

# CTD QC Report: CNMI 2014

The file used in this QC routine is: ESD\_NCRMP\_CTD\_2014\_CNMI.csv

QC run at: 2021-03-03 08:20:34 HST

Number of rows in data file: 1683

Number of casts in data file: 92

## Check the location and time ranges

	Min	Max
LATITUDE	13.23109	20.54501
LONGITUDE	144.6259	145.8330
UTCDATETIME	2014-03-24 23:01:00	2014-05-05 23:57:00

## Check the cruises, dates, and number of casts associated with each island.

LOCATION	CRUISE	NO.CASTS	UTCDATETIME.range
Aguijan (Goat Is.)	HA1401	1	2014-04-08 00:05:00, 2014-04-08 00:05:00
Alamagan	HA1401	1	2014-05-02 03:07:00, 2014-05-02 03:07:00
Asuncion Island	HA1401	7	2014-04-23 22:19:00, 2014-04-25 01:15:00
Farallon de Pajaros	HA1401	1	2014-04-26 01:54:00, 2014-04-26 01:54:00
Guam	HA1401	22	2014-03-24 23:01:00, 2014-04-04 02:59:00
Guguan	HA1401	1	2014-05-05 23:57:00, 2014-05-05 23:57:00
Maug	HA1401	14	2014-04-28 00:47:00, 2014-05-05 03:25:00
Pagan	HA1401	17	2014-04-19 22:17:00, 2014-04-23 05:45:00
Rota	HA1401	6	2014-04-04 23:36:00, 2014-04-07 00:26:00
Saipan	HA1401	14	2014-04-10 22:56:00, 2014-04-18 01:01:00
Sarigan	HA1401	2	2014-04-19 01:06:00, 2014-04-19 03:05:00
Tinian	HA1401	6	2014-04-08 22:46:00, 2014-04-10 04:48:00

## Check for NULLs in all metadata fields

“No” signifies that no NULL data exist. “Yes” signifies that NULL values are present. NULL values are only ok if present in the ASSOC\_OCC\_SITEID field (not every cast is associated with an OCC site).

	NULLs?
SHALLOWCTDID	No
CTDCASTID	No
REGIONCODE	No
CASTYEAR	No
CRUISE	No

(continued)

	NULLs?
LOCATION	No
LATITUDE	No
LONGITUDE	No
UTCDATETIME	No
WATERSAMPLE	No
ASSOC_OCC_SITEID	Yes
ASSOC_REA_SITE	No
OFFSHORE_YN	No
SURVEY_DESIGN	No

## Check for NULLs in all data fields

“No” signifies that no NULL data exist. “Yes” signifies that NULL values are present. NULL values may be present in data fields if there were bad or missing data in a cast.

	NULLs?
PRESSURE_DB	No
DEPTH_M	No
TEMP_DEGC	Yes
COND_S_PER_M	Yes
SALN_PSU	Yes
DENSITY_SIGMAT	Yes

[1] “The following casts are missing at least one temperature value:”

Casts missing temperature values
HA1401_GUA_SN4282_008
HA1401_TIN_SN4818_002
HA1401_SAI_SN4818_007
HA1401_PAG_SN4818_008
HA1401_ASC_SN4818_003
HA1401_MAU_SN4282_007
HA1401_GUA_SN4282_005
HA1401_GUA_SN4282_003

[1] “The following casts are missing at least one salinity value:”

Casts missing salinity values
HA1401_GUA_SN4282_008
HA1401_TIN_SN4818_002
HA1401_SAI_SN4818_007
HA1401_PAG_SN4818_008
HA1401_ASC_SN4818_003
HA1401_MAU_SN4282_007

*(continued)*

Casts missing salinity values
HA1401_GUA_SN4282_004
HA1401_GUA_SN4282_005
HA1401_GUA_SN4282_003

## Check for data values out of expected ranges

Make sure that the CTD data values are within a reasonable range. Parameters with “Yes” flags are outside a general expected range (but may not necessarily be incorrect).

	Min	Max	Flag
PRESSURE_DB	1.006	28.167	No
DEPTH_M	1	28	No
TEMP_DEGC	23.988	29.3577	No
COND_S_PER_M	5.152079	5.782051	No
SALN_PSU	31.4464	35.8348	No
DENSITY_SIGMAT	19.4724	23.7424	Yes

