Schweizerische Eidgenossenschaft
Confédération suisse
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Federal Department of Defence,
Civil Protection and Sport DDPS

Federal office of Topography swisstopo

History of swisstopo

2020

The initial development of the Topographic Landscape Model TLM, which began in 2008, was completed. The 3D geodatabase of Switzerland contains more than 25 million objects and not only serves as a basis for production of the national maps; it also enables numerous other spatial applications.

2019

swisstopo published the orthophoto mosaic SWISSIMAGE HIST 1946, which provides unique insight into the country's past. The aerial photographs on which the product is based were taken shortly after the Second World War in 1946, when US aircraft flew over and photographed the Swiss Confederation with the permission of the Swiss government.

2017

The SWISSIMAGE mosaic of orthophotos now has a ground resolution of 10 cm in the lowlands (25 cm previously) and 25 cm in the mountains (50 cm previously). Updating the orthophotos to this new standard will take place gradually until its completion in 2019. Thanks to a new division according to administrative boundaries, communes and cantons always have complete and homogenous data from the same flight year for their entire area.

swisstopo launches a call for tenders to excavate 600 meters of new galleries and niches in the Mont Terri rock laboratory. The costs, estimated at around four million francs, will be shared among the 16 project partners.

swisstopo receives the "Swiss Digital Transformation Award 2017" in the category of "small and medium organizations". This award recognizes a company or organization that makes special efforts in the direction of its "digital maturity" and thereby significantly improving its competitiveness.

2016

swisstopo’s famous national map is now available at the new 1:10,000 scale, but only in digital format. It is also revolutionary in terms of its production, since it is generated automatically based on the topographic landscape model and is updated each year.

The Mont Terri rock laboratory researching the storage of radioactive waste in deep Opalinus Clay layers celebrates its 20th anniversary with an open day. Numerous visitors have an opportunity to view the installations that allow the 16 research partners to carry out 130 long-term experiments.

With the inauguration of the new Gotthard Base Tunnel, swisstopo publishes a new map showing extracts from historical and geological maps. It illustrates and documents the development of communication axes from the time of postal coach travel to the moment of becoming the longest railroad tunnel in the world.

The first orthophotos SWISSIMAGE RS are acquired. These images include near infrared, red, green and blue and are intended for remote sensing applications, for example in environmental studies.

2015

The swissNAMES3D data set categorizes over 300,000 geographical names and can now be consulted free of charge on the federal geoportal or integrated into a variety of applications.

Certain data on the federal geoportal can now be displayed in partial 3D (2.5D). This application is a test version from which conclusions will be drawn to improve the range of data and the display quality for producing a final 3D version.

Stations in the AGNES network are now compatible with GPS (USA), GLONASS (Russia), Galileo (EU) and BeiDou (China) systems. This enhanced compatibility broadens the system's development opportunities and increases the base of potential users.

swisstopo publishes 4,000 black and white oblique aerial photos on the federal geoportal. Taken between 1927 and 154, these photos are snapshots of small towns and the atmosphere in the pre-Alpine and Alpine regions. Some photos also serve as a documentation of natural events and important buildings.

The DCM500 aeronautical chart is updated in collaboration with Skyguide, the Federal Office of Civil Aviation as well as civilian and military pilots.

Snowshoe and ski tour maps are now available free of charge on the federal geoportal.
The revision service is equipped with a new interface on the federal geoportal, making it easier for everyone to report errors or suggestions for improvement.

swisstopo participates in the GeoQuat project, which aims to develop a 3D information system of unconsolidated rocks in Switzerland. A pilot project was conducted in the Birrfeld (AG) region.

2014

In January, swisstopo reconfigures and modernises National Map 1:25 000, releasing the first four updated sheets: 1088 Hauenstein, 1089 Aarau, 1108 Murgenthal and 1109 Schöftland. The use of digital versions of the National Map is improved, as are map images. What remains a constant for the National Map is the reputation for high quality that our customers demand.

The federal geoportal for the Cadastre of Public Law Restrictions on Landownership ("PLR cadastre") goes live at the end of January. This initially covers five pilot cantons: Bern, Neuchâtel, Nidwalden, Thurgau and Zurich.

The Geodesy Division begins a new surveying operation in the following areas: Hauenstein Basistunnel, In den Schlagen, Rempen, Garichte, Montsalvens, Interlaken, Lessoc, A9 Visp-Brig and Piora.

swisstopo contributes its topographical terrain model to a long-term partnership with the Swiss Countryside Observation Programme (OPS) and its land management activities.

The new LUBIS (information system for aerial photographs) viewer goes online in April, bringing together some 320,000 historical aerial photographs of locations all over Switzerland, with some images dating back to the 1920s.

The first hydrogeological maps of Chad are published in partnership with the Swiss Agency for Development and Cooperation.

In May, swisstopo is a guest of honour at the Geospatial World Forum in Geneva, which brings together the world's leading specialists on geodata.

Following the success of our new 1:33 333 scale hiking maps, ten new ones are published, covering central Switzerland and the Arc Jurassien: 3311T Pilatus-Rigi, 3312T Hoch-Ybrig, 3313T Klausenpass, 3314T Andermatt, 3315T Chasseral, 3316T Lac de Joux, 3317T Les Diablerets, 3318T Weissenstein, 3319T Simplon-Brig and 3320T St.Moritz-Bergel.

Swiss Map Mobile, the smartphone cartography app, becomes available as a paid-for subscription.

The third edition of our online treasure hunt designed for primary and secondary school classes is launched, this year based around the theme of Swiss tradition and culture.

swisstopo's Swiss Geological Survey publishes map 162 Travers as part of the 1:25 000 Geological Atlas of Switzerland. This map, centred on the Val-de-Travers, covers much of western Neuchâtel, from Gorgier to La Brévine via Ponts-de-Martel. It also includes parts of the French and Vaudois Jura.

swisstopo and its new topographical map scoop three international prizes at the Esri User Conference in San Diego.

Following the retirement of Jean-Phillipe Amstein, appointed Director of swisstopo in 2006, Fridolin Wicki takes up the reins from 1 November 2014. Alain Buogo is named the new Deputy Director. Marc Nicodet becomes head of the Federal Directorate of Cadastral Surveying.

The federal geoportal – managed by swisstopo – was presented with a major accolade at the 2014 SwissICT Awards in the category "SwissICT Public Award". SwissICT is one of the most important ICT bodies in the country.

2013

The Swiss Federal Office of Topography swisstopo celebrate its 175th anniversary. Guillaume-Henri Dufour founded the Federal Topographical Bureau in 1838 in Geneva. This marked the beginning of our present-day Office.

