

## **PREFACE**

The current research work is a part of our semester programme offered by Symbiosis Institute of Geoinformatics, for which I have taken up the topic “Detecting spatio-temporal change in climatic variables and understanding the navigational factors affecting North American Arctics” as my study. This project has helped me gain vast knowledge in the field of Geoinformatics and the importance of the application of different softwares involved on a daily basis.

The main aim of this study is to find out the changes taking place in the Greenland Ice Sheet over a 60 year time period from 1990-2050. It has been analysed using downscaling data from NASA Centre for Climate Simulation. The effects of ice sheet melting has also been able to lower the costs of navigation from the North American regions to Greenland.

The study has been carried out as ice sheets in Greenland play an important role in maintaining the climatic balance and also contributes to the sea level change. Any change occurring in these ice sheets immediately affect the surrounding water bodies and global climate as a whole.