

## Ocean Exploration CTD Summary, EX2102\_CTD0012\_20210526

This form contains metadata information summarizing CTD casts completed in support of ocean exploration objectives. All CTD data is archived with the National Centers for Environmental Information. For CTD specific or expedition specific inquiries, please contact [oceanexplorer@noaa.gov](mailto:oceanexplorer@noaa.gov). For assistance with data access, please contact [ncei.info@noaa.gov](mailto:ncei.info@noaa.gov).

**Table 1. General Expedition and CTD information**

<b>Expedition Name</b>	2021 Technology Demonstration
<b>Project ID</b>	EX-21-02
<b>CTD Cast Date (UTC)</b>	May, 26, 2021
<b>CTD Cast Name</b>	EX2102_CTD012_20210526
<b>CTD Number</b>	CTD012
<b>Expedition Coordinator</b>	Michael P. White, NOAA Ocean Exploration/Cherokee Federal
<b>Mapping Lead</b>	Derek Sowers, NOAA Ocean Exploration/Cherokee Federal
<b>Science Lead</b>	Katharine Egan, NOAA Ocean Exploration
<b>Science Lead</b>	Meredith Everett, NOAA Northwest Fisheries Science Center
<b>CTD Operator</b>	Danielle Power, NOAA Ship <i>Okeanos Explorer</i>
<b>General Area Descriptor</b>	U.S. Southeast
<b>Site Name</b>	Cape Hatteras
<b>CTD Purpose</b>	Collect water samples for eDNA analysis

