

WEB MAPPING TECHNOLOGY IN QGIS FOR CADASTRAL BOUNDARY

*R.Santhi Devi and **K. Umamageshwari,

*Associate Professor, Dept. of Geography, Bharathi Women's College (A), Chennai – 108.

**Asst. Professor, Dept. of Computer Science, Bharathi Women's College (A), Chennai – 108
santhidevig@gmail.com

Abstract—This paper brings about the High-resolution image data show a high level of detail and provided to use as base for modified cadastral map generation. After finalizing the cadastral boundary each FMB sketch join to each cadastral number. FMB boundary line drawn and matched with DGPS boundary line and all the co-ordinates data enclosed with appendix. Final RoR integrated shapefile used to Web Map Services. WMS is used to publish geospatial data on the web.

Key words: cadastral Boundary, web map and Geospatial

INTRODUCTION

Map production is the process of arranging map elements on a sheet of paper in a way that, even without many words, the average person can understand what it is all about. Maps are usually produced for presentations and reports where the audience or reader is a politician, citizen or learner with no professional background in GIS. Because of this, a map must be effective in communicating spatial information. Common elements of a map are the title, map body, legend, north arrow, scale bar, acknowledgment, and map border.

Web mapping is an excellent tool for uploading the GIS data to the web and making it available to other users. It is a very different method to create map than to create one in a GIS. GIS users are typically not web programmers and it is difficult to build a web map of the same standard as a map Generated in GIS. Fortunately, there are tools available for quick transplanted into web maps of your work in QGIS.

Web GIS in the cloud

Cloud mapping is now sold as a cloudbased software service by different companies.

These service providers allow users to build and share maps by uploading data (cloud storage) to their servers. The maps are either created using a browser editor or writing scripts that exploit the API's of service providers.

Web mapping technologies

Web mapping technologies require both server-side and client-side applications. The following is a list of technologies utilized in web mapping.

- Spatial databases are usually objected relational databases enhanced with geographic data types, methods, and properties. They are necessary whenever a web mapping application has to deal with dynamic data (that changes frequently) or with huge amounts of geographic data. Spatial databases allow spatial queries, sub-selects, reprojections, and geometry manipulations and offer various import and export formats. Post-GIS is a prominent example; it is open source. My SQL also implements some spatial features. Oracle Spatial, Microsoft SQL Server (with the spatial extensions), and IBM DB2 are the commercial alternatives. The Open Geospatial Consortium's (OGC) specification "Simple Features" is a standard geometry data model and operator set for spatial databases. Part 2 of the specification defines an implementation using SQL.
- Tiled web maps display in raster image "tiles".
- Vector tiles are also becoming more popular-- Google and Apple have both transitioned to vector tiles. Mapbox.com also offers vector tiles. This new style of web mapping is resolution independent, and has the advantage of dynamically showing and hiding features depending on the interaction.
- WMS servers generate maps using parameters for user options such as the order of the layers, the styling, and symbolization, the extent of the data, the data format, the projection, etc. The OGC standardized these options. Another WMS server standard is the Tilemap service. Standard image formats include PNG, JPEG, GIF and SVG. Open source WMS Servers include UMN Mapserver, Geoserver and Mapnik. Commercial

alternatives exist from most commercial GIS vendors, about web mapping libraries. When a user clicks on we such as ESRI ArcIMS and CadCorp. In this web map want an info-window to display useful information about Process of Creating layers and uploading maps, all steps the map. This information is already present in the attribute table of the layers. Right-click on the layer and select Properties.

Procedure

Step I

Open QGIS and go to Layer ▶ Add Vector Layer. Browse to the location of the downloaded file and select

