

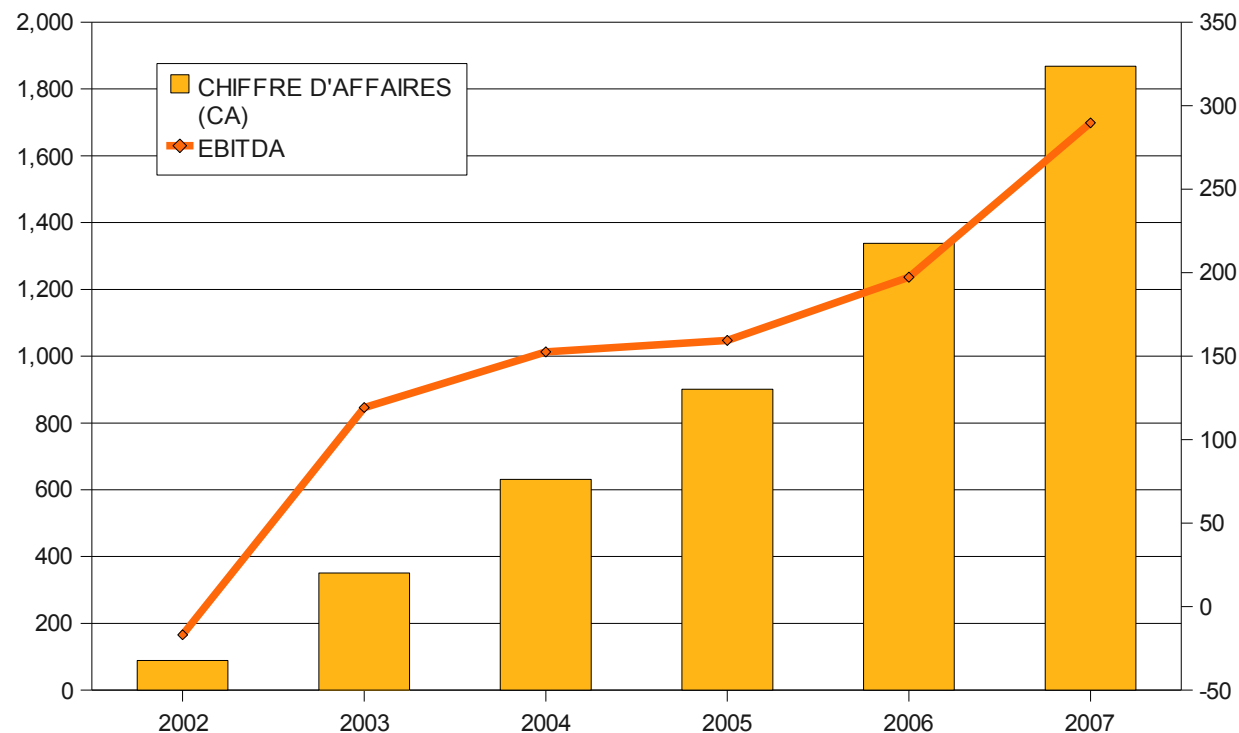


GeoNetwork: metadata and cataloging

French (GeoSource) and Swiss (geocat.ch) experiences

Camptocamp, a Franco-Swiss company

- A **Franco-Swiss** company employing 42 professionals
 - ✓ Switzerland, Lausanne: 26 persons
 - ✓ France, Chambéry and Toulouse: 16 persons
- A **sustained** growth: between 50% and 70% since 2004



