

# ***pgis for lsk***

**Applying PGIS and Participatory Mapping to Participatory  
Understanding and Management of (Rural) Space, utilising Local  
Spatial Knowledge <sup>1</sup>**

**A Bibliography**

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**for regular updates, see:**

**<http://www.ppgis.net/bibliography.htm>**

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<sup>1</sup> Former title: Applying Participator-GIS and Participatory Mapping to Participatory Spatial Planynning (in particular to Local-level Land & Resources Management) utilising Local & Indigenous Spatial Knowledge

**Applying PGIS and Participatory Mapping to Participatory Understanding and Management  
of (Rural) Space, utilising Local Spatial Knowledge  
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M.K. McCall  
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## **INTRODUCTION**

The intention of this listings is to identify and communicate the breadth of material with a focus on PGIS / PPGIS and participatory mapping / community cartography, as applied to the understanding, knowledge, use, management, claims, values, interactions, conflicts about rural space by local and indigenous peoples, globally.

It is not feasible, and nor is it necessary, to attempt here to definitively define PGIS, there are plentiful efforts at doing that - some key references are listed below. The idea of this bibliography is to be open, comprehensive, eclectic and inclusive enough not to miss interesting relevant materials.

However, just to set the context: PGIS was initially a merger of Participatory Learning and Action methods with geographic information technologies, and has emerged as a methodology and practice with strong emphases on active local participation, on local spatial knowledge (LSK), on local ownership of PGIS products, and on pushing for local empowerment.

PGIS aims to represent local people's spatial knowledge by demand-driven and user-friendly applications of geospatial technologies and spatial representation products (not only map products) that facilitate participatory decision-making processes and support communication and community advocacy. Good practice in PGIS is flexible and adapts to different socio-cultural and biophysical environments, relying on the combination of 'expert' skills with local knowledge. In contrast to traditional GIS applications, PGIS places the control on access and use of sensitive spatial data in the hands of the communities and people who generate it.

The original basic suppositions of PGIS remain valid: local people know the variability and dynamics in the environmental and socioeconomic situations of their areas. Local people have both historical experience and contemporaneous knowledge, they understand subtleties of people's behaviour and local cultural and institutional structures, and they work out mechanisms for resilience and coping.

In terms of inclusion / exclusion criteria for a bibliography, it is very easy to think of at least four complex boundary issues. On the method and tools dimension, where is the line between PGIS and participatory (e.g. sketch) mapping at one end, and between PGIS and VGI at another end? And in a more conceptual theoretical framing, whether or not to include items more broadly about participation principles and methodology, or more generally about indigenous – local spatial knowledge?

Most PGIS activities are deliberately local and small-scale, though an example of a global reach is the multi-lingual PPGIS discussion forum, 'Open Forum on Participatory Geographic Information Systems and Technologies'. – See: <http://www.iapad.org/ppgis/>

## Some Guide to the Bibliography

The first version was presented originally in 2003 and is continually updated.

Additions, corrections, suggestions are very welcome, because it is an on-going enterprise,

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It is indexed at the moment only by location, however nearly all entries have keywords attached which can be searched,

There is a section on videos / films on PGIS and Pmapping topics, and a section on useful websites, global and regionally specific – this section is difficult to keep up to date.

Online links have been attached when easily available and feasible.

Over time, more references are also being given abstracts, or summaries. But in the early years of the Bibliography this was not done.

There is a clear bias towards items in English, but it is not intended to be exclusive, there are items also in Spanish, French, etc.

There is an implicit bias towards regions and topical areas which the compiler knows well or has worked in.

Major categories used in the searchable keywords are: whether the item is P mapping or PGIS / PPGIS or P3DM or marginal, and, the location (country region, etc.);

and a broad range of subject topics such as dealing with land claims/land tenure, perceptions and values, landscape, many types of resources and natural resource management, planning, hazards and vulnerability, categories of people (children, gender, ethnic groups, etc.) history, equity.

There are two companion bibliographies: one concerning PGIS and PMapping in urban contexts.

The other introduces a wider more eclectic array of 'associated topics', including heading in the directions of participation tools and concepts, concepts of space and spatial representation, territories and boundaries and landscape, traditional navigation, critical geography, qualitative GIS, cybertography, visualisation, VGI and Citizen Science, and many other 'interesting things', without necessarily making use of recognisable PGIS or PMapping.

**Some key refs.** Brown 2012; Chambers 2006; Dunn 2007; Elwood 2011; McCall 2003; McCall & Dunn 2012; McCall, Martinez, Verplanke 2014; Rambaldi, Corbett et al 2006; Rambaldi, Kyem et al 2006; Sieber 2006; Tulloch 2008; Warf & Sui 2010.

<http://ppgis.iapad.org/> <http://www.iapad.org/ppgis/> <http://t.webring.com/hub?ring=ppgis>

**'pgis for lsk'**  
**Applying PGIS and Participatory**  
**Mapping to Participatory**  
**Understanding and Management of**  
**(Rural) Space, utilising Local Spatial**  
**Knowledge**

**Michael K. McCall**  
**14 June 2015**

Abbot, Jo; Robert Chambers; Christine Dunn; Trevor Harris; Emmanuel de Merode; Gina Porter; Janet Townsend; and Daniel Weiner (1998) Participatory GIS: opportunity or oxymoron? Participatory Learning & Action PLA Notes (IIED, Sustainable Agriculture & Rural Livelihoods), PLA 33, 27-34.  
 Keywords: GIS requirements, technology 'push', (PRA), critique of PGIS applications, training, (South Africa- Kiepersol)

Aberley, Doug (ed.) (1993) Boundaries of Home: Mapping for Local Empowerment.  
 Gabriola Island, BC: New Society/New Catalyst. (138p.)  
 Summary: Mapping the experience place; New terrain: current mapping thought; How to map your bioregion: a primer for community activists; Evolving maps, evolving selves: access to further resources. Using overlays, tapestries and stories, communities are mapping what's crucial to them: water and air flow, community patterns, distribution of species, local history. The book also provides a step-by-step description of how to use accessible sources.  
 Chap. 5 "How to Map your Bioregion."  
 Keywords: Canada, First Nations, community, P-mapping, PGIS methods, procedures, law, land title, history, culture, ITK, training, Bioregional mapping

Aberley, Doug (1999) Giving the Land a Voice, Mapping our Home Places.  
 Saltspring Island, BC: LTA Land Trust Alliance of British Columbia. (rev. ed.)

Summary: based on workshop series – detailed explanations, sample inventory sheets, protecting sensitive areas, guide for a Bioregional Map Atlas, 20+ sample maps.  
 Keywords: Canada, First Nations, community, P-mapping, PGIS methods, procedures, law, land title, Bioregional, training.

Aberley, Doug; and Michael George (1998) Introduction to Bioregional Mapping.  
 North Vancouver, BC: Tsleil-Waututh Nation Treaty Office. (4p.)

[www.nativemaps.org/methods/bioregion2.html](http://www.nativemaps.org/methods/bioregion2.html)  
<http://www.nativemaps.org/?q=node/1384>

Keywords: Canada, BC, First Nations, Tsleil-Waututh, community, P-mapping, PGIS methods, procedures, training, Bioregional Mapping

Abeto, Randy; Zeff Calilung; Joan Pauline Talubo; and Benny Cumatang (2004) Community mapping in the Philippines: a case study on the Ancestral Domain Claim of the Higaonons in Impasug-ong, Bukidnon.  
 Paper given at: Regional Community Mapping Network Workshop, Nov. 2004, Diliman, Quezon City. (7p.)

[http://www.iapad.org/publications/ppgis/community\\_mapping\\_in\\_the\\_philippines.pdf](http://www.iapad.org/publications/ppgis/community_mapping_in_the_philippines.pdf)

Keywords: Philippines, Mindanao, PGIS, P-mapping, customary lands, land tenure, participation, law, PAFID, Agtulanon-Mintapod Higaonon Cumadon

Acción Contra el Hambre (2005) Agrimensura Campesina para la gestión local de la tierra y los recursos naturales.  
 Managua: Acción Contra el Hambre (20 minutes)  
<http://www.iapad.org/mapeo2.htm>  
 Keywords: video; documental que narra la experiencia de la comunidad de Santo Domingo, Telpaneca en Nicaragua.

ACT Brazil (2008) Conserving the Amazon: map, manage, protect. A conservation strategy.  
 Brasília: Amazon Conservation Team – ACT Brazil (16p.)  
[http://www.equipe.org.br/publicacoes\\_dentro.php?tipoiid=1](http://www.equipe.org.br/publicacoes_dentro.php?tipoiid=1)

Keywords: P Mapping, indigenous peoples, culture, land rights, participation, Brasil. French Guiana, Suriname, Guyana, Colombia, Amazon,

ACT Brazil: Ana Carolina Kalume, Ivaneide Bandeira, João Guilherme Nunes Cruz, Júlio César Borges, Marcelo Segalerba, Renata Carvalho Giglio, Thiago Ávila, Vasco van Roosmalen, i Wesley Pacheco. (Editorial Group) (2008)

Methodology of Collaborative Cultural Mapping.

Brasília: Amazon Conservation Team – ACT Brazil (64p.)

[http://www.equipe.org.br/publicacoes\\_dentro.php?tipoid=1](http://www.equipe.org.br/publicacoes_dentro.php?tipoid=1)

Keywords: P Mapping, indigenous peoples, culture, (land rights), participation, Brasil. French Guiana, Suriname, Guyana, Colombia, Amazon, training material, handbook

ACT Brazil: Ana Carolina Kalume, Ivaneide Bandeira, João Guilherme Nunes Cruz, Júlio César Borges, Marcelo Segalerba, Renata Carvalho Giglio, Thiago Ávila, Vasco van Roosmalen, i Wesley Pacheco. (Editorial Group) (2008)

Metodologia de Mapeamento Cultural Colaborativo

Brasília: Amazon Conservation Team – ACT Brazil (80p.)

[http://www.equipe.org.br/publicacoes\\_dentro.php?tipoid=1](http://www.equipe.org.br/publicacoes_dentro.php?tipoid=1)

Keywords: P Mapping, indigenous peoples, culture, (land rights), participation, Brasil. French Guiana, Suriname, Guyana, Colombia, Amazonia,, training material, handbook

Adhikari, K. R.; K. N. Pandit; and C. M. Schweik (1997)

Integration of GIS and GPS Techniques in Irrigation and Forest Resources Mapping: Lessons Learned.

IN: G. Shivakoti et al. (eds) (1997) People and Participation in Sustainable Development: Understanding the Dynamics of Natural Resource Systems.

Bloomington, IN: Indiana University, Workshop in Political Theory and Policy Analysis, AND: Kathmandu: Tribhuvan University, Institute of Agriculture and Animal Science.

Also at: Brighton: University of Sussex, IDS Workshop Research Library, Participatory Management / Participatory Development, 1998. Keywords: Nepal, forestry, watershed, irrigation, participation, GIS

Adriansen, Hanne Kirstine; and Nielsen, Thomas Theis (2002)

Going where the grass is greener: on the study of pastoral mobility in Ferlo, Senegal.

Human Ecology 30 (2) 215-226

<http://www.springerlink.com/content/ggrptf20dqtwhuuk/>

Keywords: pastoralism, Senegal, Ferlo, Fulani people, PRA, interviews, GPS, space-time mobility, local mapping

Adriansen, Hanne Kirstine; and Nielsen, Thomas Theis (2005)

The geography of pastoral mobility: A spatio-temporal analysis of GPS data from Sahelian Senegal

GeoJournal 64 (3) 177-188.

<http://www.springerlink.com/content/l227571054777631/>

Keywords: GPS data, pastoral mobility, pastoralism, Senegal, Ferlo, Fulani people, spatial analysis.

African Conservation Centre (2002)

Mapping of land Use Options. Community based participatory mapping of land use options.

Nairobi: African Conservation Centre (ACC) [Lucy Chege-Waruingi] (2p.)

<http://www.conservationafrica.org/lmbirikani.htm>

Keywords: Kenya, Amboseli, Imbirikani Group Ranch, Maasai, P-mapping, PGIS, conservation, pastoralism, wildlife

Agdalipe, Lerio A.; and Somsak Boromthanarat (2003)

Application of PRA integrated GIS: Tools to develop management arrangement for the devolution of mangrove management in the Municipality of Panay, Capiz, Philippines.

Paper given at GIS Development Map Asia 2003 Conference, Coastal Zone Management

<http://www.gisdevelopment.net/application/nrm/coastal/mnm/ma03229.htm>

Keywords: Philippines, Capiz Prov. mangrove resources, NTFPs, PRA, P-mapping, coastal fishing, Community very reliable ident. of spp, location, density, but inaccurate on spatial extent

Ager, J. (1977)

Maps and propaganda.

Bulletin of the Society of University Cartographers 11, 1–15.

Agyemang, Isaac (2010)

Participatory spatial data analysis to assess environmental degradation.

