Bragança's socioeconomic situation is highly dependent on estuarine and marine biological resources that are influenced by tidal cycles and climatology. Field measurements (hydrological, hydrodynamic and microbiological variables) were taken in the most urbanized zone from Caeté estuary to characterise the quality of the local environment. During the dry period, the estuary was more eutrophic and presented the highest temperature (30.5 °C in Oct./06), salinity (17 psu in Feb./07), pH (8.24 in Feb./07) and fecal coliform (> 1000 MPN/100 ml in Dec./06 and Feb./07) values. The phytoplankton Cyclotella meneghiniana, Coscinodiscus centralis and other r-strategist species were observed. The lack of basic hydric canalization was responsible for the local contamination, especially during the dry period when more concentrated wastewater from the city was emitted into the estuary, showing the human influence on the reduction of local estuarine water quality. In Bragança, the fishery is considered one of the main economic activities so, this contamination is worrisome because a large part of the local economy depends on biological resources and, thus, the contamination could negatively affect the environmental health of this Amazon ecosystem.

Keywords
Equatorial estuary, temporal variation, eutrophication, northern Brazil.