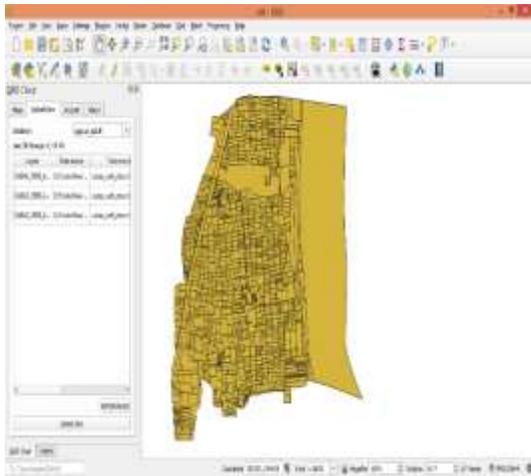


Figure.1 Add vector layer

Step 2

Open attribute table

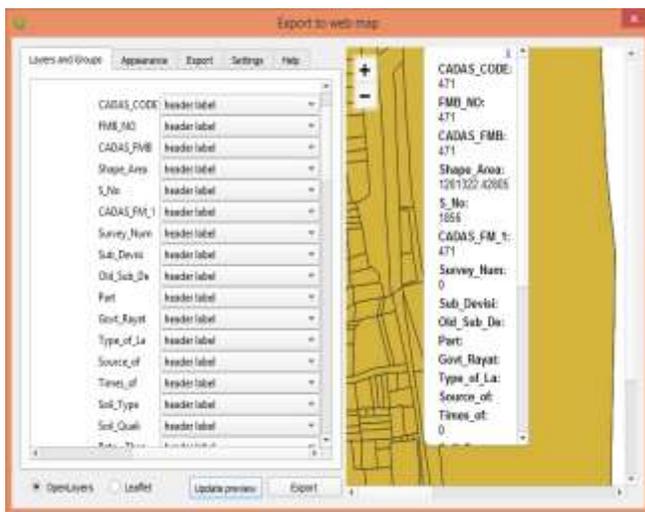


Figure.2 Add vector layer table

We will now create a map in QGIS that looks and behaves just like we would like in the web map. The plugin qgis2web will use replicate the QGIS settings and automatically create the web map without us knowing