GIS @Development February 2010

<http://www.gisdevelopment.net/technology/emerging/Participatory-spatial-data-analysis-to-assess-environmental-degradation.htm>

Keywords: Ghana, land use, agriculture, land cover types, changes

Ahamed, Tofael; Khan, M.I.N.; Takigawa,

Tomohiro; Koike, Masayuki; Tasnim, Farhat; and Zaman, J.M.Q. (2008)

Resource management for sustainable development: a community- and GIS-based approach.

Environment, Development and Sustainability 11 (5) 933-954.

DOI 10.1007/s10668-008-9159-y

Keywords: Bangladesh, PRA, stakeholders, resource mapping, landuse planning, water,

Ainslie, Andrew; Cinderby, Steve; Petse, T.; Ntshona, Z.; Bradley, P.N.; Deshingkar, P.; and Fakir, S. (1998).

Rural Livelihoods and Local Level Natural Resource Management in Peddie District.

York: Stockholm Environment Institute-York, SEIY Report.

Keywords: South Africa- Peddie region Eastern Cape; local NRM, livelihood; pastoralism, politics, (history)

Aitken, Stuart C. (2002)

Public participation, technological discourses and the scale of GIS.

pp. 357-366 (Chap. 27) IN: Craig; Harris; & Weiner (eds) (2002)

Keywords: scale, PGIS, participation

Aitken, Stuart C.; and S. Michel (1995)

Who contrives the 'real' in GIS? Geographic information, planning and critical theory.

Cartography & GIS 22 (1) 17-29.

Alagan, Ram; and Seela Aladuwaka (2012)

Innovative Public Participatory GIS Methodologies adopted to deal with the social impact assessment process challenges: A Sri Lankan experience.

URISA Journal 25 (2) 19-32.

Keywords: Sri Lanka, Matale, Kalu Ganga, dam, irrigation, EIA, SIA, social, cultural,

Abstract: PPGIS increasingly practiced in participatory approaches to national planning and development. SIA is vital in EIA, which helps minimize impacts on local communities because of proposed mitigation measures. Both concepts require professional bottom-up approaches and innovative methods to identify societal concerns.

Currently, PPGIS application within SIA is limited, use of these innovative approaches is vital to explore strengths & weaknesses of assessment methodology and community impact. Challenges in conducting SIA in the Kalu Ganga reservoir project, Matale District, Sri Lanka. Proposed Kalu Ganga reservoir will force 613 families to relocate. Business district will be totally inundated. Project site is environmentally & culturally sensitive, it still maintains pristine surroundings, long-term impact is unknown. As a result, assessment team faced severe challenges from local communities, including: (1) obstacles to carrying out the SIA because of strong resistance against construction of the reservoir; (2) difficulties of recording sensitive cultural & social aspects of the community; (3) limited opportunities for integrating local and expert knowledge for effective decision

making. Paper discusses innovative PPGIS methodologies to deal with SIA challenges.

PPGIS integrates geospatial technologies and traditional participatory research methods to represent people's concerns over development proposals and advocacy. In this reservoir project, PPGIS methodologies have helped developers, policy planners, & stakeholders to appreciate the project issues and incorporate them in the decision making. By combining strengths of PPGIS within SIA, we suggest that PPGIS techniques & procedures have great potential to enhance public policy & community engagement in development proposals.

Alcorn, Janis B. (1997)

Science in service of indigenous communities: How can biologists help local people conserve biodiversity?

American J. of Botany 84 (6)

<http://web2.infotrac.galegroup.com/>

Source: ref. in A. Jones (2001)

Alcorn, Janis B. (2000 a)

Borders, Rules and Governance: Mapping to Catalyse Changes in Policy and Management.

London: IIED, Gatekeeper Series (Sustainable Agric. & Rural Livelihoods Progr.) No. 91. (24p.)

[www.iied.org/agri/gatkeep.htm](http://www.iied.org/agri/gatkeep.htm)

[http://www.iapad.org/publications/ppgis/border\\_rules\\_and\\_governance.pdf](http://www.iapad.org/publications/ppgis/border_rules_and_governance.pdf)

Keywords: Botswana, Indonesia, Philippines - Coron Is. et al. Palawan Review 120 community mapping exercises; maps, GIS, social, rights, political, policy, sacred land, training {WWF Biodiversity Support Prog.}

Alcorn, Janis B. (2000 b)

Keys to Unleash Mapping's Good Magic.

London: IIED, PLA Notes No. 39, 10-13.

[http://www.iied.org/NR/aqbioliv/pla\\_notes/documents/pla\\_n\\_03902.pdf](http://www.iied.org/NR/aqbioliv/pla_notes/documents/pla_n_03902.pdf)

Keywords: 8 'key steps' for participatory mapping, training, data, presentation, etc., {WWF Biodiversity Support Prog.}

Alcorn, Janis B. (2001)

Mapping's magic.

Paper given at: 'Building Bridges with Traditional Knowledge II' meeting, Honolulu, May-June 2001; Honolulu HI: University of Hawai'i.

Keywords: participatory maps, NGOs, conflicts, Asia, Latin America. {WWF Biodiversity Support Prog.}

Aldenderfer, Mark; and Herbert D.G. Maschner (eds) (1996)

Anthropology, Space, and Geographic Information Systems.

New York, NY: Oxford UP., Spatial Information Systems Series. (304p.)



Keywords: 'bridging the gap between ITC & Western Science'

*Some Contents:* 1. Quantitative Anthropology, Space, and GIS *M. Aldenderfer*. 2. Land Degradation in the Peruvian Amazon: Applying GIS in Human Ecology *W.M. Loker*. 4. Application of GIS to Cultural Ecological Analysis of Land Use Intensification & Deforestation in the Amazon , *C.A. Behrens*. 5. Integrating Socioeconomic and GI Systems: Methodology for Rural Development & Agricultural Policy Design, *Susan Stonich*. 6. Empirical and Methodological Problems in Developing a GIS Database for Yanomano Tribesmen Located in Remote Areas , *K. McGwire, N.A. Chagnon, and C.B. Carias*. 10. Politics of Settlement Choice on Northwest Coast: Cognition, GIS, and Coastal Landscapes , *H.D.G. Maschner*. 14. GIS & Spatial Analysis in Social Sciences , *M.F. Goodchild*

Ali, Zahir, Arbind Tuladhar, and Jaap Zevenbergen (2010)

Developing a framework for improving the quality of a deteriorated land administration system based on an exploratory case study in Pakistan. Nordic J. of Surveying and Real Estate Research 7 (1).

Keywords: cadastre, land survey, land title, parcels, rural, urban, Pakistan, Khyber Pakhtunkhwa region, Peshawar, PGIS, RS

Ali, Zahir, Arbind Tuladhar, and Jaap Zevenbergen (2012)

An integrated approach for updating cadastral maps in Pakistan using satellite remote sensing data. International Journal of Applied Earth Observation and Geoinformation 18: 386-398.

Keywords: cadastre, land survey, land title, parcels, rural, urban, Pakistan, Khyber Pakhtunkhwa region, Peshawar, PGIS, RS, Abstract: updating cadastral information crucial for recording land ownership, property division changes in time. Most cases, existing cadastral maps do not provide up-to-date information on parcel boundaries. All cadastral data and parcel boundaries information in these maps need timely updating. Existing techniques for acquiring cadastral information based on geodesy, surveying, photogrammetry. All techniques require large manpower, time, cost when carried out separately. Need to integrate techniques for acquiring information to update data and (re)produce cadastral maps efficiently. To reduce time cost involved in cadastral acquisition, study develops approach integrating GPS data, RS imagery, cadastral maps. Used panchromatic image 0.6 m spatial resolution and corresponding multi-spectral image 2.4 m resolution and 3 spectral bands QuickBird satellite. Digital

elevation model (DEM) extracted from SPOT-5 stereopairs and ground control points also used for ortho-rectifying QuickBird images. After ortho-rectifying images and registering multi-spectral image to the panchromatic image, fusion attained for good quality multi-spectral images of two study areas with 0.6 m resolution. The cadastral parcel boundaries then identified on QuickBird images via visual interpretation using PGIS. Regions are urban & rural areas of Peshawar & Swabi districts, Khyber Pakhtunkhwa province, Pakistan. Results are creation of updated cadastral maps with cadastral information can be used in updating cadastral data with less time, cost.

Alimudoa, Arumadri Joel (1999)

Zoning for Biodiversity Conservation: the Use of Remote Sensing and GIS: case study Mabira Forest Reserve, Uganda.

Enschede: ITC, Forest Science, MSc Thesis. (103p.)

Keywords: GIS, RS, Uganda, Mabira; landuse, NRM, biodiversity, conservation, forestry, ITC

de Almeida, Alfredo Wagner Berno

See: Nova Cartografia Social da Amazônia.

Keywords: community mapping, Brasil, Amazonia

de Almeida, Regina Araujo (Vasconcellos) (2001) Cartography and indigenous populations: a case study with Brazilian Indians from the Amazon region.

Proc. 20th International Cartographic Conference – ICA. Beijing: ICA.

São Paulo: University of São Paulo, Dept. of Geography

[http://icaci.org/documents/ICC\\_proceedings/ICC2001/ic2001/file/f03020.doc](http://icaci.org/documents/ICC_proceedings/ICC2001/ic2001/file/f03020.doc)

Keywords: Brasil, indigenous peoples, Amazonia, Acre?, participatory mapping, PGIS?, territory

de Almeida, Regina Araujo (Vasconcellos) (2005 a)

A Cartografia na Agenda 21 das Terras Indígenas do Estado do Acre.

Proc. X Latin American Conference, Department of Geography, University of São Paulo, Brazil. (MKM)

Keywords: Brasil, indigenous peoples, Amazonia, Acre, participatory mapping, PGIS?, Agenda 21, territory

de Almeida, Regina Araujo (Vasconcellos) (2005 b)

Ethnocartography applied to Environmental Issues.

La Coruña: ICA. Annals XXII ICA Conference - Mapping Approaches into a Changing World. La Coruña. p.1-8.

Keywords: Brasil, indigenous peoples, Amazonia, Acre, participatory mapping, critical cartography, environmental perception, ethnocartography, LSK

Alspach, Andrew John (1999)  
Integration of GIS in regional participatory development projects.  
Paper given at: GISOC'99, Confer. on "Geographic Information and Society", Minneapolis, June '99. Papers & Proc.  
Keywords: regional planning, PGIS, agriculture, Ecuador?

Al-Zoabi, Ahmad Y. (2001?)  
Children's 'Mental Maps' and Neighbourhood Design of Abu-Nuseir, Jordan.  
Riyadh: King Saud University, College of Architecture & Planning. (19p.)  
[www.araburban.org/childcity/papers/English..](http://www.araburban.org/childcity/papers/English..)  
Keywords: Jordan, urban neighbourhoods, children, cognitive mental maps, social, gender, (not GIS), (cf. Lynch)

AMN (2002)  
A Survey of GIS in the Aboriginal Mapping Community.  
Aboriginal Mapping Network (AMN) website, [www.nativemaps.org/news/GIS](http://www.nativemaps.org/news/GIS)  
Keywords: AMN, summary of 'Survey of 1<sup>st</sup> Nations GIS Hardware & Software. Canada-BC, First Nations, Information Sharing Protocol.

AMN (2002)  
"Insight and Advice" on implementing a GIS.  
Aboriginal Mapping Network (AMN) website, [www.nativemaps.org/news/GIS/](http://www.nativemaps.org/news/GIS/)  
Keywords: Canada, AMN; First Nations,

AMN (2002) - Sarawak 'Government bans community mapping in Malaysia'  
Aboriginal Mapping Network website. (3p.)  
<http://www.nativemaps.org/?q=node/1715>  
Keywords: Malaysia, Sarawak

Anau, Njau; Jon Corbett; Ramses Iwan; Miriam van Heist; Godwin Limberg; Made Sudana; and Eva Wollenberg (2003)  
Do communities need to be good mapmakers?  
Bogor: CIFOR  
[\[http://www.cifor.cgiar.org\]](http://www.cifor.cgiar.org)  
<http://www.iapad.org/publications/ppgis/>  
Keywords: Indonesia- E. Kalimantan, community forestry, rights, boundaries, participatory mapping.

Anau, Njau; Ramses Iwan; Miriam van Heist; Godwin Limberg; Made Sudana; and Eva Wollenberg (2002)  
Negotiating More than Boundaries: Conflict, Power and Agreement Building in the Demarcation of Village Borders in Malinau

Jakarta / Bogor: CIFOR, CIFOR Technical Report No. 7. [Technical Report Phase I 1997-2001; ITTO Project PD 12/97 Rev.1 (F) Forest, Science and Sustainability: The Bulungan Model Forest]. (26p.)

[http://www.iapad.org/publications/ppgis/negotiating\\_more\\_boundaries.pdf](http://www.iapad.org/publications/ppgis/negotiating_more_boundaries.pdf)

Keywords: Indonesia- E. Kalimantan, community forestry, rights, boundaries, participatory mapping

Anderson, C.; Beazley, K.; and Boxall, J. (2009)  
Lessons for PPGIS from the application of a decision support tool in the Nova Forest Alliance of Nova Scotia, Canada.  
Journal of Environmental Management 90, 2081-2089.

