



# Open Source Geospatial and the OSGeo Foundation

British Computing Society  
Geospatial and Open Source  
Specialist Groups 22<sup>nd</sup> January 2009

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# Part 1: Introduction



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“ Open source is a development method for software that harnesses the power of distributed peer review and transparency of process. ”

The OpenSource Initiative <http://www.opensource.org/>



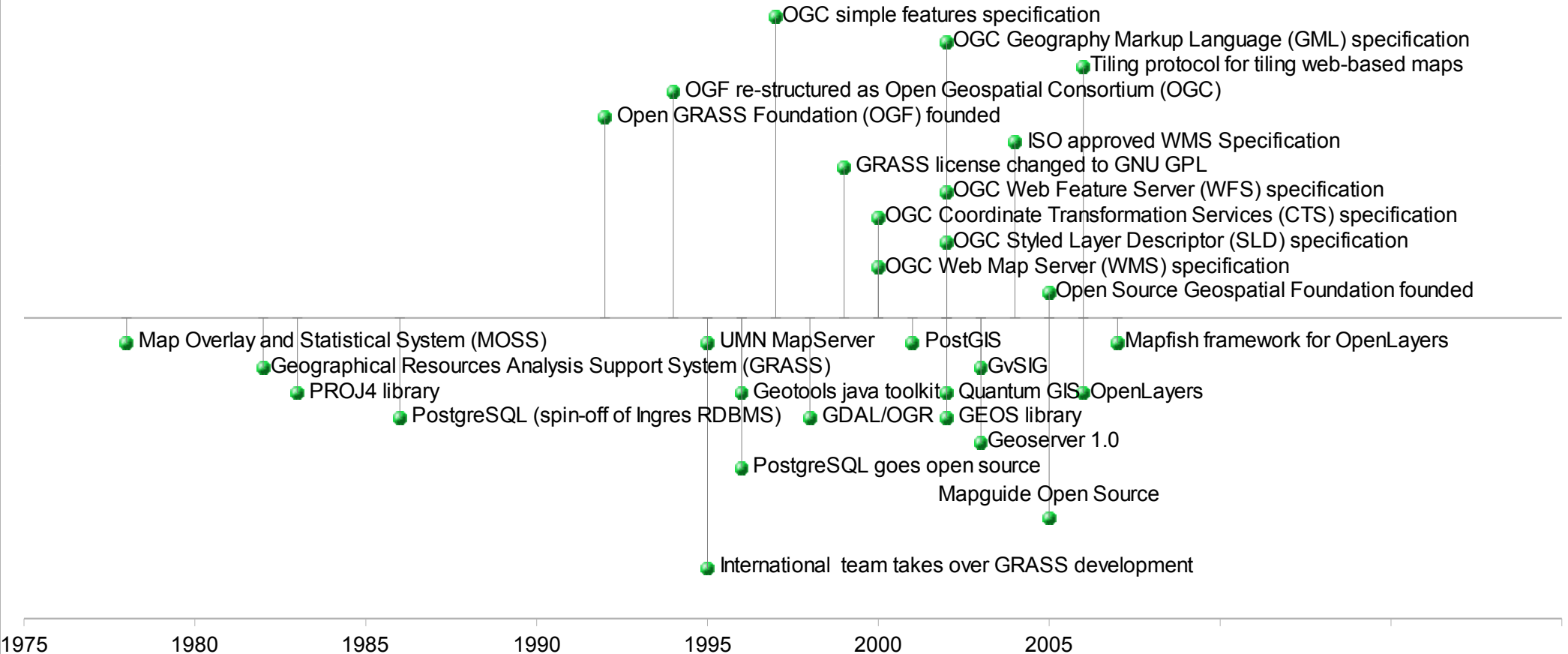
© Henri Moltke

“ The promise of open source is better quality, higher reliability, more flexibility, lower cost, and an end to predatory vendor lock-in. ”

The OpenSource Initiative <http://www.opensource.org/>

# Open source GIS timeline

(based on [http://wiki.osgeo.org/wiki/Open\\_Source\\_GIS\\_History](http://wiki.osgeo.org/wiki/Open_Source_GIS_History))