Step 3

display the layer

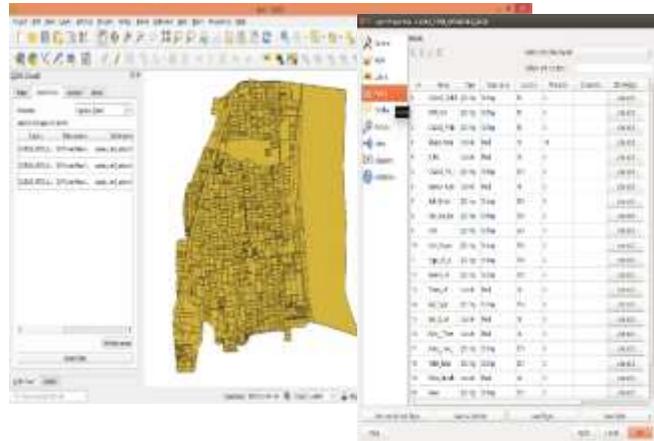


Figure.3 Display the layer

Step 4

Enter Latitude and longitude values

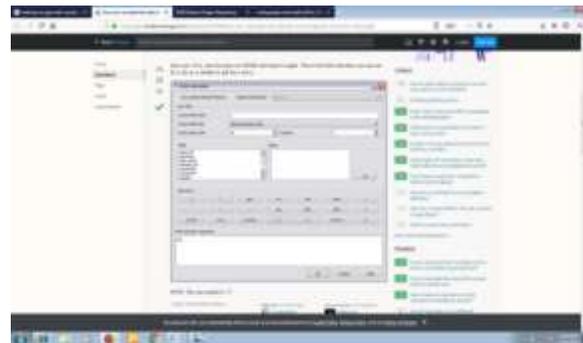


Figure.4 Enter Latitude and longitude values

Step 5

Display Latitude and Longitude layer

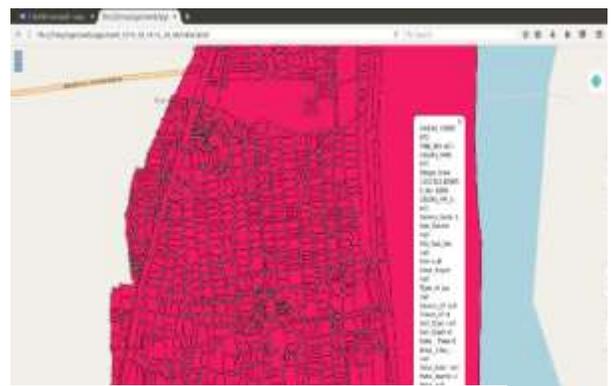


Figure. 5 Display Latitude and Longitude layer

Step 6
Display Latitude and Longitude Values in table

ADAS_CODE	FMB_NO	CADASL_FMB	Shape_Area	S_No	CADASL_FMB_1	Survey_No	Sub_Divisi	
1	280	280	1815.23771	1180.00000	269/2	188.00000	1	
2	281	281	3118.43551	1544.00000	267/10	191.00000	10	
3	282	282	4337.80717	1944.00000	275/1A	191.00000	1A	
4	283	283	3735.37438	1240.00000	294/2	194.00000	2	
5	284	284	17670.6	1346.14384	1194.00000	175/2A	2A	
6	287	287	28172	28140.80594	1181.00000	287/2	2	
7	288	288	2897	5238.30234	1185.00000	288/2	2	
8	289	289	2542	3338.87189	1188.00000	289/2	2	
9	290	290	1503.83423	1140.00000	254/3	150.00000	3	
10	293	293	2542	3331.88788	1181.00000	253/2	2	
11	294	294	254	4571.66256	1134.00000	254	154.00000	NULL
12	291	291	2512	3636.21385	1128.00000	251/2	2	
13	292	292	252	7134.18245	1128.00000	252	252.00000	NULL
14	295	295	1908	5587.12843	1174.00000	190/4	190.00000	4
15	296	296	0	24225.2795	27.00000	0	0.00000	NULL
16	297	297	457	3118.87033	1544.00000	1/1A	1.00000	2A
17	298	298	457	27844.8895	1544.00000	4/2	4.00000	2
18	299	299	252	13137.2342	1230.00000	252	1.00000	2
19	300	300	30	13141.4762	1440.00000	3/2	1.00000	2
20	301	301	125	8488.33371	1000.00000	1/5	1.00000	5
21	302	302	464	4318.23178	48.00000	4/4	0.00000	4
22	303	303	1718	1687.77917	37.00000	1/18	1.00000	18
23	304	304	18	1857.83165	182.00000	18	18.00000	NULL
24	305	305	151	2482.54417	151.00000	21/2	21.00000	2

Figure 6 Display Latitude and Longitude layer

Result :

After the procedure the web domain is <http://qgis2cloud.com/geobwc> - qgis domain
<http://arcg.is/0ymq45>
- arcgis domain

When we click the domain, the layer will open in google to see the actual data available with suvey number.

Result and Conclusion

High resolution image data show a high level of detail and are used as a basis for updated generation of cadastral maps. Ortho-images generated with high spatial resolution satellite data are ideally suited for deriving cadastral plot vectors for plain areas.

The protected areas under the DGPS instrument survey. The territory boundary can be incorporated into the vector of current cadastral maps and the new cadastral boundary of the villages can be finalized. Each FMB sketch joins each cadastral number after the cadastral boundary has been finalized. Then there was a change in FMB and cadastral boundaries. Data collected from the website and structured-wise section Rights

Rights of Record (RoR).

Popular code created for file integrated RoR and shapefile. Record (RoR) data referred to are cadastral, FMB, and old subdivision number, portion, irrigation source, land type, soil type, area, Patta number rate, and land owner name. Boundary line FMB drawn and matched to boundary line DGPS. All of the data coordinates included with the appendix. Final integral shapefile of RoR used in Web Map Services.

Web Map Services (WMS) provides a simple HTTP interface to request distributed databases on the geospace. A submission for a WMS specifies the regional layer and area of interest to be handled. In a browser application the response to the request can be displayed. A special Open Layers function Open Layers. WMS is used to publish geospatial data on the web. Some other database tables are used for special purposes like login information to display of all the attached non-spatial data and X, Y coordinates. Data security can be maintained in terms of web GIS portal.

