

Update on CAST-2019

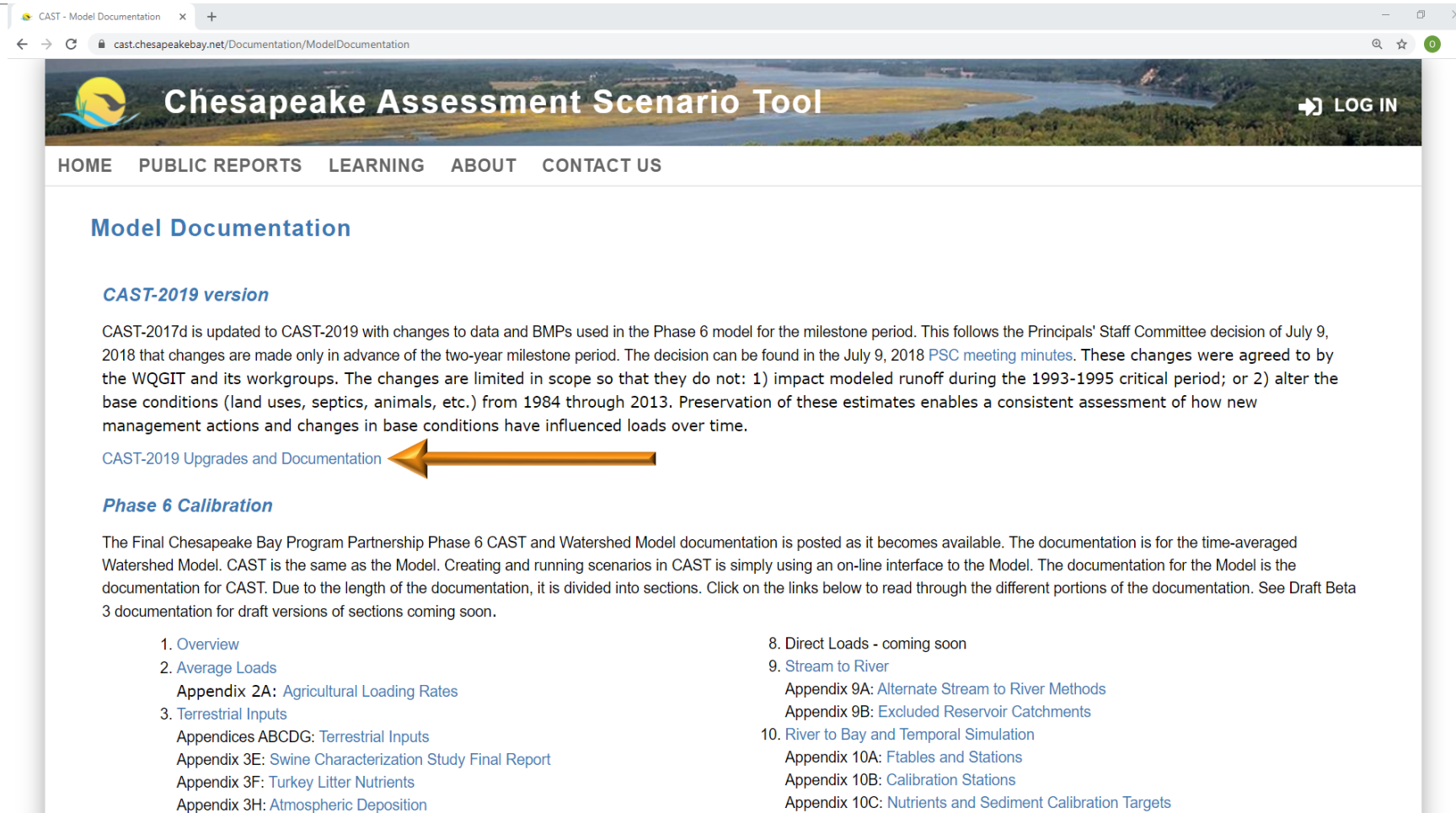
OLIVIA DEVEREUX, DEVEREUX CONSULTING, INC.

