

Contents

| | | |
|------------------|---|-----------|
| CHAPTER 1 | REVIEWING THE PAST TO UNDERSTAND THE FUTURE -AN INTRODUCTION | 1 |
| A. | ARCTIC WARMING – WHAT WARMING? | 1 |
| B. | THE ARCTIC IS SCREAMING? | 5 |
| C. | TIPPING POINT, CLIMATIC REVOLUTION, APOCALYPSE NOW | 6 |
| CHAPTER 2 | THE ARCTIC IN CLIMATOLOGY | 13 |
| A. | THE GENERAL PICTURE | 13 |
| a) | <i>Remote but influential</i> | 13 |
| b) | <i>A climate revolution in the Arctic?</i> | 14 |
| B. | A CLIMATIC REVOLUTION AT SPITSBERGEN AND THE FIRST ASSESSMENTS | 14 |
| C. | THE EARLY ARCTIC WARMING AND MODERN ASSESSMENTS | 16 |
| D. | WHAT IS UP FOR DISCUSSION? | 17 |
| a) | <i>The objective of this investigation</i> | 19 |
| b) | <i>WHERE?</i> | 21 |
| c) | <i>WHEN?</i> | 22 |
| d) | <i>WHY?</i> | 22 |
| E. | EXPECTED RESULTS | 23 |
| CHAPTER 3 | SPITSBERGEN TEMPERATURE ROCKETING | 25 |
| A. | FACTUAL ASPECTS | 25 |
| a) | <i>A rocket rise</i> | 25 |
| b) | <i>Scope of data and other investigation sources</i> | 25 |
| c) | <i>Which data used are promising</i> | 26 |
| B. | THE HEATING UP OF SPITSBERGEN | 28 |
| a) | <i>A sudden shift</i> | 28 |
| b) | <i>Spitsbergen in comments between 1930 and 1982</i> | 28 |
| c) | <i>How does modern science talk about Spitsbergen event?</i> | 32 |
| C. | WHAT TO MAKE OUT OF THE BIG RISE? | 36 |
| CHAPTER 4 | REGIONAL IMPACT OF THE SPITSBERGEN WARMING | 37 |
| A. | INTRODUCTION TO WHEN & WHERE | 37 |

| | |
|--|-----------|
| B. THE REGIONAL FEATURE WITH FOUR SEA WATER BODIES | 38 |
| <i>a) Arctic Ocean</i> | 38 |
| <i>b) Greenland Sea</i> | 41 |
| <i>c) Norwegian Sea</i> | 42 |
| <i>d) Barents Sea</i> | 43 |
| C. SUMMARY | 46 |
| CHAPTER 5 THE WARMING EVENT IN DETAILS | 47 |
| A. EXCEPTIONAL TEMPERATURES RISE | 47 |
| B. DISTANT WARMING | 48 |
| C. IS OCEAN WARMING ASCERTAINABLE? | 48 |
| D. THE INFLUENTIAL REGIONS..... | 50 |
| <i>a) Arctic Ocean</i> | 50 |
| <i>b) Greenland</i> | 52 |
| <i>c) Sub-polar North Atlantic</i> | 55 |
| <i>d) Barents Sea</i> | 56 |
| <i>e) Europe</i> | 59 |
| E. SPITSBERGEN AS A HEATING SPOT | 60 |
| F. SUMMARY | 60 |
| CHAPTER 6 HOW IS THE AGITATION IN THE ARCTIC EXPLAINED? | 61 |
| A. CAN A 'CLIMATIC REVOLUTION' BE ANALYSED?..... | 61 |
| <i>a) Are the IPCC Reports of any help?</i> | 61 |
| <i>b) Is 'Chaos' a hindrance?</i> | 61 |
| <i>c) The Arctic, Al Gore and better understanding</i> | 63 |
| <i>d) Any analysis is to be based on ocean impact</i> | 64 |
| B. RECENT FINDINGS IN ARCTIC RESEARCH | 64 |
| C. THE ISSUES DEBATED BY ARCTIC SCIENCE..... | 70 |
| <i>a) The ignorance of older research</i> | 70 |
| <i>b) About the suddenness of the early event</i> | 71 |
| <i>c) Circulation variations – Brooks Question 1938</i> | 72 |
| <i>d) The non sensual use of "natural variability"</i> | 75 |
| D. SUMMARY..... | 75 |
| CHAPTER 7 WHERE DID THE EARLY ARCTIC WARMING ORIGINATE? | 77 |
| A. SUGGESTED FORCING MECHANISM | 77 |
| <i>a) An introduction with a lecture given in 1935</i> | 77 |

| | |
|---|------------|
| <i>b) Slow change in ocean circulation – Oceans interaction</i> | 80 |
| <i>c) The wind induced Arctic warming</i> | 80 |
| <i>d) Any other suggestions?</i> | 84 |
| B. WARM ATLANTIC WATER OF SPITSBERGEN | 85 |
| CHAPTER 8 CAUSED NAVAL WAR THE ARCTIC WARMING? | 87 |
| A. WHICH ARE THE POTENTIAL FORCES AVAILABLE? | 87 |
| B. NAVAL WAR, A FORCE TO RECON | 88 |
| C. FORCING POTENTIAL OF NAVAL WAR DURING WWI | 88 |
| D. THE CONNECTION BETWEEN NAVAL WAR AND THE ARCTIC WARMING..... | 89 |
| E. THE SYSTEM SHIFT | 95 |
| F. SUMMING UP | 96 |
| CHAPTER 9 CONCLUSION | 97 |
| ACKNOWLEDGEMENT | 98 |
| BIBLIOGRAPHY | 99 |
| LIST OF IMAGES | 103 |
| LIST OF SPECIAL PAGES | 107 |