

TABLE OF CONTENTS

Introduction.....	5
I. Concept of an archive study.....	6
1.1. Inception of the study.....	6
1.2. Innovative intervention of archivists.....	6
1.3. Programming a European assessment.....	7
1.4. Recommendations made to archivists.....	7
1.4.1. A simple listing.....	7
1.4.2. Comprehension of the information sources.....	7
1.4.3. Chronological time span.....	7
1.4.4. Documentary selection.....	7
1.5. Obvious examples of documentary sources.....	8
1.6. Preparation of information forms.....	8
1.6.1. Form for point and occasional data.....	8
1.6.2. Form for data series.....	10
1.6.3. Computerization of the forms.....	11
II. Requirements of archival research.....	12
II.1. Time and amount of work involved.....	12
II.2. Amount of data found.....	12
II.3. Type and quality of the documentation.....	12
II.3.1. Data series.....	12
II.3.1.1. Data from official meteorological stations.....	13
II.3.1.2. Civil engineering data.....	15
II.3.1.3. Data from amateur observers.....	15
II.3.1.3.1. Observatories of meteorological societies.....	15
II.3.1.3.2. Private observatories.....	15
II.3.1.4. Observations of agronomical and agricultural societies.....	16
II.3.2. Point data.....	16
II.3.2.1. Abundant and impartial documents.....	16
II.3.2.1.1. The press.....	16
II.3.2.1.2. Private diaries.....	17
II.3.2.1.3. Private correspondence.....	17
II.3.2.2. Abundant, subjective documents containing no scientific measurements.....	18
II.3.2.2.1. Parochial registers.....	18
II.3.2.2.2. Requests for subsidies or other assistance.....	18
II.3.2.2.3. Local chronicles.....	19
II.3.2.3. Documents linked to specific geographical or economic activity: for example shipwreck registers.....	19
II.3.2.4. Sources linked to unmeasured geographical or economic occurrences.....	19
II.3.2.4.1. Legislation and municipal decrees.....	19
II.3.2.4.2. Official water reports.....	21
II.3.2.5. Rare and exact sources: memoirs.....	21
II.4. Measuring instruments.....	21
II.4.1. Temperature.....	21
II.4.2. Atmospheric pressure.....	21

II.4.3. Rainfall.....	22
II.4.4. Wind direction.....	22
II.5. Observations on the type of events encountered according to regions from 1725 to 1775.....	22
III. The use of archive data in climatology.....	27
III.1. Ancient instrumental data.....	27
III.1.1. Ancient meteorological observations.....	27
III.1.1.1. Historical background.....	27
III.1.1.2. Development of instruments.....	28
III.1.1.3. Organization of networks.....	28
III.1.1.4. Lengthy climatological series.....	29
III.1.1.5. The development of national meteorological networks.....	29
III.1.2. Uniformity of climatological series.....	30
III.1.2.1. Heterogeneity of information: example of northern France.....	30
III.1.2.2. Problems linked to instrumentation: measuring precipitation in Scandinavia.....	32
III.1.2.2.1. Swedish pluviometric readings.....	32
III.1.2.2.2. Recording precipitation in Norway.....	36
III.1.3. The reconstitution of long series of climatological data.....	37
III.1.3.1. Uniformizing Scandinavian pluviometric data.....	37
III.1.3.2. Reconstitution of a long series of temperatures at Lille.....	38
III.1.3.2.1. Establishment of a complete and uniform series of average monthly temperatures since 1921.....	38
III.1.3.2.2. Reconstitution of the monthly values of temperatures for the period 1899-1920.....	39
III.1.3.2.3. Measurement of urban influence before 1900.....	39
III.1.3.2.4. Examination of observations made at Lille between 1806 and 1852.....	41
III.1.3.2.5. The reconstitution of average/mean temperature at Lille from 1757 to 1793.....	41
III.2. The use of documentary sources.....	44
III.2.1. Climatic fluctuations and mountain glaciers.....	44
III.2.2. Estimation of wind velocity.....	45
III.3. Codification of information and field representation.....	47
III.4. Validation of the series.....	49
III.5. Regional divisions.....	50
Conclusion.....	53
Annexe 1: Form for point and occasional data.....	54
Annexe 2: Form for data series.....	55
Annexe 3: Form for measured meteorological data series pre-1900.....	56
Annexe 4: Grid for archival survey project of WMO/ICSU/ICA/UNESCO.....	57
Annexe 5(a): Scientific evaluation - Report to WHO on the archival survey for climate history.....	60
Annexe 5(b): Scientific evaluation.....	62
Bibliography.....	68