# Support and standards

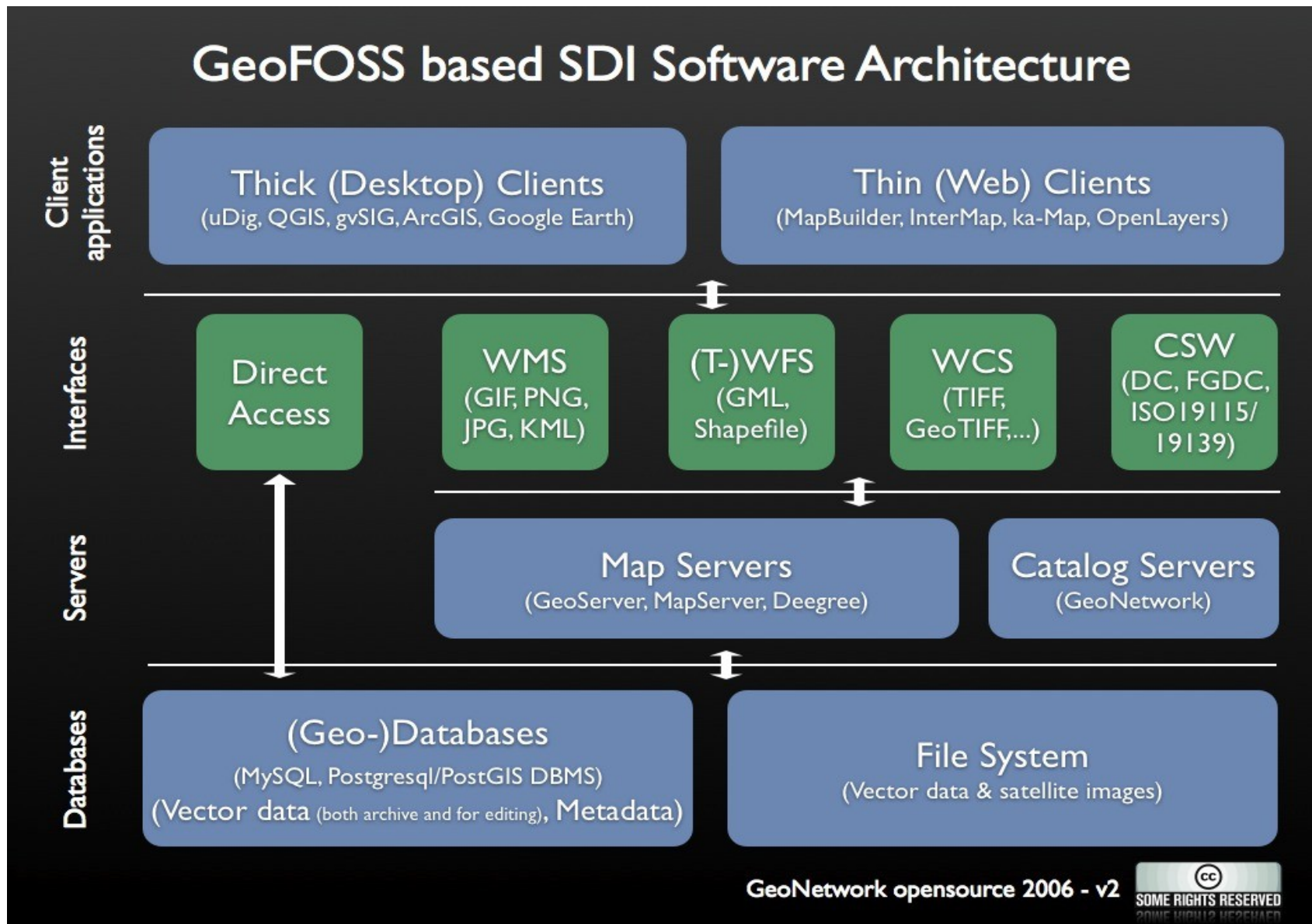


# Current state of play



4.6m lines of code  
182 contributors  
1,253 person-years  
\$69,000,000  
(as of FOSS4G 2007- T Mitchell)

# The Open Source Geospatial Stack



# PostgreSQL and PostGIS

File Edit View Go Bookmarks Tools Help

http://casoilresource.lawr.ucdavis.edu/soil\_web/ssurgo.php?action=explain\_cr Go

## California Soil Resource Lab

Typical profile.

**Soil Taxonomy**

**Order:** *Alfisol*  
**Suborder:** *Xeralfs* [Map of Suborders]  
**Greatgroup:** *Durixeralfs*  
**Subgroup:** *Typic Durixeralfs*  
**Family:** *Fine, kaolinitic, thermic Typic Durixeralfs*  
**Phase:** *SAN JOAQUIN SANDY LOAM, SHALLOW, 0 TO 3 PERCENT SLOPES*  
**Soil Series:** *SAN JOAQUIN* (Link to Official Series Description)

**Data:** [Lab Data] [Nitrate Groundwater Pollution Hazard Index]

**Land Classification**

<b>Storie Index</b>	23
<b>Land Capability Class [non-irrigated]</b>	4-s8
<b>Land Capability Class [irrigated]</b>	4-s8

**Soil Suitability Ratings**

Waste Related	Engineering
Urban/Recreational	Irrigation
Wildlife	Runoff

**Erosion**

<b>Wind Erodibility Group</b>	3
<b>Wind Erodibility Index</b>	0
<b>T Erosion Factor</b>	1
<b>Runoff</b>	Very high
<b>Drainage</b>	Moderately well drained
<b>Parent Material:</b>	granitic alluvium

**Geomorphology**

<b>Landscape</b>	valley
<b>Landform</b>	fan remnant

Queried map unit outlined in blue.

