Phase 7 Watershed and Tidal Water Model Boundaries

Modeling Workgroup Quarterly Review
**January 5, 2022**
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Previous Actions and Decisions

- Evaluated and rejected various tidal shoreline layer candidates due to incomplete coverage of the Chesapeake and its tidal tributaries.

- Pilot projects conducted to develop a new layer using elevation contours and land cover revealed issues with both approaches.

- During these pilots, it became clear that the NOAA Sea Level Rise dataset may provide a solution.

Elevation contour issues: bridge and broken shoreline along a James River tributary
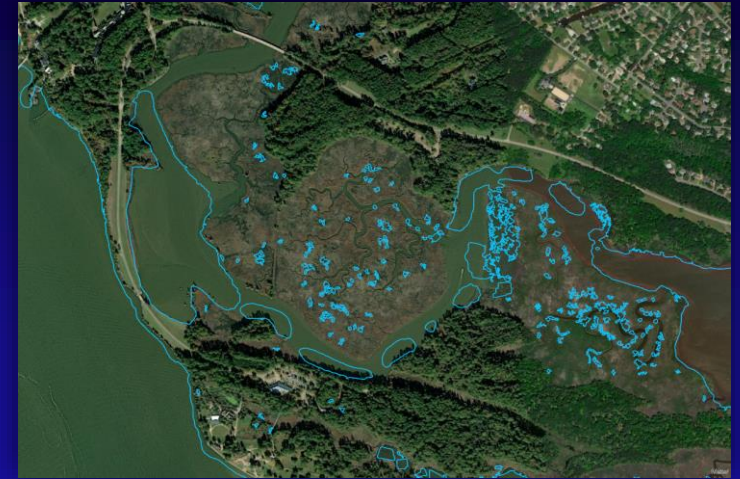
Land cover issue: Tributary broken by tree canopy near Elkton, MD
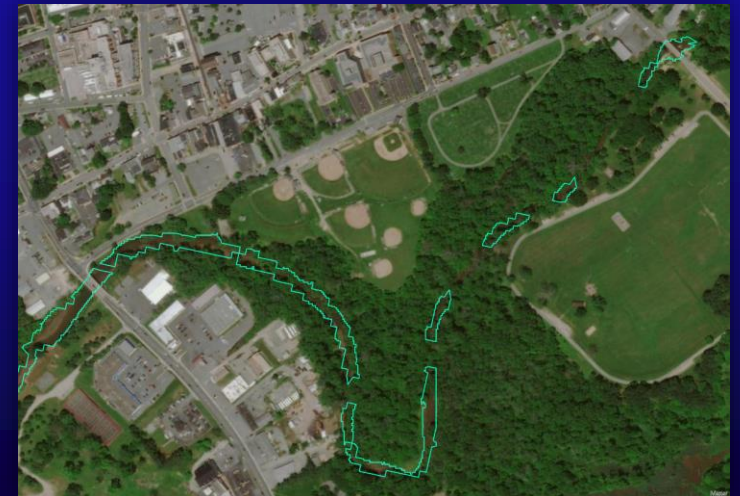
NOAA Sea Level Rise dataset

- The NOAA Sea Level Rise dataset includes a 0-foot SLR, which represents Mean Higher High Water

- The various portions of this dataset that cover the Chesapeake Bay have been merged.