A year like no other! Thanks to the efforts of its employees, various activities on the theme of time travel are held throughout this momentous year. The "Journey through time" goes live at the start of the year. Almost 175 years of Swiss cartographical history can be explored using this viewer. The Tiptopo interactive platform enables users to catch a glimpse behind the scenes at swisstopo and take a closer look at its activities. Panoramic views (DIGIRAMA) of the Parliament building and Gurten mountain are produced using digital geodata from swisstopo. A treasure hunt across Switzerland (geocaching) gives participants the chance to discover a place that has a connection with swisstopo's history each month. A unique, exclusive commemorative brochure, "swisstopo – The Landscape Memory of Switzerland", is published. The sculpture "Ding 1:x", created for swisstopo's 150th anniversary, finds a new home in front of the main entrance of the Federal Office of Topography. Throughout the summer, geological hikes to five locations of geological importance in Switzerland are organised to enable participants to learn about how the structures beneath Switzerland's surface were formed. To finish off its celebrations, swisstopo welcomes 3,500 people to an open day on 14 September 2013.

An agreement governing the exchange of geoinformation is signed with Liechtenstein to make it easier to transfer data between the two countries.

Cadastral Surveying launches a new online app, "Cadastralinfo", which enables users to find information about properties, as well as a plan and an aerial view.

The whole of Switzerland is covered by an updated high-resolution digital elevation model, swissALTI3D. Areas higher than 2,000 m above sea level are now included. MeteoSwiss provided substantial support for the creation of this model, particularly because it facilitates climate observation.

One of the highlights of the summer is the publication of a brand new map edition: 10 new hiking maps printed on waterproof, tear-resistant paper in a scale of 1:33,333.

Two new maps are added to the "Once and Today" series: "Sasso San Gottardo" and "Ice and Glaciers".

The topic of geology appears in a hiking map for the first time in the "5080 T Tektonikarena Sardona" ("Tectonic Arena Sardona") map.

The SWISSIMAGE 25 digital aerial photographs with a ground accuracy of 25 m are now free of charge and the new representation model for the swissTLM-Map is generated entirely automatically for scales from 1:5,000 to approximately 1:10,000.

The second treasure hunt for schools is launched. The game has the same educational aims as the first treasure hunt, but this time the focus is on the subject of water.

In collaboration with various partners from the public and private sectors, the swisstopo Swiss Geological Survey publishes a book on Swiss geology, “Geology of Switzerland – Knowledge from Underground”, which combines information and answers to everyday questions that affect society.

2012

The topic ‘snowshoe walks’ appears for the first time in a new series entitled “Snowshoe and ski tour maps”. The first maps available to enjoy are 247 S Sardona, 248 S Prättigau, 249 S Tarasp, 258 S Bergün, 259 S Ofenpass, 268 S Julierpass, 469 S Val Poschiavo and 276S Val Verzasca.

Swiss Map online is supported by additional data, swissALTI3D and geological data. This makes it possible to apply a better relief effect to the map and gain a better impression of the subsoil conditions.

The swisstopo national maps are given new coordinates. In order to differentiate between the new and the old coordinates, a seventh figure is placed in front of the six figures of the old coordinates. For latitude it is a 1, and for longitude it is a 2. The zero point of Swiss coordinates in the former Bern astronomical observatory therefore has the following new coordinates : E = 2 600 000 m [east]; N = 1 200 000 m [north].

Map correction reports may be submitted via smartphone using the mobile version of the revision service site: mobile.map.revision.admin.ch

For the first time, swisstopo participates in the fourth Swiss Archive Day on 3 November, with a focus on archiving geodata and opens up its archives to the public for the occasion. swisstopo launches an online game aimed at primary and secondary school classes. This multi-purpose game is designed to be educational and can be used in geography, history, mathematics and foreign language lessons: www.carte-tresor.ch

Start of the CITIMAGE – this project will involve photographing the 30 largest urban regions in Switzerland over a total area of more than 1000 square kilometres and update the photographs regularly in a three-year cycle. The negatives obtained will be significantly more accurate than those taken to create an aerial view of the entire country, thanks to their ground resolution of 10 centimetres.

2012 marked the centenary of the Swiss Civil Code (CC). Until it came into force, official surveying (previously called cadastral surveying), was purely the responsibility of each canton. Without the Civil Code, there would not have been a legal federal basis for the land register and official surveying. To this day, official surveying is carried out by both the Swiss Confederation and the cantons; they undertake this task in collaboration with the private sector.

2011

With its aerial images, the swisstopo flight service has contributed to the preparation of a disaster map for the Cantons of Valais and Bern. In November 2011, the Cantons of Valais and Bern are afflicted by serious flooding.

The geodetics service is called in to carry out measurements at Mont Terri, at the Linthal pumping station and at the Rossens dam to measure deformations there.

The 2012 to 2015 strategy for the Official Survey and the Public Legal Restrictions on Land ownership (PLRL) cadastre are established. The document is approved and signed by the head of the Federal Department of Defence, Public Safety and Sports (DDPS), Ueli Maurer.

Geo.admin.ch also becomes available for smartphones.

The topographic section launches new products: land and altitude models swissTLM3D and swissALTI3D, version 1.0, footpaths 2011 and swissBOUNDARIES with 75% of data from the Official Survey.

New geo-services are provided for clients: swisstopo web access – WMTS (Web Map Tiling Service) allows maps to be integrated into your website and swisstopo WMS (Web Map Service).

Thanks to the digitisation of historic aerial maps, they can now be studied in LUBIS, the information system for aerial images.

The series Swiss Map 25, 50 and 100 is replaced by a new generation, Swiss Map online. Swiss Map Mobile becomes available for Android devices.

The new 1:1 million national map is published with the aid of the new process of cartographic generalisation and the geographic information system (GIS) for cartography.

2010

In the technological sphere, the Geodesy Division has completed the 3rd revision of the CHTRF2010 measurements, that is to say 227 points involving a 15-week measuring project. The coordinates of the recently calculated points will in turn allow the official coordinates of the MN95 network to be checked.

Official measurement data are verified in the “CheckCH” program.

In a spirit of cooperation, swisstopo drew up a report on the situation at the federal offices at the end of 2010 concerning the implementation of the Law on geographical information.

The Atlas of Switzerland is now in its third edition. It remains a success as much because of its capabilities and new functions as because of the fruitful cooperation between the Federal Statistical Office, the Institute of Cartography at ETH Zurich and swisstopo.

The Swiss federal archives and swisstopo are working together to carry out a preliminary study on the archiving of geodata.

swisstopo is also participating in the Tunnel at the base of the Gothard with the resulting measurements based on the new MN95 national measurements and swisstopo’s gravitational model.

Three new products have been launched in the area of topography: swissBUILDINGS 3D (building shells without the shape of the roofs), SWISSIMAGE FCIR (aerial photos in infrared pseudo-colours) and swissBOUNDARIES 3D (administrative units and borders in vector format), which replaces GG25. The three products were created thanks to MTP (topographical landscape model) covering Switzerland and Liechtenstein and offer data in 3D format.

The Swiss Geological Survey has launched a new geological map in the GeoMaps 500 series: “Switzerland during the Last Glacial Maximum”.

From now on, excursion maps will be in 1:25 000, a scale which provides more detail. Swiss Map Mobile provides the coverage and also runs on the iPad and adds the SwitzerlandMobility routes to the information on the map.

