CECW-CE

Manual
No. 1110-2-1100

30 September 2015

Engineering and Design
COASTAL ENGINEERING MANUAL

1. Purpose. This change to EM 1110-2-1100, 30 April 2013, adds explanatory text, updates one equation, and replaces four figures in Chapter II-2, "Meteorology and Wave Climate." Other chapters in Part II as well as all other parts of the manual have not been modified.

2. Applicability. The changed information is annotated as follows:

a. Pages II-2-ii to II-2-iii. Minor changes were made to the list of figures.

b. Page II-2-1. An introduction paragraph was added, describing the overall goal of the chapter.

c. Pages II-2-12. Several sentences were added to paragraph 9 describing physical constraints that might limit values for the coefficient of friction.

d. Page II-2-14. A sentence was added to paragraph b describing how the ACES software and Figure II-2-6 do not always provide the exact same answers.

e. Page II-2-25. Figure II-2-13 was changed to show "Geostrophic wind speed U_g (m/sec)" on the X-axis and "$R_g = U_{10}/U_g$" on the Y-axis. Figure II-2-14 was changed to show "U_g (m/sec)" on the X-axis and "U_*/U_g" on the Y-axis.

f. Page II-2-27. Caption added to explain the graphic in Example Problem II-2-5.

g. Page II-2-48. Equation II-2-36 was corrected, with coefficient in the second equation listed changed from 0.751 to 0.651.

h. Page II-2-49. In paragraph c, the description of narrow fetches has been expanded.

i. Pages II-2-50 to II-2-51. Figures II-2-23 to II-2-26 were replaced with recomputed and replotted figures. The new plots are easier to interpret and correct drafting errors.

j. Page II-2-53. The Introduction section, "a," has been expanded to describe current WIS computations and data locations, and to add that hindcast data are available for areas of the Alaska and Hawaii coasts.

k. Page II-2-61. Minor changes were made in Paragraph (4) to improve wording. In paragraph (5) two additional hurricanes (Katrina and Rita) were added to the list of extreme Gulf of Mexico events.

l. Page II-2-65. Minor changes were made to paragraphs "e (1)" and "e (2)" to improve wording.

m. Page II-2-71. A reference by Powell et al. (2003) was added.

n. Page II-2-72. A reference to the *Shore Protection Manual* (1977) was added.

o. Page II-2-73. A reference by Sverdrup and Munk (1950) was added.

p. Page II-2-77. The acknowledgements were corrected to reflect the retirement of two authors and death of two reviewers.

3. Distribution Statement. Approved for public release, distribution unlimited.

4. Note to Users. Readers should download the entire new chapter II-2 and discard earlier versions in their possession.

FOR THE COMMANDER:

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Chief of Staff