

Fig. 4 — (Above) Mountain wave of 13 April 1955 as derived from temperature variations along the second 40,000 foot traverse of B-47. Note again the low point over the Eureka Valley and new wave excitation east of it. Tropopause close to 40,000 feet. Updrafts can barely support a glider. Max winds about 90 knots.

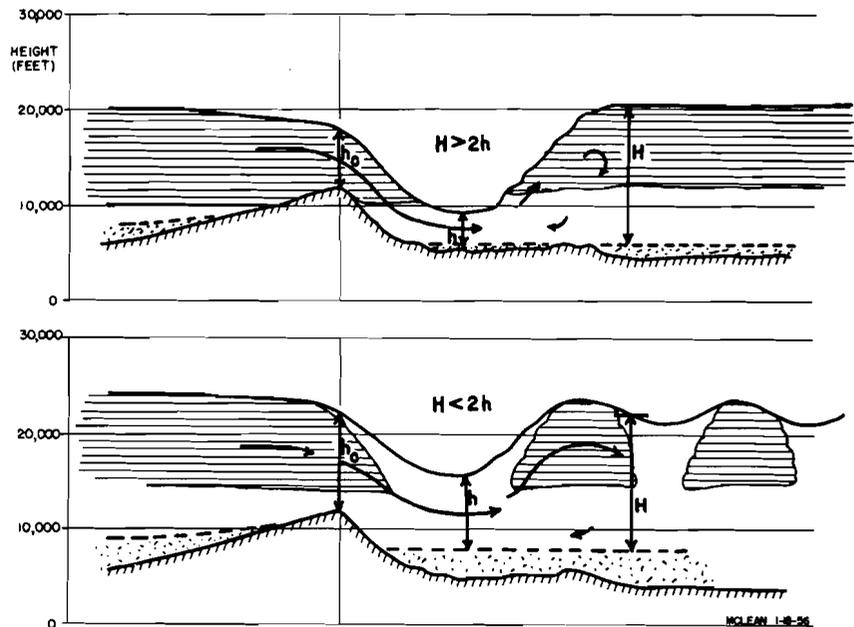
may be due to the compromise antenna length. Fifty miles was almost the limiting range even from the topmost altitude. Our main troubles with communications, however, were not due to the very nice Skyrafter's set but to its power supply (dry batteries) and their inaccessibility. When the B-29 had to abandon further missions due to a blown out cabin window, communications with the B-47 were continued by messages via long distance telephone, and Radio Merced. Inevitably this led to a few misunderstandings but was tolerable. A range of more than 50 miles is certainly desirable in this kind of terrain.

Some Special Scientific Tasks

A major effort was made to trace pressure waves which are not stationary (as is the mountain wave) but move. For this purpose a network of electronic pressure variographs was installed consisting of 4 pieces of equipment at each location. These instruments have a sensitivity of 6 inches chart scale for one millibar pressure change (if this change occurs within about 10 minutes). The instrument is made insensitive to very fast and slow changes, in this way eliminating undesired "noise." The instruments were installed at Bishop Creek (West), Big Pine (South), Deep Springs (East), Benton (North) and Bishop Airport (Center) forming roughly a cross of 40 miles diagonal length. The rather tedious job of evaluating the interesting wave traces will take some more time.

A special effort was made this time to improve our cloud photo-

Fig. 5 — (Below) Hypothetical airflow in the rotorcloud. Upper picture: "breaking hydraulic jump" with severe turbulence. Lower picture: more common case of "undular hydraulic jump." A temperature inversion replaces the free surface.



graphic work. Aside from having some photographers of practically professional calibre on the project staff itself (Klieforth, Woodward), two Air Force photographers joined us for a few weeks (one for stills, one for movies). A remarkable motion picture was taken by Sgt. Boyd from the B-29 traversing the mature mountain wave and some excellent stills from Tom Henderson's rain-making

P-38. (Fig. 1.) The "Moody Institute of Science" group, with whom a harmonious mutual cooperation has been established in recent years, took beautiful time-lapse movies and airshots of the Pratt-Read, minutes before Larry Edgar's accident. The rest of the project was covered by three time lapse cameras, some with wide-angle lens and a number of still cameras. The portable time-lapse