The geographical data have been made available thanks to the application of the Law on geographical information. swisstopo is collaborating in the production of the federal geoportal geo.admin.ch. The first “Public Excellence” prize went to geo.admin.ch. The portal is using cloud computing for the first time in federal administration.

2009

One of the highlights of 2009 was a major technological development that makes it possible for an even larger public to use topographical maps. These maps can now also be used on mobile phones

equipped with GPS software. This has been made possible thanks to a new swisstopo product called Swiss Map Mobile. An ever increasing number of mobile phones can now be equipped with this application: Windows Mobile Edition, Symbian S60 and iPhone. “Swiss Map Mobile” received the “Prix Carto”, which is awarded by the Swiss Cartographic Society. The 4th edition of Swiss Map 1:50,000 was released, and ski touring routes are now an integral part of the Swiss Map range.

For the first time, maps were made available as a single product in both digital and paper form in order to make life easier for hikers. And “plan&go” for the Jungfrau region was released.

One of the objectives of the Swiss Federal Geo-Information Act (GeoIG) is to make geodata more accessible, and for this purpose a project to develop a new platform (geo.admin.ch) was initiated in 2009. The idea here is that users will be able to directly access federal geo-information, geodata, geo-services and metadata.

The Ordinance on the cadastre of public law restrictions of landownership (PRLR Cadastre Ordinance) entered into force on 1 October 2009, and a new information system has been developed to accompany the ordinance. The aim here is to integrate the most important restrictions concerning specific plots of land into the new cadastre.

The information bulletin of the Federal Directorate of Cadastral Surveying has been replaced by a new magazine called “cadastre.ch”, which is intended for professionals in the field of cadastral surveying. The www.cadastre.ch Internet portal has been given a new look, and is to function as the main source of information for all matters relating to cadastral surveying.

The swisstopo printing office has been awarded the FSC (Forestry Stewardship Council) certificate, which guarantees the ecological use of wood and thus helps protect the environment.

2008

The Swiss Federal Office of Topography (swisstopo) has been developing and updating its Topographic Landscape Model (TLM) since spring 2008. This tool, which takes the form of a huge 3-D database of Switzerland’s landscape, has been developed to replace the former VECTOR 25 model, which was based on maps. The data for the TLM are being managed and processed with the aid of the topographic/geographic information system, TOPGIS, into which digital photogrammetry has been fully integrated. In this production model, data relating to both natural and man-made objects have been entered in nine separate sections, and in all cases the geometry is three-dimensional.

On the occasion of its 150th anniversary in 1988, swisstopo identified the precise geographical centre (or centre point) of Switzerland, and on 14 June this year it celebrated the 20th anniversary of that accomplishment at Älggialp (canton of Obwalden).

A new product is being developed in the area of cadastral surveying: the CS Basis Plan. This is a product which can be derived automatically from cadastral surveying data. It contains no geometric generalisation except for the representation of rock faces, which has been taken directly from the 1:25,000 national map.

On 1 July the new Swiss Federal Geo-Information Act (GeoIG) entered into force. The main purpose of this legislation is to secure the rapid, smooth and sustainable provision of up-to-date geographical data concerning the entire territory of the Swiss Confederation, for the federal, cantonal and municipal authorities, as well as for the private sector, the general population and scientific circles, in the required quality and at reasonable cost, so that the data can be used in a broad variety of areas.

A new version of the swisstopo web site is being prepared that complies with the new corporate design of the federal government.

After several years of renovation, the Federal Palace (which houses Parliament and the Federal Council) reopened its doors to the public at the end of November. To mark this occasion, swisstopo reproduced the 25 sheets of the Topographical Map of Switzerland (better known as the Dufour map) from copper plates. It now occupies prime space at the visitors’ entrance.

2007

Contacts have begun with Parliament with regard to legislation on geoinformation (LGéo).

In June, swisstopo was the first time certified for all ISO 9001:2000 procedures.

20 new geoportals were activated thanks to the swisstopo geodata portal developed by COGIS (Coordination, Geo-Information and Services Division of the Federal administration). These portals include that of the Federal Office of Communications (OFCOM), which indicates the location of the transmitting stations, and the ecoGIS browser of the Federal Office for the Environment (FOEN) which offers further information on the state of the environment via visual displays.

Work on the excavation and equipment of « Gallery 08 » has begun at the Mont Terri geological laboratory at Saint-Ursanne in the Jura canton.

The updating frequency of the products SWISSIMAGE and otho images has been increased from every 6 years to every 3 years.

The geodesic framework is now in line with the European system. The new national survey (LV95) conducted 1989 - 1995 replaces that of 1903 (LV03). The transition of coordinate reference frames brings with it new coordinates and a change in their designation.

2006

The former Federal Office of Water and Geology was transferred into the Federal Office of Topography with effect from 1st January 2006. Swisstopo thus also became the Confederation's competence centre for geology and the coordinating body for geological surveys, and can now supply its customers with geological data and information.

swisstopo is assuming responsibility for the Mont Terri (Jura) research programme, and for managing the facility. The Mont Terri project is an international research programme to define the hydrogeological, geochemical and geotechnical characteristics of a clay layer (opalinus clay).

The Federal Council of Ministers appointed Jean-Philippe Amstein as the 12th Director of swisstopo with effect from1st January 2006, succeeding Dr Erich Gubler who retired at the end of 2005.

2005

Because the previous Roland Rekord RVK 3b four-colour offset printing press with its "five-cylinder" construction and chain-driven gripper system no longer met modern technical standards after 16 years of service, a new MAN Roland R704 four-colour printing machine was procured. Thanks to the significantly shorter make-ready, washing and colour changeover times (maps are printed with up to eight or even, for geological maps, sixteen colours), productivity was substantially improved. Dr. André Streilein became Head of the Topography Division, GWN.

The publication of Swiss Map 25 brought the most detailed national mapping to the general public in digital form (DVD) for the first time. The first four out of the total of eight sections of Swiss Map 25 were issued in 2005: 1– Western Switzerland, 2– Jura, 3– Berne, 4– Valais. The content includes footpaths in vector form, castles, stately homes and other heritage sites as well as a digital height model (DHM).

A new Leica ADS40 digital aerial camera was procured and immediately brought into service for the updating of the SWISSIMAGE orthophotomosaics. With the changeover from analytical to digital photogrammetry in topographic surveys, digital aerial photography will also be used for the revision of national mapping. To fly photography for SWISSIMAGE with the ADS40, flight planning was reorganised in order to take account of the new ground resolution values (pixel sizes) of 25 cm (Central Plateau, Jura and Alpine valleys) and 50 cm (in the high mountains).

The new geoid model of Switzerland (CHGeo2004) was published in the spring of 2005. This enabled the conversion between ellipsoidal heights from GPS observations and levelled (orthometric) heights from the national levelling network.

