

war and since, in consequent divergence from normal conditions, when the need for advance was felt to be greatest, we have been short of instruments and restricted for want of funds; and observers throughout the country have also been changing their stations more frequently, and observations have been generally more irregular than in former times: it is, indeed, an age of transition.

"Our staff has recently been reduced by the removal of a cadet-observer, who was trained in the office for two years.

"The Meteorological observatory was removed from the Domain at New Plymouth to the Kawaroa Park, but the committee of the latter objected to it because of its white picket fence. Mr. G. H. Dolby, M.A., came to the rescue, and the observatory for this important centre has now found a temporary home at his private residence.

"The Cawthron Institute has established an observatory at Nelson.

"A supply of terrestrial radiation thermometers has enabled us to continue frost records, but we are quite out of Robinson anemometers for wind records.

"The wireless station at Awarua is equipped with a new standard barometer and a barograph, so that weather reports are available from that station for ships, and for Sunday and holiday reports, when the usual post-offices are closed. Awanui is also to be similarly furnished, so that gradients between our farthest north and south may be available at all times.

"Chatham Islands reports its weather regularly every evening by radio. This is also cabled by us to Australia every day of the year with other reports, at the expense of the Commonwealth Government.

"One important source of information—from ships at sea—is not available to this office; but weather-reporting from ships is well organized, and has been found most useful in other countries which need such reports far less than we do in these isolated islands.

"No reports are available from the Pacific islands, the sum voted in a former year being insufficient to obtain even one daily report from one island. As tropical cyclones are generated in these regions, it is hoped that these reports will be secured in future, and, when the Kermadecs are inhabited, that a radio-station may then give us weather reports, which may at times prove of inestimable value for saving life and property.

"There is a prospect of East Cape Lighthouse, an important weather-reporting station, which has been lost to us for over three years, being soon reopened at Matarehua on the mainland.

"Centre Island station (in Foveaux Strait) has not been connected by cable for a similar period, but it is hoped that the advent of wireless telephony may shortly bring this and other useful reporting-stations into touch with weather-work for the benefit of shipping.

"Radio weather-forecasts and 4 p.m. barometer readings are sent out broadcast nightly from Wellington and Awanui, but have recently been discontinued from Awarua.

"New barometers have replaced those out of order at the Bluff and Port Chalmers; but many of our daily readings are gradually becoming unreliable and in constant need of correction by estimation, which is, to say the least, highly unsatisfactory.

"The observatory site at Wellington has been acquired by the Railway Department, but removal is not yet contemplated, and a better site would be hard to find in the restricted area of the city.

"Some of the science students at Victoria College are utilizing our instruments, and have commenced upper-air research with pilot balloons, which the University is supplying for this effort.

"I have frequently urged the fact that our climatic records are the cheapest and most effective advertisement of this Dominion, and this was forcibly impressed upon me in my visit to the last International Conference in 1919. With a view to publication abroad, I wrote an article which was first published in Dr. Herbert's book on "The Hot Springs of New Zealand" and reprinted fully in the Year-book. It has also been quoted and utilized very widely in geographical and other publications."

FISHERIES.

Attached is a very complete report by Mr. L. F. Ayson, Chief Inspector of Fisheries, on the work of his division during the past year; also an interesting and instructive report by the Hon. G. M. Thomson, M.L.C., Chairman of the Portobello Fish-hatchery Board.

The success which has attended Mr. Ayson's efforts in the acclimatization of quinnat salmon and the cultivation of the rock oyster is very gratifying, and I desire to record my appreciation of the good work which he has done. As regards Atlantic salmon, it will be seen that there are very promising indications that these have been successfully acclimatized also in some of the southern streams, in which case it should shortly be possible to stock suitable rivers in other parts of the Dominion.

INSPECTION OF MACHINERY AND BOILERS.

The number of boilers inspected during the year was 8,188, as compared with 7,746 during the previous year. The total number of defects discovered was 1,757, of which 349 were considered dangerous. No boiler-explosions occurred during the year.

The number of inspections of gas, oil, water, and electrically driven machinery was 23,688, as compared with 20,807 during the previous year.

Special attention has been paid by the Inspectors to the adequate guarding and fencing of dangerous machinery driven by prime movers, with a view to protection of the workers from injury.

EXAMINATION OF LAND ENGINEERS AND ENGINE-DRIVERS, ETC.

These examinations were held at the principal centres throughout the Dominion in the months of May, August, November, and February, which are the dates specified in the regulations. Also, in order to suit the convenience of candidates, occasional special examinations took place at these