

Chapter 5

Conclusions and recommendations

5.1 Conclusions

1. Five water masses were found in the study area; Gulf of Thailand water mass (GOT), Mekong water mass, Surface of the South China Sea water mass (SSCS), mixed of GOT and SSCS water mass and subsurface of the South China Sea water mass (SuSCS).

2. The distribution of each water mass in the study is seasonal changed and were summarized in table 5.1

Table 5.1 Type of water masses in each season and their distribution in the Gulf of Thailand and East Coast of Peninsular Malaysia

| Season | Type of water mass | Area |
|-----------------------------|----------------------------|--|
| NE monsoon | GOT | Gulf of Thailand Coastal of East Coast of Peninsular Malaysia |
| | Mixture of GOT and SSCS | Off shore of East Coast of Peninsular Malaysia |
| | Mekong | Surface layer of the mouth of the Gulf of Thailand |
| Transition from NE to SW | GOT | Almost of the Gulf of Thailand area |
| | Mekong | Small area of surface layer of the Gulf of Thailand's mouth |
| | Mixture of GOT and SSCS | East coast of Peninsular Malaysia |
| | SSCS | Off shore area of surface layer and the whole area of the mouth of the Gulf of Thailand |
| SW monsoon | Mixture of GOT and SSCS | The whole study area except at depth 50 to 80 meter of East Coast of Peninsular Malaysia |
| | Subsurface South China Sea | East coast of Peninsular Malaysia at depth 50 to 80 meter |
| Transition from SW to NE | GOT | Gulf of Thailand |
| | Mixture of GOT and SSCS | Southern part of the Gulf of Thailand and East coast of Peninsular Malaysia |

3. Relationship between water mass and biological distribution indicated that SSCS water mass was the indicator of low total abundance of zooplankton with high proportion of chaetognatha. The result also showed positive relationship between lower layer of GOT water mass and abundance of phytoplankton but negative relationship with abundance of pelagic fish.

5.2 Recommendations

1. Since the observation stations of this study were not cover all the Gulf of Thailand, the estimated volume of SCS and S-PM water mass that spreading to the Gulf of Thailand and vice versa are impossible. So, the collaborative surveys among country at the boundary of the Gulf of Thailand are needed.

2. The information of source of water masses are needed for the successful of OMP-analysis. The observation area should be extending to the South China Sea to cover all possibility sources of water masses.