

COMMENTS ON "THE HOTSPOT IN WIDE-ANGLE PHOTOGRAPHS," by Bert Mason, Jr.

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THE "hotspot" phenomenon has been observed by Geological Survey photogrammetrists on a number of occasions, and it has sometimes been the cause of a certain amount of difficulty in stereo-compilation. The difficulty, however, has never been sufficiently serious or consistent to warrant a revision of the procedure of planning flights for general-purpose mapping.

In flight planning, it is usually necessary to weigh a number of opposing factors and to decide which combination of risks is likely to yield the best results. In considering Mr. Mason's suggestions for avoiding the hotspot by sacrificing the middle of the photographic day, or by increasing the sidelap (and hence the number of flights), it is necessary to determine whether or not these measures will not ultimately be more costly than the cost of hotspots. For the kind of photography used by the Geological Survey and other agencies making general-purpose maps, it is believed that the adoption of these suggestions would be uneconomical in view of the following considerations:

The presence of the hotspot, as Mr. Mason points out, depends on a number of factors including the altitude of the sun,

atmospheric conditions, and the cover of the area to be photographed. Experience has shown that, in Geological Survey operations, a combination of circumstances resulting in an objectionable hotspot is exceptional rather than the rule.

By observing hotspots on Geological Survey photographs taken at the usual flying heights it will be noted that the area affected is roughly a circle of, at most, one inch in diameter, or $\frac{3}{4}$ square inch in area. Assuming that a base-height ratio of .63, a width-height ratio of 1.0, and a focal length of 6 inches (average conditions), about 23 square inches of the photograph will be used in forming the stereo-model of which only $\frac{3}{4}$ square inch is hotspot area. The affected area is thus only about 3% of the total model area. It is usually good economy to plan flights that are efficient from other standpoints, at the risk of a difficulty that affects 3% of an occasional photographic project.

On the other hand, anyone concerned with low-altitude wide-angle photography of terrain particularly susceptible to the hotspot phenomenon would do well to heed Mr. Mason's warning, for the hotspot can be a serious factor where a large portion of each exposure is affected.

NEWS NOTE

LIBRARY OF CONGRESS GETS FIRST MAPPING CAMERA DATA

Complete calibration records of all T-11 Cartographic Mapping Cameras produced by the Fairchild Camera and Instrument Corporation have been presented in bound volumes to the Library of Congress by the company's Vice-President in charge of Military Liaison, Revere G. Sanders.

Mr. Sanders said that for the first time complete optical calibration reports of aerial mapping cameras have been made a part of the public record in the Library of Congress. It is now possible for city engineers and individuals to fully utilize the T-11 photographs made by the Air Force,

for accurate mapping purposes. Heretofore, necessary technical data has been unavailable to the civilian thereby preventing full utilization of the thousands of aerial photographs of USA.

The reports on individual cameras are exact duplicates of those supplied to the Air Force, for whom all of the cameras have been produced. To supply this detailed calibration information Fairchild had to install intricate, precise testing equipment.

Fairchild is also using an elaborately precise camera calibration setup for making reconnaissance aerial cameras more accurate.