ACKNOWLEDGEMENTS

I take this opportunity to express my deep sense of gratitude to my thesis adviser Professor R. Raghavarao but for whose encouragement, affection and friendship, it would have been hard for me to accomplish my academic pursuits.

I owe a great deal to Professors J.N. Desai and R. Pratap for their interest in my work, for their encouragement and for many helpful discussions.

It is a pleasure to acknowledge the help rendered to me, regarding the numerical analysis by Dr. Rao S. Koneru and Dr. (Mrs.) Suhasini.

I thank M/s. V. Sudhakar, V.V. Babu, R. Aravamudan and G. Padmanabhan and their colleagues at TERLS, Trivandrum for making the vapour cloud release experiments a great success.

The fruitful discussions with Professor G. Martelli of the University of Sussex, Brighton, Dr. C.A. Reddy, Dr. C.R. Reddi and Dr. B.V. Krishnamurthy of V.S.S.C., Trivandrum are gratefully acknowledged.

I am indebted to Professor Satya Prakash, Professor R.P. Kane, Professor T.S.G. Sastry, Professor B.H. Subbaraya, Dr. G. Subramanian and Dr. M.R. Deshpande for their encouragement.
I express my gratitude to M/s. D.V. Subhedar and V.J. Parikh who developed the electronic circuitry for the equipments for measuring the daytime winds.

I thank Miss Ranna A. Patel for her excellent computational assistance and for the painstaking job of preparing the diagrams.

It is with a deep sense of gratitude that I recall my association with my friend, the late Mr. Jayarama Rao, with whom I had had the benefit of many a fruitful discussion.

The encouragement given to me by my friends, particularly by Dr. Prabhakar Sharma, Dr. Vaman Kulkarni, Dr. Vinay Kamble, Dr. Bhupen Goswamy, Dr. Pradeep Chaturvedi Dr. H.S.S. Sinha and Mr. N. Nagesha Rao is gratefully acknowledged.

Mr. K. Ravi typed the thesis very neatly and efficiently. Mr. K.B. Sasidharan typed the first draft of the thesis. Mr. K. Venugopalan typed the first page of the thesis. I am grateful to all of them. My sincere thanks are due to Mr. Ghanshyam Patel who very efficiently cyclostyled the thesis.

The excellent support rendered by the workshop, the computer centre, and Photographic and Documentation section is highly appreciated.

I thank all the members of my family for their affection and encouragement.