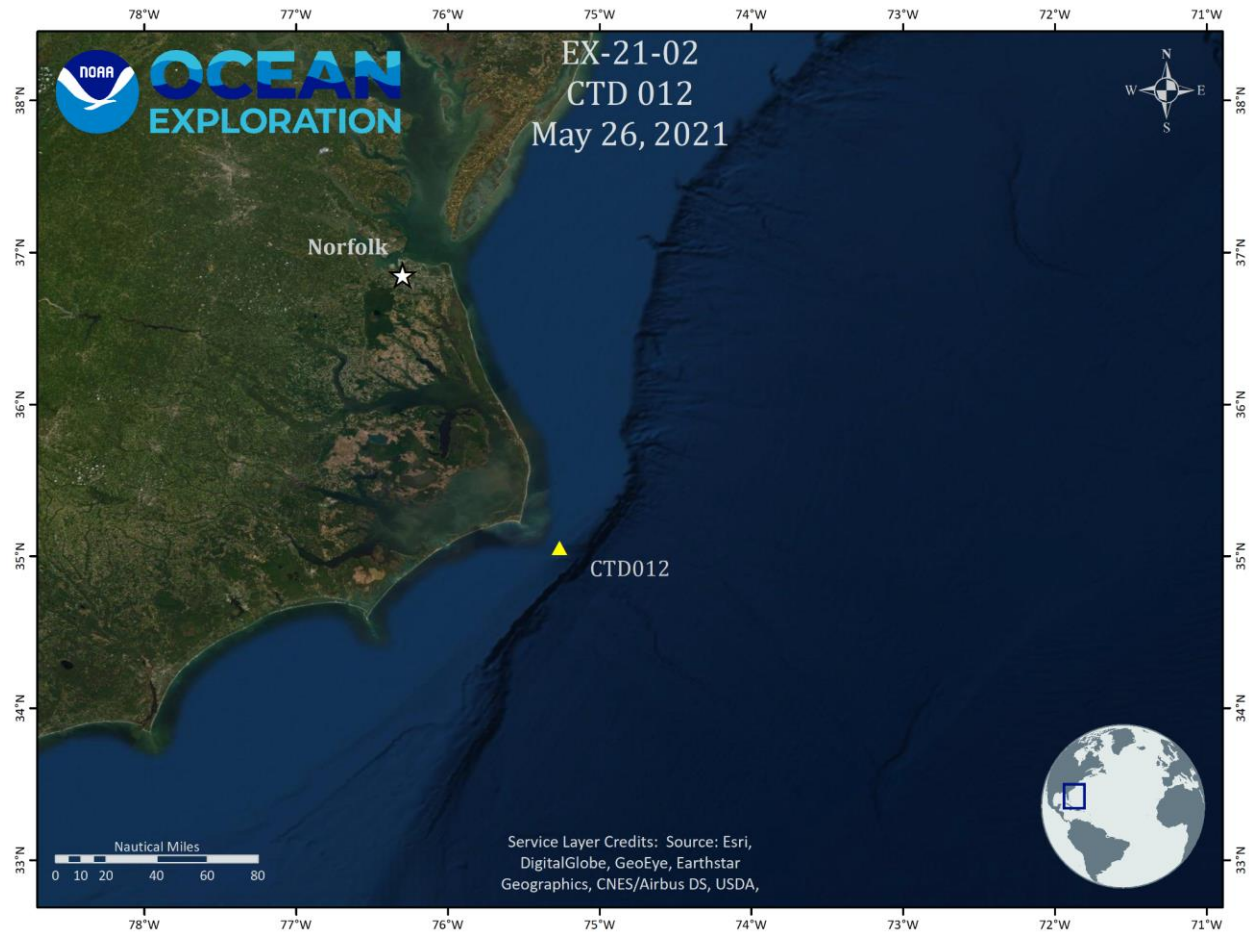


Figure 1. Map of CTD012 Location (yellow triangle).

Table 2a and 2b. CTD Cast Location, Depth, Time and Sensor Data

2a. Locations are the ship's position. Coordinates in World Geographic System 1984.

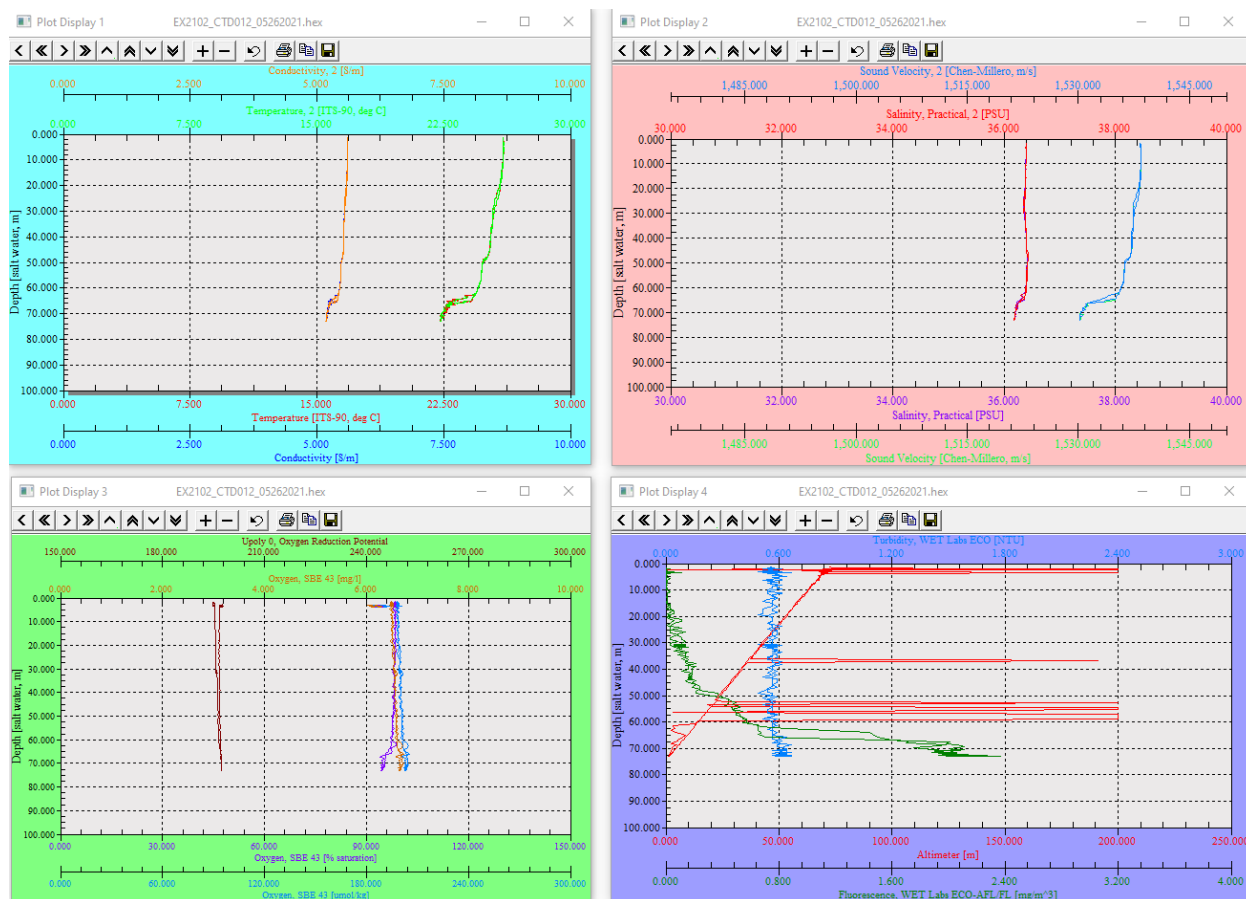
Deployment latitude/longitude (decimal degrees)	35.05326°	-75.2676°
Deployment Time (UTC)	14:20:31	
CTD Max Depth (meters)	70.745	
Recovery latitude/longitude (decimal degrees)	35.05326°	-75.2676°