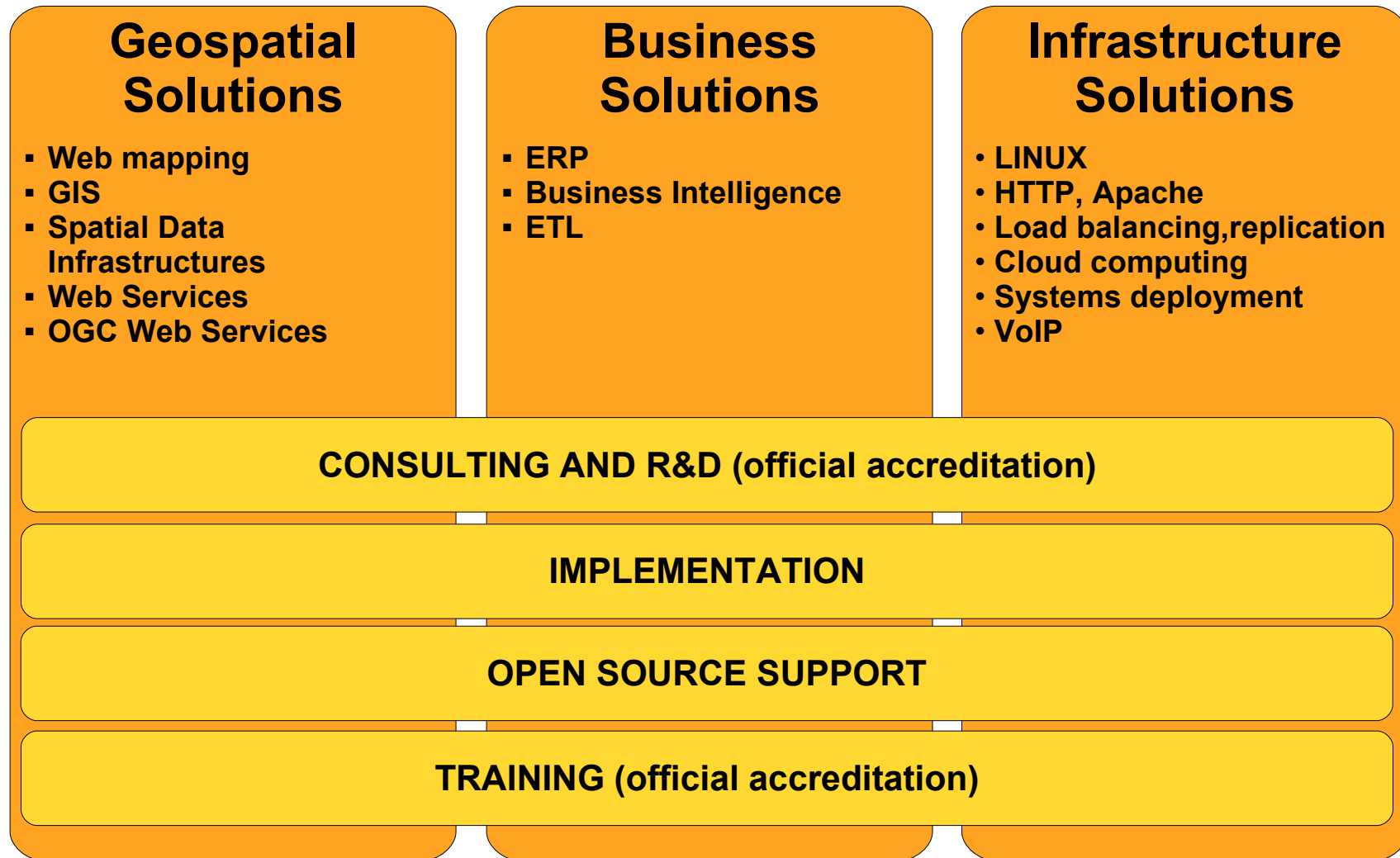
Service-oriented Open Source editor

- **Camptocamp is an Open Source editor and integrator for software**
 - ✓ Initiated by Camptocamp : **CartoWeb, MapFish and Spatial Data Integrator (SDI)**
 - ✓ Initiated by well-respected communities (OSGeo) : **GeoTools, GeoServer, Udig, GeoNetwork, MapServer, PostGIS, Open Layers, GeoExt, Ext**

- **Camptocamp helps clients move forward in every part of their businesses with the latest Open Source applications and technologies**



Camptocamp's strategic activity domains



Presentation guide

- **Introduction:** Metadata & GeoNetwork
- **GeoSource project** (France - FR)
- **geocat.ch project** (Switzerland - CH)
- **Conclusion:** How to efficiently combine the development of an application with the Open Source community?