April 2005 saw the main breakthrough of the 34.6 km-long Lötschberg Base Tunnel, being built between Frutigen in the Bernese Oberland and Raron in Valais. The discrepancies in plan position and in height of the two tunnel drives from north and south were markedly better than the required tolerances (see the Swiss Geomatics Journal issue 11/2005). By providing above-ground control surveys based on the new LV95 and LHN95 geodetic reference frameworks for planimetry and height respectively, swisstopo made an important contribution to the construction of this major new Alpine tunnel.

2004

Jean-Philippe Amstein, Deputy Director, who from 1st December 2002 took on the leadership of the Topography Division in addition to heading the Federal Directorate of Cadastral Surveying (FDCS), was formally appointed Head of the Topography Division (only) with effect from 1st October 2004. Dr. Fridolin Wicki became Head of the FDCS on 1st January 2005.

From the summer of 2004 swisstopo was able to welcome its customers in a new building with its own map sales area. At the same time as the map shop, a new cafeteria came into service. The whole environment was significantly altered. The artist Katja Schenker created a picturesque garden landscape within the courtyard, based on a story by the Argentine writer Jorge Luis Borges.

During this year the planned full coverage of the SWISSIMAGE product was completed. This means that a homogeneous orthophotomosaic with ground pixel resolution of 50 cm is available for every square metre of Switzerland. Over 9000 aerial photographs were flown, digitised, georeferenced using photo control points, orthorectified by means of a digital terrain model and colour-matched radiometrically with every neighbouring image. The data volume of aerial images to be processed exceeded 8 terabytes (eight million megabytes).

The second complete observation of the GPS network of the LV95 national geodetic survey was also carried out in the summer of 2004. Tectonic movements in the Swiss region could now be analysed on the basis of these observations in combination with the reobservation of the national levelling network.

2003

Swisstopo was a guest of honour at the OLMA trade exhibition in St Gall in October 2003. The Dufour Map CD-ROM, shown there for the first time, is the first interactive publication which allows a direct comparison between the Dufour Map and the present state of the landscape. The wider public was introduced both to the new swisstopo house style and to sensational products derived from modern geographical data: huge cloth banners showing map images; a wooden relief model of the Matterhorn carved using the latest digital terrain model (DTM); and a virtual 3D flight over Switzerland.

The national land survey network, LV03 achieved its centenary. The years leading up to 1903 saw the establishment of the Swiss plan and height reference systems. The Federal precise levelling network and the 1st to 3rd order triangulation networks were based on these respective datums. These are still in use today but will be replaced over the next few years by the GPS-based national geodetic survey LV95 and the new national height network LHN95.

On 16th June 2003 the Federal Council of Ministers approved the implementation plan for the geoinformation strategy developed by COGIS, the Federal Coordination Centre for Geographical Information and GIS. The objective of the implementation plan was to establish a national spatial data infrastructure (NSDI). The main aim was to provide easy access to geographical data and to make it available to users at low cost. At swisstopo this led to a paradigm shift: instead of the old business focus based on the maximisation of profits, the optimisation of benefits to the national economy was now placed centre stage. The e-geo.ch “contact network” initiative was launched in order to bring together the partners who would be needed in order to establish the NSDI.

The increasing pressure on space and the changing requirements for timely customer care led to a Federal decision to erect a new building, designed fully to meet the future needs of swisstopo’s clientele. On 21st August 2003 the foundation stone was laid at the site of the new entrance hall, with coordinates (in metres) of 601 012.98y / 197 462.09x / 551.98h (in the old LV03/LN03 system) or 2 601 013.03E / 1 197 462.11N / 551.94 H (in LV95/LHN95).

2002

Swisstopo is introduced as the trademark and logo as well as the acronym of the still official name 'Federal Office of Topography'.

The excursion map Seeland -Trois lacs is published in time for the national exhibition Expo.02.

After the bankruptcy of a private firm, apprenticeships for cartography are only available in Wabern. Since a demand exists, the apprenticeship program has been increased.

2001

By the turn of the year 2000/2001, the negative scribing technique is finally replaced by digital cartography. Sheet 39 Flüelapass is the last map sheet produced in the 'old' technique to be published.

The swipos GIS/GEO positioning service with cm accuracy is introduced (pilot scheme).

The automated GPS network in Switzerland (AGNES) is available nationwide with 29 stations.

Swiss Names, a name database with 190 000 geographic entries, is launched on the market.

The Federal Office of Topography is placed under the control of the Defence Procurement.

2000

The 1:50 000 National Map is published as Swiss Map 50 on CD-ROM.

The Atlas of Switzerland - interactive appears as successor to the previous printed version of the National Atlas. The 1:50 000 Ski route Map is renamed Ski tour Map.

Start of production of a Digital Terrain Model from the Official Survey (DTM-AV) with a target accuracy of 1 m (Useful Agricultural Area project).

KOGIS (Co-ordination Office for Geographical Information and Geographical Information Systems in the Federal Government) is launched. The INTERLIS competence centre is also integrated at this time.

Alfred Oberli endowed the Federal Office of Topography with his private map collection. It is one of the most significant collections in Switzerland and of great scholarly interest.

For the first time a Domain within the Federal Office of Topography has successfully been certified according to the norms of the Quality Management System SN EN ISO 9001. The internal Domain and Process organization comes into force. The earlier Divisions and Sections are formally disbanded as a result.

1999

The Federal Directorate for Cadastral Surveying is united with the Federal Office of Topography.

The year of issue is marked on the map title sheet for the first time. The revision date (= state of map content) continues to be shown on the bottom left of the map sheet.

Numerous changes to the appearance of the map: Re-introduction of underground water pipes, replacement of the shading lines of waterways (waterlining) with tints, replacement of the black vine symbol by a green one. Sheet 1202 Orbe appears as the first sheet with the new graphics. Cataloguing of the map collection begins.

Pilot network (7 stations) for an automatic Swiss GPS network (AGNES) goes into service.

1998

Erich Gubler becomes director of Federal Office of Topography as successor to Francis Jeanrichard (since 1981).

The 'MegaSetter Plus' high-resolution scanner and plotter is commissioned.

The Swiss Map 100 is the first National Map published on CD-ROM.

Construction of the geotopographical database is started.

The data from the photogrammetric survey of the main Alpine escarpments (since 1994) is used to improve the Digital Height Model 1:25 000 (DHM25).

The control point R.P.N. in Geneva as the point of origin for the Swiss height measurement is re-connected to the National Levelling.

Publication of the Satellite Map of Switzerland 1:300 000.

The 'Swiss Image' project (production of a colour orthophotograph of the whole of Switzerland with a ground resolution of 50 cm) is started.

The DGPS positioning service swipos NAV via VHF-RDS is finally introduced.

The co-ordinates of the World Geodetic System (WGS84) are printed in blue on the National Maps.

1997

From this year, the Federal Office of Topography is managed along commercial lines as part of the NPM (New Public Management) pilot project (productivity commitment and global budget).

The homepage www.swisstopo.ch goes online.

Inauguration of the new satellite laser telescope on the Zimmerwald geostation, the most important point of the new National Survey.

The National Map fonts are digitized.

1996

Start of the work on a new National Height Network (LHN95).

Completion of production of the Digital Height Model DHM25 (since 1984).