MARCH 5, 2020

Release Schedule

- February 21, 2020
 - Email sent to Water Quality Goal Implementation Team, the Watershed Technical Workgroup, and Interested Parties asking for comments over a one-month period and stating the release date is the week of March 23, 2020.
 - Access to the CAST-2019 Beta version was granted to all CAST users who are members of the WQGIT, WTWG and Interested Parties. Others have been granted access upon request.
 - Access includes shared scenarios: all progress years, E3, NA, and the Final WIP3
 - The list of changes between versions was made available on CAST
- March 23, 2020
 - CAST-2019 is presented to the WQGIT and the comment period closes
 - CAST-2019 goes live following final updates
 - CAST-2017d web-access is removed
 - Migrate Scenarios option is available to all users who have CAST-2017d scenarios

CAST-2019 Changes Approved by the Partnership



The screenshot shows a web browser window with the URL cast.chesapeakebay.net/Documentation/ModelDocumentation. The page features a header with the Chesapeake Assessment Scenario Tool logo and a navigation menu. The main content area is titled "Model Documentation" and includes sections for "CAST-2019 version", "CAST-2019 Upgrades and Documentation", and "Phase 6 Calibration". A large orange arrow points to the "CAST-2019 Upgrades and Documentation" link.

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Model Documentation

CAST-2019 version

CAST-2017d is updated to CAST-2019 with changes to data and BMPs used in the Phase 6 model for the milestone period. This follows the Principals' Staff Committee decision of July 9, 2018 that changes are made only in advance of the two-year milestone period. The decision can be found in the July 9, 2018 [PSC meeting minutes](#). These changes were agreed to by the WQGIT and its workgroups. The changes are limited in scope so that they do not: 1) impact modeled runoff during the 1993-1995 critical period; or 2) alter the base conditions (land uses, septic, animals, etc.) from 1984 through 2013. Preservation of these estimates enables a consistent assessment of how new management actions and changes in base conditions have influenced loads over time.

[CAST-2019 Upgrades and Documentation](#)

Phase 6 Calibration

The Final Chesapeake Bay Program Partnership Phase 6 CAST and Watershed Model documentation is posted as it becomes available. The documentation is for the time-averaged Watershed Model. CAST is the same as the Model. Creating and running scenarios in CAST is simply using an on-line interface to the Model. The documentation for the Model is the documentation for CAST. Due to the length of the documentation, it is divided into sections. Click on the links below to read through the different portions of the documentation. See Draft Beta 3 documentation for draft versions of sections coming soon.

- 1. [Overview](#)
- 2. [Average Loads](#)
 - Appendix 2A: [Agricultural Loading Rates](#)
- 3. [Terrestrial Inputs](#)
 - Appendices ABCDG: [Terrestrial Inputs](#)
 - Appendix 3E: [Swine Characterization Study Final Report](#)
 - Appendix 3F: [Turkey Litter Nutrients](#)
 - Appendix 3H: [Atmospheric Deposition](#)
- 8. [Direct Loads - coming soon](#)
- 9. [Stream to River](#)
 - Appendix 9A: [Alternate Stream to River Methods](#)
 - Appendix 9B: [Excluded Reservoir Catchments](#)
- 10. [River to Bay and Temporal Simulation](#)
 - Appendix 10A: [Fables and Stations](#)
 - Appendix 10B: [Calibration Stations](#)
 - Appendix 10C: [Nutrients and Sediment Calibration Targets](#)

Changes between Versions

- 2013 – 2015 land use acres, septic systems, sewer service areas, MS4 areas (VA only)
- 2017 Agricultural Census data incorporated into the land use, crop yields, and animal numbers.
- Agricultural and urban fertilizer sales data
- Wastewater year for all states except VA
- Stream bed and bank loads are now credited by agency
- Nitrogen fixation rate for “other haylage; grass silage and green chop”
- Nitrogen fixation inputs for over-winter crops in CAST-2017.
- Projections are for 2018 and beyond. Previously the projected years were 2013 and beyond.

BMP Changes between Versions

- Planning BMPs that are now Official
 - Agricultural Stormwater Management
 - Conservation Landscaping Practices
 - Septic Effluent - Advanced
 - Septic Secondary Treatment - Advanced
 - Septic Denitrification - Advanced
- BMPs submitted, including in the hydrologic critical period
- BMP costs
- Biofilter credit



