

directions, some in early Devonian time, some late in the Palæozoic era, and some in Tertiary time. Five fold-belts have been recognized—Cornwallis, Parry Islands, Central Ellesmere, Northern Ellesmere and Eureka Sound. Granitic intrusions have been found in the Northern Ellesmere belt.

Brief sketches of the geological regions together with an outline of geological processes are given in the 1961 Year Book at pp. 1-14. Further information is supplied by *Geology and Economic Minerals of Canada* (\$2, including Map 1045A) and *Prospecting in Canada*; the latter also contains chapters on the principles of geology and on minerals and rocks. The *Geological Map of Canada* (1045A, 50 cents) and *Canada, Principal Mining Areas* (900A) are also recommended. Map 900A is revised annually; one copy is sent free to residents of Canada and additional copies are 25 cents each. These publications may be ordered from the Director, Geological Survey of Canada, together with lists of reports and maps of the Geological Survey of Canada on specific topics and areas, for each province. Other publications are available from provincial mines departments.

Section 3.—Federal Government Surveying and Mapping*

Technical surveys, maps and charts are basic tools in the acquisition of knowledge of a country's physical features and its resource potential; they are essential for resource development, for extending trade and commerce, and for administration, defence, educational and recreational purposes.

In Canada the needs of government, industry and the public in this field are met largely by the federal mapping agency, the Department of Mines and Technical Surveys. To this Department falls the Herculean task of mapping Canada's 3,852,000 sq. miles of territory and the charting of its inland waters and of its thousands of miles of coastline, the longest coastline of any country in the world. It is responsible for compiling and printing topographical, geological and aeromagnetic maps, aeronautical and hydrographic charts, specialized maps, such as electoral and boundary maps, land-use maps and general maps of Canada at various scales. It is responsible, too, for the establishment of a national framework of survey control necessary for mapping and engineering purposes.

The Department's surveying and mapping activities take it, on land, into every nook and corner of the country from the Atlantic Ocean to the Pacific and from the International Boundary on the south to the outer fringe of the Arctic Archipelago in the Far North. On water, it is charged with the charting of inland waters and the charting and carrying out of oceanic surveys in the waters of the continental shelf and in the deep ocean. In the air, it is responsible for measuring the heights of land to assist air navigation over Canada and for carrying out geophysical surveys to acquire a knowledge of the composition and structure of the earth's crust in Canadian territory.

To assist it in this tremendous task, the Department makes use of the latest in techniques and instruments and, in addition, carries out a broad program of research to enhance the accuracy and efficiency of its maps and surveys. It has a staff of 4,000, of whom 1,000 are scientists and engineers and 1,300 are trained technicians. Each year it places some 1,500 men in the field to carry out survey and research programs, the results of which are brought back to Ottawa and produced in the form of maps, charts and reports.

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