm communications- sampling on up transit
63	P-ALACE float-Orbcomm communications- sampling on down transit
64	P-ALACE float-Iridium communications- sampling on up transit

65 P-ALACE float-Iridium communications- sampling on down transit
70   CSIRO Devil-1 XBT acquisition System
71   CSIRO Devil-2 XBT acquisition System
99   Unknown

TEMPERATURE _ATYPICAL
Definition: Profiles that are probably good, but have a low probability of occurance. An unusual (suspect) temperature profile
Domain: 0 - 999
-9 default   not examined
 0   typical
 1   slightly atypical
 2   untypical
 3   very untypical
 4   untypical, not specified

SALINITY_ATYPICAL
Definition: Profiles that are probably good, but have a low probability of occurance . An unusual (suspect) salinity profile
Domain: 0 - 999
-9 default   not examined
 0 typical
 1 slightly atypical
 2 untypical
 3 very untypical
 4 untypical, not specified

SOUND_SPEED_ATYPICAL
Definition: Profiles that are probably good, but have a low probability of occurance .   An unusual (suspect) sound speed profile
Domain: 0 - 999
-9 default   not examined
 0 typical
 1 slightly
 2 untypical
 3 very untypical
 4 untypical, not specified

WRONG_LOCATION_CODE
Definition: flag indicating that the profile is a candidate for possible re-location
Domain: 0 - 9

DIGITIZATION_INTERVAL
Definition: Defined interval of digitization
Domain: 1 - 34
DEPTH_FIX_CODE
Definition: A one is assigned if a correction was applied to XBT using re-calculated drop rate
Domain: 0 or 1
SEA_SURFACE_TEMPERATURE
Definition: The sea surface temperature at depth 0.
Domain:

TEMPERATURE_NOISY   number (2,0)   null
Code that denotes temperature values fluctuate in opposite directions throughout the profile. Quantitative description under development.

-9   default, not examined
0   needs no repair
1   repaired
2   needs repair

SALINITY_NOISY   number(2,0) null

Code that denotes salinity values fluctuate in opposite directions throughout the profile. Quantitative description under development.
-9 default, not examined
0   needs no repair
1   repaired
2   needs repair

TEMPERATURE_SUSPECT   number (2,0) null
Code that denotes a temperature profile is questionable.
-9 default, not examined
0 needs no repair
1 repaired
2 needs repair

SALINITY_SUSPECT   number (2,0)   null
Code that denotes a salinity profile is questionable.
-9 default, not examined
0 needs no repair
1 repaired
2 needs repair

TEMPERATURE_COARSE_RESOLUTION number (2,0) null
Code that denotes temperature values are sparsely located throughout the water column.
-9 default, not examined
0 needs no repair
1 repaired
2 needs repair

SALINITY_COARSE_RESOLUTION   number (2,0)   null
Code that denotes temperature values are sparsely located throughout the water column.
-9 default, not examined
0 needs no repair
1 repaired
2 needs repair

SALINITY_MARKED_AS_TEMPERATURE number (2,0) null

Code that denotes a salinity profile is marked as temperature.
-9 default, not examined
0 needs no repair
1 repaired
2 needs repair

TEMPERATURE_MARKED_AS_SALINITY number (2,0) null

Code that denotes a temperature profile is marked as salinity.

-9 default, not examined
0 needs no repair
1 repaired
2 needs repair
TEMPERATURE_GENERAL_QUALITY   number(3,0) null
Code that describes the general quality of the temperature data for a particular profile.
-9 default, not examined
0 good, needs no repair
1 repaired
2 bad, fixable
3 bad, not fixable
4 bad, not specified
100-999 Bad with number
   100 needs bottom chop
   101 needs top chop
   200 depths out of order

SALINITY_GENERAL_QUALITY number(3,0) null
Code that describes the general quality of the salinity data for a particular profile.
-9 default, not examined
0 good, needs no repair
1 repaired
2 bad, fixable
3 bad, not fixable
4 bad, not specified
100-999 Bad with number
   100 needs bottom chop
   101 needs top chop
   200 depths out of order

SOUND_SPEED_GENERAL_QUALITY number(3,0) null
Code that describes the general quality of the sound speed data for a particular profile.
-9 default, not examined
0 good, needs no repair
1 repaired
2 bad, fixable
3 bad, not fixable
4 bad, not specified
100-999 Bad with number
   100 needs bottom chop
   101 needs top chop
   200 depths out of order

HIGH_VERITCAL_GRADIENT   number(2,0) null
Code that denotes suspiciously high decreases/increases of profile data over depth. Quantitative
description under development.
-9 default, not examined
0 needs no repair
1 repaired
2 needs repair

DENSITY_INVERSION   number (2,0) null
Code that denotes decreases in density by more than 0.1 sigma units between observed depths.
Quantitative description under development.
-9 default, not examined
0 needs no repair

1 repaired
2 needs repair

NODC_TEMPERATURE_CODE number (2,0) null
Definition: NODC error codes for temperature (-9 = default, meaning no error code)
Domain: 9-,0,1,2,3,4,5,6,7,8,9

NODC_SALINITY_CODE number (2,0) null
Definition: NODC error codes for salinity (-9 = default, meaning no error code)
Domain: 9-,0,1,2,3,4,5,6,7,8,9

EDIT_FLAG_PROGRAM_VERSION
Definition: Program version used to set the edit flags

DSNUM (i7)
Definition: sequential data set number