Weather Service for Aviators

An experimental weather service for aviators will be inaugurated shortly on the Chicago-Cleveland airway as a demonstration of just what airmen need to know about the meteorological conditions of their flight.

The newly organized Daniel Guggenheim Committee on Aeronautical Meterology has drawn up plans for this experimental service under the direction of the United States Weather Bureau. This Bureau is already supplying meteorological information to airmen to the fullest extent possible but the work will need to be greatly expanded in the immediate future.

No problem of applied meteorology is beset with greater difficulties than that of providing an adequate service of weather reports and forecasts for aviators. With the rapid growth of commercial airways this problem has reached an acute stage.

The Guggenheim Committee, with headquarters at the Weather Bureau office in Washington, has formulated a number of suggestions relating to future work in aeronautical meteorology. One of these is that in place of the present plan of issuing weather information and forecasts from a few centers, each serving an area that embraces several states, this work shall be handled hereafter by a much larger number of meteorologists, each of whom shall be stationed at an important airport and shall confine his attention to the airways radiating therefrom.

Inquiry among aviators themselves reveals the fact that what they want chiefly from a meteorological organization is information concerning the state of the weather along the airway at the moment of starting a flight and an accurate forecast for the short period of not more than three or four hours required to reach their destination. It is quite impossible to give this information satisfactorily from a distant forecast center.

There are still other types of information that cannot well be given except by a meteorologist located directly on the airway. For example, in the operation of the air mail lines the question often arises: If weather conditions along the route are unfavorable at the scheduled time of departure, should the mail immediately be sent by train or should the flight be postponed for some hours in expectation of improved flying conditions? The answer to the question implies familiarity with traffic problems on the line and reports from a local network of stations, observing at short intervals of time.

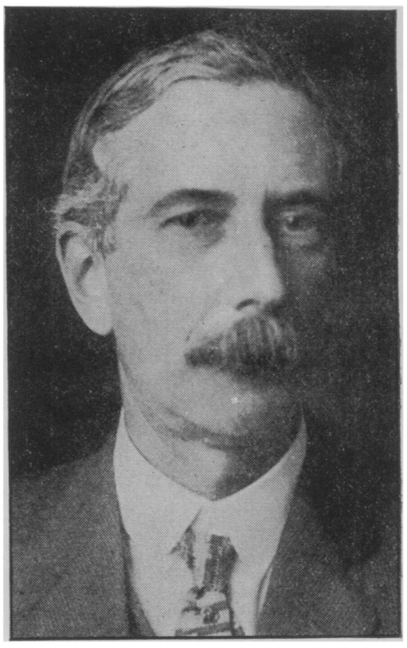
According to the plans outlined by the committee, the headquarters of each local service will be known as an "airport station," and will receive frequent reports from a comparatively dense network of stations along and adjacent to the airway which it serves. Some of these will be regular Weather Bureau stations, but the majority will be stations especially established for this work and manned by part-time observers. The airport station will also receive reports from the country at large, such as are used in the ordinary work of weather forecasting.

In the forthcoming experimental service airport stations will be located at Chicago and Cleveland. The former will be surrounded by a network of about 27 stations and the latter by about 21. Bi-hourly reports from these stations are contemplated, each containing the following information: 1. Weather. 2. Cloudiness. 3. Cloud forms. 4. Past weather. 5. Height of "ceiling." 6. Visibility. 7. Wind. 8. Temperature. 9. Barometer. 10 Condition of landing (from stations located at emergency fields).

These reports are to be telephoned to the airport station, and special arrangements have been made by the telephone companies, involving the exclusive use of wires and the cooperation of telephone exchanges, so that the collection of the reports may be accomplished in the shortest possible time. Cleveland and Chicago will exchange by telephone the reports they collect and the forecasts and advices they issue, using a leased wire for the purpose.

Experiments in broadcasting weather information to aircraft in the air will probably be included in the forthcoming undertaking, and doubtless other features will develop after the service is inaugurated.

A corollary of the plans drawn up by the Guggenheim Committee is that a pressing need will probably arise in the near future for expert meteorologists to operate the numerous weather services along airways. It therefore behooves the universities and technical schools to undertake without delay the training of young men for such work.



CHARLES GREELEY ABBOT

New Smithsonian Head

Years of study of the sun's radiation and its variability, invention of an improved instrument for measuring this radiation, researches on solar physics in general and the invention of a solar cooker that makes use of the heat from the sun—all these things make Dr. Charles Greeley Abbot, who has just been elected secretary of the Smithsonian Institution, one of the leading students of the sun. In electing him to this important office, the Board of Regents of the institution has returned to a precedent set years ago, when they elected Dr. Samuel P. Langley, who was also one of America's most eminent astronomers, to the post. Dr. Langley, who is best remembered for his pioneer work in aviation, was immediately succeeded by Dr. Charles D. Walcott, who died last year.

Probably the most important research that has been carried out under Dr. Abbot's direction is the measurement of the solar constant. This is the intensity of the solar radiation as it would be from a point outside the earth's atmosphere, and at the average distance of the earth from the sun. Measurements to determine this have been made for twenty years from observatories operated by the institution in a number of different parts of the world. The most recent station is one that was established two years ago on a mountain in Africa, among the Hottentots.