Pilot project with differential GPS. The correction signals are beamed out via VHF-RDS.

The Swiss Map Trophy appears as the first CD-ROM in the Swiss Federal Office of Topography publishing stable and is distinguished with the Milton Ray Hartmann Foundation 'Golden Mouse 1996' award.

The purchase of a roll film scanner and a Zeiss 'Phodis TS/Phocus' system introduces digital photogrammetry (aero-triangulation) and orthophotographic production.

The first CAD systems for cartography with the specialized 'Dry/Nuages' software are installed. Production starts in 1997 with sheet 1273 Biasca.

1995

Calculation of the new National Survey high-precision reference network (LV95), which was measured between 1988 and 1994 by GPS. The CH1903+ reference system is introduced.

The production of the vector 1:25 000 data set (VECTOR25) begins.

Digital production of the National Map begins with the introduction of the 1:50 000 on-screen editing.

The Federal Office of Topography is awarded the Wabern Culture Prize by the local Wabern Cultural Union.

1994

Completion of the first GPS reference network survey (LV95).

Start of the photogrammetric survey of the main Alpine escarpments (until 1998).

National Maps appear in a new title format with continuous tone and EAN code as well as a new rear cover format. The first sheet to appear is 1347 Matterhorn.

The 1:50 000 National Map is printed with coloured (red and yellow) fillings for roads and borders. Publication of the final edition of the 1:1 million National Map as a relief map.

With the reorganization of the Topography Division the Topographical Information Systems Section is created.

The company's own internal organization for safety in operation is abolished.

Basic surveys using GPS for the Lötschberg Base Tunnel (BLS-AlpTransit).

1993

The 'Beechcraft Super King Air 350C' survey aircraft with a maximum service altitude of 10 000 m is brought into operation. It is equipped with two precision aerial cameras and GPS navigation.

Publication of the new 1:200 000 Road Map which finally replaces a very old-fashioned version.

Publication of the provisional edition of the 1:1 million National Map as a political map. This National Map is the last of the mapping programme that was still to be produced as a result of the 1935 Federal Act.

1992

Several Macintosh computers for editing thematic maps and an 'Agfa SelectSet 5000' exposure unit are installed.

A local area network (LAN) is installed.

Participation in the operation of the Zimmerwald satellite station (with the Astronomical Institute of the University of Bern).

1991

Completion of the so-called second National Levelling (since 1943). This showed that the Alps are rising above the lowlands by a maximum of 1.5 mm per year.

The last of 27 sheets of the 1:50 000 Ski Route Map appears.

1990

The national territories of France and Germany are taken from the respective foreign map producers and copied in at the 1:25 000 scale and are thus no longer reproduced in the Swiss manner. The first sheet is 1084 Damvant with revision status 1987 (Switzerland) and 1983 (France).

First attempts with digital levelling equipment in national levelling.

1989

First trials with digital revision of the National Maps: sheet 1168 Langnau i.E.

Creation of the 1:200 000 vector data set (VECTOR200).

First use of GPS measurement techniques in dam deformation measurements (Etzel-Sihlsee).

1988

Jubilee celebrations to mark 150 years of existence of the Federal Office of Topography. The centre of Switzerland is inaugurated on the Älggi Alp in the Kleines Melchtal (co-ordinates 660 158 / 183 641). The sculpture 'Ding 1:1' ['Item 1:1'] is erected by Florin Granwehr at the Wabern tram terminus. A commemorative stamp is issued. The first edition of the 'Dufour Map' is published as a facsimile.

Four GPS receivers are acquired rendering GPS-assisted surveying operational. The new GPS reference network for the National Survey (LV95) is measured in a number of surveying campaigns (until 1994).

The Federal Office of Topography produces a 1:50 000 map of Mount Everest. The map is ordered by the National Geographic Society (USA) to mark 150 years of its existence. Over 10 million copies are printed.

1987

First use of GPS satellite receivers for national surveying.

1985

The last sheet (No. 4) of the 1:200 000 Castle Map appears. First attempts at surveying with GPS (Turtmann test network).

1984

The first graphical workstation, a Scitex computer, is installed.

Start of production of the 1:25 000 Digital Height Model (DHM25) (up to 1996), initially known as DIKART project.

An electronic 'tps 6200' photolettering system with a exposure unit (both made by Berthold) is installed.

The first electronic theodolites (made by Kern) are put into service.

1983

A group of mountaineers crosses Switzerland on co-ordinate 160 – the 'Direttissima Schweiz' operation – with the support of the Federal Office of Topography and the National Map series.

1982

Publication of the 1:300 000 Museum Map. Contract with the Swiss Hiking Federation for the publication of a 1:50 000 Hiking Map.

1981

Francis Jeanrichard becomes Director of the Federal Office of Topography (until 1998) as successor to Ernst Huber (since 1959).

The National Point of Contact (NPOC) for satellite images is set up.

1979

The last sheet of the 1:25 000 National Map appears with sheet 1292 Maggia. This series completely covers the whole of Switzerland at the largest scale and replaces the 19th-century 1:25 000 'Siegfried Map'. Topographical Survey of Switzerland officially renamed as the Federal Office of Topography (S+T).

1978

The Atlas of Switzerland is completed with the appearance of the 9th part (since 1961). The Federal Council decides that the atlas should be updated from time to time.

The company's first in-house computer system, a 'Prime 400' computer with a RAM of 256 KB and a hard disk of 80 MB, is installed.

1976

The last sheet of the 1:200 000 National Map (No. 4) appears.

1975

National Maps appear with a new title format, the so-called 'banner title'.

1974

The first sheet of the 1:200 000 Castle Map is published.

1973

A new internal organization comes into force. The Geodetic National Survey, Topographical National Survey and Reproduction Divisions are formed from the Technical Services I and II.

1971

The first sheet (No. 3) of the 1:200 000 National Map appears.

1970

The Federal Council resolution on the toponymy of places, municipalities and stations controls the raising, spelling and modification of these names.

A 'Diatype' photolettering system (made by Berthold) is installed. The font size can be infinitely varied. The type spacing is controlled electronically.

1969

The Military Department's 'IBM 360 Model 50' computer can be used for the first time for the adjustment of geodetic networks (punched card system). First version of the in-house LTOP adjustment program.

The first vehicle (a VW Variant) officially belonging to the Topographical Survey of Switzerland is put into service.

1968

The 'Abteilung für Landestopographie' is officially renamed as the 'Eidgenössische Landestopographie', however, the English designation (i.e. Topographical Survey of Switzerland) remains unchanged.

The six-year revision cycle of the National Map series is introduced. In this way, one sixth of Switzerland can be updated each year.

A chemical negative scribing technique is developed.

1967

The electronics age begins in the Topographical Survey of Switzerland with a 'Wanderer Conti' desktop computer.

1965

The last sheet of the 1:100 000 National Map, sheet 47 Monte Rosa appears. This series completely covers the whole of Switzerland at the third-largest scale and replaces the 19th-century 'Dufour Map'.

The National Map 1:500 000 comes out.

