Final Deliverables Report

Agreement M14AC00008: Maine Geological Survey's "Aggregate Exploration and Habitat Classification: Tools for Building Resiliency in Maine"

Lead Agency: Maine Coastal Zone Management Program

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Summary of Maine Cooperative Agreement Data and Files
included within
'MCMI Multibeam Products for BOEM'

The Maine Coastal Program's Maine Coastal Mapping Initiative (MCMI) acquires seafloor and marine habitat information including bathymetry and backscatter data, sediment information, fauna type and abundance, and water column data. The data contribute to numerous ongoing efforts including identification and characterization of potential sand and gravel resources that may be used for beach replenishment, assessment of nearshore sand movement over time to inform beach nourishment projects, investigations of cable areas and other State Submerged Lands Programs interest areas, and marine habitat modeling. This project also provides new data that are incorporated into National Oceanic and Atmospheric Administration (NOAA) nautical charts. These data are acquired and processed to meet Office of Coast Survey bathymetry standards, and are shared with the UNH-NOAA Joint Hydrographic Center / Center for Coastal and Ocean Mapping for review. Data collected under the 2014-2019 cooperative agreement with the Bureau of Ocean Energy Management (BOEM) are detailed below.
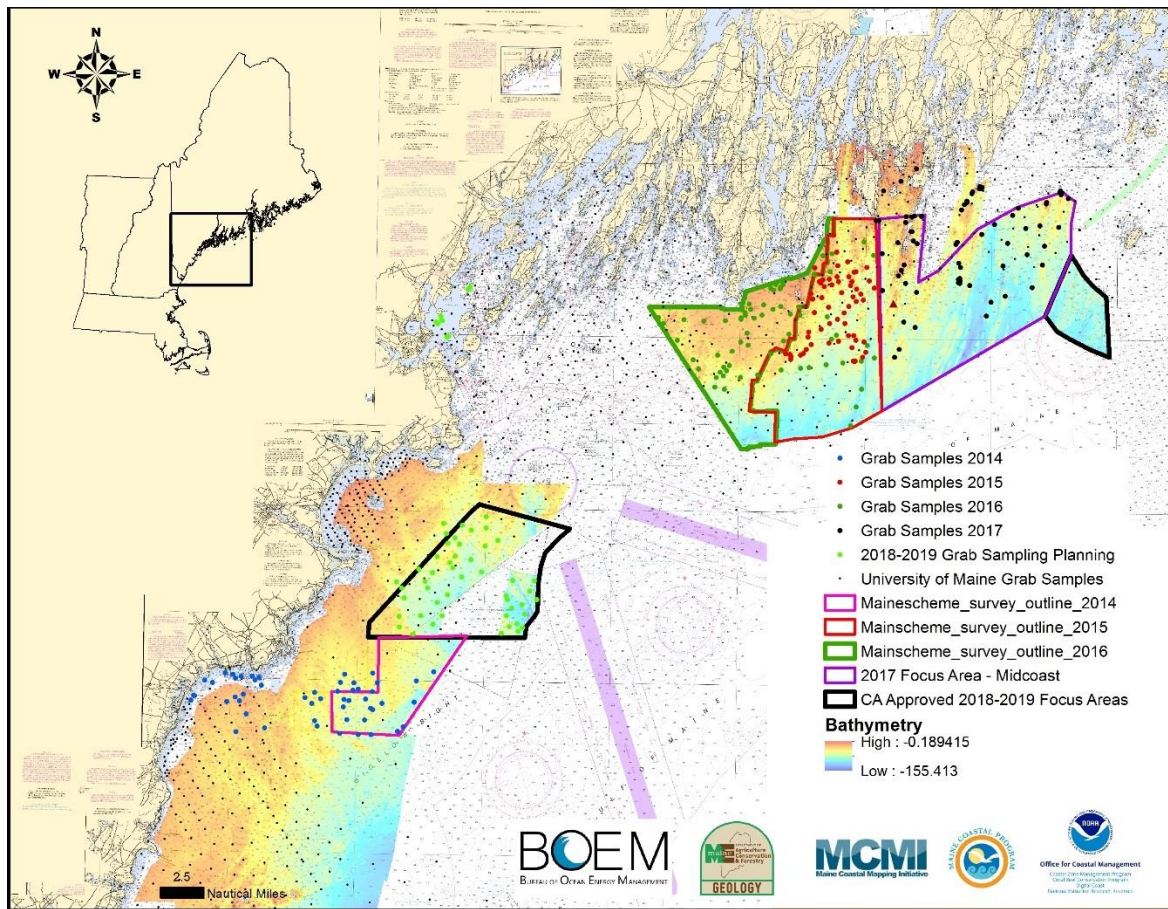

Figure 1. Focus Areas for M14AC00008 2014-2019. This map is also provided as a standalone product in the deliverables package. The complete Saco Focus Area will be added to the map once the data are post-processed.

2014 Data

Deliverable: *Geological-Bottom Samples*
> **Content description:** grab sample field logs, field pictures, seafloor images, and seafloor video collected during 2014.

