

# Study of the Characteristics of the Sea Water Zone of the Estuary Zone on the Coast of Makassar

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**Abstract:-** The structure of the mass of water in the coastal region of affected by fresh water. For this, information about the spread of fresh water in the sea is very important to discuss the air environment on the coast in research this, do Observer the spatial distribution of water quality in the vicinity of the beach in Makassar when dry season. Observations made on August 7 and 8 2016 with the aim of describing the distribution of temperature, salinity, spatio chlorophyll-a and turbidity using water quality meter on 50 points around the coast of Makassar. The results of this research are outlined as follows: (i) low Salinity occurs only near the mouth of the River, this is because the small river discharge during the dry season and strong vertical mixing to occur in this region, (2) Chlorophyll-a in waters of the northern part of high. The supply of fresh water flowing into the coastal of nutrients, so that production of biological active in this area, (3) the highest level of Turbidity to occur on the ocean floor near the estuary River. Despite the drought, we find the influence of fresh water for water mass structure around the coast of Makassar. Will come, we will do the same observation in the rainy season.

**Keywords:-** Salinity, Klorofii-a, Turbidity, Makassar.

## I. INTRODUCTION

Of water streams (flesh water) is considered to have a major effect on the structure of the Mass of the coastal waters (water mass structure). Currently, it is very important to study water mass structure for the environmental sustainability of coastal waters (aquatic environment) either due to changes in land use and climate change.

Makassar city which lies to the East of the coast of Makassar and clipped by two large rivers, the river Tallo (in the North) and Jenneberang River (to the South). Makassar city a city existing in Indonesia Mertopolitan has undergone a change in land use that may be under the aquatic environment the coast of Makassar. Therefore, to know the water mass structure as rare early we held field research/observation field for spatial distribution of water quality (spatio distribution of water quality) in the coastal waters of Makassar at the time of the dry season.

Field observations have been implemented on 7 to 8 August 2016 with the aim to draw the spatial distribution of salinity, chlorophyll-a and turbidity of water at 50-point depth observations varies among 5 meters to 50 meters with using

the CTD Profiler (profiler, Rinko JFE Advantech co., Ltd) around the coast of Makassar (Figure 1). To obtain the spatial distribution of salinity, klorofil-a and turbidity of the water at any point in the observations, conducted a decrease in land-palahan CTD Profiler tool from the boat to the shore base (Figure 2). CTD Profiler results processed on each its screen to see water mass structure. To Speed the flow of the waters carried out by using curret meters four times at high tide, low tide, the receding tide towards pairs and at low tide on Line f.

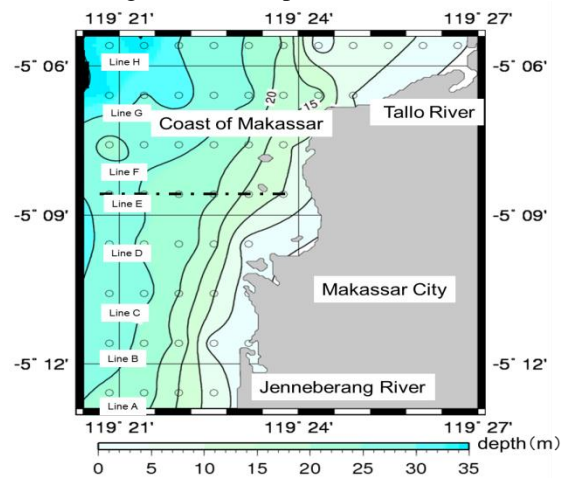


Fig 1:- The Area of Observation Research

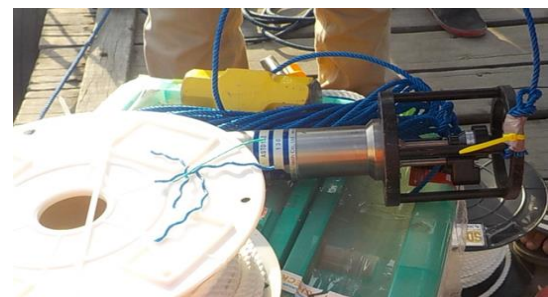


Fig 2:- Measurements of temperature, salinity, chlorophyll-a and turbidity by CTD Profiler

## II. STUDY RESULTS AND DISCUSSION

Salinity in coastal Makassar obtained 30 psu to 34 psu at the surface layer (Figure 3.), at the mouth of the river Jenneberang least 30 psu. This is caused by the mixing of fresh water from the river Jenneberang, although the discharge of water from the river water is very small. Look also that the dispersion pattern of the salinity of the river water

Jenneberang tend to look north to the beach Losari, it also lends itself right influence of bathymetry in the coastal waters of Makassar. At the mouth of the river Tallo (around 32 psu) compared to Jenneberang River (approximately 30 psu) higher, discharge water coming out of the mouth of the river Dealers are less influential in the dry season, and caused by across the magpie River Tallo is still growing in many Mangrove.