Keywords: Canada, Nova Scotia, community forestry, community planning, PGIS, maps, data issues.

Abstract: potential of PPGIS collaborative approach to facilitate data acquisition, assimilate, visualize meaningful maps to support community-based forest decision making, Nova Scotia.  
Issues of data acquisition, use & sharing policies substantially limited implement PPGIS

Anderson, M.; Hill, S.; and Wavey, R. (1993)  
GIS as a bridge between cultures.  
GIS World  
Manitoba: Natural Resources Secretariat, Manitoba Keewatinowi Okimakanak Inc. (8 p.)  
Source: ref. in Harmsworth et al. 2005

Anderson, Paul S. (2000)  
Mapping land rights in Mozambique. Local residents can use highly enlarged aerial photography to delimit property and community boundaries for entry into a GIS database.  
Photogrammetric Engineering & Remote Sensing 66 (6) 769-776.  
Keywords: participatory API, land & resource rights, Mozambique,

Angel Chacón V., Miguel. (2004)  
Multiple spatial representations of underrepresented indigenous lands and oral based knowledge of sustainable practices.  
Paper given at "The Commons in an Age of Global Transition: Challenges, Risks and Opportunities," 10<sup>th</sup> Conference of International Assoc. for the Study of Common Property, Oaxaca, August 2004.  
Keywords: Mexico?, ISK, CPR, P? maps, agriculture, FS, land rights,

Anggraini, Dewi (2007)  
Community - based analysis of coping with urban flooding: a case study in Semarang, Indonesia.  
Enschede: ITC, MSc in Urban Planning and Management MSc Thesis. (79 p.)



[http://www.itc.nl/library/papers\\_2007/msc/upla/anggrain\\_i.pdf](http://www.itc.nl/library/papers_2007/msc/upla/anggrain_i.pdf)

Keywords: Indonesia, Java, urban hazards, flooding, (some) PGIS, CRA, coping strategies

Anon (2000)

The Gitksan model: ecosystem based plan.

The Aboriginal Mapping Network

[www.nativemaps.org/news/news\\_story2.html](http://www.nativemaps.org/news/news_story2.html)

Keywords: Canada, Gitksan, First Nations, ITK, forestry, ecosystems, biodiversity, maps, GIS, AMN

Anon (2003)

Resource mapping.

GIS@Development June 2003, (2p.)

<http://www.gisdevelopment.net/magazine/gisdev/2003/June/resource1.shtml>

Keywords: India- Indore, PRA, P-mapping, rural, urban, (NRM), 'MANGO' project

Ansell, S.; and Koenig, J. (2011)

CyberTracker: An integral management tool used by rangers in the Djelk Indigenous Protected Area, central Arnhem Land, Australia.

Ecological Management & Restoration 12: 13–25.

doi: 10.1111/j.1442-8903.2011.00575.x

Keywords: Australia, Arnhem Land, Aboriginal Djelk people, CyberTracker, local NRM, land rights

Djelk Rangers found CyberTracker efficient, cost-effective, user-friendly versatile data collection & management tool, empower land and sea managers to engage in local, regional national environmental decision making. Use in Djelk Indigenous Protected Area, central Arnhem Land, Australia, how ranger group have pioneered methodology to collect geo-referenced data Data capabilities & uptake by Djelk Rangers demonstrate potential for other Indigenous groups.

Anta Fonseca, Salvador; Arturo V. Arreola Muñoz; Marco A. González Ortiz; and Jorge Acosta González (eds) (2006)

Ordenamiento Territorial Comunitario: un debate de la sociedad civil hacia la construcción de políticas públicas.

Mexico DF: Secretaría de Medio Ambiente y Recursos Naturales, INE – SEMARNAT Instituto Nacional de Ecología, Instituto para el Desarrollo Sustentable en Mesoamérica, Grupo Autónomo para la Investigación Ambiental, Grupo de Estudios Ambientales, Methodus Consultora, y Servicios Alternativos para la Educación y el Desarrollo. (251p.)

<http://www.iapad.org/publications/ppgis/OrdenamRaiser9-121006.pdf>

Keywords: Mexico, spatial planning, GIS, PGIS, participatory spatial planning, social, political, land tenure

Anuchiracheeva, S., Demaine, H.; Shivakoti, G.P.; and Ruddle, K. (2003)

Systematizing local knowledge using GIS: fisheries management in Bang Saphan Bay, Thailand.

Ocean & Coastal Management 46 (11-12) 1049-1068.

Keywords: Thailand, Prachuap Khiri Khan Province: PRA, (p)GIS, coastal fisheries management, species, locations

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SEE: Carvajal (2005)

Colombia

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"Nosotros vamos a dibujar nuestro propio espacio territorial". Reapropiación del territorio y apropiación de la Cartografía en la Zonal Pewence.

Corpus. Archivos Virtuales de la Alteridad

Americana 2 (1). PhD Thesis

ISSN 1853-8037 Mendoza.

<http://ppct.caicyt.gov.ar/index.php/corpus/article/view/905/1218>

Keywords: Chile, Argentina, indigenous peoples, Mapuche Nation, LSK, participation, community mapping, territory, political space, land claims  
Summary: analyse representation of Mapuche territory from historical and anthropological perspective. review approaches and anthropological history of cartography, we study social, economic and political dimensions of process along with adoption of mapping practices by Zonal Pewenche communities.

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Keywords: Venezuela, GIS, NRM, ITK, participation, (land tenure)

Asch, M.; and G. Tychon (1993)

The Dene Mapping Project: past and present.

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Vancouver, B.C., 1993.

<http://home.istar.ca/~tychon/denep5.htm>

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IN: Participatory 3-Dimensional Modelling:

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Manila: ASEAN Regional Centre for Biodiversity Conservation. CD-ROM.

Keywords: Philippines, Vietnam; P3DM tools & procedures, training, watershed, forestry, conflicts.

Ashby, J.A.; J.I. Sanz; E.B. Knapp; and A. Imbach (1999)

CIAT's research on hillside environments in Central America.

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Keywords: Central America; Andes, mountain agriculture, NRM, participation, GIS, 'poverty mapping', CIAT= Internat. Centre for Tropical Agric.

Assefa Mammo, G. (2002)

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Enschede: ITC Professional Masters, IFA (29p.)

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Odenthal; M. Isabel Ramirez; Quetzacoatl

Orozco; and Javier O. Mijangos-Cortes (2010)

Participatory identification and mapping of maize diversity in the Patzcuaro-Zirahuen Basins, Michoacan, Mexico.

Journal of Maps, 2010, 1-6.

Keywords: Mexico, Michoacan, P aerial photo classification, ethnopedology, traditional agriculture, ITK, maize landraces diversity, 19 rural communities Patzcuaro & Zirahuen Basins.

Aswani, Shankar; and Richard Hamilton (2004)

The value of many small vs. few large marine protected areas in the Western Solomon Islands.

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<http://www.spc.org.nc/coastfish/news/Trad/16/Aswani-Hamilton-h.pdf>

Keywords: Pacific, Solomon Is., New Georgia, fisheries, P-mapping of habitats (no details)

Aswani, Shankar; and Matthew Lauer (2006)

Benthic mapping using local aerial photo interpretation and resident taxa inventories for designing marine protected areas.

Environmental Conservation 33 (3) 263-273

[http://www.iapad.org/publications/ppgis/EC\\_lauer\\_2006.pdf](http://www.iapad.org/publications/ppgis/EC_lauer_2006.pdf)

Keywords: Solomon Islands; New Georgia, Roviana, Vonavona; Pacific, marine fisheries management, biodiversity conservation, benthic mapping, GIS, indigenous ecological knowledge, protected areas, participatory API, "validation"

Aswani, Shankar; and Matthew Lauer (2006) Incorporating fisherman's local knowledge and behavior into geographical information systems (GIS) for designing marine protected areas in Oceania.

Human Organization 65 (1) 81-102.

Keywords: Solomon Islands; New Georgia, Roviana, Vonavona; Pacific, marine fisheries management, biodiversity conservation, marine protected areas; indigenous ecological knowledge, (P)GIS,

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Raffaelli, D., and White, P.C.L. (2009)

Mapping wildlife: integrating stakeholder knowledge with modelled patterns of deer abundance by using participatory GIS.

Wildlife Research 36, 553-564.

<http://dx.doi.org/10.1071/WR08153>

Keywords: UK, Eastern England, wildlife, deer vehicle collisions, PGIS, conflict management, predictive spatial model, stakeholder participation, LSK adding to scientific knowledge.

*Abstract Context.* Some species that are perceived by certain stakeholders as a valuable resource can also cause ecological or economic damage, leading to contrasting management objectives and subsequent conflict between stakeholder groups. There is increasing recognition that the integration of stakeholder knowledge with formal scientific data can enhance the information available for use in management. This is especially true where scientific understanding is incomplete, as is frequently the case for wide-ranging species, which can be difficult to monitor directly at the landscape scale.

*Aims.* aim was to incorporate stakeholder knowledge with data derived from formal quantitative models to modify predictions of wildlife distribution and abundance, using wild deer in the UK as an example.

*Methods.* We use selected predictor variables from a deer-vehicle collision model to estimate deer densities at the 10-km square level throughout the East of England. With these predictions as a baseline, we illustrate the use of participatory GIS as a methodological framework for enabling stakeholder participation in the refinement of landscape-scale deer abundance maps.

*Key results.* Stakeholder participation resulted in modifications to modelled abundance patterns for all wild deer species present in the East of England, although the modifications were minor and there was a high degree of consistency among stakeholders in the adjustments made. For muntjac, roe and fallow deer, the majority of stakeholder changes represented an increase in

density, suggesting that populations of these species are increasing in the region.

*Conclusions.* Our results show that participatory GIS is a useful technique for enabling stakeholders to contribute to incomplete scientific knowledge, especially where up-to-date species distribution and abundance data are needed to inform wildlife research and management.

*Implications.* results serve as valuable information base for research on deer management. The flexibility of the approach applicable to range of species at different spatial scales and other wildlife conflict issues.

Aynekulu, Ermias; Welday Wubneh; Emiru Birhane; and Nigussu Begashaw (2006) Monitoring and evaluating land use/ land cover change using participatory geographic information system (PGIS) tools: a case study of Begasheka Watershed, Tigray, Ethiopia.

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Badurek, Chris; and Miguel Chacon-Veliz (2004) LIS Constraints and Solutions to Indigenous Land Dispute Resolution in Guatemala.

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<http://training.esri.com/campus/library/Bibliography/RecordDetail.cfm?ID=59163&LibSection=conference%20proceedings&startrow=1&hidpage=1&browseonly=1&year=2004&station=URISA>

Keywords: Guatemala, land tenure, entitlements, registration, indigenous people, conflicts, PGIS,

Baldwin, Kimberley; and Mahon, Robin (2014)

A PGIS framework to support marine spatial planning for the Grenadine Islands.

Electronic Journal of Information Systems in Developing Countries 63 (7) [www.ejisd.org](http://www.ejisd.org)

Keywords: PGIS, island, transboundary, marine, NRM, spatial planning, fisheries, Caribbean, Saint Vincent & Grenadines, Grenada.

Baldwin, Kimberly; Robin Mahon; Patrick McConney; and Hazel Oxenford (2008)

Stakeholder engagement in the development of a participatory GIS for the Grenadine Islands. MARSIS, Proc. of the Conference on ..... Gulf of Mexico and Caribbean Fisheries (11p.)

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Keywords: PGIS, fisheries, islands, stakeholders, participation, Caribbean, Grenadine Is, Saint Vincent & Grenadines, Grenada

Baldwin, Kimberly; Robin Mahon; and Patrick McConney (2013)

Participatory GIS for strengthening transboundary marine governance in SIDS.

Natural Resources Forum 37 (4)

Keywords: PGIS, island, transboundary, marine, governance, NRM, fisheries, participation, Caribbean, Saint Vincent & Grenadines, Grenada.

Abstract: engaging full range stakeholders for effective marine NRM in transboundary Grenadine Islands Small Island Developing States, Saint Vincent & Grenadines, Grenada. Study ways stakeholders engaged in development of PGIS, in terms of research approach (process) and final geodatabase (product); Illustrates how approach provides practical means to strengthen aspects of marine governance, particularly in SIDS context. PGIS can provide foundation for ecosystem-based transboundary marine governance. Advantages of approach are two-fold: fullest possible range of information as input for NRM of marine resources, and engages the stakeholders. Engagement takes several forms: capacity to participate in research; ownership of information produced; increased stakeholder understanding; empowerment through access to information; capacity to interact with other stakeholders for information and problem-solving; and competence to participate in actual governance processes. Discuss considerations for other practitioners using PGIS, in similar resource-limited SIDS environments.

Baldwin, Kimberley; P. McConney; and Robin Mahon (2013)

Benefits of a participatory GIS approach for strengthening marine governance in SIDS.

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Keywords: PGIS, island, transboundary, marine, ecosystem, NRM, fisheries, Caribbean, Saint Vincent & Grenadines, Grenada.

