

Dataset Originator: *Frank O. Nitsche*

Publication Date: *2025-08-11*

Dataset Title: *LIS4 LDEO Benthic Geology subbottom tracks*

Online Linkage: *<https://www.marine-geo.org/collections/#!/collection/LIS>*

Abstract: *Subbottom Chirp data from the Eastern Long Island Sound acquired using an EdgeTech 3400-OTS Chirp system (2-16kHz sweep frequency). The data are track line data derived from the SEG Y data files with basic additional information about each line. Survey has been broken up in individual north-south or east- west trending lines.*

Dataset purpose: *The subbottom data have been collected to reveal subsurface geometry and thickness of sediment layers and to guide subsequent sediment coring. They are being used for the characterization of sedimentary environments. The track data allow displaying the location of the subbottom seismic data in a GIS environment.,*

Time period of content: *2024-08-04 to 2025-05-18*

Dataset Status: *complete*

Update Frequency: *none planned*

Theme Keywords: *Long Island Sound, seismic, subbottom*

Access Constraints: *none*

Use Constraints: Data and metadata are licensed under a [Creative Commons Attribution-CC BY4 License](#). Appropriate acknowledgment with a byline/credit/link **must** be given to both the original scientists/data contributors by reference to their relevant publications and to the Marine Geoscience Data System (www.marine-geo.org). Where citation information has been provided to us by scientists it is included with the relevant database entries, and should be acknowledged when data are used.

Users are strongly encouraged to contact the original investigators responsible for data made available on this site. Where appropriate, researchers are also encouraged to consider collaboration and/or co-authorship with original investigators.

Data should not be used for navigation purposes.

Point of Contact: *Frank Nitsche, Lamont-Doherty Earth Observatory of Columbia University, fnitsche@ldeo.columbia.edu*

Dataset Credit: *LIS mapping project, Frank O. Nitsche*

Data Quality Considerations: These are minimally processed data.

Attribute accuracy: *Location is based on DGPS. Vertical axis is two-way-travel time. Accurate depth would depend on sound velocity of the water. Vertical offset could be up to a meter but should usually be of the order of 10 cm.*

Completeness: *The dataset is complete.*

Positional accuracy: *Location is based on DGPS using the ship GPS antenna. Lateral offset between antenna and towed fish has been corrected. Resulting absolute uncertainty could be of the order of 1-2 m, but relative error inside the line is less.*

Process Steps: *The original Chirp data have been corrected for layback and tides and adjusted vertically to fit the bathymetry data. A basic swell filter was applied. The processing was done using EdgeTech Discovery software and Chesapeake SonarWIZ.*

Attributes: Line: is the line name and identifier of each track line.

survey: The name of the survey during which the data were collected

num_shot; The number of individual traces or shots in each track line

start_time: date and time of the start of the line

end_time: date and time of the end of the line

system: the name of the subbottom system used to collect the data

length: the length of each line in kilometers.

Metadata reference: *Frank Nitsche, Lamont-Doherty Earth Observatory of Columbia University, fnitsche@ldeo.columbia.edu*