# Summary of casts

SHALLOWCTDID	LATITUDE	LONGITUDE	UTCDATETIME	ASSOC_OCC_SITEID	ASSOC_REA_SITE	SURVEY_DESIGN	MIN_DEPTH	MAX_DEPTH
HA1401_AGU_SN4282_013	14.85812	145.5525	2014-04-08 00:05:00	NA	AGU-281	Stratified_Random	1	14
HA1401_ALA_SN4282_005	17.61069	145.8165	2014-05-02 03:07:00	NA	ALA-69	Stratified_Random	1	20
HA1401_ASC_SN4282_001	19.67973	145.4137	2014-04-24 03:03:00	NA	ASC-317	Stratified_Random	1	11
HA1401_ASC_SN4282_002	19.68353	145.3880	2014-04-24 23:34:00	NA	ASC-324	Stratified_Random	1	15
HA1401_ASC_SN4818_001	19.70199	145.3933	2014-04-23 22:19:00	OCC-ASC-008	ASC-03	Permanent	1	23
HA1401_ASC_SN4818_002	19.70829	145.4030	2014-04-23 23:21:00	OCC-ASC-001	ASC-04	Permanent	1	26
HA1401_ASC_SN4818_003	19.67693	145.4108	2014-04-24 04:29:00	OCC-ASC-003	ASC-20	Permanent	1	25
HA1401_ASC_SN4818_004	19.68036	145.3915	2014-04-24 23:28:00	OCC-ASC-004	ASC-02	Permanent	1	25
HA1401_ASC_SN4818_005	19.69026	145.3885	2014-04-25 01:15:00	OCC-ASC-005	ASC-06	Permanent	1	17
HA1401_FDP_SN4282_003	20.54501	144.9039	2014-04-26 01:54:00	NA	FDP-230	Stratified_Random	1	16
HA1401_GUA_SN4282_001	13.57234	144.8233	2014-03-25 01:46:00	NA	GUA-1593	Stratified_Random	1	15
HA1401_GUA_SN4282_002	13.24282	144.7145	2014-03-26 01:07:00	NA	GUA-1376	Stratified_Random	1	11
HA1401_GUA_SN4282_003	13.36006	144.6374	2014-03-26 23:54:00	NA	GUA-1601	Stratified_Random	1	14
HA1401_GUA_SN4282_004	13.40656	144.7856	2014-03-27 23:48:00	NA	GUA-1421	Stratified_Random	1	13
HA1401_GUA_SN4282_005	13.31137	144.7740	2014-03-28 01:29:00	NA	GUA-1422	Stratified_Random	1	12
HA1401_GUA_SN4282_006	13.45443	144.8409	2014-03-29 00:51:00	NA	GUA-1435	Stratified_Random	1	15
HA1401_GUA_SN4282_007	13.60560	144.9160	2014-03-30 01:02:00	NA	GUA-1472	Stratified_Random	1	11
HA1401_GUA_SN4282_008	13.33920	144.6323	2014-03-31 00:17:00	NA	GUA-2537	Random	1	14
HA1401_GUA_SN4282_009	13.47107	144.6913	2014-04-04 02:59:00	NA	GUA-1503	Stratified_Random	1	19
HA1401_GUA_SN4818_002	13.57850	144.8283	2014-03-24 23:01:00	OCC-GUA-022	GUA-05	Permanent	1	14
HA1401_GUA_SN4818_003	13.52894	144.8004	2014-03-25 02:32:00	OCC-GUA-015	GUA-20	Permanent	1	21
HA1401_GUA_SN4818_004	13.52918	144.7898	2014-03-25 03:59:00	NA	GUA-2538	Random	1	26
HA1401_GUA_SN4818_005	13.24126	144.7044	2014-03-25 23:06:00	OCC-GUA-009	GUA-21	Permanent	1	16
HA1401_GUA_SN4818_006	13.23109	144.7011	2014-03-26 00:41:00	NA	GUA-2539	Random	1	25
HA1401_GUA_SN4818_007	13.30544	144.6526	2014-03-27 00:08:00	OCC-GUA-021	GUA-02	Permanent	1	19
HA1401_GUA_SN4818_008	13.29157	144.7677	2014-03-28 00:25:00	OCC-GUA-007	GUA-13	Permanent	1	14
HA1401_GUA_SN4818_009	13.48874	144.8780	2014-03-28 22:41:00	OCC-GUA-023	GUA-08	Permanent	1	15
HA1401_GUA_SN4818_010	13.47516	144.8649	2014-03-29 01:37:00	OCC-GUA-005	GUA-22	Permanent	1	20
HA1401_GUA_SN4818_011	13.46898	144.8715	2014-03-29 02:58:00	NA	GUA-2540	Random	1	26
HA1401_GUA_SN4818_012	13.60330	144.9236	2014-03-29 23:32:00	OCC-GUA-002	GUA-23	Permanent	1	20
