

# CONTENTS

## CLIMATE FLUCTUATIONS AT KOŠETICE IN THE PERIOD 1988–2007

- 1. Introduction . . . . . 5
- 2. Data and methods . . . . . 5
- 3. Air temperature . . . . . 6
- 4. Sunshine. . . . . 7
- 5. Precipitation . . . . . 9
- 6. Snow cover . . . . . 9
- 7. Wind . . . . . 10
- 8. Air pressure . . . . . 11
- 9. Conclusions . . . . . 11
- References . . . . . 12

## THE INFLUENCE OF THE EXPECTED TEMPERATURE CHANGES ON THE HEATING SEASON (THE 1990 PROGNOSIS COMPARISON WITH THE MEASURED RESULTS)

- 1. Introduction . . . . . 14
- 2. Global climate change . . . . . 14
- 3. Climate change scenarios and their economic and political impacts . . . . . 15
- 4. Definition of the problem. . . . . 16
- 5. Methods . . . . . 16
- 6. The comparison of the prognosis with the calculated values based on the measured data . . . . . 17
  - 6.1 Results of the original study . . . . . 17
  - 6.2 Results of comparison . . . . . 18
- 7. Conclusions . . . . . 23
- References . . . . . 23

## AIRCRAFT MEASUREMENT OF TROPOSPHERIC OZONE ABOVE THE CZECH EMEP STATIONS DURING THE CULMINATING OZONE EPISODE

- 1. Introduction . . . . . 24
- 2. Technical data . . . . . 24
  - 2.1 Aircraft description. . . . . 24
  - 2.2 Description of used equipment . . . . . 25
  - 2.3 Flight trajectory . . . . . 25
- 3. Brief physical-geographic description of stations . . . . . 26
  - 3.1 Košetice Observatory . . . . . 26
  - 3.2 Svratouch . . . . . 26
  - 3.3 Kocelovice . . . . . 27
- 4. Tropospheric ozone . . . . . 27
  - 4.1 Basic information . . . . . 27
  - 4.2 The origin of tropospheric ozone . . . . . 28
  - 4.3 Ozone behavior in the troposphere . . . . . 29
  - 4.4 Trends of ozone concentrations in global and regional scale . . . . . 30
- 5. The processing of the obtained data. . . . . 30
  - 5.1 The description of ozone episode . . . . . 30
  - 5.2 The description of meteorological conditions at the EMEP stations Svratouch and Košetice during vertical measurements . . . . . 32
  - 5.3 Results of the measurements above the stations Svratouch and Košetice . . . . . 33

5.4	Measurement above the station Kocelovice . . . . .	35
5.5	Horizontal distribution of concentrations during the flight . . . . .	35
6.	Comparison of the results with the previous aircraft measurements. . . . .	36
7.	Conclusions . . . . .	36
	References . . . . .	37

**LONG-TERM MONITORING OF ALDEHYDES AND KETONES AT KOŠETICE OBSERVATORY**

1.	Introduction . . . . .	39
2.	Monitoring within Co-operative programme for monitoring and evaluation of long-range transmission of air pollutants in Europe (EMEP). . . . .	39
3.	Aldehydes and ketones – general information . . . . .	40
4.	Determination of aldehydes and ketones in ambient air . . . . .	40
4.1	Sampling procedure . . . . .	40
4.2	Analytical procedure . . . . .	40
5.	Emissions . . . . .	41
6.	Results of monitoring41 . . . . .	41
7.	Conclusions . . . . .	49
	References . . . . .	49

**LONG-RANGE TRANSPORT OF PERSISTENT ORGANIC POLLUTANTS TO KOŠETICE OBSERVATORY**

1.	Introduction . . . . .	51
2.	Methods and materials. . . . .	52
2.1	Sampling, chemical analysis and quality control. . . . .	52
2.2	Trajectory generation . . . . .	52
2.3	Potential Source Contribution Function . . . . .	53
2.4	Source loadings . . . . .	53
3.	Results and discussion . . . . .	54
4.	Conclusions . . . . .	57
	References . . . . .	58

**RUNOFF FROM THE ICP IM CATCHMENTS IN THE BOHEMIAN MASSIF**

1.	Introduction . . . . .	61
2.	Site description . . . . .	61
3.	Methods . . . . .	62
4.	Results and discussion . . . . .	62
5.	Conclusions . . . . .	66
	References . . . . .	67