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New for CAST-21

OLIVIA DEVEREUX, DEVEREUX
CONSULTING, INC.

JESSICA RIGELMAN, J7 LLC

WATERSHED TECHNICAL
WORKGROUP, MAY 6, 2021

Overview

Methods

Data

BMPs

Timeframe

New Method

Use the mapped land use for the agricultural acres instead of the Agricultural Census acres.

Proposed to the Agricultural Workgroup for decision May 20, 2021

New Data

New 2017 and 2025 mapped land use change product affecting the land use from 2014 through 2025 (not yet received)

VA wastewater history (not yet received)

MD biosolid updates (received)

Entire history of BMPs submitted by states to NEIEN is incorporated

New land use change backout amounts are calculated

New fertilizer data for 2015 and 2016, may receive additional years before 8/31/2021

Fraction of crop need met is updated with new fertilizer and updated BMP history

New BMPs

Impervious disconnection BMP will no longer be applied to pervious land

Ditch panel recommendations will be implemented

- New ditch BMPs released to NEIEN for progress submission
- Water control structures efficiency = 0

Urban stream restoration protocol #5 will be added

Default urban stream restoration will become invalid for reporting for progress where the implementation date is after the Expert Panel's specified date.

Wetland BMPs updates (Expert Panel report yet to be finalized)

Oyster BMPs (Expert Panel report yet to be finalized)

Animal Mortality EP (Expert Panel report yet to be finalized)

CAST-21 Release Schedule

CAST-21 Release Schedule

- September 1, 2021 - All data and methods approved
- November 1, 2021 - CAST-21 Beta release
- December 1, 2021 – Jurisdictional comments due
- January 1, 2022 - Final CAST-21 release

Update Frequency	Data Type	Data Description	Data Source	DC	DE	MD	NY	PA	VA	WV
Annually for current year and every two years for historic data	Agricultural	Animals in permitted/non-permitted feeding space, number or percent	Jurisdictions	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	Agricultural	AAPFCO fertilizer sales - These data are also used for urban.	CAST Team	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	Agricultural	Animal fraction of county in land-river segments	Jurisdictions	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	Agricultural	Animals per animal unit	Jurisdictions	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	Agricultural	Manure or litter mass produced per animal (minimum of three-year trend needed to alter trend in modeled manure or litter production)	Jurisdictions	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	Agricultural	Nutrient concentration for animals (minimum of three-year trend needed to alter trend in modeled nutrient concentrations)	Jurisdictions	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	Agricultural	Soil phosphorus data by crop type and county. It has not been updated since the calibration.	CAST or Modeling Team	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	Agricultural	USDA-NASS annual poultry sales data.	CAST Team	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	Agricultural	USDA-NASS annual crop yield data or other sources. These data are only for certain crops. The majority of the crops are from the Ag Census and incorporated in the next version of CAST.	CAST Team	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	Agricultural	USDA-NASS Census of Agriculture - every five years there is a new census. Crop acres, animal numbers, crop yield, e.g. bushels per acre. Crop yield data are used to calculate the nitrogen and phosphorus amount to meet crop need.	CAST Team	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	Agricultural	Atmospheric deposition is updated as part of the calibration only. We have all the data for real and allocation air (RA and AA) through 2010. It has not been updated since the calibration.	CMAC model and regression of observed deposition (Grimm, IPSI, 2017) Modeling Team	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Anytime	BMPs	Planning BMPs not eligible for credit in progress	Expert Panel reports subject to Partnership approval	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	BMPs	Costs	Research and evaluation - CAST Team or Expert Panels	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21
Every two years	BMPs	New and updated BMPs, including planning BMPs that will become eligible for progress.	Jurisdictions	2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21	2013 or earlier; 2014 in CAST-19; 2016 available for CAST-21

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Progress Reporting

As of December 2010, all BMP information submitted to the Chesapeake Bay Program Office must be in a format compatible with the National Environmental Information Exchange Network (NEIEN) protocols that dictate the use of BMP-specific fields and units. Such information is utilized by CAST for the estimation of nutrient and sediment loads generated by different source areas within the Chesapeake Bay watershed.

National Environmental Exchange Network (NEIEN)

BMP information is submitted by the major jurisdictions to the Chesapeake Bay Program Office using NEIEN. NEIEN protocols dictate the use of BMP-specific fields and units. Such information is utilized by CAST for the estimation of nutrient and sediment loads generated by different source areas within the Chesapeake Bay watershed.

- Phase 6 NEIEN Appendix (includes BMP credit duration)
- USDA Practices, NEIEN, and CAST BMPs
- Codes List Phase 6
- Codes List Tables Phase 6

- NEIEN Submission Instructions
- Document Exchange Template
- NEIEN Schema
- CAST Data Update Frequency

TMDL Tracking Reports

CAST data updates



Questions?

OLIVIA DEVEREUX, OLIVIA@DEVEREUXCONSULTING.COM

JESSICA RIGELMAN, RIGELMAN@J7LLC.COM