1963

The last sheet of the 1:50 000 National Map, sheet 285 Domodossola appears. This series completely covers the whole of Switzerland at the second-largest scale and replaces the 19th-century 1:50 000 'Siegfried Map'.

Publication of the 1:300 000 Cultural Heritage Map.

1962

After the rebuilding of the so-called 'Exakte Wissenschaften' ['Exact Sciences'] building in Bern, the co-ordinate origin (600 000 / 200 000) is re-measured and a commemorative pillar erected.

1961

The Federal Council declares that a thematic National Atlas is a national task. Eduard Imhof becomes Chief Editor. The Atlas of Switzerland is published by the Topographical Survey of Switzerland (first edition by 1978).

1960

The first in-house small offset press (made by A.B. Dick) with a maximum capacity of 4000 sheets per hour is installed.

The first edition of the house journal appears.

1959

Ernst Huber becomes Director of the Topographical Survey of Switzerland (until 1981) as successor to Simon Bertschmann (1952–1958).

1958

On account of the impending demolition of the Bern Observatory, the co-ordinate origin (600 000 / 200 000) is assured.

1957

A personnel committee is set up.

1956

Start of the publication of 1:25 000 map composites with sheet 2501 St. Gallen.

1955

Publication of the provisional 1:200 000 Road Map in four sheets.

1954

The first sheet of the 1:100 000 National Map, sheet 41 Col du Pillon appears.

Start of the publication of 1:50 000 map composites with sheet 5001 Gotthard.

The aerial survey service is reorganized. From now on the responsibility lies not with the Topographical Survey of Switzerland but with the professional pilots of the Air Force reconnaissance service.

1953

Negative scribing replaces copperplate engraving as the method for creating originals. The process for manufacturing the map lettering is simplified by the introduction of a kind of hand composition with right-reading negative types and positive film at the final scale. After countless attempts, a system of showing rocks by shading combined with 100-metre contours is chosen. The publication of the so-called half sheets and three-colour editions is discontinued.

1952

Simon Bertschmann becomes Director of the Topographical Survey of Switzerland (until 1958) as successor to Karl Schneider (1929–1951).

Printing of the 'Siegfried Map' is stopped.

The first sheet of the 1:25 000 National Map, sheet 1145 Bielersee appears.

Publication of a provisional 1:200 000 general map.

Replacement of the brown relief shading by a two-colour grey-yellow printing.

The 13 x 19 cm size is introduced as a folding format for maps and at the same time the map legend previously printed on the left-hand edge is omitted.

Start of the development of a new negative scribing technique. In the following years the process is licenced worldwide.

1951

The first in-house flat-bed offset press (made by Mailänder) with a maximum capacity of 200 sheets per hour is installed.

1950

The first sheet of the 1:50 000 Ski Route Map appears.

Start of reproduction work for the 1:25 000 National Map.

1949

Report by Professors Imhof and Walther on the rationalization of map production.

1948

The new building is decorated with Noah's Ark, a wall mosaic by Fernand Giauque.

1946

Agreement with the Federal Directorate for Cadastral Surveying on an accelerated survey programme to catch up on the backlog resulting from the Second World War.

1945

The sale of maps resumes following the end of the Second World War.

1944

From this year onwards only aerial photographs are used for the production of maps.

1943

Start of the so-called second National Levelling (until 1991).

1941

The Topographical Survey of Switzerland moves into its new building at Seftigenstrasse 264 in Wabern, where it is still to be found today.

1940

The printing works already moves to its new location in Wabern. The first large offset press with two printing units (made by Color-Metal) with a maximum capacity of 7000 sheets per hour is installed.

1939

End of the third-order triangulations (since 1910).

The sale of maps is suspended following the outbreak of the Second World War.

The Topographical Survey of Switzerland is allocated a vehicle for the first time.

1938

Jubilee celebrations to mark 100 years existence of the Topographical Survey of Switzerland.

The first sheet of the 1:50 000 National Map, sheet 263 Wildstrubel appears.

A new green forest tint is printed in the 'Dufour Map'.

The Technical Services I (Geodesy and Photogrammetry as well as Topography and Cartography) and II (Copperplate engraving, Photochemigraphy and Electrotyping as well as Lithography and Printing) are created following an internal reorganization.

1937

The implementation plan for the new National Map series is introduced by the Federal Council.

1936

A commercially based bookkeeping system is introduced.

1935

Parliament introduces the Federal Act [German edition] of 21 June 1935 on the production of new National Map series. The full range of scales from 1:25 000 to 1:1 million is approved but the 1:50 000 map is processed first on account of the political situation.

A type 'M18d' Messerschmitt is put into service as the company's first own survey aircraft. It carries the Swiss registration number 714.

Due to an ongoing shortage of space, some cartographers from the Topography Section are allocated a rented flat at Trechselstrasse as a workplace.

1934

Memorandum on the production of new National Map series from numerous societies and the Swiss Alpine Club bearing the stamp of cartography professor Eduard Imhof.

1931

On account of a renewed requirement for space, the Geodesy and Topography Sections move into rooms belonging to the Swiss Federal Archives at Archivstrasse 24.

Definitive introduction of the etching process (Photogravure) on copper (e.g. for the reproduction of map lettering).

1930

Productive use of aerial photographs for mapping.

Provisional combination of the Topography, Cartography and Reproduction Sections to form a single service centre.

1929

Karl Schneider becomes Director of the Topographical Survey of Switzerland (until 1951) as successor to Hans von Steiger (since 1921).

1928

Aerial photogrammetry is finally introduced in the lowlands (Mittelland) and in Jura. In the printing works of the Topographical Survey of Switzerland, postage stamps are printed on the manual copperplate printing press (until 1931).

1927

Intensive public discussions about new of National Map series for Switzerland. Professor Eduard Imhof supports the full range of scales from 1:25 000 to 1:1 million.

End of the first so-called National Levelling (since 1903) with a total length of 2900 km.

Agreement between the Justice and Police Department and the Military Department on the creation of land register overview plans as a basis for new National Map series.

1926

A total of 604 sheets of the 'Siegfried Map' are published. The last sheet to appear is 274bis Gaschurn.

Terrestrial photogrammetry is finally introduced in the Alpine region. Two stereoplotters and four cameras are acquired from Wild.

The first pilots are appointed. Oblique pictures are taken by hand from the open type 'Zepp C.II' aircraft. The necessary instruments are provided by Zeiss.

1925

End of the new first- and second-order triangulation with about 5200 points (since 1910).

Revision and updating of the secret fortifications maps is transferred to the Topography Section.

Trials with etching process on copper (Photogravure).

1924

Terrestrial photogrammetry is introduced on a trial basis (finally in 1926) and a stereoplotter is acquired from Zeiss for this purpose. Trials with aerial photogrammetry.

1922

The Topographical Survey of Switzerland starts systematic trials for new National Map series as a replacement for the 'Siegfried Map'.

Renewed trials with aerial photography, this time from aircrafts.

