CWG GenCade & SBAS Training

0900-1230 EST, Wednesday, 18 November 2020

Presenters: Yan Ding, Eve Eisemann, Rose Dopsovic

Webinar: https://usace1.webex.com/meet/CIRP (use the Audio Connection panel to call you or dial in)

Part 1: Introduction & Background

0900 – 1000 EST

SBAS, the (Sediment Budget Analysis System) is an RSM and CIRP-developed sediment budget creation, visualization and calculation tool set for ESRI ArcGIS, with versions compatible with ArcMap 10.x versions and ArcGIS Pro. Once installed, this toolbox allows users to develop a sediment budget by creating a series of cells and fluxes, assigning values, and conducting budget calculations.

GenCade is a CIRP-developed numerical modelling tool that calculates shoreline change, longshore transport from waves, and morphology changes along the coast. GenCade operates within the Surface Modeling System (SMS) interface, combining the shoreline change modeling power of GENESIS with the regional capabilities of Cascade. Monte-Carlo simulations provide new capabilities to quantify uncertainties and risks of shoreline change induced by nearshore sediment transport processes and erosion protection measures.

Break 0950 – 1000 EST

Part 2: Capabilities Demonstrations

GenCade Demo

1000 – 1030 EST

1. Opening the SMS environment for setting up GenCade model (Fenwick Island coast)
2. Introducing functions of GUI: GenCade conceptual model, 1-D grid, maps, GIS data (historical shorelines)
3. Menu for setting up model: model control (simulation parameters, boundary conditions, I/O, etc.), installation of coastal structures (groin, breakwater, etc.), project conditions (beach fill, bypassing, etc.)
4. Setting up SBAS cells for controlling GenCade output for SBAS
5. Where is the GenCade executable code, how to run the model
6. Visualizing results, confirm model output for SBAS
7. Case one: Fenwick Island coast after beach fill (shoreline erosion)
8. Case two: Fenwick Island coast with beach fill (July 25 – Aug. 23, 2013) (Shore accretion and erosion).

SBAS Demo

1030 – 1100 EST

1. Getting Started: Installation, Terminology, and general overview of the environment
2. Alternatives: Creating a new budget, loading existing budgets
3. Cells: Creating budget cells by hand, importing from GIS features, importing cell boundaries from GenCade, adding data to budget cells, budget calculations
4. Fluxes: Creating fluxes by hand, importing from GIS features, importing flux values from GenCade, editing fluxes
5. Related Data: Complimentary data, view other budgets, upload your budget

Break 1100 – 1110 EST

Part 3: Q&A, hands-on training opportunity

1110 – 1230 EST

Training Resources

https://cirp.usace.army.mil/techtransfer/webinars/FY21/18Nov2020-webinar.php

Specific GenCade Resources

- Download GenCade version 1.1 r8 software: https://cirp.usace.army.mil/Downloads/Programs/Gencade/gencade_v1.1r8.zip
- GenCade main page: https://cirp.usace.army.mil/products/gencade.php
- POCs: Yan Ding (Yan.Ding@erdc.dren.mil), Richard Styles (Richard.Styles@usace.army.mil)

Specific SBAS Resources

- Download SBAS 2020 software & sample datasets: https://www.arcgis.com/home/item.html?id=90576370d48f491fbddc7a15bbfb40d7
- SBAS main page: https://rsm.usace.army.mil/products/sbas.php
- POCs: Eve Eisemann (Eve.R.Eisemann@erdc.dren.mil), Rose Dopsovic (Rose.Dopsovic@usace.army.mil)