Orgnaic Matter (%)	Percent Clay	Percent Sand	Permeability (cm/s)	pH (1:1 H <sub>2</sub> O)
0 0.75	15 42.5	28 66	0 9	6.1 6.7
0cm	0cm	0cm	0cm	0cm
38cm	38cm	38cm	38cm	38cm
76cm	76cm	76cm	76cm	76cm
114cm	114cm	114cm	114cm	114cm
152cm	152cm	152cm	152cm	152cm

Done

Example of PostgreSQL/Postgis working together, providing soil information from the California Soil Resources Lab

# Map Servers

The screenshot displays a web browser window titled "[ogcviewer.EAUFRANCE.FR:GeoViewer] :: - Mozilla Firefox". The address bar shows the URL "http://sandre.eaufrance.fr/geoviewer/?lang=en#". The browser's toolbar includes navigation buttons (back, forward, home, stop, refresh) and search engines (Google, mapperserver). The page content features the Sandre logo and navigation links (GOTO, SELECT DATASETS, WMSBROWSER, HELP). A map of France is shown, with a detailed view of a region. On the right, a "SELECT DATASETS" panel lists various data layers with checkboxes. The bottom of the browser shows the Windows taskbar with the start button, taskbar icons, and system tray showing the time as 13:22.

**SELECT DATASETS**  
Select reference dataset on the water domain in France. Are available : monitoring stations, infrastructure, protected area, ... ?

- Marine water : quality
- Ground water : quality
- Ground water : quantity
- Pluviometry

**INFRASTRUCTURES**

- Harbour
- Waste water traitement plant
- Etablissements industriels ayant un rejet dans l'eau

**AREA (PROTECTED, ADMINISTRATIVE, ...)**

- River basin agency catchements
- Bassins DCE
- Zones réglementaires et de programmation
- Hydrography
- Hydrogeology
- Marine

**CARTE DE FOND**

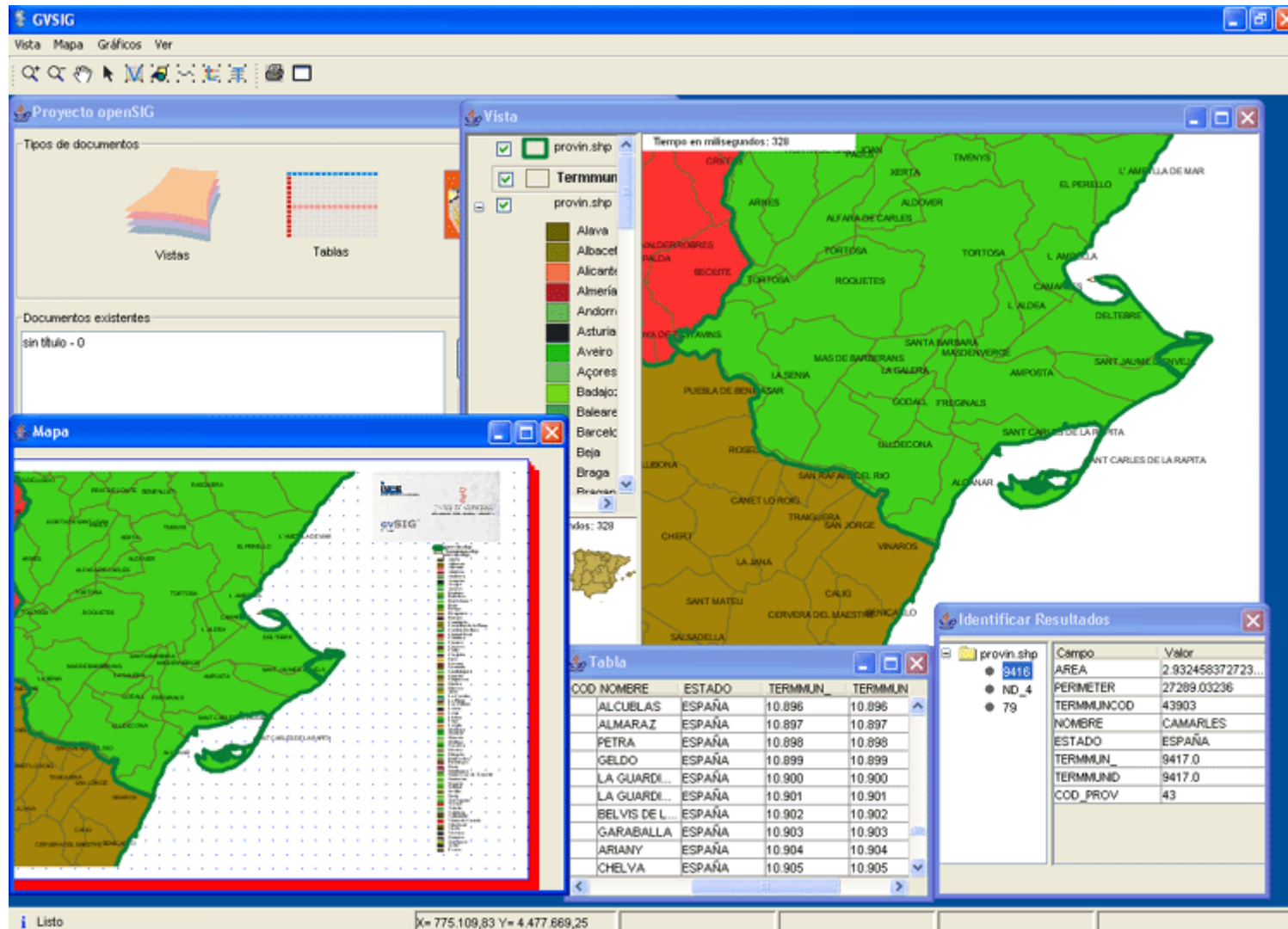
- Administrative area BDCarto / Scan 25 (Source IGN)
- Satellite images : Image 2000 (source JRC)
- Digital elevation model (source GTOPO30)
- Geology (source BRGM)

