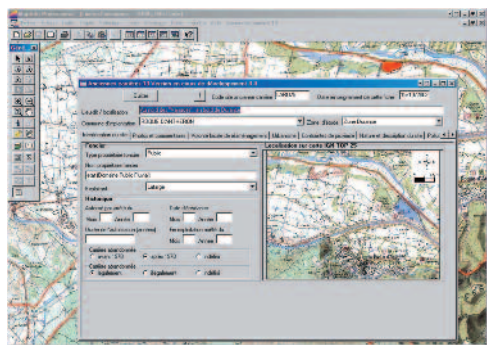


Decision support and information systems for water and the environment



Understanding interactions between human activities and the environment entails collecting, exchanging, cross-referencing and analysing ever-greater and more varied quantities of data.

The role of the GINGER teams specialised in information systems is to search for data and then validate, standardise, organise and process them to extract synthetic and targeted results and, once this is achieved, assure their rapid distribution.

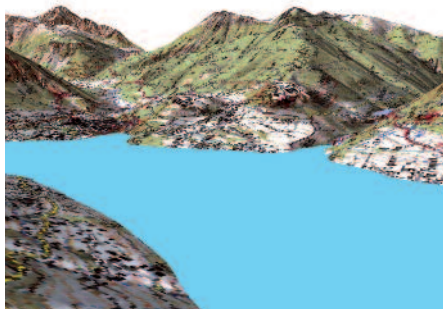
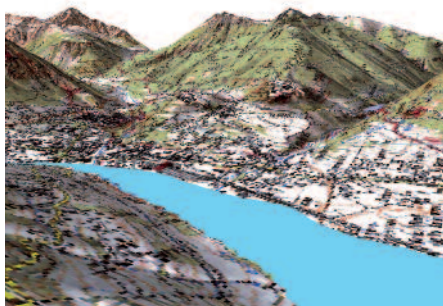
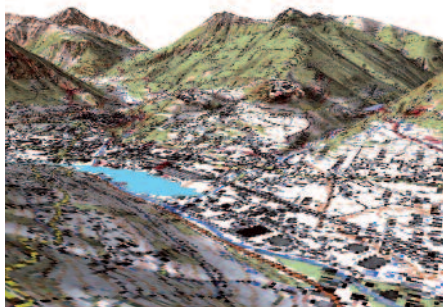
The GINGER Group operates at different levels within this information chain:

- through its laboratories to take samples for analysis and diagnosis,
- through its network engineering and telecommunications centre to exchange data,
- through its specialised Information System teams to organise, cross-reference, analyse and synthesize the information and assure that it becomes an operational raw material for decision-making.

KNOW-HOW

GINGER Environnement & Infrastructures has created an entity specialised in expertise, consultancy and the development of specific databases for geographical information systems and digital mapping. Whether computer experts or having acquired their qualifications or experience in the field, these specialists have developed an expertise that makes them the perfect partners for helping clients perfectly identify their needs and providing them with optimal technical solutions.

On environmental issues, the teams cover the entire range of GINGER Environnement & Infrastructures skills and, when necessary, can call on other experts.



In terms of computing, their expertise is based on the following skills:

- Design and implementation of database management systems adapted to requirements: Access, Interbase, Oracle, Mysql, Postgres/Postgis, etc.,
- Efficient use of programmable GIS software available on the market (ArcGIS, Arc-PAD, Grass, Mapinfo, Mapserver, Stargis, etc.) and their development components (Arcobjects, Mapbasic, Mapx, etc.),
- Development of specific applications using powerful tools: Delphi, C++, C#, Java, coupled to GIS and dBMS,
- Efficient use of Client/Server single station architectures, Internet, collaborative information systems, Webmapping (Mapserver, Geoserver).

OUR ACTIVITIES

These skills allow GINGER Environnement & Infrastructures to intervene on three types of activities: specific developments, writing programmable software, and service offers.