Metadata & Cataloging

Metadata:

■ The **determination...**

- ✓ to **manage** cartographic data
- ✓ to **share** and exchange data
- ✓ to **join** a national (GeoPortail/GeoCatalogue) or a supranational (INSPIRE) Spatial Data Infrastructure effort

■ ...and the **search for higher standards**

- ✓ **regulatory**: European directive (INSPIRE) allowing GIS users to identify and access spatial or geographical information from a wide range of sources
- ✓ **technical**: profusion of Internet use (search and webcasting)
- ✓ **commercial**: data “marketing”

GeoNetwork

- Metadata catalog initiated by the FAO and supported by **OSGeo**

- **“Basic” functionalities**

- ✓ Search of spatial data & Services
- ✓ MetaData files lookup
- ✓ Metadata editing (template, view, validation...)
- ✓ ISO 19139 format MetaData files export
- ✓ On-line dynamic mapping via OGC Web services
- ✓ Data downloading
- ✓ Various functionalities: category, group and thesaurus management

- **“Advanced” functionalities**

- ✓ User management
- ✓ Access rights and privileges management
- ✓ Metadata editing (full view...)
- ✓ Metadata validation and publication
- ✓ Metadata search and webcasting
- ✓ Services: synchronization, harvesting...

GeoNetwork Interface



Geographic data sharing for everyone

Accueil | Contact | Liens | A propos | Aide

English | **Français** | Español | 中文

Nom d'utilisateur Mot de passe

TROUVER DES CARTES INTERACTIVES, DES JEUX DE DONNÉES, DES CARTES, DES IMAGES SATELLITES ...

Recherche libre

Situation? 



Afficher la carte ▶

- Tous -

Réinitialiser Avancée

CATÉGORIES

- ▶ Applications
- ▶ Autres ressources
- ▶ Cartes & graphiques
- ▶ Conférences
- ▶ Etude de cas, meilleurs pratiques
- ▶ Jeux de données
- ▶ Photographies
- ▶ Répertoires
- ▶ Ressources interactives
- ▶ Vidéo/Audio

DERNIERS AJOUTS  

- ▶ ma md
- ▶ Physiographic Map of North and Central Eurasia
- ▶ Hydrological Basins in Africa
- ▶ Hydrological basins in Europe
- ▶ Globally threatened species of the world
- ▶ Natural polar ecosystems

NOMBRE DE RÉSULTATS : 1-6/6 (PAGE 1/1)

Logo **PHYSIOGRAPHIC MAP OF NORTH AND CENTRAL EURASIA**

Résumé Physiographic maps for the CIS and Baltic States (CIS_BS), Mongolia, China and Taiwan Province of China. Between the three regions (China, Mongolia, and CIS_BS countries) DCW boundaries were ...Plus...

Mots-clés physiography, soil, Eurasia



Logo **HYDROLOGICAL BASINS IN AFRICA**

Résumé Major hydrological basins and their sub-basins. This dataset divides the African continent according to its hydrological characteristics. The dataset consists of the following information:- ...Plus...

Mots-clés watersheds, river basins, water resources, hydrology, AQUASTAT, AWRD, Africa



Logo **HYDROLOGICAL BASINS IN EUROPE**

Résumé Major hydrological basins and their sub-basins. This dataset divides the Europe in zones.