Deliverable: *2014 Mainscheme Focus Area Multibeam Data*
> **Content description:** all raw and processed crossline multibeam data acquired by MCMI aboard the survey vessel Amy Gale during the 2014 survey season and tide data used to correct for tidal offsets. Raw sonar files (acquired using Quality Positioning Services (QPS) QINSy software) are .db file format. Processed sonar files used to construct final bathymetry surfaces are .qpd file format. Final processed bathymetry data at 4m resolution (file formats .bag, .sd, .xyz).

Deliverable: *2014 Mainscheme Focus Area Backscatter Data*
> **Content description:** all processed backscatter data acquired by MCMI aboard the survey vessel Amy Gale during the 2014 survey season. Backscatter data was extracted from processed sonar files and exported in .GSF format; these files were used to construct the final backscatter mosaic (provided in .xyz and .tiff format).

Deliverable: *2014 Crossline Data*
> **Content description:** all raw and processed crossline multibeam data acquired by MCMI aboard the survey vessel Amy Gale during the 2014 survey season and tide data used to correct for tidal offsets. Raw sonar files (acquired using Quality Positioning Services (QPS) QINSy software) are .db file format. Processed sonar files used to construct final bathymetry surfaces are .qpd file format. Processed crossline data in this folder was used to conduct the surface difference test for QA/QC with processed mainscheme data.

2014 Reports
- Sediment analysis report
- Multibeam Data Descriptive Report

*Metadata for all deliverables above is also included. These data and data products were formatted to be consistent with those outlined within the BOEM Marine Minerals Geospatial and Information System content model, schema, and dictionary documentation

2015 Data

Deliverable: *Geological-Bottom Samples*

> **Content description:** grab sample field logs, field pictures, seafloor images, and seafloor video collected during 2015.

Deliverable: *2015 Mainscheme Focus Area Multibeam Data*

> **Content description:** all raw and processed crossline multibeam data acquired by MCMI aboard the survey vessel Amy Gale during the 2015 survey season and tide data used to correct for tidal offsets. Raw sonar files (acquired using Quality Positioning Services (QPS) QINSy software) are .db file format. Processed sonar files used to construct final bathymetry surfaces are .qpd file format. Final processed bathymetry data at 4m resolution (file formats .bag, .sd, .xyz).

Deliverable: *2015 Mainscheme Focus Area Backscatter Data*

> **Content description:** all processed backscatter data acquired by MCMI aboard the survey vessel Amy Gale during the 2015 survey season. Backscatter data was extracted from processed sonar files and exported in .GSF format; these files were used to construct the final backscatter mosaic (provided in .xyz and .tiff format).

Deliverable: *2015 Crossline Data*

> **Content description:** all raw and processed crossline multibeam data acquired by MCMI aboard the survey vessel Amy Gale during the 2015 survey season and tide data used to correct for tidal offsets. Raw sonar files (acquired using Quality Positioning Services (QPS) QINSy software) are .db file format. Processed sonar files used to construct final bathymetry surfaces are .qpd file format. Processed crossline data in this folder was used to conduct the surface difference test for QA/QC with processed mainscheme data.

2015 Reports
- Sediment analysis report
- Multibeam Data Descriptive Report
- Textural Classification and Mapping Report
- Federal Sand and Gravel Assessment

*Metadata for all deliverables above is also included. These data and data products were formatted to be consistent with those outlined within the BOEM Marine Minerals Geospatial and Information System content model, schema, and dictionary documentation

2016 Data

Deliverable: *Geological-Bottom Samples*
>	**Content description:** grab sample field logs, field pictures, seafloor images, and seafloor video collected during 2016.

Deliverable: *2016 Mainscheme Focus Area Multibeam Data*
>	**Content description:** all raw and processed crossline multibeam data acquired by MCMI aboard the survey vessel Amy Gale during the 2016 survey season and tide data used to correct for tidal offsets. Raw sonar files (acquired using Quality Positioning Services (QPS) QINSy software) are .db file format. Processed sonar files used to construct final bathymetry surfaces are .qpd file format. Final processed bathymetry data at 4m resolution (file formats .bag, .sd, .xyz).

Deliverable: *2016 Mainscheme Focus Area Backscatter Data*
>	**Content description:** all processed backscatter data acquired by MCMI aboard the survey vessel Amy Gale during the 2016 survey season. Backscatter data was extracted from processed sonar files and exported in .GSF format; these files were used to construct the final backscatter mosaic (provided in .xyz and .tiff format).

Deliverable: *2016 Crossline Data*
>	**Content description:** all raw and processed crossline multibeam data acquired by MCMI aboard the survey vessel Amy Gale during the 2016 survey season and tide data used to correct for tidal offsets. Raw sonar files (acquired using Quality Positioning Services (QPS) QINSy software) are .db file format. Processed sonar files used to construct final bathymetry surfaces are .qpd file format. Processed crossline data in this folder was used to conduct the surface difference test for QA/QC with processed mainscheme data.