**WMS LAYERS**

- WMS layers

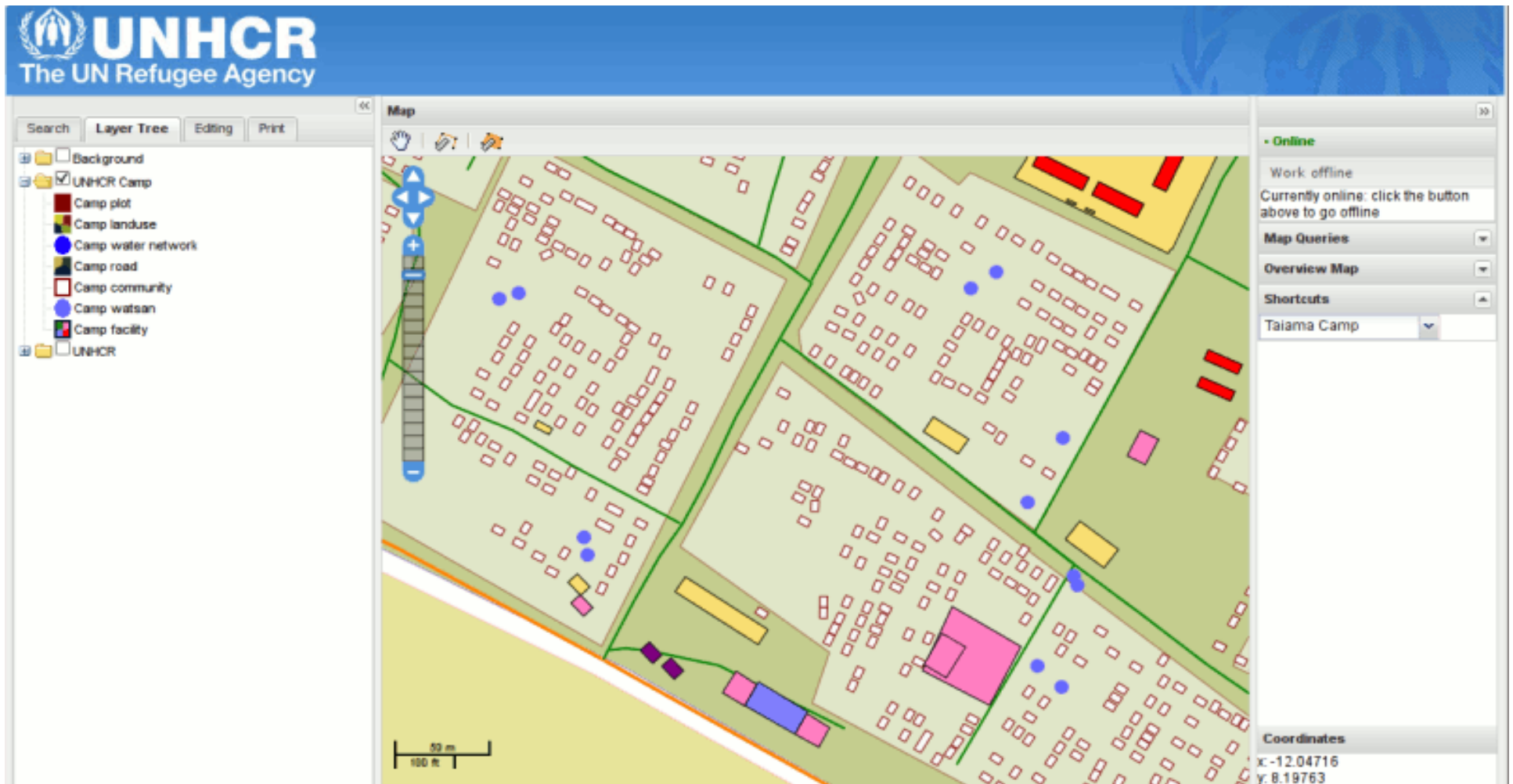
An example of a basic mapserver-driven website from sandre.eaufrance.fr

