

UNITED NATIONS  
ECONOMIC  
AND  
SOCIAL COUNCIL



Distr.  
LIMITED



E/CN.14/CART/C.1/1  
E/CONF.43/C.1/1  
10 July 1963

Original: ENGLISH

UNITED NATIONS REGIONAL CARTOGRAPHIC  
CONFERENCE FOR AFRICA  
Nairobi (Kenya), 1-13 July 1963

DOCUMENTS OFFICE

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DRAFT REPORT OF COMMITTEE I

Geodesy and hydrography

NAI-63-176

## 1. GEODETIC SURVEYING

Under this item, the Committee considered the following documents:

E/CN.14/CART/19, 34, 48, 65 and 85.

During the discussion the Committee noted the importance of geodetic control as the basis for accurate mapping and decided to recommend that any national cartographic establishment to be set up in Africa should include a geodetic division.

The Committee also noted that the great triangulation chain along the 30th meridian east of Greenwich extending from the extreme south to the extreme north of Africa, had been completed and adjusted, and noted further that several other links of geodetic chains had not yet been connected. Realizing the importance of a well connected chain of geodetic control all over Africa, the Committee decided to recommend that practical steps be taken to achieve the connexions of the geodetic network all over Africa and that there should be long range planning for geodetic control in Africa. The Committee saw the need for a common geodetic datum all over Africa and decided to recommend further that all countries should agree to work towards the establishment of a common geodetic datum and to adopt the datum of the already existing and adjusted arc of the 30th meridian.

### Computations

The Committee then decided to reaffirm the recommendation of the Commission for Technical Co-operation in Africa (CCTA/CSA) Conference in Bukavu that the modified Clark's ellipsoid of 1880 should be adopted for geodetic computations.

With respect to the use of the tellurometer for geodetic surveying the Committee heard reports of the use of these instruments both for traversing and for tri-lateration and agreed that the instrument is capable of being used for work of first order accuracy.

#### Satellite geodesy

The Committee heard reports from observers from both the USSR and the United States on the use of satellites for geodetic observation and noted that it will open a new era in geodetic determinations.

#### Electronic processing of geodetic data

The Committee considered the use of electronic computers in processing geodetic data and while agreeing to the obvious advantages decided that it would be uneconomical for a country to own electronic computers mainly for processing geodetic data and that it might be more appropriate for a few countries to pool their resources and own an electronic computer jointly. It further decided to recommend that if a central cartographic organization is established in Africa it should be equipped with an electronic computer.

#### Gravity and magnetic measurements

The Committee took note of the work of the International Union of Geodesy and Geophysics in establishing gravity observation posts over Africa and decided to recommend that additional points should be established in Africa for geological and geophysical investigations.

## 2. HYDROGRAPHIC SURVEYING

The Committee considered documents E/CN.14/CART/20 and 60, and agreed that all maritime States should keep hydrographic information up-to-date.

Electronic computers

The observer from Switzerland drew the attention of the Conference to the analogue tri-lateration computer which was simple to use and which might be the answer to the electronic computer.