

ComputaMaps 3D City and Terrain Models Visualize and Model Your World

> **Scenario planning. Role playing. Establishing a common framework for all participants.**

For simulations to translate into the real world, the geodata used as an input must be as accurate as possible. It should also be based on the most recently available source imagery.

3D city and terrain models provide the geographic foundation of simulations across a range of applications and industries. With a long track record in developing 3D buildings and digital terrain models focused predominantly on the telecommunications industry, ComputaMaps is able to provide a substantial inventory of recent vintage 3D building models and associated terrain to a variety of markets.



Integration with NAVTEQ data –
Our strategic relationship with this global vendor allows us to integrate their vector data within our 3D city models. You are guaranteed to have a perfect overlay of street networks and geo-referenced points of interest.

> Markets for 3D data

Urban planning

simulation, advanced analysis and visualization of urban areas

Insurance

risk assessment, catastrophic-loss reduction, response planning for natural catastrophes

Defense and security

aerial reconnaissance, mission planning and rehearsal, logistics planning, blue force/ red force tracking, battle management

Environment

monitoring, planning and management for floods, forest damage and water pollution

Emergency response

disaster scenario planning, response coordinating

Utilities

planning and management, energy transmission

Telecommunications

RF and transmission planning /optimization

Video games

virtual world and backgrounds for games

Media

background and “fly throughs” for movies, documentaries, news programs, weather reports and web media

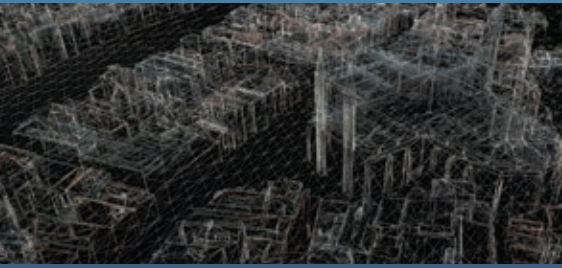
Flight simulation

military and commercial aviation training, flight simulator development

Tourism and navigation

interactive 3D tourist guides for mobile devices





> 3D Models – When You Need Them

CompuMap derives 3D city and terrain models from stereo satellite and aerial imagery using proprietary photogrammetry software. Once the 3D geometry of the models is captured, this structure can be textured with source imagery or texture libraries depending on application or requirements.

We take advantage of the expanding availability of sub-meter satellite imagery to rapidly deliver accurate 3D models anywhere in the world. Our current 3D data catalogue includes over 200 cities representing 25 000 km² on six continents. This inventory is rapidly expanding because of our unique development process.

If our catalogue does not include the city you require, we can build it within a few days.

> Access to Freshest Data

A common concern of customers is what to do when a portion of a data set is known to be out of date. Replacing the entire project isn't usually a cost-effective answer. To address this situation, CompuMap developed the Change Detection and Update Service. With this unique service, we assess your current data against the most recent vintage imagery available. Only required updates are provided at a price that will meet your budget.

Our Change Detection and Update Service includes the following steps:

1. **Creation of a building change detection map**
Our analysts use advanced algorithms and image processing methodologies to generate a comparative change detection map based upon the latest available imagery.
2. **Creation of a land use/land cover (LULC) change detection map**
Buildings are one layer in the 3D city models and terrain data set, but another consideration is vegetation. A separate map is generated for this layer.
3. **Report generation**
CompuMap specialists generate a report showing overlap, additions and deletions between the customer's current database and our current vintage imagery. Once this report is delivered, we consult with the customer on whether to update some or all outstanding deficiencies.

CompuMap recently completed a 1500 km² high-resolution data set for Greater Manila that includes over 3 million buildings. Delivery of this new data set, based on 16 different 50-cm satellite images, occurred 42 days after the order.

> CompuMap Advantage

CompuMap is a focused, privately-held business dedicated to the creation and delivery of geodata to customers around the world. We ensure quality throughout our production cycle by controlling all development in-house. With innovative processes, we can scale our production rapidly and deliver high resolution products quickly. This speed of production and the ability to generate data for any region of the world are key differentiators in our product offering. The company's 3D catalogue of recent vintage data represents over 25 000 km² and is growing daily. View our continuously updated catalogue at www.computamaps.com

3D City Models are available in a range of popular and specialized formats. Customers with unique requirements can receive pre- and post-sales support in their time zone through trained account and support teams in four corporate offices. Contact us to find out how CompuMap 3D city models and terrain data can meet your requirements.



> 3D City Models and Terrain Data

CompuMaps product offering includes a series of optional layers, including:

Terrain model (DTM/DEM)

- Bald earth DTM
- Resolution: 1 / 2 / 5m
- Derivation: stereo photogrammetry or LIDAR
- RMS height accuracy: 1 – 5m depending on source data and resolution

Digital height model

- Building heights in raster format
- Resolution: 1 / 2 / 5m
- Derivation: stereo photogrammetry or LIDAR
- RMS height accuracy: 1 – 5m depending on source data and resolution

3D building vector model

- Derivation: stereo photogrammetry or LIDAR
- RMS height accuracy: 1–5m depending on source data and resolution

Land use/land cover

- Resolution: 1 / 2 / 5m
- Derivation: high-resolution satellite imagery
- Classes: 15 – 30 classes

Orthoimagery

- Orthorectified satellite imagery
- Derivation: high-resolution satellite imagery
- RMS height accuracy: 1 – 5m depending on source data and resolution

Linear vectors

- Derivation: high-resolution satellite imagery
- Classes: 8

> Available Formats for 3D City Models

3DS
CityGML
DXF (AutoCAD®)
KML/COLLADA

OBJ
OpenFlight
Shapefile (ESRI®)
STL®

VRML
X3D
Support for custom formats