Deliverable: *2016 Textural Classification Model*
>	**Content description:** final reports and data products from analyses of multibeam and grab sampling data collected during the 2016 survey season used to create textural classification raster and textural classification colormap

2016 Reports
-	Sediment analysis report
-	Multibeam Data Descriptive Report
-	Textural Classification and Mapping Report
-	Federal Sand and Gravel Assessment

*Metadata for all deliverables above is also included. These data and data products were formatted to be consistent with those outlined within the BOEM Marine Minerals Geospatial and Information System content model, schema, and dictionary documentation (v. 4.3 07/12/2015).

2017 Data

Deliverable: *Geological-Bottom Samples*

> **Content description:** grab sample field logs, field pictures, seafloor images, and seafloor video collected during 2017.

Deliverable: *2017 Mainscheme Focus Area Multibeam Data*

> **Content description:** all raw and processed crossline multibeam data acquired by MCMI aboard the survey vessel Amy Gale during the 2017 survey season and tide data used to correct for tidal offsets. Raw sonar files (acquired using Quality Positioning Services (QPS) QINSy software) are .db file format. Processed sonar files used to construct final bathymetry surfaces are .qpd file format. Final processed bathymetry data at 4m resolution (file formats .bag, .sd, .xyz).

Deliverable: *2017 Mainscheme Focus Area Backscatter Data*

> **Content description:** all processed backscatter data acquired by MCMI aboard the survey vessel Amy Gale during the 2017 survey season. Backscatter data was extracted from processed sonar files and exported in .GSF format; these files were used to construct the final backscatter mosaic (provided in .xyz and .tiff format).

Deliverable: *2017 Crossline Data*

> **Content description:** all raw and processed crossline multibeam data acquired by MCMI aboard the survey vessel Amy Gale during the 2017 survey season and tide data used to correct for tidal offsets. Raw sonar files (acquired using Quality Positioning Services (QPS) QINSy software) are .db file format. Processed sonar files used to construct final bathymetry surfaces are .qpd file format. Processed crossline data in this folder was used to conduct the surface difference test for QA/QC with processed mainscheme data.

Deliverable: *2017 Textural Classification Model*

> **Content description:** final reports and data products from analyses of multibeam and grab sampling data collected during the 2017 survey season used to create textural classification raster and textural classification colormap

2017 Reports

- Sediment analysis report
- Multibeam Data Descriptive Report
- Textural Classification and Mapping Report

*Metadata for all deliverables above is also included. These data and data products were formatted to be consistent with those outlined within the BOEM Marine Minerals Geospatial and Information System content model, schema, and dictionary documentation (v. 4.3 07/12/2015).

<u>2018-2019 Data</u>
Deliverable: *Geological-Bottom Samples*
    Content description: grab sample field logs, field pictures, seafloor images, and seafloor video collected during 2018-2019.

Deliverable: *2018-2019 Mainscheme Focus Area Multibeam Data*
    Content description: all raw and processed crossline multibeam data acquired by MCMI aboard the survey vessel Amy Gale during the 2018-2019 survey season and tide data used to correct for tidal offsets. Raw sonar files (acquired using Quality Positioning Services (QPS) QINSy software) are .db file format. Processed sonar files used to construct final bathymetry surfaces are .qpd file format. Final processed bathymetry data at 4m resolution (file formats .bag, .sd, .xyz).

Deliverable: *2018-2019 Mainscheme Focus Area Backscatter Data*
    Content description: all processed backscatter data acquired by MCMI aboard the survey vessel Amy Gale during the 2018-2019 survey season. Backscatter data was extracted from processed sonar files and exported in .GSF format; these files were used to construct the final backscatter mosaic (provided in .xyz and .tiff format).

Deliverable: *2018-2019 Crossline Data*
    Content description: all raw and processed crossline multibeam data acquired by MCMI aboard the survey vessel Amy Gale during the 2018-2019 survey season and tide data used to correct for tidal offsets. Raw sonar files (acquired using Quality Positioning Services (QPS) QINSy software) are .db file format. Processed sonar files used to construct final bathymetry surfaces are .qpd file format. Processed crossline data in this folder was used to conduct the surface difference test for QA/QC with processed mainscheme data.

Deliverable: *2018-2019 Textural Classification Model*
    Content description: final reports and data products from analyses of multibeam and grab sampling data collected during the 2018-2019 survey season used to create textural classification raster and textural classification colormap.

<u>2018-2019 Reports</u>
- Multibeam Data Descriptive Report
- Sediment analysis report
- Textural Classification and Mapping Report

Please note that sediment samples for this project have been collected and processed using funding from another source, and as such are not on the same deliverable schedule as the BOEM/MCP CA. The sediment sample analysis for the 2018-2019 Focus Areas will be completed during the summer and fall of 2019; the resulting Sediment Analysis Report and Textural Classification Models will be delivered to BOEM upon completion after this point.

*Metadata for all deliverables above is also included. These data and data products were formatted to be consistent with those outlined within the BOEM Marine Minerals Geospatial and Information System content model, schema, and dictionary documentation (v. 4.3 07/12/2015)