Chesapeake Assessment Scenario Tool

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CAST-2017d ▾

CAST-2019beta

CAST-2017d

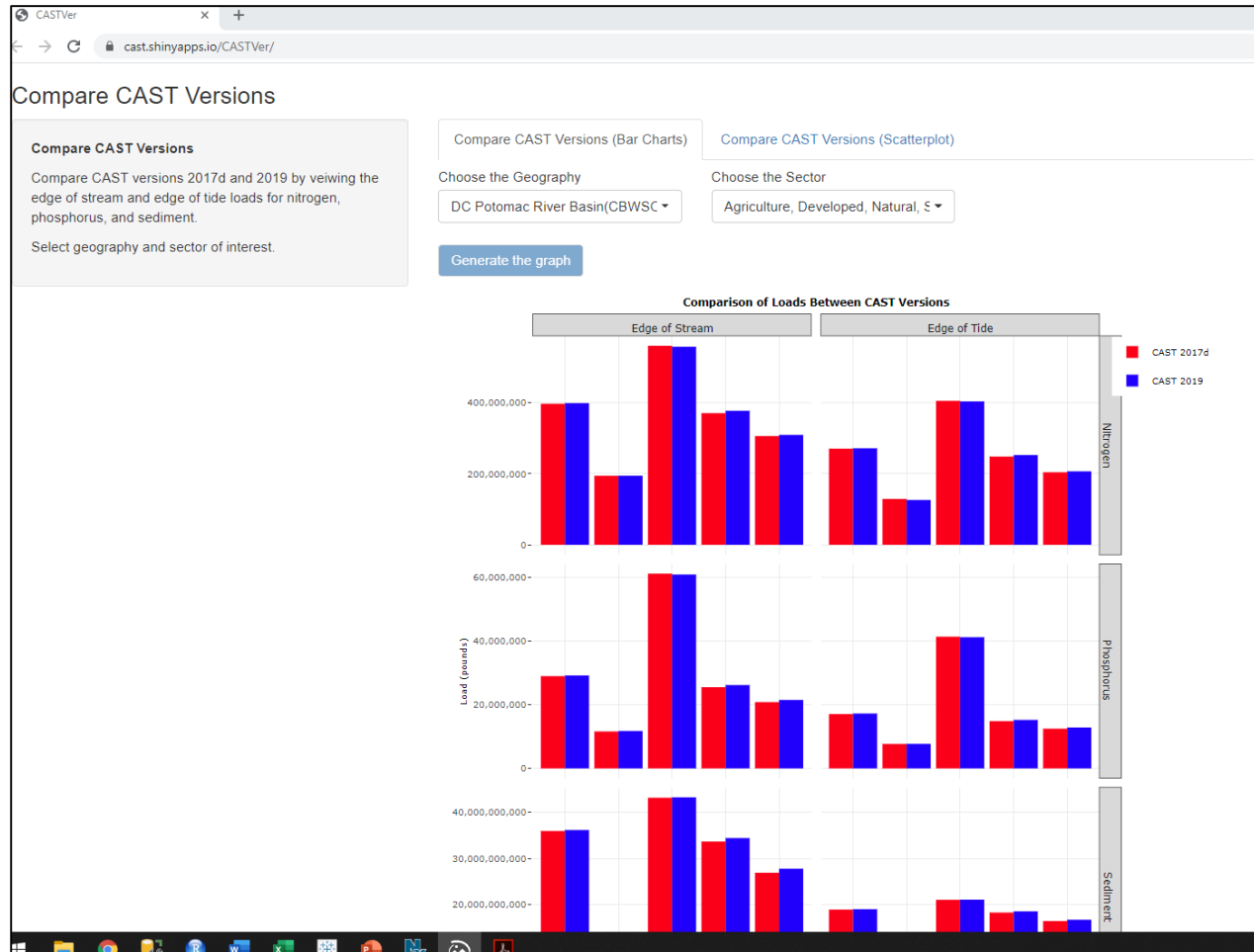
SCENARIOS

My Scenarios ?

[View Documentation](#)[Add New Scenario](#)[Clear Filters](#)

Scenario Name ▼	Scenario Status ▼	Date Modified ↓	Edit	Run	Delete
2019 NA	Run Finished	2020-02-17 02:31:48 PM			
USGS 2019 FSA+NRCS	Run Finished	2020-02-17 09:15:54 AM			
USGS 2018 FSA	Run Finished	2020-02-17 09:09:15 AM			
USGS 2018 NRCS	Run Finished	2020-02-17 09:08:22 AM			
USGS 2019 FSA	Run Finished	2020-02-17 09:02:32 AM			
USGS 2019 NRCS	Run Finished	2020-02-17 08:51:21 AM			
2017 Prog-NoSR	Run Finished	2020-01-10 07:30:17 AM			
2010 Prog-NoSR	Run Finished	2020-01-10 07:29:19 AM			
PA WIP Olivia	Run Finished	2019-12-17 12:25:21 PM			
Progress + 200,000 MT	Run Finished	2019-12-17 08:24:50 AM			

Shared Scenarios ?



Effects of Updates

[HTTPS://CAST.SHINYAPPS.IO/CASTVER](https://cast.shinyapps.io/castver)



Questions?

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