

## CHAPTER VI

### CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 Conclusions

A simulation program for predicting climatic temperature change at any time or any greenhouse gas concentration is developed. In this work, sea-surface temperature was calculated using modified atmospheric-oceanic model. The program is developed by Visual Basic language therefore it can be utilised on personal computers with Microsoft Windows version 3.1 or later.

Observed average sea-surface temperature change data of the globe since 1860 until 1988 is collected for comparing with the simulated results of the developed program and those of the original program. The results show a similar trend but differ in values. With consideration on both time and greenhouse gas simulation factors, the developed program predicts higher than those of the program based on the original model but the results agree well with the reference data in the final period. Therefore, the developed program can predict the actual data more accurate than the program based on the original model does. It can be concluded that the developed program could predict more reliable results because of consideration on many parameters neglected in the program based on the original model.

The main advantages of this package are (1) the user can easily know climatic temperature change at sea surface by himself, (2) the user is attracted to

a lot of colourful graphics, (3) the useful hot spots and keywords help the user in quick searching the interested topics, (4) by this package, a lot of time will be save in getting the calculation results.

## 6.2 Recommendations

- a) This simulation program can be applied for calculating sea-surface temperature change started from 1860, or from carbon dioxide gas concentration higher than 287 part per million.
- b) Because the aim of this work is to estimate sea-surface temperature, to improve the accurate level of simulation results, other factors affecting the global warming should be taken into consideration.
- c) Because the developed program is designed to have easy interaction using, it is interesting to make highest utilisation of this simulation as a guidance to estimate the average climatic temperature change at sea surface of the globe.

ศูนย์วิทยทรัพยากร  
จุฬาลงกรณ์มหาวิทยาลัย