

월 26부터 12월 22일 사이의 주 표사 이송모드가 횡단 표사라는 것을 의미하며 자연 해변의 자기 치유능력이 횡단 표사를 통해 구현된다는 사실을 상기하면 전술한 해변면적의 급속한 증가는 영의 영각에 가깝게 진입하는 파랑의 경계층 streaming에 의해 해안방향으로 희귀하는 표사가 누적되어 발생한 것으로 판단된다.

References

- Abramowitz, M. and Stegun, I.A. (1965). Handbook of mathematical functions, Dover, Mineola, NY.
- Cho, Y.J. (2019). Numerical analysis of the beach stabilization effect of an asymmetric ripple mat. Journal of Korean Society of Coastal and Ocean Engineers, 31(4), 209-220.
- Cho, Y.J. and Bae, J.H. (2019). On the feasibility of freak waves formation within the harbor due to the presence of Infra-gravity waves of bound mode underlying the ever-present swells. Journal of Korean Society of Coastal and Ocean Engineers, 31(1), 17-27.
- Cho, Y.J. and Kim, I.H. (2019). Preliminary study on the development of platform for the selection of an optimal beach stabilization measures against the beach erosion-centering on the yearly sediment budget of the Mang-Bang beach. Journal of Korean Society of Coastal and Ocean Engineers, 31(1), 28-39.
- Cho, Y.J., Kim, I.H. and Cho, Y.J. (2019). Numerical analysis of the grand circulation process of Mang-Bang beach- centered on the shoreline change from 2017. 4. 26 to 2018. 4. 20. Journal of Korean Society of Coastal and Ocean Engineers, 31(3), 101-114.
- Dodd, N., Stoker, A.M., Calvete, D. and Sriariyawat, A. (2008). On beach cusp formation. J. Fluid Mech., 597, 145-169.
- Eckart, C. (1951). Surface waves on water of variable depth, Wave Report 100, University of California, Scripps Institution of Oceanography, Ref No 51-12, 99 pp.
- Goda, Y. (1985). Random seas and design of maritime structures. University of Tokyo Press.
- Guza, R.T. (1974). Excitation of edge waves and their role in the formation of beach cusps, University of California, San diego, Ph.D., 1974 Oceanography.
- Hasselmann, K. (1967). A criterion for nonlinear wave stability. Journal of Fluid Mechanics, 30(4), 737-739.
- Longuet-Higgins, M.S. (1983). On the joint distribution of wave periods and amplitudes in a random wave field. Proc. Roy. Soc. of London, 389(A), 241-258.
- Phillips, O.M. (1980). The Dynamics of the Upper Ocean. 2nd edition. Cambridge, Cambridge University Press.

Appendix A.

Table A1. List of coefficients p_i from quadratic regression $[p_1x^2 + p_2x + p_3]$.

Date	p_1	p_2	p_3
2017.03.11	0.00002902	-0.126042	153.48348
2017.04.05	0.00002952	-0.127808	154.41162
2017.05.21	0.00002992	-0.128590	153.67191
2017.06.08	0.00002949	-0.126907	152.61330
2017.07.17	0.00002963	-0.126962	151.20560
2017.10.26	0.00002951	-0.125457	148.26483
2017.11.07	0.00002952	-0.126054	150.57584
2017.11.26	0.00002936	-0.126741	153.51692
2017.12.22	0.00002929	-0.126975	156.47872
2018.01.22	0.00003040	-0.131467	159.14908
2018.03.14	0.00003002	-0.130311	160.66421

Received 7 September, 2019

Revised 15 October, 2019

Accepted 21 October, 2019