- https://coast.noaa.gov/slr/
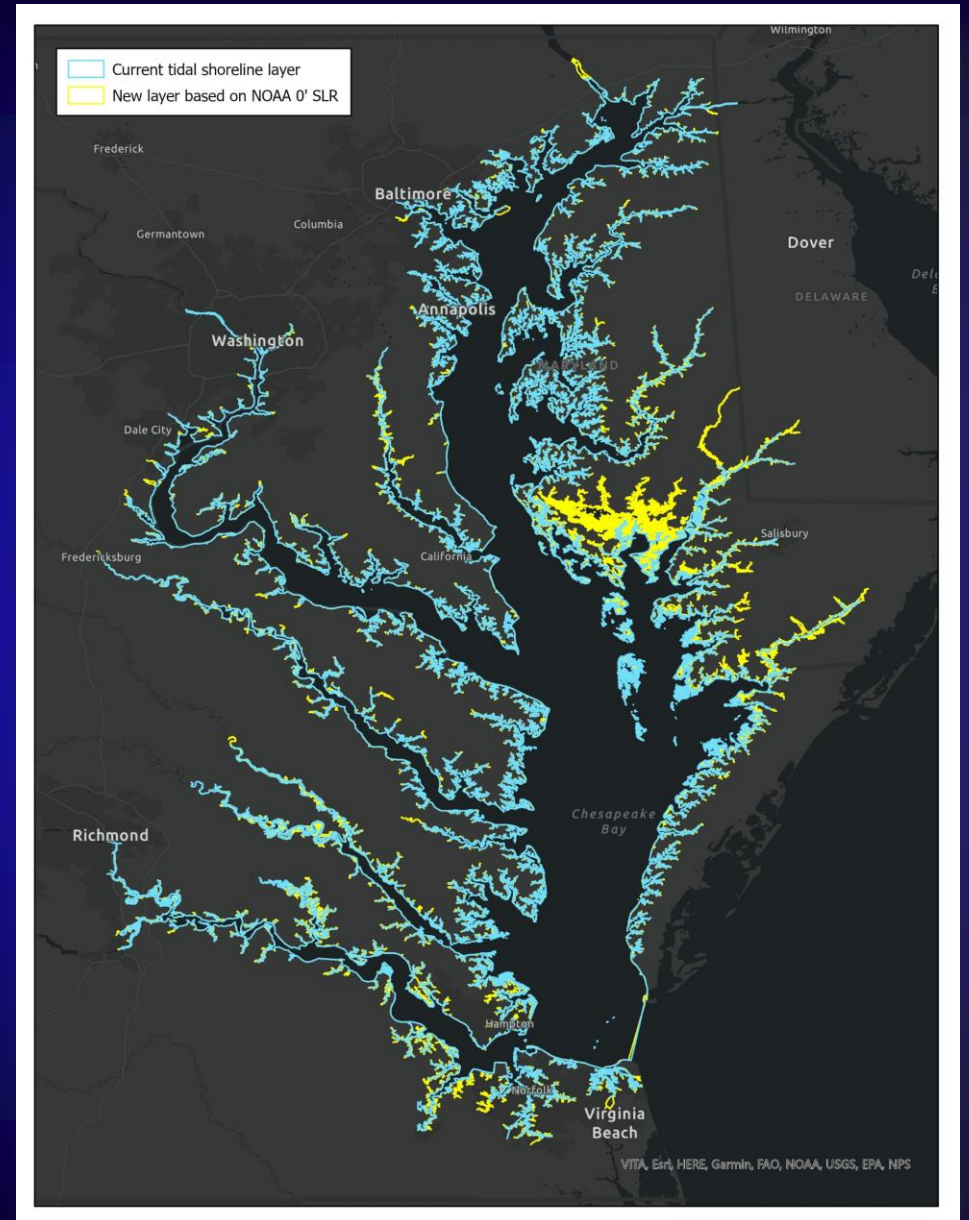
Comparisons to the Current Tidal Shoreline Layer

- Increased accuracy and detail along shoreline and small tributaries

Nanticoke River
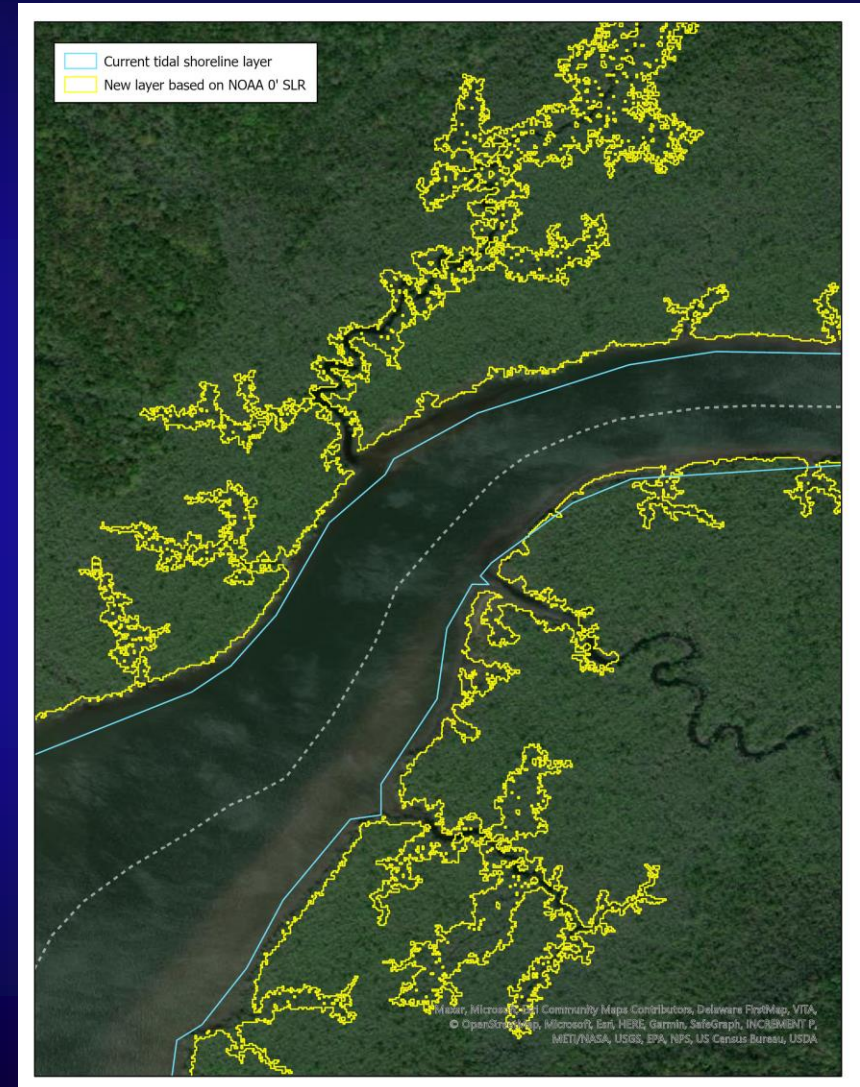
Comparisons to the Current Tidal Shoreline Layer