# Desktop GIS



Screenshot of GvSIG showing vector capabilities and attribute data

# Web-based GIS



Mapfish/OpenLayers powered site from the UNHCR

# OpenOffice Base

public.proj\_locs - oaedbf - OpenOffice.org Table Data View

File Edit View Insert Tools Alfresco Window Help

gid	report_num	author	report_tit	published	parish	site_code	period	eastings	northings	pdf	the_geom	geom_google
12	B19	Bray, S.	Land off Ounc	19980201	Alw Walton	ALW OR 98	No Archae	513700	295840		01010000203	010100002031B
13	72	A Taylor	A Roman Leac	19921208	Arrington	ARR RCB 90	Roman	532690	250490		01010000203	010100002031B
15	49	G Wait	Fleam Dyke: I	19920302	Balsham	BAL FD 91	Anglo-Saxi	554100	254800		01010000203	010100002031B
16	58	T Reynolds	A Buried Prehi	19920930	Barnack	BAR Q 92	prehistoric	505700	306800		01010000203	010100002031B
17	19	T Malim	Barrington An	19920603	Barrington	BA EH 88-91	Anglo-Saxi	537460	249590		01010000203	010100002031B
18	A101	J Roberts	Medieval Occu	19961108	Barrington	BAN CG 96	medieval	539900	250000		01010000203	010100002031B
19	92	T Malim	Anglo-Saxon	19931202	Barrington	BA EH 88-91	Anglo-Saxi	537460	249590		01010000203	010100002031B
20	12	T Malim	Anglo-Saxon	19921208	Barrington	BA EH 88-91	Anglo-Saxi	537460	249590		01010000203	010100002031B
21	B31	W Wall & S	Back Orchard,	19980101	Bassingboi	BAS BO 98	medieval,	533500	244100		01010000203	010100002031B
22	1	T Malim	Bluntisham, B	19920603	Bluntisham	BLU BF 88	multi-perio	535900	272800		01010000203	010100002031B
23	B36	T. Way	Archaeology	19981001	Borough	BUJ GTH 98	post-medie	563500	255600		01010000203	010100002031B
24	B5	Judith Robi	Bourn Hall, Bo	19970401	Bourn	BOU BH 97	No Archae	532190	256240		01010000203	010100002031B
25	16	T Malim	Brampton 199	19921222	Brampton	BRA A1M1 90	undated	520400	271600		01010000203	010100002031B
26	A21	K Welsh	A Beaker Pit	19930101	Brampton	BRA PR 93	Bronze Ag	520250	270850		01010000203	010100002031B
27	A121	T Way	Palaeo Chann	19971125	Brampton	BRA PK 97	medieval	520100	270900		01010000203	010100002031B
28	81	T Malim and	Neolithic Ditch	19930406	Brampton	BRA TR 92	Neolithic,	520100	271500		01010000203	010100002031B
29	B28	S.N. Kemp	Archaeologica	19980101	Buckden	BUC GL 98	medieval	519340	267460		01010000203	010100002031B
30	A46	J Roberts	19th Century E	19951221	Buckden	BUC SMC 95	post-medie	519200	267650		01010000203	010100002031B
31	11	W Horton	Watching Brie	19920603	Buckden	BUC	modern	519215	267885		01010000203	010100002031B
32	A88	S Kenney	Post medieval	19960712	Burwell	BUR LR 95	post-medie	558520	266780		01010000203	010100002031B
33	116	S Kenney	Roman and Le	19960831	Burwell	BUR LR 96	Roman	558610	266820		01010000203	010100002031B
34	A176	R Casa Hat	Church Lane,	20010307	Bury	BUY CH 01	medieval	528750	283750		01010000203	010100002031B
35	125	N Oakley	Iron Age and	19960207	Caldecote	CAL HF 96	Iron Age,	534900	258300		01010000203	010100002031B
36	144	S Leith	Late Iron Age	19971113	Caldecote	CAL HF 96 II	multi-perio	534900	258300		01010000203	010100002031B
37	178	J. Abrams	Iron Age Pits:	20010122	Caldecote	CAL PS 00	Iron Age	535000	258640	\\ccc.ce	01010000203	010100002031B
38	B50	C. Duhig ar	Report on Hur	19990614	Cambridge	CAM	prehistoric	543570	258010		01010000203	010100002031B
39	A160	A. Connor	Middle Iron Ag	20000901	Cambridge	CAM GR 00	Iron Age	544700	259900		01010000203	010100002031B
40	177	A. Hattton	A Medieval dit	20010601	Cambridge	CAM HR 00	medieval	544500	254650	\\ccc.ce	01010000203	010100002031B
