

# GUI Interface Updates For CMS and Gencade in SMS 13.1+

### CMS/GENCADE WORK UNITS

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### **Problem Statement**

- As CMS incorporates new features, the corresponding SMS interfaces must be created.
- The SMS interface now contains Dynamic Model Interfaces (DMIs) which allow model developers to build new menus to more quickly integrate into SMS and make the features available.

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#### Navigation Statements of Need

2019-N-1370: Testing and Evaluation of USACE Coastal Numerical Models.

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**Capability and Strategic Impact Statement** 

 Some features in CMS were never integrated into the SMS. The DMI capability now allows us to create them.

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 CIRP has been the primary ERDC program to make use of the new capabilities, however ADCIRC and ADH teams will soon learn and follow our lead.

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# **CMS GUI Updates**

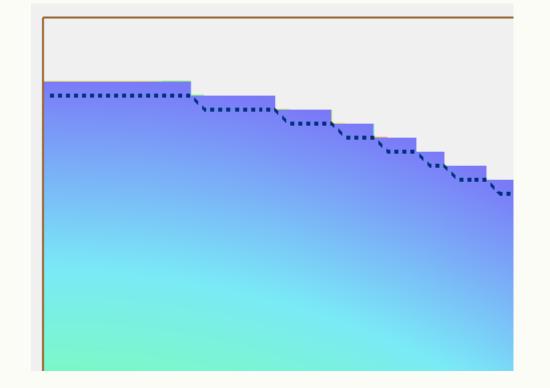
- CMS Dynamic Model Interface (DMI) is complete.
- Model Control Interface has been fully tested and improved
  - More user-friendly flow of data entry.
  - Incorporates some additional enforcing of rules (ie. Bed layering, multiple grain sizes, etc) before finding issues at run time.
- SMS 13.1 reintroduces the CMS Advanced card tab which now works with blocks of data.
  - Populated from unknown cards upon reading in of older grids
  - Written out to the bottom of the CMS Parameter file upon saving of the simulation.

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## **CMS GUI Updates**

- SMS 13.1 now has better display of where boundary condition cells are located
  - Now supports internal and external BC for all BC types according to location of designated inactive areas.
- Added support for CSHORE into the SMS interface.
  - Due to the rush to get SMS 13.1 fully tested and debugged with CMS for release, the CSHORE option will be added to a later version of SMS 13.1 (or 13.2 to be released



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**GenCade GUI Updates** 

**Static to Dynamic Model Interface** 

Aquaveo in SMS 13.1 interface were

Full migration of Gencade from

Necessary components from

User interfaces have been created

for Arc/Point assignments (1) and

Cross-shore Sediment Transport

Monte Carlo Scenario Simulations

These will be incorporated into the

finished DMI in FY21 (SMS 13.2+)

to enable newly added features (2):

(DMI) is partially complete.

delayed.

# **Summary**

### FY20 Major Advances in Capability

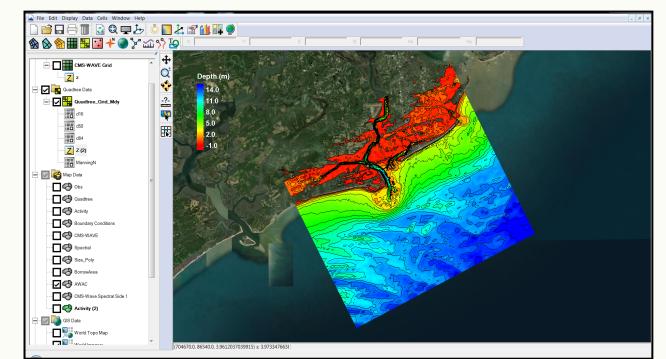
- Work with Aquaveo on SMS updates.
- Continue to incorporate new CMS features in SMS.

### **FY21 Products/Advances**

- CMS-Flow
  - Full NetCDF capability for input and output for CMS.
  - Ability to hide inactive cells in quadtree.
- Gencade
  - Fully dynamic interface incorporating Monte Carlo and Cross-shore transport.

#### **FY20 Major Products & Collaborations**

- Updated GUIs for CMS
- Started preparation for Gencade DMI by creating user interfaces for the new and existing Gencade features.



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