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Keywords: conservation, biodiversity, ITK, ISK, collaborative GIS methods (experts & locals)

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Geographic Information Systems and their application to the Yukon Land Claim.

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Ottawa, Association of Canadian Universities for Northern Studies (ACUNS).

Keywords: Canada, Arctic, Yukon, land claims, GIS (PGIS?)

Source: ref. in Harmsworth et al. 2005

Banzato A.; Barbini F., D'Atri A., D'Atri E., and Za S. (2010)

Social Networks and Information Systems to Handle Emergency and Reconstruction in Natural Disasters: the L'Aquila Earthquake Case Study. Proceedings of ALPIS . Sprouts: Working Papers on Information Systems, 10 (5).

<http://sprouts.aisnet.org/10-5>

Keywords: post disaster, reconstruction, spatial information, community participation, VGI, Italy, L'Aquila.

Abstract: earthquake of 6 April 2009, citizens of L'Aquila and near provinces suffered discomforts. Most buildings damaged or fell down, difficult to collect information from structures. Discuss social & organizational needs of L'Aquila citizens after earthquake. An information system can help population have active part in reconstruction process, development of innovative social network system acting at social level can help population to recover from shock caused by loss of infrastructure, and re-tie broken social & productive links.

Baral, Himlal (2004)

Applications of GIS in Community-Based Forest Management in Australia (and Nepal).

Melbourne: University of Melbourne, Institute of Land and Food Resources, School of Forest and Ecosystem Science, MSc in Forest Science

Thesis. (180p.)

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Keywords: PGIS, Australia, (Victoria), community wildlife management, wombats, forestry, weeds, (Nepal - review)

Barlindhaug, Stine (2009)

Cultural sites, traditional knowledge and participatory mapping; Long-time landscape use in Sápmi.

Toronto: McGill University, Dept. of Geography?

[http://rose.geog.mcgill.ca/ski/system/files/fm/2009/Barlindhaug\\_abstract.pdf](http://rose.geog.mcgill.ca/ski/system/files/fm/2009/Barlindhaug_abstract.pdf)

Keywords: Norway, Sami people, culture, traditional sites, heritage, landscape, P mapping, PGIS, history, archaeology, land rights, Canada, British Columbia, Tlowitsis people.

Abstract: Sámi land use. Combines P mapping, archaeology survey, GIS, Norwegian Institute for Cultural Heritage Research together with Sámi elders map cultural heritage sites, LUM systems & historical data. 2005 Finnmark Act recognize Sámi rights to traditional land. Due to Norwegian colonial practice, documentary evidence Sámi cultural history & LU scarce. Develop alternative methods to identify & record knowledge related to Sámi LU. also: Tlowitsis Nation, British Columbia

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Cultural sites, traditional knowledge and participatory mapping : Long-term land use in a Sámi community in coastal Norway.

Tromsø: Universitetet i Tromsø; University of Tromsø, PhD Thesis.

<http://munin.uit.no/handle/10037/5405>

Keywords: coastal Norway, Sami indigenous people, culture, traditional sites, heritage, landscape, P mapping, PGIS, history, archaeology, land rights, Canada, British Columbia, Tlowitsis people



Abstract: Knowledge held by people involved in intimate & direct engagement with their land is valuable understand past land use. Interdisciplinary approach, benefits of emphasizing local knowledge, local participation, digital media, archaeological viewpoint. 2 areas Finnmark County, North Norway, comparative study west coast British Columbia. Due Norway's "nation building" project & focus on single Norwegian history & heritage, Sami past of little interest to archaeology much of 20<sup>th</sup> century. C. 1980 research Sámi culture & history became significant. Parallel legal changes increased demand for knowledge of Sami land use & cultural history. Despite this shift, still need for base data to meet Norway's obligations & aims. Comprehensive landscapes & knowledgeable people represent unique knowledge. Thesis uses PGIS into practice in archaeological research, combine archaeology, participatory work and flexibility of GIS to increase spatial knowledge, share benefits of cultural heritage management, researchers, local communities. Interdisciplinary approach can lead to effective archaeological surveying, cultural heritage management. Approach has potential to facilitate inter-thematic needs through software's flexibility. Fill knowledge gap between mature population with intimate land use knowledge & younger generations. Combine documented visible features with transcribed georeferenced traditional knowledge into a GIS, so extent & intensity of land use more complete, comprehensible. Local knowledge, oral traditions, traditional knowledge contextualize findings in a landscape.

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Keywords: South Africa,, Cape Town, Algeria village, urban housing, rural land reform, PGIS, mobile GIS, cybertracker

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Symbolism, Knowledge and Management of Soil and Land Resources in Indigenous Communities : Ethnopedology at Global, Regional and Local Scales.

Ghent: University of Ghent, PhD Thesis. And: Enschede, ITC, ITC Dissertation No. 102. (795p.)  
[http://www.itc.nl/library/Papers\\_2003/phd\\_theses/barrera1.pdf](http://www.itc.nl/library/Papers_2003/phd_theses/barrera1.pdf)  
[http://www.itc.nl/library/Papers\\_2003/phd\\_theses/barrera2.pdf](http://www.itc.nl/library/Papers_2003/phd_theses/barrera2.pdf)  
Keywords: World, Meso America, Mexico, Michoacan, ITK, ISK/LSK, ethnopedology, indigenous cognition of land, comparison of ISK & sci. soil maps

Barrera-Bassols, Narciso; Zinck, J. Alfred; and van Ranst, E (2009)  
Participatory soil survey: experience in working with a Mesoamerican indigenous community.  
Soil Use and Management, 25, 43–56 doi: 10.1111/j.1475-2743.2008.00192.x1  
Keywords: Mexico, Michoacan, Picha'taro, Purhe'pecha people, P mapping, PGIS, ethnopedology, comparison scientific & indigenous soil maps; landscapes, 'soil map reflects farmers' soil–landscape understanding & correlates fairly well with a sci. soil map because in both terrain plays a key role.

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Cuadernos de Geografía / Revista Colombiana de Geografía 18, 9-23.  
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Keywords: Colombia, methodology, PGIS, social cartography, standard cartography, participation, 'democratization of information'

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Keywords: not PGIS?, India  
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 Remote sensing and GIS technologies as a decision-making tool for indigenous land management.  
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 Keywords: Australia, Aboriginal, RS, GIS, ITK, NRM, land cover, biodiversity, sacred names

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 Māori Cartography and the European Encounter.  
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 Keywords: New Zealand, Māori, maps

Bass, Stephen (1995)  
 Introducing PRA (Participatory Rural Appraisal) for poverty analysis among pastoral herders in rural areas of Mongolia.  
 Ulaan Baatar: Institute of Administration and Management Development and FAO.  
[www.fao.org/docrep/003/x6000e/x6000e00.htm](http://www.fao.org/docrep/003/x6000e/x6000e00.htm)  
 Keywords: PRA, P mapping, NRM, pastoralism, poverty, Mongolia

Bassett, Thomas J. (1998)  
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 Keywords: indigenous maps; history, intertropical Africa

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 On the politics and the possibilities of participatory mapping and GIS: using spatial technologies to study common property and land use change among pastoralists in Central Tibet.  
Cultural Geographies 16, 229-252.  
 Keywords: Tibet, China, common property, political, governance, critique of P mapping, PGIS, pastoralism  
 Abstract: critically reflexively examines the process of applying participatory mapping and GIS to investigate land use change and common property among pastoralists in Central Tibet. It explores the tensions inherent to participatory

mapping in contemporary China and asks if participatory methods of recording and asserting territoriality are a plausible subaltern intervention for Tibetans living under Chinese political rule. In development and research circles, participatory mapping has been discussed and, slowly, tested in the field as a tool for 'empowerment'. Yet the political currency of literature on participatory (or 'counter') mapping has been developed predominantly in contexts where there is a dialogue, however asymmetric, between state and indigenous groups, and where these cartographic interventions can identify and delineate political boundaries in ways that may allow local or indigenous groups some measure of autonomy. This article extends critical geography on participatory mapping and spatial technologies such as GIS by reflecting on their relevance to Central Tibet, which has had a significantly different political history than the locales where indigenous cartographies have been previously deployed. For pastoralists living in the Tibet Autonomous Region of China, politically charged dynamics with respect to autonomy and the writ of boundary making preclude any possibility that participatory mapping can 'empower' participants or give them greater authority in government negotiations: the scope for political contestation in Tibet is narrow and highly circumscribed. Even though participatory mapping is of limited utility as a tool for mobilization in the Tibetan context, the case study offers possibilities for the uses of participatory mapping and computer-driven spatial methodologies to blend information about land use and common property under different regimes of governance.

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 Keywords: Malawi, Salima, participatory video methodology, climate change, floods, adaptation, agriculture, livelihoods,

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Keywords: Indonesia, Yogyakarta, mental maps, security, dangers, urban, social, street children, power, subversion

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Mapping the Earth, Mapping Life.

Quezon City: Legal Rights & Natural Resources Center (LRC).

Keywords: Philippines, participatory mapping, NRM, {WWF Biodiversity Support Prog.}

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Keywords: Tonga, mental maps,

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Washington, DC: International Food Policy Research Institute, IFPRI Technical Guide No. 6.

Keywords: PRA tools; P-mapping, community mapping, indicators of food security, health.

Bernal-García, Maria Elena (¿?)

The Dance of Time, the Procession of Space at Mexico-Tenochtitlan's Desert Garden.

Source?: (67p.)

[http://www.doaks.org/sacred/\(4\)Bernal-Garcia.pdf](http://www.doaks.org/sacred/(4)Bernal-Garcia.pdf)

Keywords: México, Tenochtitlan, cosmovision, space, culture, spiritual, indigenous cognition & perception of land & water & climate, agriculture, NRM

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Participatory GIS in a sustainable use reserve in Brazilian Amazonia: Implications for management and conservation.

Applied Geography 31 (2) 564-572, ISSN 0143-6228, 10.1016/j.apgeog.2010.11.014.

<http://www.sciencedirect.com/science/article/pii/S0143622810001621>

Keywords: Brasil, Amazonas; Amazonia,

Conservation units; Maués State forest;

participatory management; livelihoods, PGIS;

protected areas, sustainable use reserves (SUR)

Abstract: Brazil 109 m. ha.sustainable use

reserves (SURs), mostly in Amazonia. SURs

created several objectives. Absence of clear goal

& lack of basic social & biological information can

compromise goals, frustrate people demanding

SURs, complicate selection of size, shape &

category to adopt. Data collection process in

creation & management of protected areas often

by under-funded environmental agencies, lack

human resources, unaware of accessible, quick,

simple inexpensive methodologies to facilitate.

Tools & methods to improve management &

decision-making for protected areas is necessary.

Describes execution of PGIS for information on

human populations living & using natural

resources in Maués State Forest, SUR in

Amazonia. PGIS data acquisition for 415 families,

444 houses, 597 agricultural & animal-raising

areas, 138 fishing sites, 106 hunting sites, 225

extraction sites in short time (< 20 days) and

accessible costs (<US\$ 10,000). Classified &

located activities & points used, areas under

stronger pressure, & hotspots for conservation,

estimate nearly 30% of reserve under direct use

by residents. Conservation implications.

Recommend collection & mapping socio-

economic information should be prerequisite

*before* creation of SURs in Amazonia.

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Keywords: P3DM, territory & land claims, Philippines

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Maurice A. Phillips (2011)

Blending geospatial technology and traditional

ecological knowledge to enhance restoration

decision-support processes in Coastal Louisiana.

J. of Coastal Research 27 (3) 555-571.

doi: <http://dx.doi.org/10.2112/JCOASTRES-D-10-00138.1>

Keywords: USA, Louisiana, Gulf Coast,

indigenous knowledge, (P)GIS, RS, coastal

ecosystems management, social vulnerability,

marsh vegetation,

Abstract: coastal restoration decisions important

given limited resources available & increasing

magnitude of marsh degradation across Gulf

Coast. Investigated feasibility & benefits of

integrating geospatial technology with traditional ecological knowledge (TEK) of an indigenous Louisiana coastal population to assess impacts of current & historical ecosystem change on community viability. Goal to provide coastal resource managers with decision-support tool allows comprehensive method of assessing localized ecological change, Gulf Coast, which can also benefit human community sustainability. Use RS & GIS mapping products integrated with coastal community's TEK, research determined method produce vulnerability/sustainability mapping products for ecosystem-dependent livelihood base of coastal population. Study demonstrates how approach engages affected community residents interested in determining & addressing causes, mitigating decline of marsh habitat. Historical image data sets of study area acquired to understand evolution of land change & future vulnerability. Image-processing procedures applied to produce maps that detail land change time intervals 1968 - 2009. Combined in GIS with acquired TEK & scientific data sets on marsh vegetation health & vulnerability characteristics. Information includes: marsh areas most vulnerable; and areas most significant to community sustainability.