Mots-clés watersheds, Europe

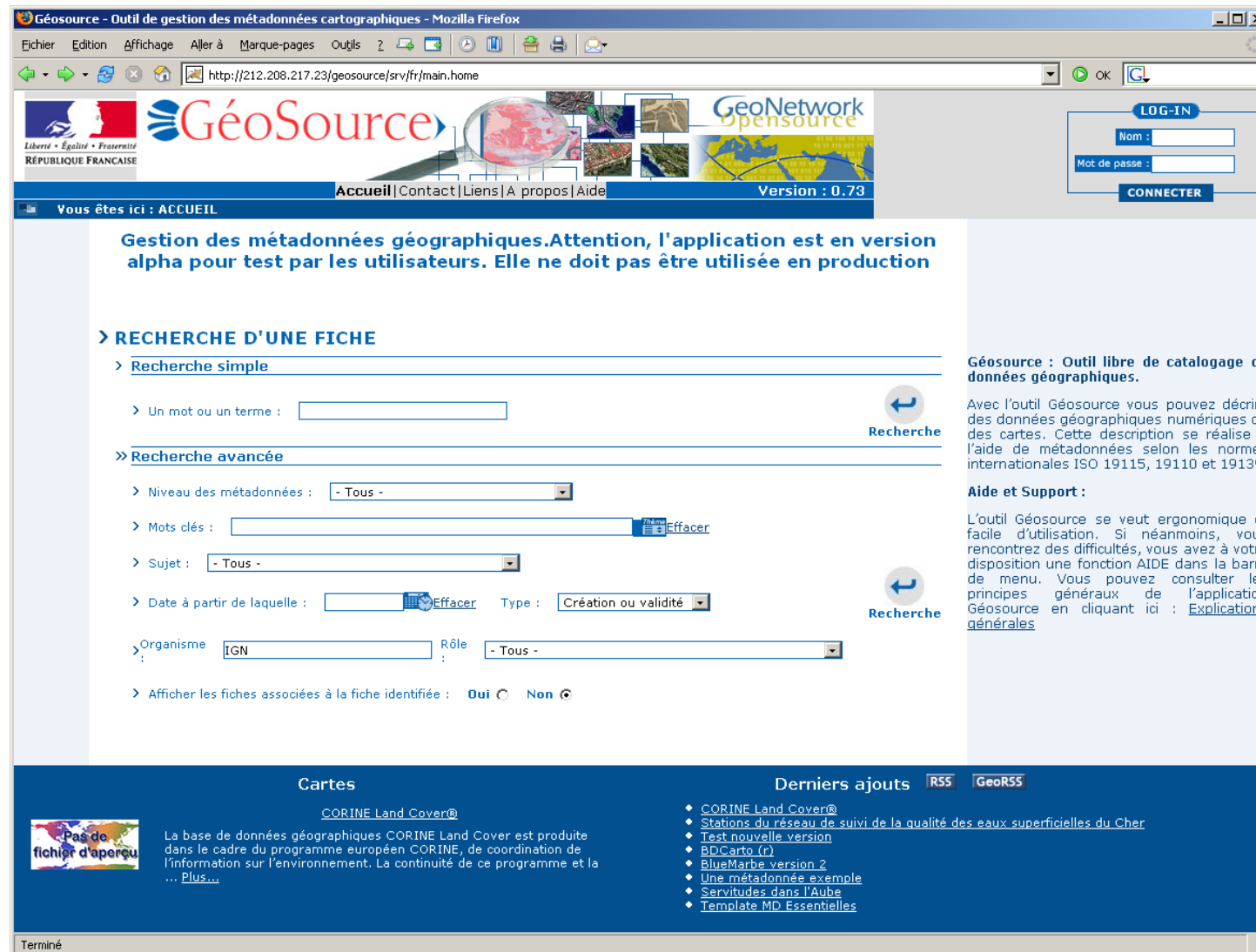


GeoSource V2 Project



- Initiated by the **Direction Générale de la Modernisation de l'Etat** (DGME - “eGouvernement” project) then taken over by the Ministère de l'Écologie, de l'Énergie du Développement durable et de l'Aménagement du territoire (MEEDDAT)
- Deployed by the Bureau de Recherche Géologique et Minière (BRGM)
- **Purpose** : to offer administrations and public departments a metadata cataloging solution that is interoperable, compatible with INSPIRE directive, and that can be easily deployed
- **A first version available at the end of 2007**
 - ✓ Because of budget and planning constraints
 - ✓ fork of GeoNetwork
 - ✓ that procure costly evolving maintenance
- December 2008: release of a **second version in order to converge towards GeoNetwork** (Camptocamp)

