National Coastal Assessment-Northeast 2000-2006 Database

1) Database Overview

The data sets that make up the database are:

Date/Location Data:	STATIONS	Sampling Station Location Data
	EVENTS	Station Visit Data
Water Quality Data:	WATRPHYS	Water Quality Physical Measurements Data
	ATTENCO	Light Attenuation Data
	NUTRNTS	Water Quality Nutrients Data
Sediment Quality Data:	SEDGRAIN	Sediment Grain Size Data
	SEDTOX	Sediment Toxicity Test Data
	SEDCHEM	Sediment Chemistry Data
Benthic Community Data:	BEN_ABUN	Benthic Abundance Data
Fish Data:	FTRAWL	Standard Trawl Data
	FISH_CNT	Fish Counts by Species per Trawl
	FISHLEN	Fish Length and Pathology Data
	CRAB_LOB	Crab and Lobster Measurements
Tissue Chemistry	TISSCHEM	Fish crab and lobster Tissue Chemistry Data
Lookup Tables	BEN_TAXA	Benthic Taxonomy Information
	FISH_TAX	Fish Taxonomy Information
	ANALYTES	Chemical Analyte Information

2) **Data Set Descriptions:**

STATIONS - Sampling Station Location Data

This data set contains one record for each planned sampling station, with the planned latitude and longitude. The exact sampling location from each visit is recorded in the EVENTS data set, which may differ slightly from the planned locations. However, for analytical purposes, the station locations in the STATIONS data set should be used. The data set contains the following elements:

STATION	Coastal 2000 Station Name
STAT_ALT	Alternate Site Code (A,B,C)
STATE	State where Station is Located
ESTUARY	Estuary Name
STA_LAT	Latitude (decimal degrees, datum NAD83)
STA_LNG	Longitude (decimal degrees, datum NAD83)
ST_COOP	State Cooperative Agreement for Sampling
LOCAL_ID	Station Identifier Used by State
PROVINCE	EMAP Province Code
STRATA	Strata Station is located in
SYSTEM	Estuarine System station is located in
AREA	Statistical Area represented (sq. m)
ST_AREA	Area Represented by Strata (sq. m)
DSNPHASE	Sampling Design Phase (1,2, or 3)

The variable ST_COOP defines the Cooperative Agreement that the stations were sampled under and describes the purpose of the sampling. Note that some agreements involved sampling across state boundaries, so this code does not necessarily identify the state in which the station is located. The codes used are:

ST_COOP	Description	Time Period
CT	Connecticut	Phases 1, 2 & 3
CT-FSH	Connecticut Fish Survey	Phases 1, 2 & 3
DB	Delaware Bay	Phase 3
DE	Delaware Inland Bays	Phases 1 & 2
DI	Delaware Inland Bays	Phase 3
MA	Massachusetts	Phases 1, 2 & 3
MA-FSH	Massachusetts Fish Surveys	Phase 1
MD	Maryland	Phase 3
ME	Maine	Phases 1, 2 & 3
ME-LOB	Maine Lobster Sites	Phases 1, 2 & 3
NH	New Hampshire	Phases 1, 2 & 3
NJ	New Jersey	Phase 3
NJ-C	New Jersey Coast	Phases 1 & 2
NJ-DB	New Jersey/Delaware Bay	Phases 1 & 2

NY	New York	Phases 1, 2 & 3
RI	Rhode Island	Phases 1, 2 & 3
RI-FSH	Rhode Island Fish Surveys	Phases 1, 2 & 3
VA	Virginia	Phase 3

EVENTS - Station Visit Data

This data set contains one record for each sampling visit to a station. There may be multiple records per station. The actual latitude and longitude for a visit may differ slightly from the planned latitude and longitude included in the STATIONS data set. The two variables STATION and EVNTDATE make up the unique identifier for this data set.

Variables:

STATION	Station Identifier
STAT_ALT	Station Location (A,B or C)
EVNTDATE	Event Date
VISNUM	Number of Visit to this Station
STADEPTH	Depth of Water at Station (m)
EVNT_LAT	Event Latitude (decimal degrees, datum NAD83
EVNT_LNG	Event Longitude (decimal degrees, datum NAD83)
SAV	Submerged Aquatic Vegetation visible
MACROALG	Macro-Algae present at Station

WATRPHYS - Water Quality Data-Physical Measurements

This data set contains surface and bottom measurements of temperature, salinity, dissolved oxygen and pH collected in the field during sampling. At shallow stations, the surface and bottom values may be identical. The variables SL_DEPTH and BL_DEPTH provide the depth at where surface and bottom values were measured. Note: at shallow stations, the surface and bottom values may be from the same depth. Secchi Depth measurements are also present. This data set contains one record for each sampling event where CTD casts were performed.

