

## Chemical Transport in the Pantanal Wetland, Brazil

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Recent land use changes by human activities such as agriculture affect to the water balance and chemical transport in the Pantanal wetland, Brazil, which is the largest wetland in the world. Wetlands are the hyporheic zone of surface water and groundwater, and also the discharge area of groundwater. However the chemical transport in wetland through groundwater is not well understood. The purpose of this study is to evaluate the chemical transport in the Pantanal wetland.

The groundwater and river water survey were carried out in the dry season of August both in 2001 and 2002, and in the wet season of April 2002. The pH, electric conductivity, air temperature, water temperature, and groundwater level were measured at the field, and also the groundwater and river water were collected for chemical analyses at each measurement point.

As a result of the groundwater and river water survey in the wet and dry seasons, the interaction-conditions between river water and groundwater are completely different in each season. Chemical components of Groundwater are affected by river water in the wet season, so it shows that the river water mainly recharges the groundwater.

While in the dry season, the high  $\text{HCO}_3$  concentration waters are distributed in both some lake water and some groundwater in piezometers. The low  $\text{HCO}_3$  concentration waters are distributed in some river waters. Other groundwater and lake water showed the evidence of the mixture with the river water and the high  $\text{HCO}_3$  concentration water by the between  $\text{HCO}_3$  and  $\text{Cl}$ .

Because the high  $\text{HCO}_3$  concentration water in these piezometers is confined at the all points, it is considered that this water is the deep groundwater

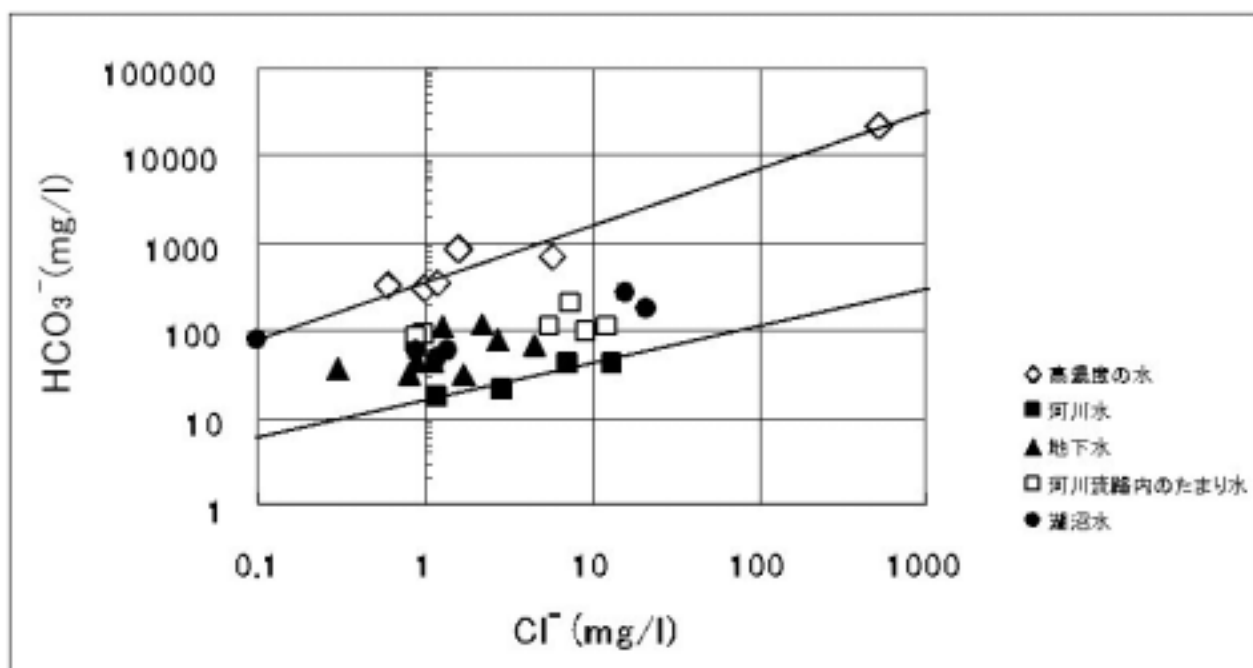


Fig.1 乾季における $\text{HCO}_3^-$ と $\text{Cl}^-$ の関係