to ensure, in so far as the meteorological part was concerned, safe and efficient transportation. When you have such a small population widely scattered, transportation is perhaps the key role. Certainly in the post-war period, with the rapid growth in population, water and natural resources are being used more intensely, and the emphasis in meteorological service is rapidly balanced out to where the demands of natural resources have nearly equalled the demands for transportation and the like.

Then, if I can go from that to directly correlating meteorology with water resources I would like to refer to the first chart I have here. I apologize for the size of the print. The artist had to make a guess as to which committee room you would be meeting in, and I think he guessed a little wrong.

The principal thing I want to demonstrate here is what is known as the hydrologic cycle. This shows the interlocking coordination which is necessary between your hydrologist, your hydraulic engineer and the meteorologist, if this problem of water is to be tackled effectively. Here is where we interlock with the water resources branch, where the problem can only be progressed on a joint basis.

The water cycle or hydrologic cycle is schematically predicted here and it is a closed circuit, so it does not matter where I start in the description. Let me start with the oceans. There, with the effect of solar radiation, water is evaporated from the ocean, condenses when it reaches a certain level of the atmosphere, is transported over the continents by the upper winds, is steadily cooled to the point where the cloud drops coagulate into rain droplets and they fall out and you get precipitation either in rain, snow or sleet, and so on.

From that point on you have a whole sequence of events. Part of the moisture that falls on the continents falls on vegetation, is used in plant growth, and is also evaporated from the surface of the leaves, so we have what we call evapo-transpiration, which takes place immediately the rain falls. Immediately the ground is wet there is a water feedback into the atmosphere from vegetation.

Part of that rain runs down into rivers and lakes. From your lake surfaces, of course, you have a feedback of evaporation the same as you have from the oceans; and both on the bare ground and in the rivers and lakes you have seepage into the ground with the accruals of waters called ground water. Then from the rivers and lakes you have a steady run-off into the oceans and then the cycle starts again,—evaporation from the oceans, condensation in the clouds, a transportation over continents by the upper winds, formation of rain and the cycle keeps going on.

If you stop this cycle it would take only a few days for the continents to become deserts. The holding time of the water in the atmosphere is extraordinarily short. It naturally varies around the world, but the total water budget in the atmosphere at any particular time is quite a precarious economic situation, and that is why you have cycles of droughts and severe floods. This is a sort of key concept in the approach to the water problem, this hydrological cycle, and the name appears again and again in the literature.

Perhaps, sir, if I transfer my papers to the other end of the table I would save the committee's time.

The part of meteorology which deals with this hydrological cycle, principally the precipitation and run-off factor, is known as hydro-meteorology, to indicate the linkage with scientific hydrology and hydraulic engineering and as merely an example of how it is applied I brought copies of a little presentation that was made to the royal society of Canada back in 1957, which details hydrometeorology and its application in Ontario. It could equally well have been written with regard to any other province. It happened to