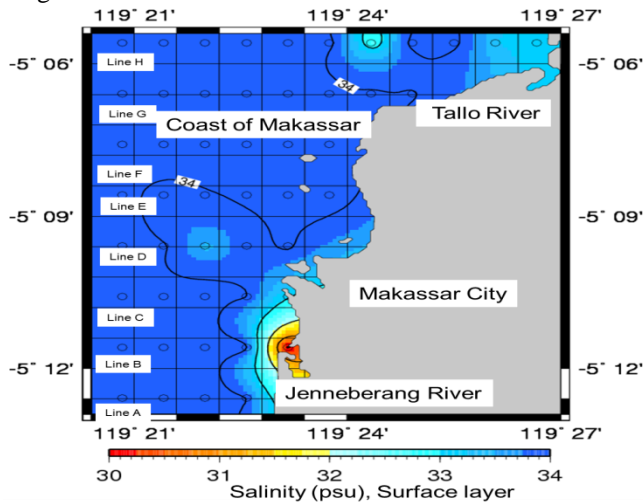


Fig 3:- Salinity in coastal Makassar on the dry season

In Figure 4, Chlorophyll-a visible high in the northern part of the area (the river Tallo), caused by the river water in the river Tallo brings nutrients water, so the production of biologically more active in this area. The reverse occurred in Losari Beach in Makassar Chlorophyll-a relatively low, this indicates that the water of nutrients for the production of biolagis less (likely to be contaminated).

The level of turbidity on the beach at the mouth of the River, either the river or the river Jeneberang Tallo belongs to high (Figure 5). Indicates that less occurrence of mixing at the mouth of the river due to the lack of discharge water flow from the upper Jenenberang River and in Airports.

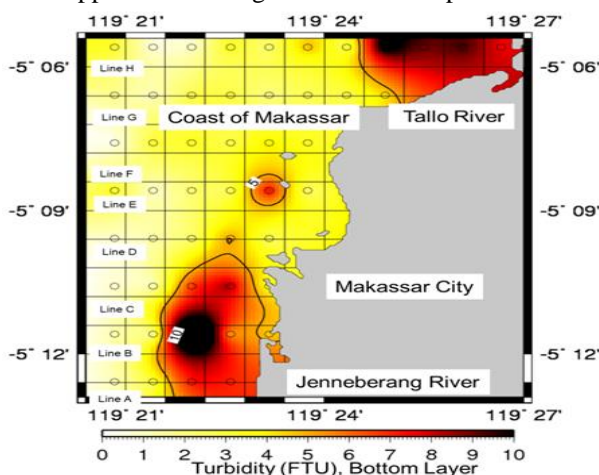


Fig 4:- Chlorophyll-a in Makassar on the dry season Beach

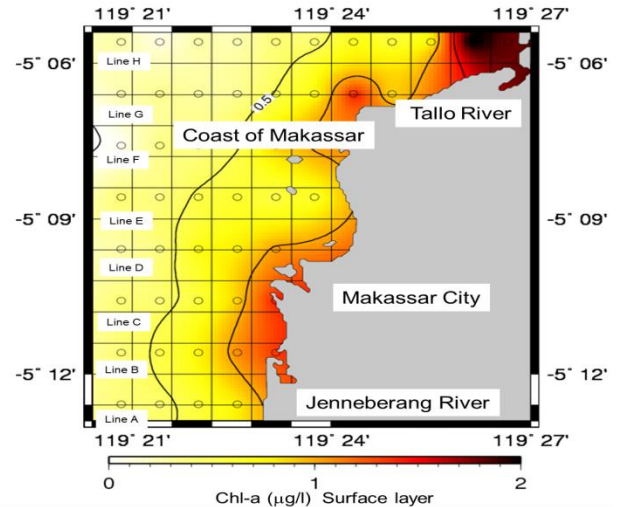


Fig 5:- Turbidity in Makassar on the dry season Beach

### III. CONCLUSIONS AND RECOMMENDATIONS

The results of field research undertaken around the coast of Makassar on the dry season, when the influence of river water looks good on the Jeneberang River and Tallo to the structure of the coastal waters of the mass (water mass structure). Summary in this study, outlined as follows; (1) the low salinity occurs near the mouth of the River, this is because the low river discharge during the dry season and strong vertical mixing in the mouth of the river Jenneberang, (2) Chlorophyll-a high in the northern part of the coast of Makassar in Estuaries Tallo fresh water is caused by the water of nutrients so that biological production Active to coast Makassar, (3) the highest level of turbidity in the seabed near the estuary of the river nor the Jeneberang good Tallo. To find out more we will implement the same field research at the time of the rainy season.

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