<b>Recovery Time (UTC)</b>	<b>14:29:29</b>
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## 2b. Environmental Sensor Information

Sensors are calibrated yearly or more frequently as required. Calibration information and files are stored with the sensor data.

<b>Data Type</b>	<b>Sensor Name</b>	<b>Collected (Yes/No)</b>	<b>Data Issues/Notes</b>
<b>Depth</b>	<b>SBE-9plus</b>	<b>Yes</b>	
<b>Conductivity 1</b>	<b>SBE-9plus</b>	<b>Yes</b>	
<b>Conductivity 2</b>	<b>SBE-9plus</b>	<b>Yes</b>	
<b>Temperature 1</b>	<b>SBE-9plus</b>	<b>Yes</b>	
<b>Temperature 2</b>	<b>SBE-9plus</b>	<b>Yes</b>	
<b>Dissolved Oxygen</b>	<b>SBE-43</b>	<b>Yes</b>	
<b>Turbidity</b>	<b>ECO-FLNTU</b>	<b>Yes</b>	
<b>Oxygen Reduction Potential</b>	<b>PMEL</b>	<b>Yes</b>	



**Figure 2: Plot of CTD Data.** Conductivity and temperature are in the upper left, salinity is in the upper right, oxygen and oxygen reduction potential are in the lower left, and the turbidity and fluorescence are in the lower right.

### Water Sample Collections

<p><b>Purpose of Water Sample Collection</b></p>	<p>Samples were collected for onshore eDNA analysis</p>
<p><b>Description of processing/analysis at sea</b></p>	<p>2 liters of seawater from each Niskin bottle were filtered through a 0.45 <math>\mu\text{m}</math> filter. Filters were stored in 5 mL Eppendorf tubes containing 3 mL of Longmire's Buffer solution.</p>

<b>Description of at-sea storage</b>	<b>Sample filters were stored in a Longmire's lysis buffer solution</b>
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**Table 3. Niskin Bottles and Depth**

<b>Niskin Bottle Number</b>	<b>Time (UTC)</b>	<b>Depth (meters)</b>	<b>Notes</b>
<b>1</b>	<b>14:24:27</b>	<b>70.906</b>	
<b>2</b>	<b>14:24:36</b>	<b>71.608</b>	
<b>3</b>	<b>14:26:13</b>	<b>30.77</b>	
<b>4</b>	<b>14:26:24</b>	<b>31.041</b>	
<b>5</b>	<b>14:27:37</b>	<b>2.466</b>	
<b>6</b>	<b>14:27:47</b>	<b>3.286</b>	
<b>7</b>	<b>Not fired</b>	<b>Not fired</b>	
<b>8</b>	<b>Not fired</b>	<b>Not fired</b>	
<b>9</b>	<b>Not fired</b>	<b>Not fired</b>	
<b>10</b>	<b>Not fired</b>	<b>Not fired</b>	
<b>11</b>	<b>Not fired</b>	<b>Not fired</b>	
<b>12</b>	<b>Not fired</b>	<b>Not fired</b>	

**Figures:**

**Notes:**

<b>Please direct inquiries to:</b>	<b>NOAA Office of Ocean Exploration &amp; Research 1315 East-West Highway, SSMC3 Silver Spring, MD 20910</b>
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