• Development of specific software applications

The following tools have been developed to answer clients' specific needs:

- ALPHEE, decision support systems for water projects in the Seine, Marne and Oise river basins,
- CLPA avalanches, thematic analysis and Internet transmission of risk maps (avalanches):
<http://clpa.grenoble.cemagref.fr/cartes.html>
- CIGARE, decision support for water projects in the Oise and Aisne river basins and the associated Internet site:
<http://siteententeoise.strategis.fr>
- Fédérateur Eau et Milieu 34, "Météorologie, Hydrométrie et Assainissement" GIS incorporated in the "Fédérateur Eau et Milieu 34 IT system",
- PHE 30, readings of the highest waters of the Gard, cartography and Internet transmission:
<http://rp.gard.equipement.gouv.fr/AtlasPHE/>
- SDVP 71, cartographic Internet site for the Saône-et-Loire fish farming master plan: <http://sdvp.strategis.fr>
- GIS Closed down quarries 13, GIS and site layout atlas,
- SIRS DIGUES, GIS dyke management,
- SIGEAU, integrated management solution for watercourses.

• STRATEGIS software

These developments have been designed to be distributed in a standard format to

a large number of clients. All upgrades result in successive versions of the software being distributed to clients. They can also be associated to a Users' Club:

- HYDROKIT: mapping and hydrological calculation tool for catchment areas,
- OPTHYCA: post-process mapping of the hydraulic simulation results,
- METADICO: development of a metadata base and publishing of a data dictionary,
- SIDAUE: report table and decision support tool for the management of drinking water distribution and treatment,
- SIG@WEB: web decision support and management tool for sensitive natural areas and departmental walking and hiking routes,
- Etc...

• Consulting services

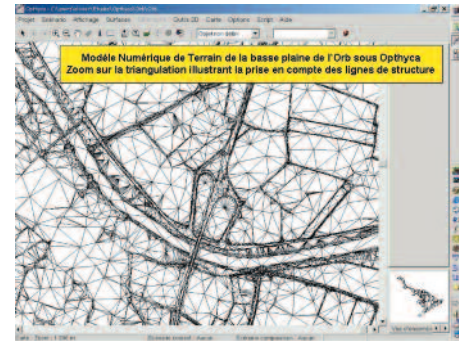
On request, provision of reports, data files and maps: GINGER Environnement & Infrastructures makes its computing resources available to its clients.

• Client assistance

AESN: hydrographic encoding of the Seine Normandie basin.

• Web site hosting

GINGER Environnement & Infrastructures offers clients who have commissioned a



website to maintain and/or host their data on its servers

• Technical evaluations

- Risk prevention plan: very numerous references, stand-alone or grouped by GINGER Environnement & Infrastructures for flood risks, ground movements, etc.,
- Farmland master plans.

• Training

- GIS: ESRI, Mapinfo, GPS products,
- STRATEGIS software.

• Map processing

Tailor-made services for specific processing based on our GIS software.

• Data collection solutions

Along with their partners, our teams provide PDA/GPS solutions to simplify the collection and upgrade GIS data bases.



REFERENCES

Development of specific tools: Seine, Marne and Oise river basins - IIBRBS IdF - AESN - CEMAGREF - Conseil Général 13 and 34 - DDE 30 - SYMADREM, AD-IDR - DIREN IdF, Government of Andorra, etc.

Software: HYDROKIT - OPTHYCA - METADICO - SIDAUE: CGD 7, 24, 30 and 74

Service offers: Seine Normandie river basin - Communauté de Communes du Haut Languedoc - EdF/DER - ATEN, Ecole des Mines d'Alès - FTM Madagascar, etc.

Design of mapping repositories: Andorra - Senegal.

Design of hydrographic repositories: Carthage - Guadeloupe and Martinique.



ATT - CAREX Environnement - CONCERTO - SIEE - SPI INFRA - CIE - PARERA - SOPRONER - STRATEGIS are GINGER Environnement & Infrastructures trade names or subsidiaries

For further information or to contact us, visit our site: www.gingergroupe.com, "LE RESEAU" heading

