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Title: (OA17) The peculiar optical characters of the Gulf of Thailand, the South China Sea and the Andaman sea waters

Abstract: Joint research project between GISTDA, SEAFDEC and Marine Science Department, Chulalongkorn University for developing ocean color algorithms in Thai waters was carried on. GISTDA (Geo-Informatics and Space Technology Development Agency) granted financial support for the observation surveys. SEAFDEC (South East Asian Fisheries Development Center) offered joint cruises for surveys in the Gulf of Thailand and Andaman Sea. The under water optical energies were measured by Profiling Reflectance Radiometer (PRR-600) . Downward irradiance Ed(λ), upward radiance Lu(λ) and sky irradiance Es(λ) were measured at the Gulf of Thailand and Andaman Sea (Fig 1). Chlorophyll-a concentration, SS and CDOM are also analyzed with general oceanographic data as temperature and salinity. Fig.1 Observation area Fig.2 Vertical profile of K(λ) λ1 : 443nm, λ2: 565nm subsurface CHl-a maximum layer is shown. Fig.3 Lu(λ) pattern at each water mass. Upper: water of upper Gulf. Lower: water of the South China Sea. Diffuse attenuation coefficient K(λ) were calculated for each wavelengths. It could show the vertical profile of SS and phytoplankton concentrations. (Fig.2) Remote sensing reflectance (Rs=Lu/Ed) at surface were calculated at each station. The wave length distribution pattern can be the index of water qualities and the base of ocean color algorithms. Fig. 3 shows each water masses showing each optical character. It is the base of coastal water algorithms. Although several case 2 water algorithms are established, none of them can be used properly at those area s . Since each coastal water s have different optical character by each area, coastal water algorithms should be developed based on observation data at each water's.

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