

ITALY

GENERAL DIRECTION OF CADASTRAL SURVEY AND OF THE TECHNICAL SERVICES OF
FINANCE DEPARTMENT

Technical and special Maps obtained by re-elaboration of the Photogrammetric Cadastral Survey in Italy

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The General Direction of Italian Cadastral Surveys (Department of Treasury - Italy) can dispose - to the end of 1952 - of about a million hectares of cadastral surveys, formed by using air photogrammetric high precision method.

The plotting of pairs was usually made on the scale of 1 : 2.000; contour lines normal interval, is of 2 m.; over 10.000 sheets of cadastral maps, 1.00 x 0.75 m. each, are now completed and published.

Towns and zones of greatest interest have been plotted at 1 : 1.000 or 1 : 500 scales, with a dense and exact analytical or drawn altimetric detail.

Since 1948 the Italian Cadastral Service has although successfully experienced the use of air photogrammetric strips and of plotted sheets for the re-elaboration of some specimen of the «Carta Tecnica d'Italia all' 1 : 2.000» (Italian Technical Map at 1 : 2.000 of scale), having a complete morfologic and altimetric detail and 2 m. countour lines interval.

The projection system has been first tranformed, passing from Cassini-Soldner cadastral pluri-centric co-ordinates to Gauss-Boaga projection ones, 6° wide fuse referred to, and Greenwich's attach.

A perfect relationship with Military Geographical Institute maps, on 1 : 25.000 scale, was also established dividing a sheet of the military maps in 48 quadrangles, of 37,5" in latitude and 1',15" in longitude, each one of which is easily represented on a normal cadastral sheet of 1.00 x 0.75 m. — on 1 : 2.000 map scale.

Topographic and agricultural particulars - as well as cadastral ones - have been transferred on the new map sheets of the «Carta Tecnica d'Italia».

Details having only cadastral interest were removed; their substitution was carried out including instead accurate technical and cartographic elements, as real wideness of main roads, analytical indication of the angle of tilt and of planimetric extremities for single grade lines, telegraph and phone alinements, canals, power transmission lines, pipe lines, etc.

Preliminary sheets of the «Carta Tecnica d'Italia» were obtained at the least expense, involving only an extensive reconnaissance and some differential leveling operation in the field; and so the cadastral character of maps is quite disappeared.

A notable extension of this work is now foreseen, for the favorable judgment of specialists and for the increasing development of urban - land and city - surveys.

Geo-lithologic, pedologic, hidrologic, forestal and farming states of the region are normally remarked by cadastral engineers, during the field estimation work: those scientific data may eventually be used as a base for special maps, at smaller scale than the original cadastral ones.

Using air photogrammetric strips, plotting sheets and field data, we have tried the formation of a selection of special maps, containing separately Geolithologic, pedologic, hydrologic, forestal and farming state notices.

A revised edition of some sheet of the 1 : 25.000 general map of Italy was printed by the Military Geographic Institute of Florence, using for improvement the new air-photogrammetric cadastral survey; the sheet size was changed for this purpose, as that six new sheets at 1 : 25.000 cover a complete 1 : 100.000 base cartographic sheet of Italy.

Special scientific data were quickly noted on such high accuracy maps, using both cadastral and photographic documents, without any supplementary work in the field.

Special examination of these maps - executed by italian experts - was fully favorable; our desire is to extend and improve this interesting cadastral study.

Les cartes techniques et spéciales dérivées des levés photogrammétriques cadastraux exécutés en Italie

Au mois de décembre de cette année courant la Direction Générale du Cadastre italien (Ministère des Finances) possèdera les levés photogrammétriques achevés ou en cours de vérification sur une extension d'un million d'hectares environ.

La restitution des couples a été presque toujours exécutée à l'échelle de 1 : 2.000; les courbes de niveau sont de 2 mètres d'équidistance normale: on a achevé à cette échelle presque 10.000 feuilles de plans cadastraux, qui ont les dimensions constantes de 1.00 x 0.75 m.

Les villes et les zones de plus grande importance ont été représentées aux échelle du 1.000ème ou du 500ème; les détails et les cotes altimétriques sont en ces cas bien plus soignées et plus denses.

La Direction Générale du Cadastre italien a aussi expérimenté avec succès, dès 1948, l'utilisation des séries de prises de vues aériennes et des feuilles de restitution pour la formation de plusieurs feuilles de la «Carta Tecnica