HA1401_GUA_SN4818_013	13.61100	144.9285	2014-03-30 00:59:00	NA	GUA-2532	Random	1	26
HA1401_GUA_SN4818_014	13.44874	144.6259	2014-04-04 01:34:00	OCC-GUA-012	GUA-12	Permanent	1	23
HA1401_GUG_SN4282_009	17.30117	145.8330	2014-05-05 23:57:00	NA	GUG-230	Stratified_Random	1	14
HA1401_MAU_SN4282_004	20.02320	145.2298	2014-04-28 00:47:00	NA	MAU-539	Stratified_Random	1	9
HA1401_MAU_SN4282_006	20.01353	145.2084	2014-05-03 03:03:00	NA	MAU-550	Stratified_Random	1	12
HA1401_MAU_SN4282_007	20.03434	145.2278	2014-05-04 00:28:00	NA	MAU-575	Stratified_Random	1	13
HA1401_MAU_SN4282_008	20.01595	145.2370	2014-05-05 03:25:00	NA	MAU-584	Stratified_Random	1	13
HA1401_MAU_SN4818_006	20.01344	145.2089	2014-04-28 00:48:00	OCC-MAU-028	MAU-11	Permanent	1	24
HA1401_MAU_SN4818_007	20.01312	145.2081	2014-04-28 02:57:00	OCC-MAU-008	MAU-20	Permanent	1	21
HA1401_MAU_SN4818_008	20.00606	145.1994	2014-04-28 03:49:00	NA	MAU-1058	Random	1	27
HA1401_MAU_SN4818_009	20.01416	145.2341	2014-05-02 22:45:00	OCC-MAU-027	MAU-04	Permanent	1	18
HA1401_MAU_SN4818_010	20.03570	145.2247	2014-05-03 01:38:00	OCC-MAU-002	MAU-05	Permanent	1	20
HA1401_MAU_SN4818_011	20.04552	145.2247	2014-05-03 03:03:00	NA	MAU-1059	Random	1	25
HA1401_MAU_SN4818_012	20.02974	145.2084	2014-05-03 22:24:00	OCC-MAU-013	MAU-09	Permanent	1	21
HA1401_MAU_SN4818_013	20.02033	145.2397	2014-05-04 01:05:00	OCC-MAU-005	MAU-12	Permanent	1	18
HA1401_MAU_SN4818_014	20.02127	145.2503	2014-05-04 02:18:00	NA	MAU-1060	Random	1	26
HA1401_MAU_SN4818_015	20.03530	145.2173	2014-05-05 02:27:00	OCC-MAU-014	MAU-21	Permanent	1	26
HA1401_PAG_SN4282_003	18.10662	145.7797	2014-04-20 01:15:00	NA	PAG-555	Stratified_Random	1	17
HA1401_PAG_SN4282_004	18.05942	145.7105	2014-04-21 00:19:00	NA	PAG-557	Stratified_Random	1	17
HA1401_PAG_SN4282_005	18.13127	145.8102	2014-04-22 00:17:00	NA	PAG-547	Stratified_Random	1	12
HA1401_PAG_SN4282_006	18.16903	145.7869	2014-04-23 00:18:00	NA	PAG-566	Stratified_Random	1	13
HA1401_PAG_SN4818_001	18.10726	145.7858	2014-04-19 22:17:00	OCC-PAG-020	PAG-01	Permanent	1	11
HA1401_PAG_SN4818_002	18.09612	145.7649	2014-04-20 01:34:00	OCC-PAG-006	PAG-13	Permanent	1	19
HA1401_PAG_SN4818_003	18.08829	145.7715	2014-04-20 02:22:00	NA	PAG-1167	Random	1	24
HA1401_PAG_SN4818_004	18.07095	145.7140	2014-04-20 23:23:00	OCC-PAG-023	PAG-09	Permanent	1	15
HA1401_PAG_SN4818_005	18.04564	145.7062	2014-04-21 03:10:00	OCC-PAG-009	PAG-20	Permanent	1	18
HA1401_PAG_SN4818_006	18.03921	145.6982	2014-04-21 05:39:00	NA	PAG-1168	Random	1	27
HA1401_PAG_SN4818_007	18.16824	145.7880	2014-04-21 23:37:00	OCC-PAG-021	PAG-03	Permanent	1	13
HA1401_PAG_SN4818_008	18.16784	145.7949	2014-04-22 01:09:00	OCC-PAG-002	PAG-21	Permanent	1	17
HA1401_PAG_SN4818_009	18.17768	145.7918	2014-04-22 02:30:00	NA	PAG-1169	Random	1	26
HA1401_PAG_SN4818_010	18.11947	145.7555	2014-04-22 23:03:00	OCC-PAG-013	PAG-22	Permanent	1	15
HA1401_PAG_SN4818_011	18.12014	145.7547	2014-04-23 01:43:00	OCC-PAG-013	PAG-22	Permanent	1	18
