

Daylight Saving Time.—For some years before World War I there was active propaganda, particularly in the cities, for the use during the summer months of an earlier time usually referred to as 'daylight saving time', one hour ahead of standard time. It was considered from the economic as well as from the health point of view that people in industrial towns and cities would gain by having longer periods of sunlight at their disposal for recreation. Canada adopted daylight saving time in 1918 but the Canadian Act lapsed at the end of that year. Since that date, however, most cities and towns have adopted daylight saving for varying periods in the summer months.

Legal Authority for the Time Zones.—Most of the regulations made in Canada concerning standard time have been passed by the provincial legislatures and the North-west Territories Council. Legislation, besides determining the boundaries of zones, regulates such matters as the times of coming into effect or expiration of Acts, ordinances, contracts and agreements, times of opening and closing registration offices, law courts, post offices and other public offices, times of open or close seasons for hunting and fishing, and times of opening and closing business houses and places of amusement.

PART V.—GEOPHYSICS AND ASTRONOMY

Section 1.—Geophysics*

Geophysics is the study of the earth, including the oceans and atmosphere, by the methods of physics. Because it extends over such a very wide range of topics, it is generally divided into seven fields, each a well developed science in itself. Of these, one of the oldest is geodesy, the study of the earth's shape, and of variations in the gravitational attraction of the earth, which are related to the shape. Seismology originally was the study of earthquakes but it now includes investigations of the earth's interior by means of vibrational waves, which may be produced by explosions as well as earthquakes. Meteorology deals with the atmosphere, and hydrology deals with the surface waters of the earth, excluding the oceans but including ice and snow. The study of the oceans, their currents and bottom profiles, forms a subject in itself—oceanography. Geomagnetism is involved with the earth's magnetic field and with many related phenomena, such as the ionosphere and the radiation belts that surround the earth. Finally, volcanology is the study not only of existing volcanoes but of volcanoes of the past and of the rocks they produced.

The seven fields all deal with the investigation of some major property of the earth. They may be considered as pure sciences but it is apparent that they all have applications that are vital to modern life. The findings of geodesy on the precise shape of the earth are needed for accurate maps. The search for minerals and oil by scientific methods makes use of the techniques of gravity measurements, seismology and geomagnetism. Meteorology obviously has great practical importance, and the contributions of hydrology to water supply problems and of oceanography to the fisheries are also very large.

Activity in geophysics continued to increase in Canada during 1961. Historically, those fields of greatest application in this country were developed first but work is now in progress in all branches of the subject. Geophysical studies are conducted by a number of groups in the Department of Mines and Technical Surveys, the Department of Northern Affairs and National Resources, the Department of Transport, the National Research Council, the Defence Research Board, several provincial laboratories and virtually all universities. Research in geophysics in Canadian universities is generally carried on in the departments of physics or geology, although in the University of Western Ontario there is a Department of Geophysics. At least nine universities offer courses in geophysics, which can be taken by students intending to pursue geophysical research or to apply it in mining or petroleum exploration.

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