

## Calcareous nannofossils and foraminifera from the surface sediments of the Gulf of Tonkin, South China Sea

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This study presents calcareous nannofossil and foraminiferal data that were collected from surface sediment samples from the Gulf of Tonkin in the South China Sea. The Gulf of Tonkin is considered to be one of the most productive in the region due to the large rivers that feed into it, monsoons, tidal fronts, and dust. Calcareous nannofossil and foraminiferal total abundances were highest towards the entrance of the Gulf. Greater nannofossil and planktonic foraminiferal abundances were present in muddy sediments. *Gephyrocapsa oceanica* dominated the nannofossil assemblage. *Florisphaera profunda* was found mainly near the mouth of the Gulf, which leads to the more open waters of the South China Sea. The effect of fluvial sedimentation from the Red River into the Gulf

of Tonkin was also apparent in the distribution and dominance of certain species. *Globigerinoides ruber*, *G. sacculifer*, and *Globorotalia menardii* were the dominant planktonic foraminifera throughout the sampled stations, and the results from this study validated their preference for warm waters. These taxa exhibited opportunism in these low diversity assemblages. The benthic foraminifera *Cibicides subhaedingeri* was found in almost all of the stations, which indicates its tolerance for the variable sub-environments in a restricted basin. Calcareous nannofossils and foraminifera are effective indicators of relative variations in salinity, ventilation of surface waters, and temperature even in restricted marine environments, such as the Gulf of Tonkin.