1921

Hans von Steiger becomes Director of the Topographical Survey of Switzerland (until 1929) as successor to Leonz Held (1901–1920).

1919

New Federal resolution regarding the land register survey. Supervision and verification of the overview plans for the land register survey is transferred to the Topography Section.

1916

Renewed trials with terrestrial photogrammetry.

1914

On account of a requirement for space, the two Geodesy and Topography Sections move into the new building belonging to the Federal Office of Weights and Measures at Wildstrasse 3.

1913

Petition by the Swiss Geological Commission to the Federal Council for a 1:25 000 map of the whole country.

Trials with aerial photography. The Scheimpflug panoramic camera is carried by a captive balloon.

1912

The Swiss Civil Code comes into force. It demands the introduction of a land register with the associated plans.

A project for a new 1:100 000 map is completed.

New invar rods with millimetre graduations are used for levellings. (Invar is an iron-nickel alloy with a particularly small coefficient of expansion).

On account of a requirement for space, some copperplate engravers move into rooms in the Main Post Office building at Bollwerk 25 (until 1914).

Offset printing is introduced. The first in-house offset press comes from George Mann in Leeds (UK).

1910

Start of the new first- and second-order triangulation (until 1925) and also the third-order triangulation (until 1939).

Start of map trials for new National Map series to replace the 'Siegfried Map'. Much of the work remains secret or is only published some years later.

Start of conversion work from lithography stones to copper plates.

Internal reorganization sees the creation of four technical sections for Geodesy, Topography, Cartography and Reproduction.

1909

Federal resolution with regard to the land register survey (in conjunction with the Civil Code valid from 1912).

1908

The Topographical Bureau renamed as the Topographical Survey of Switzerland ('Abteilung für Landestopographie').

The 'Dufour Map' is converted to two colours by 1910 (waterways become blue).

Start of map trials for new military maps as a replacement for the 'Dufour Map'.

So-called army paper is used for lithographic printing and replaces Japan paper.

1907

A typewriter is used in the office for the first time.

1904

The Topographical Bureau moves into its first self-owned building in Bern at Hallwylstrasse 4 (until 1941). The printing works has been set up here since 1903.

1903

Max Rosenmund proposes the use of a conformal oblique cylinder projection for the survey of Switzerland (= CH1903).

Start of the so-called first National Levelling (until 1927).

End of the so-called Assurance Levelling (since 1893). Publication by 1907.

The printing works starts production (copperplate printing, lithographic transfer and lithography) in the new Topographical Bureau building at Hallwylstrasse 4 (until 1941). A lithographic printing press is put into service.

1902

The height of the R.P.N. control point in Geneva is determined by Jakob Hilfiker (based on associated levellings abroad) to be 373.6 m above mean sea level (the so-called 'new horizon' and point of origin for the National Map height measurements). This in turn relates to the mean sea level at Marseilles.

New Federal Act relating to the supervision of the Forestry Police.

57 parts (which may cover several lots) of the fourth-order triangulation are measured by the Topographical Bureau (until 1910).

1901

Leonz Held becomes Chief of the Topographical Bureau [from 1908 with the title 'Director, Topographical Survey of Switzerland'] (until 1920) as successor to Jean-Jacques Lochmann (1882–1900). At the same time, at the beginning of the year, the Topographical Bureau is released from the Command of the Engineering Corps and becomes an independent division within the Military Department for which the designation 'Eidgenössische Landestopographie' becomes customary.

Publication of Hermann Kümmerly's relief wall-map for schools.

581 sheets of the 'Siegfried Map' appeared so far. Various individual sheets follow up until 1926.

Start of trials for new National Map series.

The copper engravers are accommodated in the State Pharmacy building (demolished in 1912) in the Inselgasse (today known as Kochergasse) (until 1904).

1899

The copper engravers are accommodated in the old Personal Property Insurance building in the Amthausgasse (until 1901). Here, too, the first in-house workshop for electrotyping is set up.

1898

End of soundings in Swiss lakes (since 1866).

Start of systematic investigations into the national border from a surveying point of view.

1897

Preliminary establishment of electrotyping.

1896

On account of a requirement for space, the copper engravers are accommodated in the 'Bärenhöfli' at Zeughausgasse 41 (until 1899).

End of the terrestrial photogrammetry trials (since 1892). The process is recommended for certain special cases only.

1895

Completion of topographic surveys and revisions for the first edition of the 'Siegfried Map'.

1894

Parliament resolves that a wall-map for schools should be produced, which is implemented by the Topographical Bureau in the years to come.

1893

Start of the so-called Assurance Levelling (until 1903), which has the purpose of re-determining those control points that have been lost or have become uncertain.

1892

The Topographical Bureau moves into rooms in the Parliament building, from where it expands into four further localities (until 1904).

Start of trials with terrestrial photogrammetry (until 1896).

1890

End of the triangulation of a first-order network (since 1863).

1889

The Topographical Bureau moves into rooms of the former Institution for the Blind at Lorrainestrasse 3 as well as other locations (until 1892). A photographic reproduction studio is appended and brought into service in 1890 in the basement of the Hotel Bellevue at Inselgasse 5 (today known as Kochergasse 5).

1887

Maps with relief shading are published for the first time (sheets Oberland I and Jaun-Thun at 1:50 000 scale).

1886

First trials with photographic transfer of the map image onto stone, zinc or copper.

1883

End of the Precision Levelling (since 1864) with a total length of 4300 km. Publication by 1891.

1882

Jean-Jacques Lochmann becomes Chief (until 1900) as successor to Jules Dumur (since 1880).

1881

Base line measurement of Weinfelden and Bellinzona as part of the Central European arc measurement.

1880

Jules Dumur becomes Chief (until 1882) as successor to Hermann Siegfried (1865–1879).

The Topographical Bureau is separated from the Confederate Headquarters and is put under the Command of the Engineering Corps.

The Topographical Bureau moves into rooms in the administration building of the Bernese Jura Railway [from 1884 known as the Jura-Bern-Lucerne railway] (today known as the headquarters of the Management Board of the Swiss Federal Railways, Hochschulstrasse 6) (until 1889). However, due to a shortage of space, some employees work from home.

Base line measurement of Aarberg by the Spanish General Ibañez as part of the Central European arc measurement.

1879

Hermann Siegfried calculates the height of the R.P.N. control point in Geneva as the point of origin for height measurements to be 376.86 m above mean sea level based on the Precision Levelling elements (but with the old reference height of Chasseral from 1840), today also known as the 'old horizon'. This value is applied to all sheets of the 'Siegfried Map'.

Rudolf Leuzinger receives an order to lithograph a 1:500 000 map. However, this map was never published by the Topographical Bureau.

1878

Publication of the 1:1 million scale overview map.

1877

Copper engravers are employed for the first time. Before this, the 'Siegfried Map' was engraved by private companies.

1876

Federal Act relating to the supervision of the Forestry Police.

70 parts (which may cover several lots) of the fourth-order triangulation are measured (until 1902).

On account of the new construction of the Bern Observatory, the co-ordinate zero (today the co-ordinate origin 600 000 / 200 000) is assured and re-measured.

