

Index

A

Acidity

- Comparison of pH and acidity, 19
- Definition, 19
- Determination, 15-17, 19-24
- Uncertainty in measurement, 16, 19

Aluminum

- Concentration in rain, 25
- Effect on charge balance, 25

Analysis

- Acidity, 15-17, 19-24
- Ions by ion chromatography, 29-40
- pH, 15
- Reanalysis criteria, 79, 80

B

Blind samples

- Use in quality assurance, 80

C

Campbell, Sally, editor, 1-2, 91-96

Canadian Network for Sampling

Precipitation

- Network description, 85-88
- Siting criteria, 85

Carbon dioxide in determination of acidity, 21

Charge (ion) balance

- Comparison of measured and computed pH values, 19, 78
- Computation of pH by, 25, 77, 78
- Uncertainty in, 26, 77, 78

Chloride determination by ion chromatography, 29-40

Cloud condensation nuclei characteristics, 7

Cloud formation mechanisms, 7

Collectors, *see* precipitation collectors

Conductance

- Computation, 77, 78
- Use in data checking, 78, 79

D

Data checking computational procedures, 77-80

Data comparability

- Definition, 63
- Importance of quality control, 65, 66

Data reporting for data comparability, 65-67

Deposition rate

- Relation to rainfall rate and event type, 55, 56
- Within event variability, 51

Detection limit

- Definition, 75
- Values for: NADP, 75

F

Field blanks use in quality assurance, 70

Field measurements comparison with laboratory, 80, 81

Fitchett, Arthur W., 29-40

H

Hayes, Janet V., 50-60
 Hydrogen sulfide determination by
 ratiometric colorimetry, 41-49

I

Ion balance, *see* charge balance
 Ion chromatography
 Analysis of rain, 29-40
 Precision and accuracy, 37-39

J

Jansen, John J., 61-71

K

Kimbell, Charles L., 41-49
 Kimbell, Chris L., 41-49
 Koch, William F., 10-17

L

Landsberg, H. E., 3-9

M

Marinenko, George, 10-17
 Monitoring
 Data comparability, 62-64
 Existing networks, 62, 63

N

National Atmospheric Deposition
 Program (NADP)
 Analysis protocol, 76
 Data checking procedures, 77-79
 Network description, 72-75
 Quality assurance, 77-82
 Reanalysis criteria, 80
 Sampling protocol, 73-75
 Sites, 74

Nitrate

Determination by ion chromatog-
 raphy, 29-40
 Within-event variability, 51-56

P

Peden, Mark E., 72-83

pH

 Computation from charge balance,
 25, 26, 77-79
 Data comparability, 64-66
 Definition, 11, 12
 Determination in rain, 15, 76
 Effect of added salt on reported
 pH, 14, 15
 Effect of stirring on reported pH,
 13, 14
 Electrode variability, 12, 13
 Related to ammonia, 53, 54
 Related to drop size, 8
 Uncertainty in measurement, 15,
 24, 25, 81, 82
 Within-event variability, 51-56
 Phosphate determination by ion
 chromatography, 29-40
 Precipitation chemistry
 Data comparability, 62-64
 NADP analysis protocol, 76
 Relationship to meteorology, 53
 Relationship to rainfall rate, 54
 Variability within events, 51, 52
 Precipitation collectors
 CANSAP protocol, 87, 88
 NADP protocol, 73

Q

Quality assurance/quality control
 Acidity measurements, 19-24
 CANSAP procedures, 89
 Computer data checks, 77-80
 Diagnosis of analytical problems,
 79
 Field blanks, 70

- For data comparability, 65
 - NADP procedures, 77-82
 - pH measurements, 15, 77-82
 - Program design considerations, 87
 - Program elements, 69, 77-82
 - Responsibilities of data producer and data analyst, 65
 - Round robins, 81, 82
 - UAPSP procedures, 67-70
 - Use of outside auditors, 69, 80-82
 - Workshop on data comparability, 69, 70
- R**
- Raindrop
 - Formation, 7
 - Size distribution, 7
 - Rainfall
 - Gages, comparison, 4-6
 - Geographical variability, 4, 5
 - Uncertainty in measurement, 4, 5
 - Ratiometric colorimetry for analysis of total sulfur, 41-49
 - Raynor, G. S., 50-60
 - Reference materials, artificial rainwater, 10, 11
 - Round robins for network quality assurance, 81, 82
- S**
- Scavenging of atmospheric contaminants by rain and snow, 6, 7, 51-53
 - Effect of droplet size, 7, 8
 - Sequential sampling for determination of sources of acidity, 51
 - Snow gages, 5
 - Still, Malcolm E., 84-90
 - Storage of precipitation samples, NADP protocol, 76
 - Sulfate
 - Dependence on meteorological variables, 56
 - Deposition rate related to rainfall rate, 56
 - Determination by ion chromatography, 29-40
 - Determination by ratiometric colorimetry, 41-49
 - Within-event variability, 51-56
 - Sulfite
 - Determination by ion chromatography, 29-40
 - Determination by ratiometric colorimetry, 41-49
- T**
- Trace metal constituents
 - Concentrations in rain, 25
 - Contribution to acidity, 25
 - Trajectory analysis for determination of source regions, 56-59
 - Trend analysis data comparability, 63-65
 - Tyree, Sheppard Y., Jr., 18-28
- U**
- Utility Acid Precipitation Study Program
 - Network description, 67, 68
 - Quality assurance program, 69
 - Workshop on data comparability, 69, 70