GeoSource Interface



GeoSource: version 2



- GeoSource V2 developments originate from the main GeoNetwork developments : Convergence
- The goal : **Implement GeoSource functionalities in GeoNetwork**
- **Separate GeoSource specificities** (FR profile of the ISO 19139 norm)
- **Create a French community within GeoNetwork**
- Gains :
 - ✓ **Resource sharing between French GeoSource community and world GeoNetwork community**
 - ✓ **Durability**
 - ✓ **Evolving and corrective maintenance**

Contributions of GeoSource to GeoNetwork

- GeoNetwork integration in process:
 - ✓ **improve existing massive actions on metadata search results** (i.e. delete, filter search...) - <http://trac.osgeo.org/geonetwork/wiki/SelectionManager>
 - ✓ **improve existing metadata import module by supporting XML copy/past insert, XML file insert and MEF file insert** - <http://trac.osgeo.org/geonetwork/wiki/MetadataImport>
 - ✓ **improve synergies between GeoSource (French community) and GeoNetwork project** (merge, documentation, communication,...) - http://trac.osgeo.org/geonetwork/wiki/Community_FR
- On-going projects for GeoNetwork & GeoSource
 - ✓ Complete support of the CSW spec 2.0.2 (March/April 2009)



geocat.ch project



geocat.ch II project



- Production of the **new version** of the Swiss GIS cataloging application (geocat.ch)
- **Project conducted** by Camptocamp, BRGM and Geocat BV following an World Commerce Organisation call for bids.



- Project supported by the **Swiss Federal Office of Topography** (swisstopo)
- **Project based on GeoNetwork**



geocat.ch II – Context



- geocat.ch I replacement because of
 - ✓ **Technical problems**
 - ✓ **Difficulties to extent**
- Improvements
 - ✓ **Simplify Input interface**
 - ✓ **Integrate Web « Mapping » Services metadata (OWS metadata)**
 - ✓ **New cataloging possibilities**
- **Interoperability** (INSPIRE, OGC, ISO)
- Presence and participation within a **community of users**
- **Potential re-use** of the developments by partners
- Integration within the Swiss FSDI (Federal Spatial Data Infrastructure)

geocat.ch II contribution to GeoNetwork



■ Multi-language metadata

- ✓ ISO19139 norm compliant

■ Xlink support

- ✓ iterative data management to avoid redundancies
- ✓ allows elements to be inserted into XML documents in order to create and describe links between resources

■ Masking of metadata components

- ✓ Possibility to mask metadata to some user categories with XPath.

■ Complex spatial queries

- ✓ Integration of spatial queries with Geo Tools / JTS

■ OpenLayers / Mapfish integration

- ✓ Advanced GeoNetwork viewer using ExtJS

geocat.ch II: search



geocat.ch
geographic catalogue

Accueil | Contact | Liens | A propos | Aide

English | Français | Deutsch | Italiano

Nom d'utilisateur: admin Mot de passe: ***** Connecter

Recherche libre: lac

Type: - Tous -

Nombre de résultats: 1-10 / 32 [Next](#)

Trier par: Date de mise à jour

refineSearch.title

titles

- [graphe de l'eau \(2\)](#)
- [atlas de l'approvisionnement en eau \(1\)](#)
- [atlas de la suisse 2 \(1\)](#)
- [cadastre de limitation d'obstacle - couloirs \(1\)](#)
- [cadastre de limitation d'obstacle - côtes d'altitude maximum des obstacles - surfaces \(1\)](#)
- [carte aéronautique oaci 1:500 000 \(1\)](#)
- [carte d'excursions serie «t» 1:500 000 \(1\)](#)
- [carte des biens culturels 1:300 000 \(1\)](#)
- [carte des communes 1:300 000 \(1\)](#)
- [carte des obstacles à la navigation aérienne 1:100 000 \(1\)](#)

resolution

- [2000 \(1\)](#)
- [5000 \(2\)](#)
- [10000 \(2\)](#)
- [25000 \(3\)](#)
- [100000 \(3\)](#)
- [200000 \(1\)](#)
- [500000 \(1\)](#)