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2.1 Landscape as a construct of mind 2.2

Different perspectives on landscape 2.3 Time - a

contested perspective 2.4 scientific maps to

participatory maps, 2.4.1 Scientific maps over the

landscape 2.4.2 map is never neutral 2.4.3

Towards a participatory approach 3 Participatory

mapping in Ostlänken 3.1 Cultural landscape

investigations in the planning process 3.2 The

participatory mapping process 3.3 Experts'

reactions 3.3.1 Motives and significance 3.4

Further interpretation of the participatory map

3.4.1 Purpose of interpretation 3.4.2 Process of

### interpretation 3.4.3 Comparing participatory mapping & scientific mapping

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participatory mapping to generate baseline of local concerns and recruit participants for in-depth discussion groups. Group meetings combined vignette techniques from social qualitative research to investigate local knowledge of inequalities and adapted to include participatory mapping to capture participant understandings in a spatial framework. Stakeholder-supplied information analysed in PGIS and qualitative software to investigate whether place plays role in perceptions of unfairness or injustice and how residents differentially affected by rural conditions. Mixed participatory methods described & linked to highlights of findings of PGIS analysis of local stakeholder's perceptions of inequalities.

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Keywords: Grosseto, Tuscany, Italy, agriculture, farm systems, local spatial knowledge, service supply, agricultural planning,

Abstract: Spatial evaluation to develop strategies to plan and manage agricultural systems and assess impact of agricultural policies. Innovative methods of acquiring and processing spatial data and agric. information. In this context, place-based experiential knowledge of local actors is important source of data. Several methods for retrieving & analyzing this knowledge. Paper aims to analyze capability of mapping local spatial knowledge to identify organizational gaps in provision of agricultural services. Method was interview supported with fixed-scale map; goal of interview to retrieve spatial data & descriptive information (local spatial knowledge mapping) for GIS process. Map-based interviews with 26 representative collective structures of Grosseto (central Italy) agro-food system. 5 agricultural systems (field crops, livestock, viticulture, olive-growing, fruit-growing/horticulture) & 5 services



(stocking/selling farm products, technical advising, sale farm inputs, promotion and contract services) were identified by LSK. Main organizational & spatial gaps assessed in each agric system for: (a) number, typology and combinations of supplied services, (b) overlap of operational areas of agro-food system structures with areas reported as being suitable for the 5 agric systems. Analysis allowed identify benefits & drawbacks in the spatial configurations provisioning agricultural services for local farm activities.

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keywords: ILC experiences: P mapping for (1) provide community cohesion & leverage for collective action, (2) identify, adjudicate & register land rights, (3) improve LUP & management, (4) support land dispute or conflict resolution (5) territorial planning & socioeconomic integration.

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Keywords: tools & methods, PMapping applied to Community Cohesion & Advocacy, Land Rights Adjudication & Registration, Land Use Planning & NRM, Land Disputes & Conflicts, Territorial Planning. PMap as empowerment. 3 cases: PAFID Philippines Mindanao P3DM; Grupo Tierra Nicaragua; HARDI cadastre Madagascar

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Mosquitoes & vulnerable spaces: Mapping local knowledge of sites for dengue control in Seremban and Putrajaya Malaysia.

*Applied Geography* 46, 71–79.

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Keywords: urban, health, dengue; PGIS; community mapping; risk perceptions; local knowledge, Malaysia, Negeri Sembilan  
 Abstract: At local scale, dengue prevention and control is cooperative effort as favorable vector breeding sites across residential, commercial and public spaces. many vector control initiatives do not take local understanding of dengue risk and how this impacts the actions of residents to prevent dengue by eliminating breeding sources. participatory mapping approach to identify spatial perceptions of risk to dengue at community scale. 4 mapping groups in two urban Malaysian communities that experienced high dengue rates, divided into male and female groups to encourage gender equity. Participants draw map of areas they associated with dengue and mosquito breeding in their communities, describe important features on map. Sketch map features digitized to GIS create georeferenced map of community knowledge, translating outputs into formats accessible to stakeholders. Community spaces linked to dengue differed between communities, included green spaces, construction projects, drainage networks abandoned land. Findings indicated resident perceptions of vulnerable

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Keywords: Ethnic mapping indigenous lands,

Brasil, important for local management. Kampa

Indigenous Land, Amonia River (KILAM, 870

km2) western Acre, lack of cartographic base at

adequate scale impeded ethnic zoning. Used

digital topo data, SRTM/NASA, derived

hydrographic drainage networks with LandSat

TM+ imagery generated land cover &



hydrographic maps of KILAM 1:50,000 scale. Workshops in Ashaninka community of Apiwtxa, Amonia River near frontier Brazil/Peru. Community used base maps to generate georeferenced info on vegetation, natural resource use, incursions foreigners, wildlife, presence & migration of fauna, regional history, & fishing, for integrated management of territory.

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Abstract: Subsistence resources critical for indigenous communities, Kotzebue Sound, NW Alaska. Global sea-level rise & coastal erosion create unfavorable hazardous conditions for coastal, estuarine settlements. Unclear how sealevel & erosion affect coastal subsistence resources because highly complex ecological interactions. Study integrates physical, anthropological, survey data to assess coastal vulnerability to identify areas of concern for planning environmental protection. Analyzes, integrates historical & projected physical coastal changes in Kotzebue Sound with (1) coastal vulnerability index (CVI); (2) community-based PGIS maps of community subsistence resources; (3) representative surveys of local communities re. importance of resources Results identify Kivalina & Deering as vulnerable coastal locations among 4 villages. While CVI is high in these locations, low erosion rates not likely have negative impact on fish & caribou. Because of higher number of identified subsistence spp, Deering more resilient than Kivalina to negative coastal impacts. Methodology useful in coastal areas with subsistence resources

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Keywords: UK, Scotland, coastal landscape,  
participation, PGIS, visualisation, multiple data  
Summary: explores GIS-application) as  
alternative for public participation in coastal  
decision-making. Scottish local case examines  
evidence GIS, specifically PPGIS can influence  
greater legitimacy in decision making in  
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development. demonstrates GIS & PPGIS  
potential to provide public with access to accurate  
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research, incorporation of indigenous voices in  
future of Amazon. How archaeology collaborating  
with indigenous peoples in Upper Xingu region,  
southern Amazonia (Brazil) contributes to local  
interests, anthropological interest, & global  
questions tropical forest & their indigenous  
peoples. Archaeologist's principal skills, mapping  
things in time & space, important tool for  
participatory research & language for intercultural  
collaboration.

Collaboration begins with dialogue. Involves  
diversity & difference in perspective, depends on  
mutual understanding & respect. Dialogue implicit  
in anthropology across subfields & other  
disciplines, rooted in holistic approach N. Amer  
anthropology. Holistic anthropology, more than  
interdisciplinary approach, recognizes multi-scalar  
& multi-vocal dimensions of knowledge  
production. Anthropologists deal with diversity of  
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*“Maps are inseparable from the political and cultural contexts in which they are used.”*

Summary: Forum on Indigenous Mapping aimed primarily at indigenous leaders, elders, community representatives, technicians who produce maps to secure the control, use, and protection of their land and resources, and to maintain centuries-old cultural knowledge. Topics include: mapping as a basis for negotiation and litigation; history of indigenous mapping and counter-mapping; mapping technologies; mapping as tool for cultural education and revitalization; and risks and challenges of mapping.

200 indigenous representatives worldwide engaged in mapping, & individuals who assist in efforts. Establish connections & exchange knowledge between participants.

Sessions in 2 strands. Advocacy mapping is designed to influence audiences and decision makers outside the indigenous community conducting mapping work. Empowerment mapping directed more at indigenous community and own decision makers. Also explore negative implications of mapping to foster critical thinking about the use and consequences of maps.

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Research to Extract history of land-use in a sub-watershed Thailand by combining RS & anthropology. Result local villagers with useful tool for more sustainable landscape management.

3 villages interviews in-depth on historical land-use changes, helped to make land-use maps approx.1973, 1980, 1989, 1999. maps digitized and compared to RS images from same years.

Trends and discrepancies between the 2 sets were analysed, discussed with villagers to establish local land-use history. involvement of local groups in mapping process instrumental in overcoming long inter-village conflicts, by creating common knowledge platform to base co-



management. Result helped process of inter-village forest management cooperation, subsequently CARE & sub-district administration

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Summary: climate-warming will impact Arctic more than anywhere. Drastic catastrophic changes occurring in Arctic in last decades. Iñupiat people of North Slope have urgent interest in addressing potential changes. firsthand knowledge of these changes, and their insights provide level of understanding not often available through traditional science.  
Research explores intersection between science, technology and indigenous knowledge. 53 interviews over 5 yrs collected information on landscape processes, natural resources, vegetation, cultural/historical sites, life stories, language. Information into GIS database to create indigenous knowledge website.  
Produced viable Web-based GIS housing repository of elder & community knowledge, 4 villages on North Slope. To return all data to community in a method that is engaging, educational and promotes community participation, collaboration. By means for stakeholders to participate in process, community will assume control of data collection, preserve own culture and create living document.

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Keywords: community conservation mapping,  
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woodfuels, mountain landscape, landscape mngt.,  
PRA, Mt. Kasigau, Eastern Arc, Taita, Kenya

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Keywords: Bangladesh, village water & sanitation  
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NRM, (GIS), Tanzania- East Usambaras, ITC

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Local farmers' place-based forest benefits and  
government interventions behind land cover and  
forest transitions in Zanzibar, Tanzania.  
Manuscript submitted to J. of Land Use Science  
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landscape values, LSK, PGIS, (PES), land use,  
agriculture, social,

Abstract: Forests are a lifeline of well-being of  
many communities in the tropics. They provide  
valuable commodities, such as timber, firewood  
and wild fruits, and support several intangible  
benefits for the people. Forests are also  
foundation of many supporting facilities that  
human systems depend on, such as water  
circulation and carbon sequestration.  
Unfortunately forested land is overused  
extensively throughout the globe and especially in  
the tropical regions. Mechanisms leading into  
forest degradation are complex and relate largely  
to dynamics of different social, economic and  
cultural actors. This study is based on the  
hypothesis that community-placed landscape  
benefits are cumulative reflections of the direct  
and indirect influences that humans have and  
have had on land and forests for many decades in  
a rural subsistence based communities. These  
influences are realised as complex land and  
forest cover transitions, which can be  
retrospective studied with historical data sets,  
such as aerial photographs. This study aims to  
identify local causes and consequences of forest  
cover transitions, such as forest stability,



heterogeneity and degradation during the last 50 years. It translates community-driven place-based landscape benefits into functional land use patterns reflecting community pressures on forested land, and discusses the current and future status of the forest resources and the role of community together with external influences in supporting and threatening the long term viability of forest resources.

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Keywords: Canada, Nova Scotia, marine fisheries, NRM, P mapping, social

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Keywords: Sudan, co-operatives, PGIS ?  
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Keywords: PAR, Methods, Cases: Part 1: ethical & pragmatic contexts of PAR; approaches to PAR; post-structuralist perspectives on PAR as a form of power; safety & well-being. Ethics; Empowerment; spatialising PAR. Part 2: critique of politics, places and practices of PAR. participatory methods incl. diagramming, cartographies, art, theatre, photo, voice, video & GIS. Part 3: effectiveness of PAR. PAR. Participatory learning. Relate action to activism. Conclusion: space(s) & scale(s) of PAR: Constructing empowering geographies?

Cases: CPR fisheries, New England USA, collaborative resource management Peruvian Amazonia; youth & cultural capital & place Aotearoa/ New Zealand; Diagramming: NE England; Participatory cartography: Fiji, Tanzania; Participatory art: spatial vocabularies London. Participatory theatre, USA. Photovoice: Saskatchewan, Canada. Participatory video Aotearoa/New Zealand: Ngāti Hauiti; Participatory GIS: Humboldt Park Community GIS, Chicago. Participatory data analysis..

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Keywords: Laos, Fiji, cultural, heritage, history, participatory mapping, community, World Heritage, P3DM  
Abstract: Community participation in conservation and development projects. Ability to obtain accurate understanding of community needs, improved ability adapt project to local conditions, improved cooperation within & between community & outside stakeholders. P mapping

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 DOI: 10.3390/s8053037  
<http://www.mdpi.net/sensors/papers/s8053037.pdf>  
 Keywords: public participation, disaster reporting, internet GIS, media, blogging, (PGIS), on-line networks, 'people as sensors', reliability issues

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 Keywords: community, rural water supply, Kenya, Cameroon, Nepal, Pakistan, Guatemala, Colombia, PAR, PRA, some mapping

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 Enschede: University of Twente, ITC, GIM/LA, MSc Thesis (94p.)  
[http://www.itc.nl/library/papers\\_2009/msc/gimla/lamptey.pdf](http://www.itc.nl/library/papers_2009/msc/gimla/lamptey.pdf)  
 Keywords: PGIS, LSK, indigenous knowledge, peri-urban, land tenure, Ghana

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<http://www.iapad.org/publications/ppgis/pacos.pdf>  
 Keywords: Summary of PGIS & P-mapping in West Malaysia & Sarawak, Orang Asli, Dayaks, customary lands, land tenure, NRM, participation, law, conflict mngt., training; PACOS Trust & (JOAS) Indigenous Network of Malaysia.

Laumonier, Y.; R. Bourgeois; and J.-L. Pfund (2008)

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Utrecht: Utrecht University, PhD Thesis.