HA1401_PAG_SN4818_012	18.12308	145.7438	2014-04-23 02:57:00	NA	PAG-1172	Random	1	24
HA1401_PAG_SN4818_013	18.09764	145.7510	2014-04-23 05:45:00	OCC-PAG-011	PAG-23	Permanent	1	23
HA1401_ROT_SN4282_010	14.18962	145.2166	2014-04-04 23:36:00	NA	ROT-432	Stratified_Random	1	15
HA1401_ROT_SN4282_011	14.13043	145.1593	2014-04-06 01:43:00	NA	ROT-422	Stratified_Random	1	17
HA1401_ROT_SN4282_012	14.13083	145.1239	2014-04-07 00:26:00	NA	ROT-458	Stratified_Random	1	18
HA1401_ROT_SN4818_015	14.15836	145.1501	2014-04-05 01:56:00	OCC-ROT-014	ROT-06	Permanent	1	24
HA1401_ROT_SN4818_016	14.18314	145.2071	2014-04-05 04:32:00	OCC-ROT-001	ROT-05	Permanent	1	18
HA1401_ROT_SN4818_017	14.11395	145.1669	2014-04-06 00:29:00	OCC-ROT-003	ROT-03	Permanent	1	20
HA1401_SAI_SN4282_003	15.13651	145.6868	2014-04-11 00:58:00	NA	SAI-807	Stratified_Random	1	12
HA1401_SAI_SN4282_004	15.15068	145.7779	2014-04-12 01:29:00	NA	SAI-723	Stratified_Random	1	11
HA1401_SAI_SN4282_005	15.25458	145.7558	2014-04-18 01:01:00	NA	SAI-722	Stratified_Random	1	17
HA1401_SAI_SN4818_005	15.09785	145.7434	2014-04-10 22:56:00	OCC-SAI-009	SAI-05	Permanent	1	20
HA1401_SAI_SN4818_006	15.09412	145.7333	2014-04-11 00:23:00	NA	SAI-2108	Random	1	26
HA1401_SAI_SN4818_007	15.25866	145.8157	2014-04-11 23:45:00	OCC-SAI-005	SAI-20	Permanent	1	18
HA1401_SAI_SN4818_008	15.25341	145.8247	2014-04-12 01:07:00	NA	SAI-2109	Random	1	27
HA1401_SAI_SN4818_009	15.15608	145.7697	2014-04-12 05:30:00	OCC-SAI-007	SAI-03	Permanent	1	16
HA1401_SAI_SN4818_010	15.29062	145.8094	2014-04-13 01:40:00	OCC-SAI-002	SAI-21	Permanent	1	25
HA1401_SAI_SN4818_011	15.30110	145.8049	2014-04-13 02:57:00	NA	SAI-2110	Random	1	26
HA1401_SAI_SN4818_012	15.15645	145.6897	2014-04-16 23:53:00	OCC-SAI-012	SAI-23	Permanent	1	14
HA1401_SAI_SN4818_013	15.15814	145.6784	2014-04-17 04:40:00	NA	SAI-2111	Random	1	28
HA1401_SAI_SN4818_014	15.25657	145.7676	2014-04-17 22:33:00	OCC-SAI-016	SAI-22	Permanent	1	18
HA1401_SAI_SN4818_015	15.29061	145.8094	2014-04-17 23:50:00	OCC-SAI-002	SAI-21	Permanent	1	26
HA1401_SAR_SN4282_001	16.71584	145.7836	2014-04-19 01:06:00	NA	SAR-212	Stratified_Random	1	13
HA1401_SAR_SN4282_002	16.70019	145.7890	2014-04-19 03:05:00	NA	SAR-243	Stratified_Random	1	13
HA1401_TIN_SN4282_001	15.08631	145.6580	2014-04-08 22:46:00	NA	TIN-457	Stratified_Random	1	16

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SHALLOWCTDID	LATITUDE	LONGITUDE	UTCDATETIME	ASSOC_OCC_SITEID	ASSOC_REA_SITE	SURVEY_DESIGN	MIN_DEPTH	MAX_DEPTH
HA1401_TIN_SN4282_002	14.98478	145.6062	2014-04-10 01:28:00	NA	TIN-452	Stratified_Random	1	18
HA1401_TIN_SN4818_001	15.03462	145.6513	2014-04-09 00:25:00	OCC-TIN-002	TIN-01	Permanent	1	18
HA1401_TIN_SN4818_002	14.94086	145.6279	2014-04-10 00:39:00	OCC-TIN-004	TIN-02	Permanent	1	22
HA1401_TIN_SN4818_003	14.99057	145.6029	2014-04-10 02:13:00	OCC-TIN-005	TIN-03	Permanent	1	15
HA1401_TIN_SN4818_004	15.08041	145.6214	2014-04-10 04:48:00	OCC-TIN-001	TIN-06	Permanent	1	18