41	A171	S. P. Macca	Post Med Rerr	20001101	Castle Car	CAM CF 00	post-medie	562640	242440	\\ccc.ce	01010000203	010100002031B
42	138	Richard He	Chesterton Pe	19970508	Cambridge	CAM CP 97	multi-perio	547500	261500		01010000203	010100002031B
43	A78	J Roberts	The Castle Inr	19960128	Cambridge	CAM CPUD 94	medieval,	544551	259131		01010000203	010100002031B
44	A15	S Bray	An Archaeolog	19990601	Cambridge	CAM EL 93	post-medie	544950	258580		01010000203	010100002031B
45	A158	A. Connor	Middle Iron Ag	20000603	Cambridge	CAM GR 00	Iron Age	546710	255880		01010000203	010100002031B
46	A155	J. Roberts	90, Glebe Rd.	20000215	Cambridge	CAM GR 00/I	multi-perio	546710	255880		01010000203	010100002031B
47	B81	R Casa Hat	Howe's Close,	20010404	Cambridge	CAM HC 01	No Archae	543150	260550		01010000203	010100002031B
48	17	G Lucas	St Mary-the-L	19920601	Cambridge	CAM SM 90	post-medie	544860	257990		01010000203	010100002031B
49	4	T Malim	Kings Ditch, C	19920603	Cambridge	CAM KD 89	post-medie	545080	258250		01010000203	010100002031B
49	176	J. Abrams	Prehistoric Fie	20010424	Cambridge	CAM LR 00	prehistoric	545940	255420		01010000203	010100002031B
50	A43	K Welsh	18th Century	19941207	Cambridge	CAM OA 94	post-medie	545100	257870		01010000203	010100002031B
51	A89	S Leith	An Archaeolog	19960101	Cambridge	CAM PS 96	post-medie	546290	255700		01010000203	010100002031B
52	2	T Malim	Archaeologica	19920603	Cambridge	CAM SB 88	post-medie	544800	258300		01010000203	010100002031B
53	A189	S N Kemp	Archaeologica	20010801	Cambridge	CAM SB 01	post-medie	544850	258280	\\ccc.ce	01010000203	010100002031B
54	24	B Robinson	Shire Hall Car	19910809	Cambridge	CAM SHCP 91	Romano-Bi	544620	259280		01010000203	010100002031B
55	B46	S. Cooper	Land Adjacent	19990514	Cambridge	CAM WS 99	post-medie	546800	259900		01010000203	010100002031B
57	147	M Hinman	Prehistoric Re	19980302	Cambridge	CAM BAB 98	prehistoric	547700	254600		01010000203	010100002031B
58	194	Joe Abram:	Late Saxon &	20001208	St Ives	STI GE 00	Saxon, me	531030	272140	\\ccc.ce	01010000203	010100002031B
59	A113	S Macaulay	Roman, Late	19970617	Castor	CAS CL 97	multi-perio	512260	298770		01010000203	010100002031B
60	A164	A. Hattton	Later Roman F	20010122	Castor	CAS PS 00	Roman	512460	298430	\\ccc.ce	01010000203	010100002031B
61	B75	J. Abrams	35, Peterboro	20000901	Castor	CAS RH 00	undated	512480	298350		01010000203	010100002031B
62	B9	W Wall	Castor Primar	19970101	Castor	CAS PS	Roman	512500	298500		01010000203	010100002031B
63	30	L Hoyland	Field 6700, C	19910926	Catworth	CAT	medieval	508640	274960		01010000203	010100002031B
64	A129	Connor, A	Medieval Feat	19980427	Chatteris	CHA SP 97	medieval	539300	285700		01010000203	010100002031B
65	B65	J. Roberts	Land to the N	19991203	Chatteris	CHA DR 99	No Archae	539170	286900		01010000203	010100002031B
66	184	S Kenney	Roman and ur	20010103	Linear	BOU CH PL 00	Roman	533695	295879	\\ccc.ce	01010000203	010100002031B
67	B56	S. N. Kemp	Archaeologica	19990831	Chatteris	CHA HF 99	post-medie	543100	289100		01010000203	010100002031B
68	B57	S. N. Kemp	Archaeologica	19990831	Chatteris	CHA HF 99	post-medie	543000	288600		01010000203	010100002031B
69	A151/1	J. Roberts	Land to the N	19991109	Chatteris	CHA H5 99	multi-perio	539500	286100		01010000203	010100002031B
70	A153	J. Roberts	Late Bronze A	20000218	Chatteris	CHA H5 99	Bronze Ag	539500	286100		01010000203	010100002031B

