

TOPOGRAPHY—GEOLOGY

Maps for Victory

Geological and topographical maps made in Washington gave Allied armies advanced information of terrain in enemy country for invasion or advancement.

► GEOLOGICAL and topographical maps of enemy country made by the U. S. Geological Survey, showing terrain to be traversed in invasions and advances in Europe and in the Pacific area, played an important part in the war, it is now revealed. A secret group of 80 military geologists is responsible for these charts, which indicated both surface and underground formations.

The data necessary to make such maps showing rocks, mountains, streams, plains, types of soil and other conditions, were derived in large part from geological maps and information collected in prewar days from geologists all over the world and preserved in the library of the Geological Survey. Most geologists

who make maps exchange their product freely. The primary reason for the preservation of foreign maps is their economic value, but they proved to have an unforeseen military use of great importance.

This military geological unit furnished the Army with complete geological folios covering every operation in which American troops took part or planned to take part, with the exception of Normandy, handled chiefly by British geologists, and the Gilbert islands, about which the unit had no specific or reliable information.

The folio charts showed much more than surface conformation. They indicated where the soil was suitable for digging foxholes, where to establish ob-

servations posts and pillboxes, where the safest and most protected trails were located, where roads could be constructed, where bridges could be built and where streams could be forded without bridges.

The charts indicated also where wells could be drilled with a reasonable probability of obtaining fresh water, and if underground conditions were satisfactory in areas where the surface seemed suitable for the construction of an airfield. They furnished every bit of information available relative to surface or sub-surface geological conditions that might have any value to a mechanized fighting force.

Science News Letter, October 13, 1945

PHOTOGRAPHY—ELECTRONICS

Automatic Radar Camera Embodies New Principle

► EXPECTED to have both military and commercial applications, an automatic radar recording camera developed by the Fairchild Camera and Instrument Corporation of New York permits an operator to observe the luminous picture on the radar oscilloscope while the camera is recording the image on 35-millimeter motion picture film.

Wired directly into the radar circuit and mounted above the oscilloscope, the camera, containing a beamsplitter in the viewing hood, passes yellow light to the eye, reflects only the more actinic blue light upward to the lens, with little danger of fogging the film.

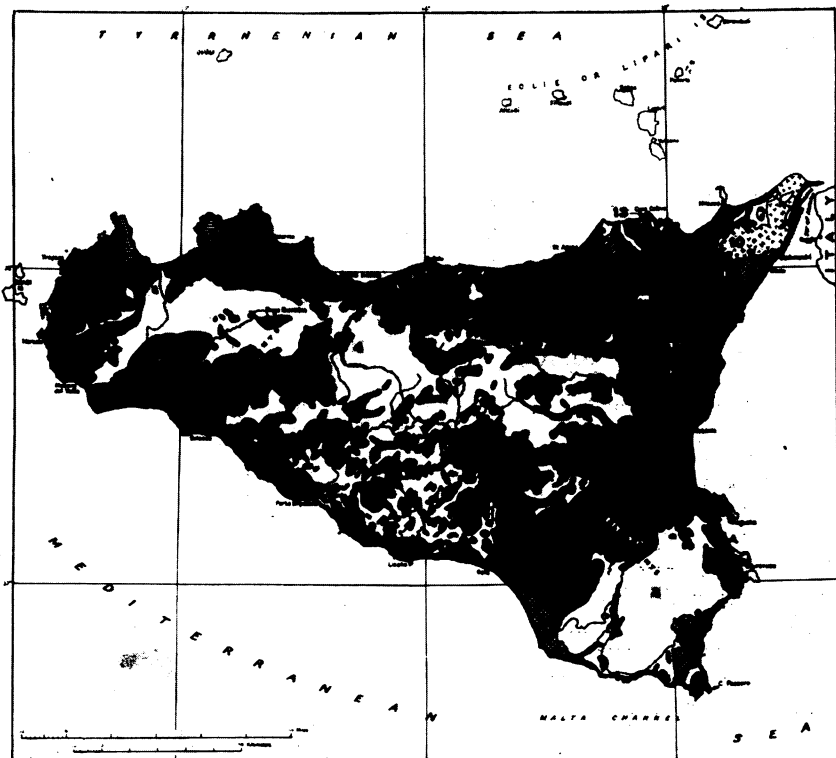
The camera is of the interchangeable magazine type, holding 100 feet of film. Its action is fully automatic, the shutter opening at the beginning of the radar impulse, closing as the film is moved for the next exposure. A selector switch controls the range of exposures of once every scan, every other scan, three out of 12 scans or five out of 60 scans.

In the recording chamber, a watch, data card and six indicator lights record on each frame the time, number of exposure, range setting, altitude and scale for permanent reference.

Operating at extremes of temperature and altitudes up to 35,000 feet, the camera, through the radar scope, is also said to have a range of 100 miles on a single frame compared to the standard aerial camera's usual range of five miles.

Although developed primarily for use with radar, other applications may be made, including laboratory experiment recording, and like uses requiring an automatic permanent record.

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FOR VICTORY—This pattern of dots, dashes and shadows revealed to the Military Geology Unit of the Interior Department and Army Engineers the number and location of springs and other sources of good water in East Sicily, where airfields might be built or camouflaged and the safest places for our ground forces to land, march and fight.