Variables:

STATION	Station Name
STAT_ALT	Station Location (A,B or C)
EVNTDATE	Date of Sampling Event
SECCHI_D	Secchi Depth (meters)
SECC_BOT	Secchi Disk on Bottom?
SL_TEMP	Surface Layer-Temperature from CTD (deg. C)
SL_SAL	Surface Layer-Salinity from CTD (ppt)
SL_OXY	Surface Layer-Dissolved Oxygen from CTD (mg/l)
SL_PH	Surface Layer-pH (pH units)
SL_DEPTH	Surface Reading Depth (m)

BL_TEMP	Bottom Layer-Temperature from CTD (deg. C)
BL_SAL	Bottom Layer-Salinity from CTD (ppt)
BL_OXY	Bottom Layer-Dissolved Oxygen from CTD (mg/l)
BL_PH	Bottom Layer-pH (pH units)
BL_DEPTH	Bottom Reading Depth (m)
QACODE	QA Qualifier Code

ATTENCO- Water Quality - Light Attenuation

This data set contains water a summary measure of PAR readings from the water column. The attenuation coefficient is computed from multiple Photo active Radiation (PAR) readings from different depths. PAR readings at depth should be normalized to surface PAR readings. In many cases this normalization was not possible because surface Par readings were not recorded. These cases are flagged with QACODE values of "PAR-A".

The variable PAR_RECS indicates how many different measures were used to compute the coefficient. The coefficient can not computed for stations with less then two PAR readings. The coefficient is considered unreliable where there are fewer than four readings, so these cases are flagged with QACODE values of "PAR-B". Attenuation coefficients less then zero are not valid. Cases where the regression equation resulted in a coeficient of less than zero are flagged with QACODE values of "PAR-C". The coefficient was recoded to zero in these cases.

Variables:

STATION	Station Identifier
STAT_ALT	Station Location (A,B or C)
EVNTDATE	Event Date
ATTENCO	PAR Attenuation Coefficient
PAR_RECS	Number of Par readings
QACODE	QA Qualifier Code

NUTRNTS - Water Quality - Nutrients Data

This data set contains water chemistry measurements derived from laboratory analyses of water samples collected in the field. This dataset contains multiple records per station. Typical stations have both surface and bottom layer sample results and deep stations have additional mid-water sample results. The water layer is recorded in the variable LAYER Shallow stations have may have only one sample analyzed (LAYER="Single"). There is one record for each analyte measured for each replicate at each water level. Most stations have at least 5 analytes measured.

Samples collected by different states were analyzed by different laboratories, for different analytes. The labs are identified by LABCODE.

Variables:

STATION	Station Identifier
STAT_ALT	Station Location (A,B or C)
EVNTDATE	Event Date
LAYER	Water Layer of Nutrients Sample
ANALYTE	Analyte Code
CONC	Concentration
UNITS	Unit of Measure
QACODE	QA Qualifier Code
MDL	Method Detection Limit
LABCODE	Lab identifier

The following analyte codes are used

Code	Description
NH4	Dissolved Ammonia (mg/L as N)
NO23	Dissolved Nitrite and Nitrate (mg/L as N)
NO2	Dissolved Nitrite (mg/L as N)
NO3	Dissolved Nitrate (mg/L as N)
PO4F	Dissolved Orthophosphate (mg/L as P)
TN	Total Nitrogen (mg/L)
TP	Total Phosphorus (mg/L)
TSS	Total Suspended Solids (mg/L)
CHLA	Chlorophyll *a* (ug/L)

SEDGRAIN

This data set contains sediment grain size and moisture content measurements. The sediment analyzed for these measurements came from the same sediment homogenate that was analyzed for chemical contamination and toxicity.

STATION	Station Identifier
STAT_ALT	Station Location (A,B or C)
EVNTDATE	Event Date
SILTCLAY	Silt/Clay Content (%)
SAND	Sand Content (%)
MOISTURE	Moisture Content (%)
TOC	Total Organic Carbon (%)
LABCODE	Contract/Lab Identifier

SEDTOX - Sediment Toxicity

This data set contains summary results from an ampelisca survival test. SRVPCCON represents the mean survival of animals in sample sediments as a percent of the survival of animals in clean control sediment. (Lower SRVPCCON values indicate higher toxicicity). SRVPC_SG indicates whether the difference in survival between sample tests and controls is statistically significant. ATOX_SIG describes the biological significance of the results ("NT"= not toxic, "<80%"=toxic, "<60%"=very toxic).