Record 1 of 60 \*

Spatial data from PostgreSQL viewed in OpenOffice Base

# Part 2: Case-Study

# Commercial archaeology: A misnomer?



© Oxford Archaeology

Demanding requirements (lots of data, high-level analytical requirements, difficult working conditions)

...but...

financially unattractive to software companies

# Oxford Archaeology: An open approach

Open access to data

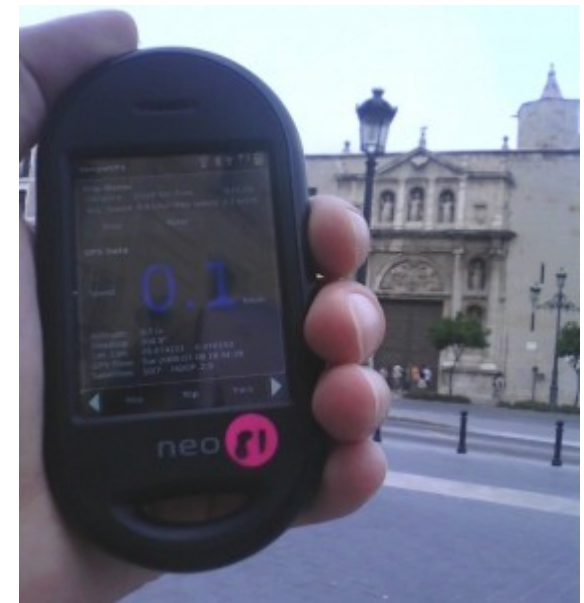
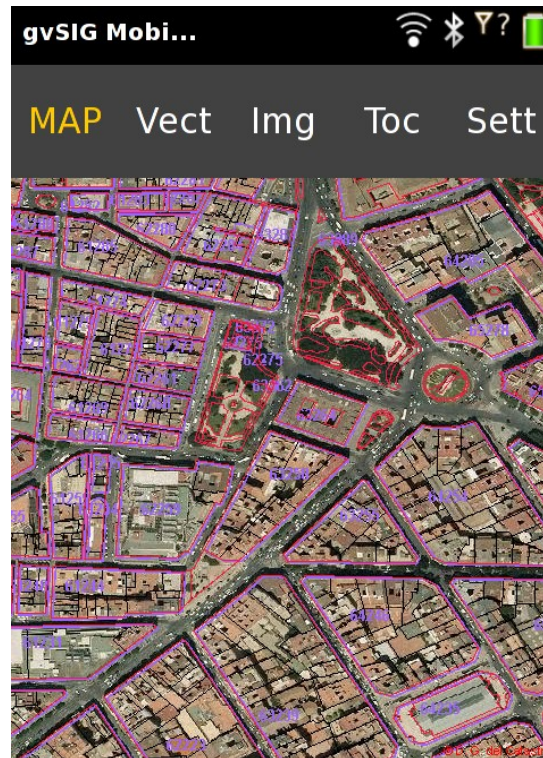
Open standards for file formats

Open source software

# Opportunity and diversification: Consultancy



# Opportunity and diversification: Hardware



© Juan Lucas Domínguez Rubio

The openmoko phone, with flexible keyboard, showing mobile GIS and GPS capabilities

# Opportunity and diversification: Software



# Part 3: OSGeo



# What OSGeo can do for you: Developers

- Provide resources
- Quality assurance
- Support use and contribution from the worldwide community
- Encourage communication and cooperation between communities on different language and operating system platforms

# What OSGeo can do for you: Users

- Promote the use of open source software in the geospatial industry
- Make software more accessible to end users
- Promote freely available geodata
- Provide support for the use of OSGeo software in education

# What OSGeo can do for you: FOSS4G



FOSS4G2007



JOIN US IN BEAUTIFUL VICTORIA CANADA 



2008 FREE AND OPEN SOURCE  
SOFTWARE FOR GEOSPATIAL CONFERENCE



Free and Open Source Software  
for Geospatial



# Local chapters for local people

The screenshot shows a Mozilla Firefox browser window displaying the OSGeo Wiki page for Japan. The browser's address bar shows the URL <http://wiki.osgeo.org/wiki/Japan>. The page content includes a navigation menu on the left with links like 'Main Page', 'Community portal', and 'Current events'. The main content area features a 'Contents' table of contents with 11 numbered items, including 'OSGeo財団日本支部のページ' and 'About Japan OSGeo'. Below the table of contents is a section titled 'OSGeo財団日本支部のページ' with a paragraph of Japanese text and a list of bullet points detailing localization goals.

Japan

Contents [hide]

- 1 OSGeo財団日本支部のページ
- 2 日本支部のニュース
- 3 日本支部のイベント
- 4 日本支部のメーリングリスト
- 5 日本支部の発起人
- 6 日本支部の連絡先
- 7 About Japan OSGeo
  - 7.1 Mission
  - 7.2 Objectives
- 8 Legal Status
- 9 Initial Membership
- 10 Site Layout
- 11 Links

**OSGeo財団日本支部のページ**

近年、オープングローバルなコラボレーションを通じ、オープンソースソフトウェアが、より強力なソフトウェアとなるための環境が整備されつつあります。その中で、この度、最も高い品質を持つ地理空間のためのソフトウェアの開発とサポートのためにOpen Source Geospatial Foundation(OSGeo:オープンソース地理空間財団)が設立されました。この財団の最終目的は、コミュニティ主導プロジェクトにおける相互利用と共同開発を支援・促進することです。これに加え、"OSGeo-Japan"の設立は、オープンソース地理空間ソリューションにおける分散イノベーションを促進するという、もう1つの画期的な面をもたらす。また、"OSGeo-Japan"が、日本だけでなくアジアの地域におけるユーザーのニーズに対応するための主導的な役割を果たすことも願っています。"OSGeo-Japan"は"OSGeo"に対する窓口であると共に、独自でオープンソース地理空間のイニシアティブを高め、強化するための次の作業をも進めていきたいと思っています。