- Updated shorelines where land has been eroded and submerged – or added.
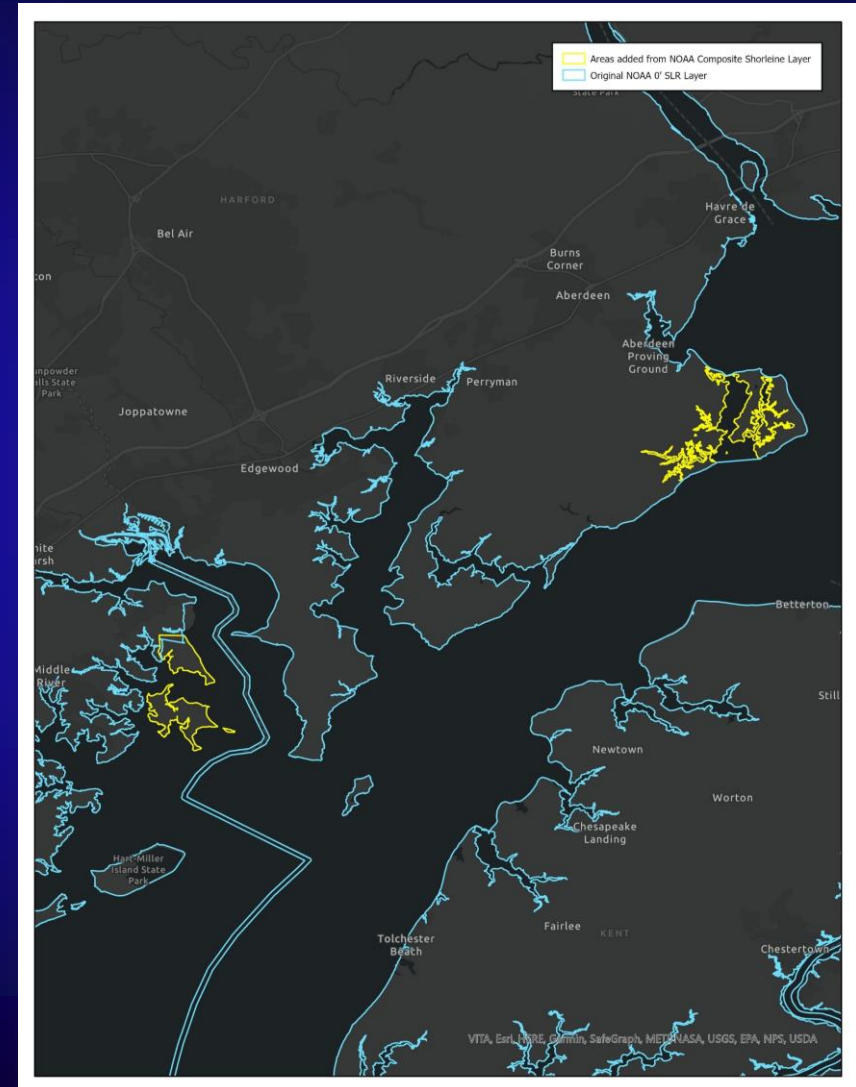
Tangier Island

Hart-Miller Island

Adding Missing Data

- NOAA SLR data is missing multiple portions of shoreline in the Aberdeen Proving Grounds area

- This is a common problem spanning multiple different datasets, probably due to complications with data collection in a sensitive area

- Another layer, the NOAA Composite Shoreline (MHW), includes these areas, and was used to fill the gaps in the new layer.

Shoreline areas missing from NOAA SLR dataset

Too Much Detail?

- The level of detail may unnecessarily complicate some GIS analyses

- Many tiny channels and islands represented here may be irrelevant to models

Nanticoke River

Blackwater NWR

Tidal Wetlands

- A tidal wetlands layer is being created by the CBP Land Change Modeling Team, derived from 2017 1m imagery

- We plan to combine the tidal wetlands area with the NOAA 0' SLR (MHHW) area to fully capture all areas of interest to the modeling team

- This may remove some of the detailed shoreline and islands that may not be needed

Sample 2017 tidal wetlands data for the Nanticoke River in Wicomico County, MD

Contact

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