Keywords: GIS, ITK, (NRM), Philippines- Benguet, agriculture, ITC

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Keywords: GIS, ITK, Philippines- Benguet, mountain agriculture, landuse

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Keywords: GIS, ITK, Paraguay, (land tenure), resources.

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Common Property Resource Digest 58, 1-3.

Keywords: common property resources, (PGIS), Asia.

Lemma, Tsion; Sliuzas, Richard; and Kuffer, Monika (2006)

A participatory approach to monitoring slum conditions: an example from Ethiopia.

Participatory Learning and Action 54: 58-66.

Keywords: Ethiopia, Addis, urban slums, poverty, participatory RS image interpretation,

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Pastoralists' Seasonal Land Rights in Land Administration. A study of northern Kenya.

Enschede: University of Twente ITC and Wageningen University, PhD Thesis. (164pp)

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[http://www.itc.nl/library/papers\\_2011/phd/lengoiboni.pdf](http://www.itc.nl/library/papers_2011/phd/lengoiboni.pdf)

Keywords: Kenya, Samburu people, semi-arid, pastoralism, ITK, LSK, P mapping

Lescuyer, Guillaume; A. Emerit; E.S. Mendoula; and J.J. Seb (2001)

Community Involvement in Forest Management: a Full-Scale Experiment in the Southern Cameroon Forest.

London: ODI, Rural Development Forestry Network RDFN Paper No. 25c.

Keywords: Cameroun, forestry, stakeholders, community GIS, scenario maps, negotiations

Leuenberger, Christine; and Schnell, Izhak (2010)

The politics of maps: Constructing national territories in Israel.

Social Studies of Science 40 (6) 803–842.

DOI: 10.1177/0306312710370377

Keywords: Cartography, ethics, Israel, maps, Palestine, politics, history, space, territory, visual rhetoric

Abstract: land demarcated by Mediterranean Sea to the west and the Jordan Valley to the east one of the most disputed territories in history. World powers have redrawn its boundaries numerous times. Since the establishment of the state of Israel in 1948 within British Mandate Palestine, Palestinians and Israelis have disagreed over the national identity of the land that they both inhabit. The struggles have extended from the battlefields to the classrooms. In the process, different national and ethnic groups have used various sciences, ranging from archeology to history and geography, to prove territorial claims based on their historical presence in the region. But how have various Israeli social and political groups used maps to solidify claims over the territory? In this paper we bring together science studies and critical cartography in order to investigate cartographic representations as socially embedded practices and address how visual rhetoric intersects with knowledge claims in cartography. Before the 1967 war between Israel and its Arab neighbors, the Israeli government and the Jewish National Fund produced maps of Israel that established a Hebrew topography of the land. After 1967, Israel's expanded territorial control made the demarcation of its borders ever more controversial. Consequently, various Israeli interest groups and political parties increasingly used various cartographic techniques to forge territorial spaces, demarcate disputed boundaries, and inscribe particular national, political, and ethnic identities onto the land.

Levine, A. S.; and Feinholz, C. L. (2015) Participatory GIS to inform coral reef ecosystem management: Mapping human coastal and ocean uses in Hawaii.

Applied Geography.

DOI: 10.1016/j.apgeog.2014.12.004

Keywords: PGIS; P mapping, Coral reef management; USA, Hawai'i; ecosystem, coastal marine, spatial planning

Abstract: Sociospatial information critical to marine coastal ecosystem management. Hawaii Coastal Uses Mapping Project used PGIS methodology gather local knowledge re, location, intensity of coastal human activities in Hawaii's priority sites for coral reef management. PGIS provided efficient effective means obtain information in data-poor context, particularly at a scale & location where considerable local knowledge by community members & resource

users. PGIS methods developed to collect sociospatial data on human uses in the project, discuss important considerations regarding practice of PGIS that emerged from mapping process, as well as implications for production & documentation of spatial knowledge. Key themes include: issues of scale and appropriateness in using PGIS as method for mapping human coastal marine activities; data validity, authority, nature of local knowledge; community trust, engagement, collaboration; and utility for coral reef management. Factors limit local agencies' ability to use this spatial information, the P mapping process valuable for stakeholder identification, engagement, and maps provide resource to state and federal managers.

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Importance of GIS to community-based management of wildlife: lessons from Zambia.

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Keywords: Zambia, West Patauke GMA, Luambe NP; CB NRM, fishing, wildlife, hunting, tourism, chiefs represented community in the participatory planning.

Lewis, David (1976)

Route finding by desert aborigines in Australia.

The Journal of Navigation 29, 21-38.

Keywords: Australia ; Central Australia; spatial concepts; symbolism; (sacred knowledge); ISK; navigation.

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Oceania 46, 249-282.

Keywords: Central Australia, Western Desert, Pintupi people; spatial concepts; sacred knowledge, ISK; navigation.

Source: ref. in Turnbull (1989/93)

Lewis, David (1978)

The way of the nomad.

pp.78-82 IN: From Earlier Fleets: Hemisphere - an Aboriginal Anthology.

Keywords: Australia, Central Australia, Western Desert, Pintupi, Loritja peoples; spatial concepts; picture/map symbolism; sacred knowledge; ISK; navigation.

Source: excerpted in Turnbull (1989/93) pp 52-53.

Lewis, David (1975 / 1994)

We, the Navigators. The Ancient Art of Landfinding in the Pacific.

Honolulu: University of Hawaii U.P. (1994 2<sup>nd</sup> ed.) (464p.)



Keywords: Pacific. Polynesia, Micronesia, Melanesia, Fiji, Tahiti, Tonga, etc., Indonesia, Siberia, Indian Ocean, indigenous trad. navigation by: weather, ocean swells, celestial, animal & bird observations, etc.

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Keywords: Russia, Siberia, Arctic, Inuit, indigenous people, spatial concepts; wildlife, hunting, pastoralism, (sacred knowledge); ISK; navigation

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Map Collector 9, 25-32.  
Keywords: Keywords: USA, Canada, First Nations, maps

Lewis, G. Malcolm (1987)  
Indian delimitations of primary biogeographic regions.  
IN: T.E. Ross and T.G. Moore (eds) (1987) A Cultural Geography of North American Indians. Boulder, CO: Westview.  
Keywords: Keywords: USA, Canada, First Nations, maps, NRM, (conservation)

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Cartographica 30 (1) 98-106.  
Keywords: Keywords: USA, Canada, First Nations, maps

Lewis, G. Malcolm (19..?)  
Native North Americans' cosmological ideas and geographical awareness.  
IN: John Allan (ed.) (??) North American Exploration. Lincoln, NB: University of Nebraska U.P.  
Keywords: Keywords: USA, Canada, First Nations, maps, cosmology

Lewis, G. Malcolm (1998)  
Maps, Mapmaking, and Map Use by Native North Americans.  
Chap. 4 IN: Woodward; and Lewis (eds.) (1998)  
Keywords: USA, Canada, First Nations, maps

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Cartographic Encounters: Perspectives on Native American Mapmaking and Map Use. Chicago & London: University of Chicago Press. (c.300p.)

Keywords: maps, USA, New England, SW, Canada, First Nations; Mexico, (Nebenzahl Lectures in History of Cartography).

Abstract: Ever since a Native American prepared a paper "charte" of the lower Colorado River for the Spaniard Hernando de Alarcón in 1540, Native Americans have been making maps in the course of encounters with whites. This book charts the history of these cartographic encounters, examining native maps and mapmaking from the pre- and post-contact periods. Accessible and detailed overviews of the history of native North American maps, mapmaking, and scholarly interest in these topics. Other contributions include a study of colonial Aztec cartography that highlights the connections among maps, space, and history; an account of the importance of native maps as archaeological evidence; and an interpretation of an early-contact-period hide painting of an actual encounter involving whites and two groups of warring natives. Although few original native maps have survived, contemporary copies and accounts of mapmaking form a rich resource for anyone interested in the history of Native American encounters or the history of cartography and geography.

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Enabling forest people to map their resources and monitor illegal logging in Cameroon.  
IN: Before Farming: the Archaeology and Anthropology of Hunter-Gatherers. 2 .  
Accessible technologies and FPIC: independent monitoring with forest communities in Cameroon 165  
[www.waspress.co.uk/journals/beforefarming/journal\\_20072/news/2007\\_2\\_03.pdf](http://www.waspress.co.uk/journals/beforefarming/journal_20072/news/2007_2_03.pdf)  
Keywords: community forestry, illegal logging, Cameroon, community mapping, consent, FPIC, PGIS, Helvetas, (cybertracker),

Lewis, Jerome (2012)  
Technological leap-frogging in the Congo Basin: Pygmies and geographic positioning systems in Central Africa: what has happened and where is it going?  
African Study Monographs, Supplementary Issue, 43:, 15-44.  
Keywords: biodiversity, community forestry, illegal logging, Cameroon, Central Africa, ethics, consent, FPIC, PGIS, Helvetas, (cybertracker),

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Accessible technologies and FPIC: independent monitoring with forest communities in Cameroon. Participatory Learning and Action (IIED) 65. Chap. 13. pp.151-165. Special issue: Biodiversity and culture: exploring community protocols, rights and consent.

Keywords: biodiversity, community forestry, illegal logging, Cameroon, ethics, consent, FPIC, PGIS, Helvetas, (cybertracker),

Abstract: Partnership between communities and a community based monitoring project on illegal logging and advocacy in Cameroon. FPIC and BCPs were used to strengthen ownership of the project, following an evaluation which showed weak appropriation of the monitoring technology by participating communities. The first step extensive consultations with each community so they could either refuse or consent to the project, using FPIC form and checklist to check understanding of information given about the project at each stage. If granted, community protocols developed to provide the basis for organising activities throughout the project –who would participate in data collection and mapping, how they would participate, and roles and responsibilities. The process of elaborating FPIC forms and community protocols important because enabled most of challenges and difficulties of implementation by community to be identified at this stage. Accessible technologies and GPS icons designed with community participation, enabled communities to take control.

Li, Tania Murray (2000)  
Constituting tribal space: indigenous identity and resource politics in Indonesia.  
Comparative Studies in Society and History 42 (1) 149-179.

Keywords: Indonesia, Central Sulawesi, culture, history, sacred sites, resource rights, ISK, land claims, resource conflict spatial cognition, place names (not directly P-mapping).

Liebenberg, Louis; Edwin Blake; Lindsay Steventon; Karel Benadie; and James Minye (1998)  
Integrating traditional knowledge with computer science for the conservation of biodiversity. (8p.)  
Paper given at 8th International Conference on Hunting & Gathering Societies, Osaka, Oct. 1998.  
<http://www.cybertracker.co.za/>  
[www.cybertracker.org/IntegratingKnowledge.html](http://www.cybertracker.org/IntegratingKnowledge.html)  
Keywords: PGIS, mobile GIS, CyberTracker, South Africa, (Kalahari, San people), biodiversity, conservation, wildlife, (hunting), tracking, navigation, LSK

Liebenberg, Louis; Steventon, Lindsay; Benadie, Keral; and Minye, James (1999)  
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Liebermann, Susan; and Justine Coulson (2004)  
Participatory mapping for crime prevention in South Africa – local solutions to local problems.  
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Keywords: South Africa, crime, security, P mapping

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Joydebpur: BARI. (80p.)  
Keywords: PRA, RRA methods, gender, agriculture, training tools, ICLARM, (Philippines)

Lightfoot, Clive; and R. Noble (1993)  
A participatory experiment in sustainable agriculture.  
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Keywords: farmer ITK, PRA, P-mapping techniques.

Lin, C.C., Chang, C.Y., Tsai, B.W., Lee, C.T., Ding, T.J., and Li, Y.T. (2005)  
Applying public participation geographic information system to the study of the traditional territories of indigenous peoples- A case of Atayal Smangus community.  
J. of Geographical Science 41, 65-72  
Keywords: Taiwan, indigenous Smangus Atyal people, landscape, territory, shifting cultivation, PGIS,

Lindenbaum, Stephanie (2006 A)  
GIS/Mapping: Introducing the Case Studies  
Open Society Institute, OSI Information Program. (8p.)  
[http://www.soros.org/initiatives/information/focus/communication/articles\\_publications/publications/gis\\_20060412/a\\_introduction.pdf](http://www.soros.org/initiatives/information/focus/communication/articles_publications/publications/gis_20060412/a_introduction.pdf)  
Keywords: community &/or P Mapping; health, crime, security; USA, Chicago crime maps; Canada, BC, Red Road HIV AIDS, cf. de Roy.

Lindenbaum, Stephanie (2006 B)  
GIS/Mapping: Case Studies.  
Open Society Institute, OSI Information Program. (46p.)  
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[http://api.spsr.ucla.edu/Publication/gis\\_20060412.pdf](http://api.spsr.ucla.edu/Publication/gis_20060412.pdf)  
[http://www.soros.org/initiatives/information/focus/communication/articles\\_publications/publications/gis\\_20060412/a\\_introduction.pdf](http://www.soros.org/initiatives/information/focus/communication/articles_publications/publications/gis_20060412/a_introduction.pdf)  
Keywords: community &/or P Mapping 10 case studies, incl. St. Lucia, Laborie Bay CANARI- Caribbean Natural Resources Inst cf. A..Smith / GreenInfo, California, "Information & Mapping in the Public Interest"; / Human Rights Watch Off

Target project, bombing sites. Iraq war; / Ashanti, Ghana Conflict Management cf. Kyem; / Southern Echo, Mississippi USA school district info etc. ethnicity.