STATION	Station Name
STAT_ALT	Alternate Site Code (A,B,C)
EVNTDATE	Date of Sampling Event
SRVPCCON	Ampelisca Survival as % of Control
SRVPC_SG	Statistical Significance (p<.05)
ATOX_SIG	Ampelisca Toxicity Test Significance
QACODE	QA Qualifier Code
LABCODE	Lab identifier

SEDCHEM - Sediment Chemistry Data

This data set contains sediment chemistry measures. There are multiple records for each event - one record for each concentration measured per station visit. Three variables make up the unique identifier for records in this data set: STATION, STAT_ALT, and ANALYTE.

A concentration value is provided for every analyte unless the concentration could not be detected by the lab instruments. In these cases, the detection limit is present (MDL), and the QACODE is set to "CHM-A". If the analyte was detected but at a level below the detection limit, the concentration is reported and the QACODE is set to "CHM-B". The detection limit is provided in this case also.

STATION	Station Name
STAT_ALT	Alternate Site Code (A,B,C)
EVNTDATE	Event Date
ANALYTE	Chemical Analyte Code
CONC	Concentration
QACODE	QA Qualifier Code
MDL	Detection Limit
CHMUNITS	Concentration Unit of Measure
LABCODE	Contract/Lab Identifier
ANALTYPE	Analysis Type (METALS PAHs PCBs or PEST)

BEN_ABUN - Benthic Abundance Data

This data set contains benthic abundance measurements from a single sample collected at each station. It contains one record for each taxon found per grab. Three fields are needed to uniquely identify a record: STATION, STAT_ALT and LAT_NAME. The variable ID_LEVEL describes the level at which the organism was identified (SPECIES, GENUS, FAMILY, etc.)

GRABSIZE defines the size of the grab sampler that collected the sample. The TSN can be used to look up taxonomic information for the taxa in the table BEN_TAXA. This table includes the current scientific name for the taxa as used in the Integrated Taxonomic Information System (ITIS). The current name may differ from the Latin Name in this table if the organism has been renamed.

STATION	Station Name
STAT_ALT	Alternate Site Code (A,B,C)
EVNTDATE	Event Date
LAT_NAME	Taxa Latin Name
TSN	Taxonomic Serial Number
ABUNDANC	Taxa Abundance in sample
ID_LEVEL	Taxonomic Level of Identification
GRABSIZE	Size of Benthic Grab Sampler
LABCODE	Contract/Lab Identifier

FTRAWL - Standard Trawl Data

This data set contains one record for each standard fish trawl. Only one standard trawl was performed per station visit. Additional, non-standard trawls were sometimes performed at stations to catch fish for chemistry samples but those trawls are not recorded. The different states performed different types of trawls. The trawl type is identified by the variable FTRLTYPE. If the trawl could not be completed successfully, its status is recorded in the variable FTRLFLAG

Two fields are needed to uniquely identify a record: STATION and EVNTDATE.

STATION	Station Name
STAT_ALT	Station Location (A,B or C)
EVNTDATE	Event Date
FTRLTYPE	Type of Fish Trawl
FTRLFLAG	Status of Completed Fish Trawl
FSPECCNT	Total Fish Species in Trawl (#)
FT_DUR	Duration of Fish Trawl (mmss)
FWTR_SPD	Trawl Speed through Water (knots)
BEG_LAT	Fish Trawl Beginning Latitude (dd)
BEG_LNG	Fish Trawl Beginning Longitude (dd)
END_LAT	Fish Trawl End Latitude (dd)
END_LNG	Fish Trawl End Longitude (dd)
FTRAWLID	Fish Trawl Identifier

The following FTRLTYPE codes are used:

FTRLTYPE	Description	Planned Trawl Time

EPA	EMAP Standard trawl	10 minute
CT	Connecticut Fish Survey Trawl	30 minutes
NH	New Hampshire (modified Standard Trawl)	4 minutes

FISH_CNT - Fish Counts by Species per Trawl

This data set contains one record for each species of fish caught in the trawl, and provides a count of individual fish, and their mean fork length. Four fields are needed to uniquely identify a record: STATION, EVNTDATE, FCOMNAME, and F_CLASS

STATION	Station Name
STAT_ALT	Station Location (A,B or C)
EVNTDATE	Date of Sampling Event
FCOMNAME	Fish Taxa Common Name
F_CLASS	Fish Size Classification
F_COUNT	Number of this Fish Taxa caught
FTRAWLID	Fish Trawl Identifier

FISHLEN - Fish Length and Pathology Data

This dataset contains records on individual fish caught in standard trawls. Where large numbers of fish were caught, a random sub-sample were measured. This dataset does not contain a record for every fish caught. The record notes any pathologies noted by the field crew. Five fields are needed to uniquely identify a record: STATION, EVNTDATE, FCOMNAME, F_CLASS, AND FSEQNUM.