Mots-clés

- [lac \(18\)](#)
- [cartographie \(12\)](#)
- [cours d'eau \(12\)](#)
- [rivière \(12\)](#)
- [noms de cours d'eau \(11\)](#)
- [noms de lieu, toponyme \(11\)](#)

Logo **SITE MARÉCAGEUX DU LAC DE LUSSY**

Résumé Protection, végétation et informations pratiques autour du Lac de Lussy

Mots-clés végétation, marais, haut-marais, tourbière, lac, protection, bas-marais, site marécageux

Logo **RÉSERVES NATURELLES SUR LA RIVE SUD DU LAC DE NEUCHÂTEL**

Résumé Réserves naturelles de la rive sud du Lac de Neuchâtel. Le règlement du 6 mars 2002 accompagnant le plan d'affectation cantonal des réserves naturelles sur la rive sud du lac de Neuchâtel (FR) ainsi que le règlement du 25 mars 2002 concernant la décision de classement des réserves naturelles de la rive sud du lac de Neuchâtel (VD) sont consultables auprès du Bureau de la protection de la nature.

Mots-clésGrande Cariçaie, roselière, marais, Rive sud du Lac de Neuchâtel, réserve naturelle, aménagement du territoire, biotope, protection, nature

Logo **MNA RELIEF OMBRE LAC**

Résumé MNA relief ombré lac Date d'acquisition : 2005 Méthode d'acquisition : Calcul à partir du GRID lac Taille du pixel (résolution) : 5 m Nombre de bits : 8, unsigned integer Valeur du pixel : code couleur RGB en fonction de l'orientation, de la pente et d'une source d'éclairage Précision planimétrique/altimétrique : - / -

Mots-clésMNT

<http://www.sitg.ch>

Logo **CARTE DES BIENS CULTURELS 1:300 000**

Résumé Carte des biens culturels 1:300 000: Monuments historiques et architecturaux de la Suisse. Biens culturels d'importance nationale. Répertoire des biens culturels avec leurs coordonnées pour la recherche. 74 cartes de détail à grandes échelles. La carte et le livret d'accompagnement sont vendus ensemble dans un étui.

Mots-clésCartographie, Représentation du terrain, Noms de lac, Noms de cours d'eau, Archéologie, Archeologie, Noms de lieu, toponyme, Kapelle, Chapelle, Chapel, Situation, Kirche, Eglise, Church, Lac, Altstadt, Vielle ville, Old town, Schloss, Château, Castle, Rivière, Localités, Cours d'eau, Limites d'état

[toposhop](#)

Logo **CARTE AÉRONAUTIQUE OACI 1:500 000**

Résumé Carte aéronautique OACI 1:500.000: Carte aéronautique officielle de la Suisse. Aéroports et aérodromes

Rechercher

Avancée



geocat.ch II: display

The screenshot displays the geocat.ch website interface. At the top, the logo 'geocat.ch' and 'geographic catalogue' are visible, along with navigation links and a language selector (English, Français, Deutsch, Italiano). The user is logged in as 'admin admin'. The main content area shows a search result for 'ZONES DE DANGERS DUES AUX CRUES'. A metadata window is open, displaying the following information:

- Distribution**
- Information sur la distribution**
- Format de diffusion**
- Format**
- Nom: Shape file
- Version: Sur demande
- Options du transfert**
- Options pour le type de transfert**
- Sources on-line**
- Accès En Ligne: <http://www.sitg.ch>

The search results on the right side of the page include:

- titles**
- [couverture du sol domaine routier par revêtement niveau i en dessous du sol](#) (3)
- [ecomorphologie des cours d'eau](#) (3)
- [bedeutende entnahme aus umweltsicht](#) (2)
- [carte des sols du vignoble genevois](#) (2)
- [gewässer \(openstreetmap.org\)](#) (2)
- [globally threatened species of the world](#) (2)
- [graphe de l'eau](#) (2)
- [hydrants](#) (2)
- [natural polar ecosystems](#) (2)
- [points d'exercices pour pompage dans les cours d'eau](#) (2)
- resolution**
- [0](#) (2)
- [1](#) (3)
- [25](#) (2)
- [500](#) (2)
- [1000](#) (7)
- [2000](#) (25)
- [5000](#) (41)
- [10000](#) (50)
- [12500](#) (1)
- [15000](#) (1)
- Mots-clés**
- [administratif](#) (133)
- [suisse](#) (83)
- [route](#) (79)
- [trafic](#) (78)
- [neuchâtel](#) (77)

At the bottom of the page, there is a 'camp to camp' logo.

geocat.ch II: service metadata



The screenshot displays the geocat.ch geographic catalogue interface. At the top, the logo 'geocat.ch' and 'geographic catalogue' are visible. The navigation bar includes links for 'Accueil', 'Contact', 'Liens', 'A propos', and 'Aide', along with language options for 'English', 'Français', 'Deutsch', and 'Italiano'. The search bar contains the text 'wms' and a dropdown menu for 'Type' set to '- Tous -'. A 'Rechercher' button is present below the search bar. The main content area shows a list of search results, each with a 'Logo' icon, a title, a 'Résumé', 'Mots-clés', a 'modified' date, and a 'thumbnail' button. The first result is 'BUNDESAMT FUER UMWELT (BAFU), SCHWEIZ - WMS DIENST'. The second is 'WEITERE ENTNAHME' with a 'Résumé invent_ent_andere_weitere (abstract)'. The third is another 'WEITERE ENTNAHME' with a 'Résumé invent_ent_andere_weitere (abstract)'. The fourth is 'SRTM 90M' with a 'Résumé SRTM 90m (abstract)'. A map is displayed on the left side of the interface, showing a geographical area with various features and markers. A 'Layer Tree' dialog box is open over the map, showing a list of layers: 'Background', 'Weitere Entnahme', and 'invent_ent_andere_weitere'. The 'Weitere Entnahme' layer is selected, and a context menu is open over it, showing options: 'Zoom sur l'emprise', 'Opacité', and 'Supprimer'. The 'Opacité' option is currently selected. On the right side of the interface, there is a 'refineSearch.title' section with a list of titles, including 'bedeutende entnahme aus umweltsicht (2)', 'gewässer (openstreetmap.org) (2)', 'weitere entnahme (2)', 'alpenkonvention (1)', and 'amphibien gehören mit zu den gefährdetsten tierarten der schweiz, weil geeignete lebensräume fehlen, um die stark bedrohten amphibien-bestände zu erhalten beziehungsweise wiederherzustellen wurde das bundesinventar der amphibienlaichgebiete von nationaler bedeutung (ianb) erstellt. aus 8'000 reichgewässern wurden 889 besonders wichtige selektioniert, die umsetzung des inventars obliegt den kantonen. sie müssen auch dafür sorgen, dass durch regelmässige pflege, die den amphibien entsprechende qualität der objekte erhalten bleibt. (1)'. Below the titles, there is a 'Mots-clés' section with a list of keywords: 'inventar (12)', 'bundesamt fuer umwelt (6)', and 'restwasser (6)'. The 'camp to camp' logo is visible in the bottom right corner.

Conclusion

- Efficiently harmonize the Open Source community dynamics with the development requirements of an application
- Implementation of high standards (project methodology)
 - ✓ **Community project management culture**
 - ✓ **Ability to identify** the project generic functionalities than can and should be Open Source
 - ✓ **Methodology** to manage the project specificities based on major Open Source developments
 - ✓ **Follow development and quality process methodologies complying with the Open Source community**
 - ✓ **Necessity to communicate** with the user community (project life cycle)
 - ✓ **Compatibility between « Project » planning and “Open Source component” planning** (without being identical)
 - ✓ **Administration system know-how**
 - A project infrastructure in tune with the Open Source project infrastructure
 - Versioning automation