RIP CURRENT AT PANGANDARAN AND PALABUHANRATU

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Abstract

This research aims to know the causes, types and mechanisms of the rip current at Pangandaran and Palabuhanratu. The methods used in this research are image data analysis, visual observation, and field observations in June and September 2015. The image data obtained from Google Earth, visual observation with the aid of a video camera and field observations with measurements of oceanographic parameters of a wave, bathymetry, currents and staining using dye balls. The results showed the length and width of rip currents at Pangandaran around 300 meters and 90 meters, while in Palabuhanratu which ranges from 150 meters and 40 meters. Wave velocity (C) is 1.47 m/s and 1.51 m/s in Pangandaran, 1.13 m/s and 1.04 m/s in Palabuhanratu. The significant wave height (Hs) in Pangandaran is 1.42; while in Palabuhanratu is 1.58 meters. Bathymetry near the beach in both locations showed morphological appearance of the beach cup with water depth is 0-7 meters in the breakzone. Based on the characteristics of the constituent factors, the type of rip currents at Pangandaran and Palabuhanratu is Accretionary beach rip and Topographic rip. Rip current formation process begins with the coming wave passing through surfzone then deflected by the long shore current and returned to the sea away from the shore. Rip currents at Pangandaran and Palabuhanratu formed daily and last throughout the year.

Keywords: *currents, wave, bathymetri, Pangandaraan, Palabuhanratu, stains (dye balls)*

Introduction

A rip current is part of the surf zone circulation which is driven by a breaking wave and wave bore (Short, 2007). Research on rip current is already done in 1936 (McMahan et al. 2005). RIP current in the world has been examined, among others, McMahan et al. (2005), Short (1984, 2006, 2007), Eom et al. (2014); Leatherman (2014), Ishikawa et al. (2014), Fletemeyer (2014). This phenomenon is a combination of some of the dynamics of Oceanography as waveform (Lim et al. 2006, Shin et al., 2014, Kim Sim 2014), current (Ishikawa et al. 2001), bathimetri (McMahan et al. 2005, Cho et al., 2014, Kusmanto Setyawan, 2013). In Indonesia, this research still rarely done. People on the southern coast of Java believe that the tragedy of the loss of tourists on the South Coast is a mystical incident. This incident is believed to result from the presence of the Queen of the South Coast (Nyai Roro Kidul). If looking at the genesis of tourists dragged down by current in 2007-2009 at Pangandaran, there are a number of 579 victims (BALAWISTA Regency of Pangandaran). Both of these areas are frequented by tourists both domestic and foreign. The two areas of this research are related to the open waters