

in respect to the aircraft makes it possible for a single operator (besides the pilot) to perform the various regulations without leaving his seat. A small deflector "P" of transparent material protects the operator from the air stream when he has to lean out of the window for controlling the course.

SUPPLY BASES

The question of supply bases becomes very important when work is performed in countries not yet organized with respect to air navigation needs, military as well as civilian, as is still the case in colonial countries. The increased autonomy of the aircraft permits the keeping of bases at great distances from one another, but under certain conditions the problem cannot be easily solved on account of the peculiarities of terrain and climate. In Europe this question does not present any difficulty, but a study should be made of each project as regards extent of the tracts to be surveyed, their position with respect to the permanent supply bases, and the conditions of accessibility of areas which seem suitable for establishing temporary bases. The equipment of these temporary bases has been considerably simplified lately through the use of movable photographic laboratories drawn by motor cars and by tent laboratories.

As to the Italian organization of photogrammetric flights in the colonies, communications will be made during the sessions of the congress.

SENSITIVE MATERIALS FOR AIR PHOTOGRAPHY

The characteristics of "Ferrania" national emulsions for air photography, which in the last two years have been remarkably perfected, are as follows: high chromatic and general sensitivity, fine grain with resolving power of 1/50 mm., decided brilliancy, and a gelatin sufficiently hard to resist crumbling and deformation during treatment in hot climates.

Latvia

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AIR CAMERAS

Only vertical air photographs are used in Latvia. These are taken with the French Planiphot camera. This camera is operated automatically and uses film with negative size 18×24 cm. (7×9 inches). The lenses are double anastigmats with aperture ratio of 1/4.5 and focal length of 30 cm. (12 inches). Exposure intervals are from 1/80 to 1/120 second. The magazine capacity of the camera is 200 photographs.

Filters are not always used because of unfavorable light conditions. Experiments are being made with faint yellow filters.

FILMS AND PAPER

Films in use for air photography are the Imperial Aero, Ilford Aero, Agfa Aero and Orthochromatic. Dimensional changes have not been tested.

The paper used for mosaic work is quite thin so that photographs may be copied on planchets. This paper is manufactured by our factory.

Experiments on photographic paper show that the shrinkage is about 1.3% after processing.

AIRCRAFT

Ordinary military planes equipped with the usual navigating instruments are used for the photography, which is done by military pilots.

ORGANIZATION AND OPERATION

The larger photographic projects are planned and executed by the Cadastral Department.

Control points are marked prior to the photography. These marks consist of 5×5 meter (16×16 feet) crosses painted with whitewash or built with brush and moss on sand areas. Natural objects such as intersections of canals and roads, and buildings are also located for picture control.

Weather conditions are generally unfavorable for photographing because of low clouds and haze. The best months are April and May, shortly before and after midday.

Photographs are taken at a scale of approximately 1:7,000 and enlarged to 1:5,000 for graphic plotting of planimetric maps and for mosaics.

Contours are not plotted from photographs because of lack of special equipment.

Norway

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THE NORWEGIAN SCIENTIFIC EXPLORATION OF
SVALBARD AND ADJACENT ARCTIC REGIONS

The research work in Svalbard (Spitzbergen and nearby islands) was continued in 1936 with a large expedition, which included parties of air photographers, topographers, hydrographers, geologists, botanists, and others. Since 1925 no similar expedition had been sent out to this island group. The main task this time was air photography. The Norwegian Marine Aviation in Horton furnished a plane of the type M F 11 and the necessary personnel.

A Zeiss type R.M.K.-P 21 air camera, negative size 18×18 cm. (7×7 inches) was purchased in co-operation with the Norwegian Geographical Survey.

Svalbard has an area of 62,000 square kilometers (24,000 square miles). Of this, 20,000 square kilometers (7,700 square miles) have been photographed by terrestrial methods. For the remaining part, it was found preferable to use oblique air photography.

The weather conditions are not very favorable, but if the routes suitable for being photographed at certain hours are properly co-ordinated, one can photograph almost at all times of the day and night. The good days were taken advantage of effectively without the annoyance of long shadows which one encounters in an area of peaks such as at 78°30' latitude. All routes to be photographed were arranged beforehand on a map of scale 1:500,000. The camera was mounted with a slope of 22° from the horizontal.

The crew of the plane consisted of the chief of party, radio operator and photographer. The latter, who is one of the topographers of our Institution, worked the plan out and supervised the work in the field. For an emergency landing, a rubber boat, a tent, pillows, cooking utensils and provisions for ten days, mainly pemmican, were carried in the plane. For the first part of the summer the airbase with radio station was at Dicksønfjord. Later, during the