- \* 各種ソフトウェアの国際化と地域対応。
- \* 地域の利用者へのオープンソース地理空間の可能性を示すためのプロトタイプアプリケーションの開発。
- \* 地域の必要に応じたソフトウェアパッケージングおよびカスタマイズ。
- \* 地域の言葉でのトレーニング、サポートおよびeラーニングコンテンツの開発。
- \* 地域における地理空間データに対するオープンスタンダードとオープンアクセスの提供。

The japanese language chapter: providing localisation of OSGeo software

# UK local chapter: Now official!

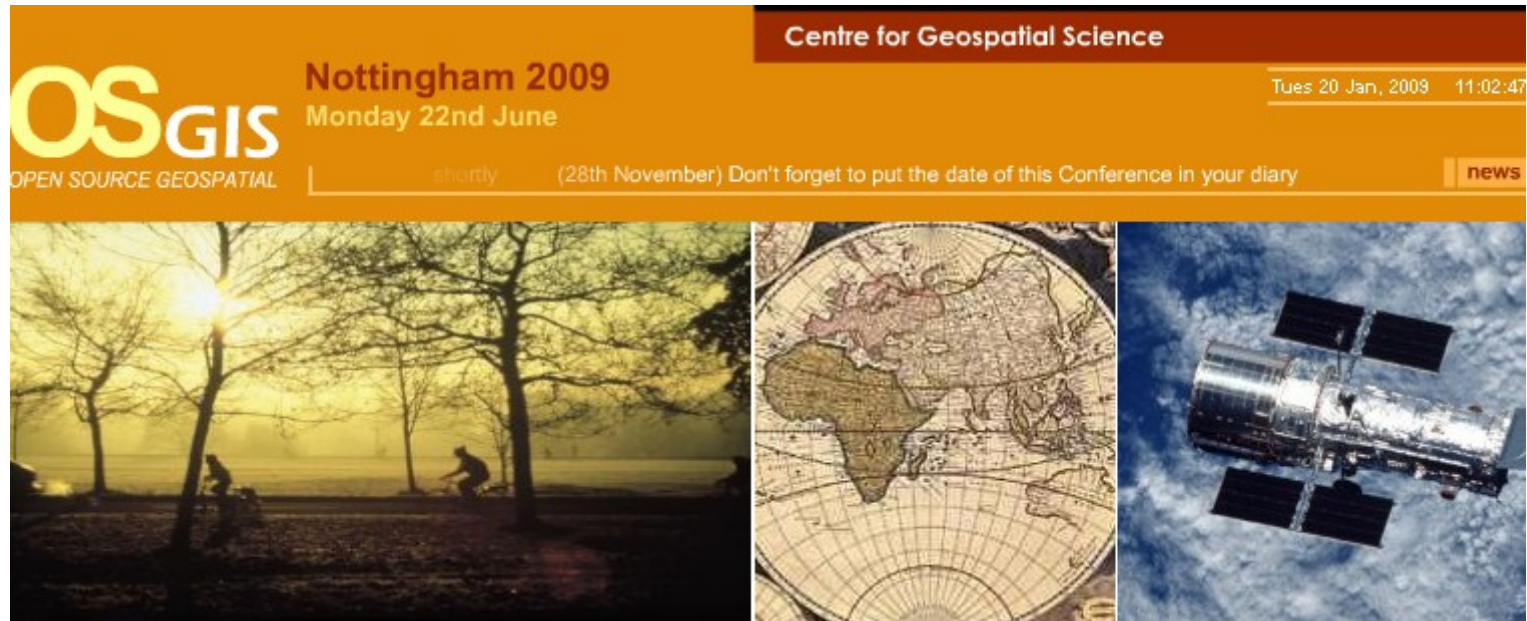
## Objectives:

- Provide a forum for discussion and promotion of open source geospatial software in the UK, and provide networking opportunities for developers and users
- Help more UK organisations discover the opportunity of open source geospatial tools, and collate business studies of successful transitions
- Raise awareness of the benefits of public access to geodata in the UK by collating links to sources of legitimate free data

In addition we would like to work towards the following:

- A fully-featured open access UK SDI
- Someday hosting the FOSS4G conference in the UK

# Open Source GIS in the UK, 2009



First Open Source GIS UK Conference

Centre for Geospatial Science, University of Nottingham

22nd June 2009

<http://www.opensourcegis.org.uk/>

# Thank You!

[oadigital.net](http://oadigital.net)  
[www.osgeo.org](http://www.osgeo.org)  
[wiki.osgeo.org/wiki/United\\_Kingdom](http://wiki.osgeo.org/wiki/United_Kingdom)

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