

Upper Atmosphere Research Section. When completed, MORP will consist of 12 camera stations scattered over the prairie provinces to record bright meteors and fireballs with the primary aim of rapid recovery of fallen objects (meteorites). Since their observing programs had been completed, the Meanook and Newbrook Meteor Observatories were closed down prior to the transfer.

Another new project for which NRC now has assumed responsibility is the establishment of an optical solar observatory at Shirley Bay, west of Ottawa, on a site which has been carefully selected for its excellent daytime observing conditions. The specially designed telescope to be installed in this new observatory will enable detailed studies to be made of fine structure in the solar atmosphere.

The Dominion Astrophysical Observatory near Victoria which has a long history in the development of astrophysical research in Canada has now become part of NRC. The observatory has two major telescopes: the original 72-inch telescope and a newer 48-inch telescope equipped with modern, powerful spectrographs considered the most efficient in the world. They permit accurate radial-velocity and intensity studies of supergiants, peculiar stars, novae, binary systems, etc. The spectrographs attached to the 48-inch telescope are so powerful that high dispersion spectrograms can be obtained as quickly as with the 200-inch telescope on Palomar Mountain.

The observatory recently completed a new optical shop which will produce a new low expansion 73-inch blank to replace the original 50-year old plate glass mirror. The observatory also operates a 16-inch telescope on Mount Kobau, B.C., for photometric observations. Also transferred was the more recently established Dominion Radio Astrophysical Observatory near Penticton, B.C. whose staff have made notable contributions particularly in hydrogen-line and low frequency observations.

S/D

Nous vous remercions de
nous avoir communiqué le
rapport de l'annonce vocale
de l'heure faite au Conseil
National de Recherches du
Canada

Thank you for your report
of the National Research
Council of Canada voice
time signal on:

3330 kHz
7335 kHz
14670 kHz

TIME/HEURE.....

DATE.....

CHU

When measurement of time, once based on earth rotation, was shown to lack uniformity, astronomers adopted the annual motion of the earth around the sun as the basis for time measurement.

In 1967, the second was re-defined in terms of the cesium 133 atom, thus providing extremely precise and readily available time. The National Research Council's cesium atomic clock is Canada's primary frequency source from which time is derived. The cesium standard of NRC's Time and Frequency Section is able to generate the second with an accuracy of about one part in a million million.

The voice of Canada's time service is the short wave station CHU. Located at Ottawa, CHU is essentially a self-contained station, complete with its own cesium clock. By direct line and radio link it is continuously monitored with respect to NRC's primary cesium standard. The three frequencies 3330, 7335 and 14670 KHz, with outputs of three, 10 and three kilowatts respectively, operate continuously with a voice announcement of the time each minute in English and French.

Short wave listeners from all parts of the world send reception reports to NRC which are welcomed and acknowledged with the QSL card shown above.

Pendant longtemps on s'est servi, comme référence pour mesurer le temps de la rotation de la terre; comme cette rotation n'est pas très uniforme, les astronomes ont adopté la durée de la rotation de la terre autour du soleil.

En 1967 l'unité de temps, la seconde, a été définie à nouveau en fonction d'une vibration de l'atome de césium 133 ce qui augmente de beaucoup la précision de la définition. L'horloge atomique au césium de la Section de l'heure et des fréquences, du Conseil national de recherches, constitue la source de fréquence primaire du Canada d'où l'on dérive la seconde avec une précision de une pico-seconde.

Le Service canadien de l'heure utilise l'émetteur sur ondes courtes de la station CHU qui se trouve à Ottawa et qui possède sa propre horloge au césium. Cette horloge est continuellement reliée par fil et par radio à l'étalon primaire au césium du Conseil national de recherches. Le signal de l'heure est émis en clair continuellement en français et en anglais toutes les minutes sur 3330, 7335 et 14670 KHz à des puissances respectives de 3, 10 et 3 kw. Les personnes écoutant sur ondes courtes, dans le monde entier, envoient des rapports signalant leurs écoutes au CNRC qui en accuse réception avec plaisir à l'aide des cartes QSL dont nous donnons un exemple ci-dessus.