STATION	Station Identifier
STAT_ALT	Station Location (A,B or C)
EVNTDATE	Date of Sampling Event
FCOMNAME	Fish Taxa Common Name
F_CLASS	Size Classification
FSEQNUM	Fish Sequence Number
FLENGTH	Length (cm)
COMP_ID	Fish Chemistry Composite Identifier
LUMPS	Fish Pathology: Lumps
LUMP_LOC	Loccations of Lumps
GROWTHS	Fish Pathology: Growths
GRWTHLOC	Locations of Growths
ULCERS	Fish Pathology: Ulcers
ULCERLOC	Locations of Ulcers
FINROT	Fish Pathology: Fin Erosion
FROT_LOC	Locations of Fin Erosion
GILL_ER	Fish Pathology: Gill Erosion
GE_LOC	Locations of Gill Erosion

GILL_DC	Fish Pathology: Gill Discoloration
GD_LOC	Locations of Gill Discoloration
FTRAWLID	Fish Trawl Identifier

CRAB_LOB- Crab and Lobster Measurements

This dataset contains records on invertebrates caught at stations by trawling or in traps. This dataset may not contain a record for every invertabrate caught. . Five fields are needed to uniquely identify a record: STATION, EVNTDATE, FCOMNAME, SEX, and FSEQNUM

STATION	Station Identifier
STAT_ALT	Station Location (A,B or C)
EVNTDATE	Date of Sampling Event
FCOMNAME	Taxa Common Name
FSEQNUM	Sequence Number
C_WIDTH	Carapace Width (mm)
SEX	Sex of Animal
FTRAWLID	Fish Trawl Identifier

TISSCHEM - Tissue Chemistry Data

This data set contains chemistry measures from fish, crab, and lobster composite tissue samples. There are multiple records for each event - one record for each concentration measured per composite sample replicate. There were up to three composite samples (different species) collected at stations, and some samples were analyzed in replciate. Five variables make up the unique identifier for records in this data set: STATION, STAT_ALT, FCOMNAME, TISS_TYPE, REP_NUM and ANALYTE.

A concentration value is provided for every analyte unless the concentration could not be detected by the lab instruments. In these cases, the detection limit is present (MDL), and the QACODE is set to "CHM-A". If the analyte was detected but at a level below the detection limit, the concentration is reported and the QACODE is set to "CHM-B". The detection limit is provided in this case also.

STATION	Station Identifier
STAT_ALT	Station Location (A,B or C)
EVNTDATE	Event Date
FCOMNAME	Fish Taxa Common Name
TISS_TYPE	Type of Tissue analytzed
MN_SIZE	Mean Size of Animals in Homogenate
NUM_HOM	Number of Animals in Homogenate
PCTLIPID	Percent Lipid Content
WETWGHT	Sample Wet Weight
ANALYTE	Analyte Code

CONC	Concentration of Analyte in Sample
CHMUNITS	Unit of Measure
QACODE	QA Code
MDL	Detection Limit
ANALMETH	Analysis Method Code
LABID	Laboratory Identifier

BEN_TAXA - Benthic Taxonomy Information

This dataset contains the most up-to-date taxonomic information available for benthic organisms idenitified by TSN in the BEN_ABUN dataset. The taxonomic name (TSN_NAME) in this dataset may diff from the latin name recorded in the BEN_ABUN dataset if a more current name is in use by ITIS.

TSN	ITIS Taxonomic Serial Number
TSN_NAME	Latin Name currently used by ITIS
PHYLUM	Taxonomic Phylum
CLASS	Taxonomic Class
ORDER	Taxonomic Order
FAMILY	Taxonomic Famiy
GENUS	Taxonomic Genus

FISH_TAX - Fish Taxonomy Information

This dataset contains Latin names and Integrate Taxonomic Information System (ITIS) Taxonomic Serial Numbers for the common names of fish, crabs and lobsters found in the FISHLEN and CRAB_LOB datasets.

FCOMNAME	Common Name
FSCINAME	Scientific (Latin) Name
TSN	ITIS Taxonomic Serial Number

ANALYTES Chemical Analyte Information

This dataset provides full chemical names an Chemical Abstract Society (CAS) Numbers for the chemical analyte codes used in the SEDCHEM and TISSCHEM datasets.

ANALYTE	Chemical Analyte Code
CHEMNAME	Full Chemical Name
CASNUM	CAS Number