Litfin, K.T. (1997)

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Litherland, Liz ??? (2012)

Which "public"? Sampling effects in public participation GIS (PPGIS) and Volunteered Geographic Information (VGI) systems for public lands management.

J. of Environmental Planning and Management 33p.

<http://mc.manuscriptcentral.com/cjep>

Keywords: PGIS, VGI, USA, forest planning, values, quality, sampling, Summary: Web 2 technologies incl. PPGIS & VGI methods for engaging multiple publics in public lands management. Effects of sampling in PPGIS/VGI application for national forest planning, USA. Random sample of households and volunteer public (VP) invited to participate in internet-based PPGIS to identify national forest values & use preferences. Spatial & non-spatial group responses were analysed. VP group expressed stronger utilitarian values & consumptive use preferences while the RS group preferred forest amenities. These results would lead to different planning decisions. PPGIS/VGI methods should include scientific sampling to ground-truth voluntary participation.

Liverman, Diana; Emilio F. Moran; Ronald R. Rindfuss; and Paul C. Stern (eds) (1998) People and Pixels. Linking Remote Sensing and Social Science.

Washington DC: National Academy Press (244p.)

Keywords: RS, GIS, social, economic, demographic, forestry, agriculture, urban, landuse planning, climate, food, early warning, Brasil, Amazonia, USA, Thailand, Guatemala,

Loh, Douglas K.; and Rykiel, Edward J. (1992) Integrated resource management systems: coupling expert systems with data-base

management and geographic information technology.

Environmental Management 16 (2) 167-177.

Keywords: GIS, NRM, USA, forestry (DSS), not PGIS (experts=professionals).

López-Mendoza, Marlene (2007)

Cultural Vulnerability, Risk Perception and Communication: towards a Community Participatory Approach for Disaster Prevention in the Municipality of Tlatlauquitepec, Sierra Norte de Puebla, Mexico.

Geneva: ProVention/ World Bank Young Researchers Grant Program, Research Report. (31p.)

<http://www.proventionconsortium.org/themes/default/pdfs/CRA/Mexico.pdf>

Keywords: Mexico, Sierra Norte de Puebla, CRA, landslide hazard maps, PRA, communications, (not PGIS)

López Urrego, Angela Patricia (2010)

Una noción de territorio y los sistemas de información geográfica participativos: experiencia en una comunidad indígena del Amazonas colombiano.

Revista UD y la Geomatica 4, 3-14. (ISSN 2011-4990).

Keywords: Colombia, Amazonia, SIGP, territory, indigenous people, space, land claims, political

Louis, Renee Pualani (2006)

Difficulties of Incorporating Indigenous Spatial Perceptions with Western Cartographic Traditions.

Paper given at Session on: Experiments with Territories: Post Cartographic Map Design, Association of American Geographers (AAG) Annual Meeting, March 2006, Chicago IL.

Keywords: North America, indigenous spatial knowledge, spiritual, cultural, territorial demarcation, landscape classification, landscape-spirit relationships, 'indigenous' cartography

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Introduction: Indigenous cartographies and counter-mapping.

Cartographica 47 (2) Special Issue : Indigenous Cartographies and Counter-Mapping.

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<http://utpjournals.metapress.com/content/57402105u7715539/?p=9c926988f5ed4253a52ef2ac0781e641&pi=0>

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Let My Cattle Go Thirsty?: Exploring Resource Access and Visualizing the Space-Time Dimensions of Pastoral Mobility in the Kilimanjaro Region of Tanzania.

Ohio University. PhD Thesis.

Keywords: PGIS, P mapping, Tanzania, Kilimanjaro, pastoral, water, oral histories

[https://etd.ohiolink.edu/ap/10?0:NO:10:P10\\_ACCESSION\\_NUM:ohiou1312921942](https://etd.ohiolink.edu/ap/10?0:NO:10:P10_ACCESSION_NUM:ohiou1312921942)

Luchette, Joseph A.; and Tom Crawford (2008) A Public Participation GIS application for citizen-based watershed monitoring in the Pamlico-Tar River Basin, North Carolina.

*Southeastern Geographer* 48 (2) 184-200.

<<http://muse.jhu.edu/>>.

Keywords: USA, North Carolina, multi-criteria evaluation, P PGIS, watershed management, water quality monitoring, web mapping.

Abstract: Water quality is a serious concern throughout eastern North Carolina due to development pressure, agricultural runoff, and animal operations. A local environmental organization was concerned that water quality monitoring in the Pamlico-Tar River basin is hampered due to a sparse network of sampling sites and inconsistent data collection. Consequently, a volunteer watershed monitoring project was initiated by Pamlico-Tar River Foundation (PTRF). University researchers partnered with the PTRF to assist by providing two GIS-based solutions: (1) guidance for the selection of water quality monitoring sites, and (2) distribution of water quality data to the public in mappable form via the Internet. A multi-criteria evaluation was performed that mapped and quantified a pollution potential index for all 167 local watersheds in the basin to guide site selection. An interactive Web mapping tool was designed using Manifold IMS software and deployed on university and commercial hosts. The online map service has been operational since 2005 and provides the general public valuable information regarding the health of local water resources. results demonstrate collaborative partnership between university researchers and a grass roots environmental organization characterized as a form of PPGIS.

Maceda, Emmanuel A.; Jean-Christophe Gaillard; Elodie Stasiak; Virginie Le Masson; and Iwan Le Berre (2009)

Experimental use of participatory 3-dimensional models in island community-based disaster risk management.

*Shima: The International Journal of Research into Island Cultures* 3 (1) 72-84

<http://www.shimajournal.org/issues/v3n1/h.%20Maceda%20et%20al.%20Shima%20v3n1%2072-84.pdf>

Keywords: P3DM, community disaster risk management, hazards, vulnerability, Divinubo, Samar, Philippines

MacLennan, Gregor (2003)

Interview by Christian Amodeo.

*Geographical* June 2003, p.106.

Keywords: Amazonian Peru- Purus River, Nahua people; P-mapping, GPS, GIS for land title vs. forestry. Cf. Conrad Feather (2004)

Macnab, Paul (1997)

Maps and Traps: A Geographer's Perspective on Fishing and Marine Protected Areas in Bonavista Bay, Newfoundland.

Waterloo, Ont.: University of Waterloo, Dept. of Geography, M.Sc. Thesis.

Keywords: Canada, Newfoundland, fisheries conservation, ITK, GIS, participatory mapping

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There must be a catch: participatory GIS in a Newfoundland fishing community.

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Keywords: Canada, Newfoundland, fisheries conservation, ITK, participatory mapping, Varenius

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pp. 173-191. Chap. 13. IN: Craig et al. (eds) (2002)

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Keywords: Canada, Newfoundland, fisheries conservation, ITK, participatory mapping

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Protecting indigenous peoples' privacy from "eyes in the sky".

pp.223-231 IN: H.J. Onsrud (ed.) *Proc., Conference on 'Law and Information Policy for Spatial Databases'*. Tempe, AZ: Arizona State Univ., College of Law, Center for the Study of Law, Science & Technology. Orono, ME: NCGIA.

<http://www.spatial.maine.edu/tempe/madsen.html>

Keywords: GIS, ITK, RS, social, cultural, legal, USA, Native Americans, world.

Majid-Cooke, F. (2003)

Maps and counter-maps: globalised imaginings and local realities of Sarawak's plantation agriculture.

*J. of Southeast Asian Studies* 34 (2) 265-284.

Keywords: Malaysia, Sarawak, plantation agriculture, P maps, countermaps

Makokis, Ralph; and David Buckley (1991)

The Role of GIS in Integrated Resource Management for First Nations Initiatives in Alberta.

Paper given at GIS'91 Natural Resource Symposium, Vancouver BC, Feb. '91. (9p.)



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Keywords: Canada, First Nations, Alberta GIS applications, institutions, commercial, (needs analysis), NRM, AMN

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Keywords: India- Almora & Nainital districts, Uttaranchal, CSDMS; children, participatory village planning, P-village mapping, (RRA), PGIS

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Abstract: Conflicts over pastoral resources.

findings of research on PGIS in mapping local context of conflicts over pastoral resources in Duru-Haitemba community forest, Manyara region. Community mapping & PGIS used interchangeably. research specifically intended to i) identify existing grazing resources use, access & conflicts among pastoralists, other land users, ii) study how PGIS used to identify grazing resources, pastoralist's uses and access interaction iii) examine effectiveness of PGIS as tool for assessing spatial temporal distribution of conflicts. PGIS combined with interviews, geo-coded transect walk, observation and focus group used to understand situation in the field.

Community mapping & PGIS outputs used to ground truth conflict areas after mapping. outputs combined in Arc GIS and ERDAS facilitated visualization of conflicts and its distribution. 79 heads of households, 7 village leaders and professionals identified through systematic random sampling for interview. research found conflicts over pastoral resources among agro-pastoralists and other actors at village, district and indirectly at national levels. Conflicts spatially distributed in forest areas, around water sources & along water bodies due to incompatible interests among different actors. Decisions convert grazing land to other uses made with less or no participation of concerned actors.

Population increase, more demand for farmland and conservation has reduced quantity of grazing resources. Inadequate coherency & linkage in policies & directives demonstrated negative impact on prior decisions. PGIS, community sketch mapping proved useful tools for examining conflicts and distribution, which could not be done through conventional GIS & RS by classifying images. Therefore PGIS in this study is considered as Participatory Digital Mapping empowered community through knowledge sharing and raising awareness..

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child power differential. Large colourful laminated maps depicting children's neighbourhood custom made for each child at child-friendly scale include parks, community centres, schools and main streets. Child & RA mark child-relevant places with stickers, trace daily routes & local geographies. Semi-structured, open-ended script, prompts child to communicate built environments identify (dis)advantages of mobility device. Mark & describe accessibility of physicians and dentists, a park/playground, restaurant, cinema, library, place worship, comm. centre, shopping. RA will calculate "neighbourhood walkability" score using Walk Score, Google Maps (<http://www.walkscore.com/>).

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on focus-group discussions, enhanced by community-based LU mapping, resulting in 21 participatory land-use maps (PLUMs) co-produced by sample of stakeholders with different sociocultural, ecological perspectives. In parallel, 7 images (Landsat MSS Landsat TM Landsat ETM+, SPOT4) classified by standard techniques, provided snapshots for 1976, 1996, 2010. Local knowledge & collective memory contributed to define & qualify relevant LU classes. Provide information about what caused past LU changes. Results show that combining PA with RS analysis provides unique understanding of land-cover change because 2 methods complement, validate. Substantive qualitative information re. chronology of land-cover change obtained in short time across area poorly covered by sci. literature. RS techniques contribute to test and quantify verbal reports of LU & land-cover change by stakeholders. Method particularly relevant to data-poor areas, conflict zones, rapid reconnaissance is only option. A preliminary but accurate base-line for capturing land changes and reporting causes and consequences. Challenges (how combine different systems of knowledge) options for methodological improvements.

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Keywords: Participatory mapping, integrated land use planning, Hardap region, Namibia; local communities, urban, rural, survey method experience

Abstract: empirical findings potential value of Pmapping for effective Integrated Land Use Plan by local communities, Hardap Region.

Combination approaches, sketch mapping, photo-mapping, consultative meetings. Positive & negative impacts of P mapping on ILUP measured, & local communities' knowledge of P approaches tested. P mapping is known to experts in GIS & LUP, still not well known to local land users. P maps produced by local communities Hardap region, suggest local communities willing to learn P approaches and share their LU knowledge. Sketch & photo-maps – although not accurate and sometimes imprecise - found satisfactory approaches to capture, document local knowledge. Local communities motivated to improve LU activities by their knowledge input in Pmapping.

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Keywords: Zambia, Mosi oa Tunya (Victoria Falls), human wildlife conflicts, national parks, p mapping,

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Coupling participatory mapping and GIS to inform village-level agricultural zoning in the Democratic Republic of the Congo

Landscape and Urban Planning 110 (1) 164-174

Keywords: Congo, DRC, NRM, community forestry, agriculture, land use, P mapping, PGIS

Abstract: Land use of local communities are critical to resource planning. Maringa-Lopori-Wamba (MLW) Landscape northern DRC, the African Wildlife Foundation (AWF) engaging DRC

Government in developing strategies for sustainable forest management and micro-zoning. Use participatory mapping to determine collaboratively with local communities the delimitation of village-level agricultural zones for 16 villages located in eastern central MLW Landscape. We developed methods that combined participatory mapping, satellite image interpretation and GPS data collection. For dynamics of agricultural land use, we collected population data at village level, calculated the maximum distance from each agricultural area to the nearest road. Observations from our participatory mapping experiences explain applicability of findings to participative micro-zoning and understanding agricultural land use

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6th International Congress on Environmental Modelling and Software, Leipzig, July, 2012  
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Keywords: Participatory GIS, Ease-of-use, Effectiveness, Evaluation, India, Madras, Chennai  
Abstract: PGIS empowers rural communities to visualize and understand problems facing them and solutions. Such systems need to be easy-to-use and effective to deliver their intended benefits. GIS needs to be simplified so can be used by villagers without much technical assistance from experts outside their community. GIS to provide this simplified functionality is still rudimentary. A framework for iterative development and evaluation of such systems is described.