Reference:

1. Ali, Z., A. Tuladharb and J. Zevenbergenb (2012) "An integrated approach for updating cadastral maps in Pakistan using satellite remote sensing data, International Journal of Applied Earth Observation and Geoinformation, 18, pp.386-398.
2. Ch.Tata Babu, L. Sneha, M. Hari Krishna and K.V. Ramana "Geo-spatial approach for mapping of field measurement books in Andhra Pradesh: a case study" Journal of Geomatics Vol 12 No. 2 October 2018
3. APSAC (2016). Manual of FMBs Digitization at District Level under DILRMP Project, Andhra Pradesh, Hyderabad
4. Kemiki, O. A., J. O. Odumosu, A. B. Ayoola and N. I. Popoola (2015). Cadastral Information System for M.I. Wushishi Housing Estate, Journal of Environment and Earth Science, 5 (16), pp. 54-61.
5. Kumar V. V. G., K. V. Reddy and D. Pratap (2013). Updation of Cadastral Maps Using High Resolution Remotely Sensed Data, International

- Journal of Engineering and Advanced Technology, 2 (4), pp. 50-54.
6. Padma, G.V., P. V. Ramireddy, Ch. Tatababu, M. V. R. Murty and G. P. Rao (2015). A Geospatial Frame Work for Mapping of Approximate Cadastral Sub Divisions in Joniganuru Village, Santhipuram Mandal, Chittoor District, Andhra Pradesh - An Initiative, International Journal of Engineering Sciences & Research Technology, 4(7), pp. 200-208.
 7. Amit Kumar and Pankaj Singh Diwakar “Web GIS based Land information System for Bhopal City using open Source Software and Libraries” International Journal of Science, Engineering and Technology Research (IJSETR), Volume 4, Issue 1, January 2015.
 8. Nutan Tyagi, “Web GIS application for customized tourist information system for Eastern U. P., India” *Indian Society of Geomatics*, Vol 8 No. 1, pp.1-6, April 2014.
 9. A. Mishra, D. J. Pal, “Land Record Information Management System (LRIMS) – A Conceptual Framework”, Map India 2000 Conference, April 2000.
 10. P.K.Parida¹, M.K.Sanabada², Dr. N.D.Mohanty³and A.K.Mohapatra⁴ “Cadastral Resurvey using RS, GIS, DGPS & ETS in Bijepadmanabhapursasana of Digapahandi Tahasil, Ganjam District, Odisha, India” Orissa Space Applications Centre, Bhubaneswar (ORSAC), Odisha
 11. Barbarella M, Mancini F. and Zanni M (2003) Processing of high resolution satellite data for map updating. *Proceedings of 30th International Symposium on Remote Sensing of Environment*, Honolulu, Hawaii, USA, Nov. 2003.
 12. Jayaprasad P, Narender B, Pathan SK and Ajai Generation and validation of DEM using SAR interferometry and differential GPS supported by multispectral optical data, *Journal of the Indian Society of Remote Sensing* 36 (4): 313-322
 13. Lyons, Ken and Satish, Chandra. (2001) "Undertaking land administration projects: sustainability, affordability, operational efficiency and good practice guidelines" New Millennium Print. Canberra, Australia.
 14. Burns, Tony and Dalrymple, Kate. (2006) "Land Administration Reform: Indicators of Success and Future Challenges" Land Equity International Pty Ltd. Wollongong, Australia.
- [1] E. E. Reber, R. L. Michell, and C. J. Carter, “Oxygen absorption in the Earth’s atmosphere,” Aerospace Corp., Los Angeles, CA, Tech. Rep. TR-0200 (420-46)-3, Nov. 1988.
 - [2] (Handbook style) *Transmission Systems for Communications*, 3rd ed., Western Electric Co., Winston-Salem, NC, 1985, pp. 44–60. *Motorola Semiconductor Data Manual*, Motorola Semiconductor Products Inc., Phoenix, AZ, 1989.
 - [3] (Basic Book/Monograph Online Sources) J. K. Author. (year, month, day). *Title* (edition) [Type of medium]. Volume(issue). Available: [http://www.\(URL\)](http://www.(URL))
 - [4] J. Jones. (1991, May 10). *Networks* (2nd ed.) [Online]. Available: <http://www.atm.com>
 - [5] (Journal Online Sources style) K. Author. (year, month). *Title. Journal* [Type of medium]. Volume(issue), paging if given. Available: [http://www.\(URL\)](http://www.(URL))
 - [6] R. J. Vidmar. (1992, August). On the use of atmospheric plasmas as electromagnetic reflectors. *IEEE Trans. Plasma Sci.* [Online]. 21(3). pp. 876—880. Available: <http://www.halcyon.com/pub/journals/21ps03-vidmar>
 - [7] <http://www.halcyon.com/pub/journals/21ps03-vidmar>