1874

The term 'national topography' ['Landestopographie'] comes into vogue for geodetic and topographic surveys ('Military Organization Act' 1874).

1873

Publication of the last sheet (No. IV) of the 1:250 000 general map.

1871

Japan paper is introduced for lithographic printing (until 1904).

1870

Publication of the first 13 sheets of the 1:25 000 and 1:50 000 Topographical Atlas, later known as 'Siegfried Map'.

1869

Start of new topographic surveys as a result of the Federal Act of 1868.

1868

Due to pressure from the Swiss Alpine Club, a Federal Act is passed concerning the continuation and publication of the original topographic surveys.

An in-house administrative bookkeeping system is introduced. Guillaume Henri Dufour had already kept records of the costs and profits of the 'Dufour Map'.

1867

Publication of the first sheet (No. II) of the 1:250 000 general map.

The Topographical Bureau moves into rooms of the Confederate Bank at Bubenbergplatz 3 (until 1880).

1866

A composite map from the 'Dufour Map' is successfully implemented by electrotyping means onto a single copper printing plate for the first time (map of the Uri Canton).

The first composite map achieved by lithographic transfer is produced for the Ticino Canton.

Start of soundings in Swiss lakes (until 1898).

1865

The last sheet (No. XIII) of the 'Dufour Map' appears.

Hermann Siegfried becomes Chief of the Topographical Bureau (until 1879) as successor to Guillaume Henri Dufour (since 1838).

The Topographical Bureau is moved to Bern where it is accommodated at the home of the draughtsman Johann Georg Steinmann at Lagerweg 9 (until 1867).

A Confederate Headquarters is created by legal Act (today known as General Staff) to which the Topographical Bureau is affiliated.

1864

Resolution to measure the so-called Precision Levelling under the leadership of Adolphe Hirsch and Emile Plantamour. Work is to start in 1865 (until 1883).

Guillaume Henri Dufour presents the final report for the production of the 'Dufour Map'.

1863

The Federal Council re-names the peak previously shown on the 'Dufour Map' as the Höchste Spitze ['Highest Peak'], the Dufourspitze.

The Swiss Alpine Club (SAC) publishes a 1:50 000 map of its excursion area (region of Tödi) for the first time. It is based on the as yet unpublished topographic surveys of the Topographical Bureau.

The Swiss Geodetic Commission starts the triangulation of a new first-order network as part of the Central European arc measurement (until 1890).

All copper plates are reproduced by means of electrotyping and are steel-faced partly by Schöninger in Munich and partly by Benziger in Einsiedeln.

1862

End of the topographic surveys in the Alpine region (since 1839).

The height of the R.P.N. control point in Geneva is determined by French levelling to be 374.052 m above mean sea level (publication 1864). This triggers off the so-called Precision Levelling.

1861

An attempt is made to steel-face the copper plates at Leo Schöninger's shop in Munich.

1859

The Swiss Society for Natural Sciences gains the attention of the Federal Council with a request to publish a 1:50 000 map of the whole of Switzerland.

1856

The Topographical Bureau moves into Sabatier-Bourdillon House on the Tranchée de Rive 24 [later No. 26] (today known as Rue Adrien-Lachenal 1bis) in Geneva (until 1865). The Bureau was previously situated at Rue du Rhône 88 for a short time.

1855

The 'Dufour Map' wins a gold medal at the World Fair in Paris. Numerous further distinctions follow at international exhibitions up to 1900 (World Fair in Paris once more).

1853

Trials for the 1:250 000 general map.

1850

Piz Bernina (4049 m) is climbed for the first time by the topographer Johann Wilhelm Fortunat Coaz in the context of topographic surveys.

1848

Guillaume Henri Dufour steps down as Quartermaster-General but retains his office as 'Directeur de la Carte' ['Director of the Map'].

1846

The first in-house press is acquired.

1845

After a delay of one year, the first sheet (No. XVII) of the 1:100 000 Topographical Map, later known as the 'Dufour Map', is published, printed by Rudolf Foppert in Zurich.

1841

Start of the copper engraving for the 1:100 000 Topographical Map.

1840

Johannes Eschmann publishes the Ergebnisse der trigonometrischen Vermessungen in der Schweiz [Results of Trigonometrical Surveys in Switzerland], the document that paves the way for all further work on the planned map. From this, the height of the R.P.N. control point in Geneva could be deduced to be 376.2 m above mean sea level. This value can be seen as the point of origin for the height measurement used at the time for the 'Dufour Map' (for the purposes of modern comparisons).

1839

Start of topographic surveys in the Alpine region by various engineers (until 1862).

1838

Publication of the Carte topographique du Canton de Genève [Topographical Map of Geneva Canton] under the supervision of Guillaume Henri Dufour. This map serves as example for further work.

Instructions for topographic surveys in the Alpine region in 1:25 000 and 1:50 000 scales.

1837

Guillaume Henri Dufour establishes a bureau in the Chossat House in the Place du Temple (today known as Rue St-Victor 22) in Carouge (Geneva), the first forerunner of today's Federal Office of Topography. It starts business in the New Year of 1838 as the Topographical Bureau ['Eidgenössisches Topographisches Bureau']. This is the date of its official establishment.

Completion of the first-order triangulation (the so-called 'triangulation primordiale') as a further basis for more detailed surveys (since 1825/1832).

1836

Third meeting of the Commission for Topographic Surveys: Resolution on the map projection, sheet lines as well as the geographical co-ordinates of the Bern Observatory.

Start of the so-called Federal Surveys (Wallis Canton). Until then, topographic surveys had only been carried out at the expense of the Cantons (= Cantonal Surveys).

1834

Base line measurements at Sihlfeld (close to Zurich) and Aarberg (Walperswil–Sugiez). Johannes Eschmann takes over the work on the first-order triangulation (until 1837) from Antoine-Joseph Buchwalder (since 1825).

1833

Second meeting of the Commission for Topographic Surveys: Resolution to carry out base line measurements at Sihlfeld and Aarberg. Principles for topographic surveys are resolved.

1832

Guillaume Henri Dufour becomes Quartermaster-General (until 1847, 'Directeur de la Carte' until 1865) as successor to Johann Ludwig Wurstemberger (since 1831).

First meeting of the Commission for Topographic Surveys: The requirements for the projection, scale of topographic surveys and form of reproduction for the future 1:100 000 topographical map of Switzerland are laid down.

Start of the comprehensive first-order triangulation (the so-called 'triangulation primordiale') (until 1837).

1831

Johann Ludwig Wurstemberger becomes Quartermaster-General (until 1832) as successor to Hans Conrad Finsler.

1825

Antoine-Joseph Buchwalder starts the triangulation in the Alpine region (until 1834).

1822

The legislative assembly ['Tagsatzung'] resolves to transfer the responsibility for surveys in Switzerland to Quartermaster-General Hans Conrad Finsler.

1809

First surveys at a confederate level by the military under the leadership of Hans Conrad Finsler (north-eastern Switzerland).