The impact of wave action in the surf zone at different sites of Alexandria Coast namely the Eastern Harbor and El Agamy Beach is studied. The analysis of the recorded wave data indicated that waves approach Alexandria coastline mainly from westerly to northwesterly direction with a mean significant wave height of about 0.7 m and zero crossing period of 4.6 sec. The maximum significant wave height was 2.843m in December with zero-crossing period of 6.66 sec. The maximum wave Run-up at the sandy beach of Eastern Harbor of slope 1:137.50 is 0.227m and significant wave run-up of 0.17m. The maximum run-up in the Eastern harbor at sandy beach of slope 1:10 is 1.705 and the significant wave run-up of 1.067m. The maximum values for wave run-up in the eastern harbor at the dike of slope 1:3 are 1.666m and 2.5m for the breaker parameter ($\xi_o$) equal 1.19 and wave height at the toe 0.8m and 1.2m respectively, while for the case of $\xi_o$ equal 2.3 the maximum wave run-up becomes 4.83m. The wave over-topping in the eastern Harbor was 100-448 liter/sec per m for different conditions of incident wave directions and wave heights. The maximum wave run-up at El-Agamy sand beach of slope 1:100 is about 0.477m and the significant wave run-up is about 0.356m.