MONITORING THE DYNAMICS OF SAND DUNES AS SAFEGUARD AGAINST WATER RESOURCE IMPACTS OF COASTAL DEVELOPMENT (STUDY CASE : PARANGTRITIS COASTAL ZONE, YOGYAKARTA SPECIAL REGION)

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Abstract : Parangtritis coastal area is one of its main tourism object in Bantul regency. Encourage the development of tourism land uses a built land for various purposes, such as for hotels, guesthouses, shops, restaurants, etc. There are unique landforms that exist in coastal area Parangtritis, namely the sand dunes which is the only landform origin eolian processes contained in the tropics. The landform has its own aquifer system (local) separate from the Merapi aquifer system. On that basis, the sand dunes aquifer system in Parangtritis a potential resource to get the negative influence of the coastal development. On that basis it is necessary to attempt to preserve the sand dunes that water resources contained therein can be utilized in a sustainable manner. Monitoring the development of sand dunes with multitemporal remote sensing image could be an effort to identify damage to sand dune landform that can be done early prevention and treatment before further damage occurs. Utilization of multitemporal imagery will consider aspects of the existing conditions and the dynamics of sand dunes surrounding land-use change. In addition, the processing of geographic information systems (GIS) will be able to take measurements and modeling of the development of sand dunes conditions, both current conditions and future conditions.

Keywords: sand dune, dynamic, aquifer, multitemporal, remote sensing, GIS