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Keywords: Bank, (PRA), participation, methods, gender, tools

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Keywords: West Kalimantan, Indonesia, Dayak people, conservation, forestry, customary land rights, P-mapping

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Keywords: Canada, NW Territories, Dene Nation, Deh Cho First Nations represents 10 Dene First Nations & 3 Metis locals. P-mapping, PGIS, of resources, land use, occupancy, fishing, hunting, gathering, land claims. Details of mapping & GIS methods. c.f. Dene mapping project; Deh Cho Atlas.

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Keywords: Achuar indigenous people, Amazonia, Peru, mining (oil), pollution, community participation, indigenous spatial knowledge, political, resource & land rights, territory, environmental justice, social equity, commodity resource frontiers, (ecology), CB NRM, community management, community monitoring, PGIS, ethics, PGIS protocol, digital photos, Rio

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Abstract: 1<sup>st</sup> Review processes of map-making shaped by cartographic encounters, exchanges, translations over 500 years between American Indians & Euro-Americans. Dichotomies between Indigenous-traditional & Western-scientific prevalent within literature, but boundaries between geographic knowledge systems always fuzzy & crossable. Review processes strongly shaped by Indigenous communities, such as ethnocartography & counter-mapping in Alaska & Canada, GIS processes controlled by government institutions in lower 48 states. 2nd, introduce tenets of a new model – indigital geographic information networks (iGIN) to describe heterogeneous processes of encounters, exchanges, translations merging Indigenous, scientific & digital technologies into inclusive

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Abstract: develop methodological approach to assist & prepare rural community members to make policy makers better aware of their information needs.  
Methodological approach combines sequences of mapping presentations & small group discussions, based on ethnographic findings & climate change scenarios, also supports integration of local & scientific knowledge in effort to build upon local community members understanding of climate change. Participatory

mapping sessions designed & implemented in 3 rural communities Canadian prairies.  
Results set of rural community recommendations, to ameliorate potential future impacts of climate change at local community level.

Integrating multiple dimensions (e.g. social, economic, biophysical); multiple realities (e.g. rural & scientific community members); multiple modes of inquiry (qualitative, quantitative) involved in climate change vulnerability and adaptation

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Summary: re. climate change adaptation, IFAD analysed case studies Sudan, India, Rwanda, Mali, Swaziland to find whether participatory mapping – in combination with other participatory methods – has measurable effects for development of local adaptive capacity. Results of analysis presented to provide general principles & orientation for practitioners, policymakers involved in adaptation.

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 Mobilize local awareness of environmental issues;  
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Sustainability Science 6 (2) 177-202.

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Keywords: Vulnerability assessment, Mapping, Climate change adaptation, (PGIS)

Keywords Vulnerability assessment, mapping, climate change, adaptation

Abstract: demand for spatially-explicit information regarding vulnerability to climate change at local scale. Challenges in mapping geog. climate change vulnerability are non-trivial, both

conceptually and technically, need for critical evaluation. Review climate change vulnerability mapping in 4 key questions fundamental to assessment design. 1, what are goals of assessment? A review of published assessments yields a range of objective statements that emphasize problem orientation or decision-making about adaptation actions. 2, how is assessment of vulnerability framed? Assessments vary with respect to what values are assessed (vulnerability of what?) and underlying determinants of vulnerability that are considered (vulnerability to what?). Selected frame ultimately influences perceptions of the primary driving forces of vulnerability as well as preferences regarding management alternatives. 3. what are technical methods by which assessments conducted? Integration of vulnerability determinants into a common map remains emergent and subjective practice with methodological challenges. 4, who participates in the assessment and how will used to facilitate change? Assessments often conducted under auspices of benefiting stakeholders, yet many lack direct engagement with stakeholders. Each question reviewed by drawing on illustrative set of 45 vulnerability mapping studies in literature. Number of pathways for placing vulnerability mapping on more robust footing are identified.

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O uso de Sistema de Informação Geográfica Participativos como instrumento de participação de crianças e adolescentes na construção de sociedades mais sustentáveis.

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Keywords: Portugal, participatory mapping, PGIS, environmental quality, children mapping, cybertracker, participation,

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 Keywords: Canada, Lake Huron, Anishinaabe people, indigenous land claims, history, culture, epistemology, performativity, cybercartography  
 Summary: 2-pronged approach to design & develop online, interactive multimedia – cybercartographic – atlas combines critical academic perspectives with Anishinaabe approaches, to “tell the story” of the Robinson Huron Treaty process, to enhance awareness of Anishinaabe perspectives & expose epistemological & ontological roots of colonialism. Building on the Treaties Module of the Living Cybercartographic Atlas of Indigenous Perspectives and Knowledge, this atlas project reflects comprehensiveness & multidimensionality of Robinson Huron Treaty–based relationship processes. Focus on some performative aspects of this atlas project, such as iterative processes & spatializing history, that reflect Anishinaabe perspectives & provide basis for richer understanding of treaty process.

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 Keywords: Participatory Community Mapping Reports, P-mapping, ITK, NRM, forest resources, Kampokolché community, Municipio of Felipe Carillo Puerto, Quintana Roo, Mexico; (Ford Foundation)

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mapping. Summary: need for reflexivity,  
'community-based mapping criticized for: dualistic  
approach to power, culture & the 'local'; for  
reifying material and discursive forms of  
domination operating through Western projects of  
development & global environmentalism'.  
Pmapping workshops are theaters for  
performance & negotiation of identities, reflecting  
the complex articulations between global, politic-  
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indígenas y el rol de la capacitación y  
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Pemón (Kavanayén-Mapauri), La Gran Sabana.  
Revista Antropológica (Fundación La Salle de  
Ciencias Naturales, Caracas) 113, 43-75.  
Keywords: Venezuela, Gran Sabana,  
ethnocartography, Pemón indigenous peoples,  
Pmapping, mental maps, territory, cultural,  
institutions,  
Abstract. community-based mapping project in  
Pemon communities in Sector 5 (Kavanayen-  
Mapauri), Pemon homeland in SE Venezuela.  
The project 2000 – 2004, resulted georeferenced  
map with more than 2,000 place names, cultural  
sites, land-use locations. Map of Sector 5  
represents an important corrective to state maps  
of this area, which fail to represent density of  
traditional indigenous landuses  
and complexity of social & spiritual relationships  
they have formed with this landscape. The  
mapping process also included capacity-building

in cartographic techniques, development of leadership skills, & importantly, project led to process of consciousness-raising of young indigenous members who formed part of the ethnocartography team. Ethnocartographic projects serve as integral elements of self-directed development (auto-gestión) of indigenous peoples, provided sufficient time & space is allowed for community-based deliberation and critical dialogue about current situation & strategies for the future.

Sletto, Bjorn Ingmunnn ???

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Transactions of the Institute of British Geographers 39 (June): 360–372.

Keywords: Venezuela, Sierra de Perijá, cultural, spiritual, territory, (history), perception

Sletto, Bjorn Ingmunnn; Bryan, Joe; Torrado, Marla; Hale, Charles; and Barry, Deborah (2013) Territorialidad, mapeo participativo y política sobre los recursos naturales: la experiencia de América Latina. (Territoriality, Participatory Mapping, and Natural Resources Policy: The Latin American Experience).

Cuadernos de Geografía - Revista Colombiana de Geografía 22 (2) 193-209.

Keywords: Latin America, P mapping, NRM, territory, political, culture, land claims, Summary: Pmapping long used indigenous & Afro-descendant communities to support struggles for land & resources rights. New pressures assoc. with global climate change policies & extractive industries led to reconceptualization of Pmapping. Review history of Pmapping in context 20th century land reforms & international law. Discusses advances in Pmapping, incl. innovative mapping for spatial representations, cultural conservation, endogenous resource management, community governance. Reflections from International Forum on P. Mapping & Rights to Land & Resources, Univ. de los Andes, Bogota, 2011.

Mapeo participativo lo han usado comunidades indígenas y afrodescendientes en luchas de derecho a tierras y recursos. Nuevas presiones con políticas de cambio climático y prácticas extractivas han surgido en reconceptualización del mapeo participativo. Presenta historia en contexto de reformas territoriales y leyes. Se discuten avances mapeo particip. incl. usos innovadores de mapeo para representaciones espaciales, conservación cultural. manejo endógeno de recursos, gobernación comunitaria.

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Journal of Latin American Geography 9 (3) 111-135.

Keywords: PGIS, Dominican Republic, Santo Domingo Norte urban, critique PGIS, social, political, local knowledge, sci. knowledge Abstract: PGIS documents & represents complex layers qualitative & quantitative data. But, NB socially contingent co-production of spatial knowledge (in projects), shaped by complex encounters between local & scientific knowledge. Critical review fieldwork & representations in PGIS project, S. Domingo N. Dominican Rep, reveals dynamic engagements between community members, activists, policy makers & grad students result in socially & politically informed GIS & maps.

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J. of Environmental Management 115, 155–166.

<http://www.sciencedirect.com/science/article/pii/S030147971200546>

Keywords: Venezuela, Gran Sabana, Pemón indigenous people, NRM, fire management, ITK, Abstract: Wildland fire management in savanna landscapes incorporates indigenous knowledge strategies of controlled, prescriptive burning to control fuel loads. Participatory approaches are fraught with challenges because contrasting views indigenous and state fire managers on role of fire & practices of prescribed burning. Also, indigenous & state systems of knowledge and meanings associated with fire are not monolithic, but characterized by conflicts & inconsistencies, require new, communicative strategies to develop successful, intercultural fire management. Long-term research on indigenous Pemón social constructs, rules, regulations regarding fire use, and traditional system of prescribed burning in the Gran Sabana, Venezuela. Constraints against successful intercultural fire management in the Gran Sabana, including conflicting perspectives on fire use within state agencies and in indigenous communities, Propose strategies for research and communicative planning. Fire suppression in savanna landscapes may lead to elevated fuel loads

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Caribbean Natural Resources Institute, CANARI

LWI 'People & the Sea' Project Doct. No. 8 /  
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Keywords: Caribbean, St. Lucia, coral reefs,  
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mapping, GIS

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Participatory mapping of community lands and  
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Panama.

Human Organization 62 (4) 332-343

Keywords: western Panama, Buglé peoples, rain  
forest, hunting, wildlife, ISK. P-mapping of (1300  
sites, 59 HHs, 8 months) hunting sites. Methods.

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Using participatory research mapping and GIS to  
explore local geographic knowledge of indigenous  
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Focus on Geography (Winter 2012) 119-124.

DOI: 10.1111/foge.12001

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Keywords: Pmapping, PGIS, Mexico, PROCEDE,  
Oaxaca, Zapotec peoples, S. Luis Potosi,  
Huasteca Potosina, Teneek & Nahua peoples,  
indigenous knowledge, LSK, landscapes, territory,  
land claims, land tenure, political, cultural.

Abstract: Since 2005, examined land tenure  
changes in Mexico since promulgation of  
constitutional changes in early 1990s that allow  
collectively-owned lands to be privatized.  
Consequences of PROCEDE national land  
certification program surveyed external & internal  
boundaries thousands indigenous communities.  
This paper focuses on methodological approach—  
the use of PRM with GIS. Research in 2  
indigenous regions of Mexico over 5 periods,  
combined about 15 months. Huasteca Potosina in  
the eastern San Luis Potosí, comprises 9  
indigenous Teneek & Nahua villages. Area  
includes some of northernmost highly diverse  
tropical rain forest. And Sierra Juárez, Oaxaca.  
Zapotec communities amid landscapes that  
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Keywords: NRM, GIS, RS, forestry, participation,  
tenure, gender, PRA surveys, ITK, planning,  
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Introduction 11

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Cali: CIAT, Uso de la Tierra. Draft.

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Abstract: Determining appropriate survey population & commodity to be valued are design decisions for stated preference (SP) surveys. Little information available about who in population holds measurable value for the resource (the extent of the market), and their perceptions regarding scope of resource to be valued (the extent of the resource). Present novel approach using cognitive mapping interview techniques for these design questions. Method provides ancillary information, assist interpretation of information from focus groups & SP surveys. Approach developed in study on environmental degradation, - acidification in Southern Appalachian Mountain region. Although damage from acidification is broad, not clear whether residents of region care, in both a use & nonuse sense, about resources in their residence state, neighboring states, on public lands, or across region. Pilot study found participants show significant home-state preference in number & size of natural areas that they value within larger Southern Appalachian Mountains. However, this preference not strong enough to suggest that market for improving these resources is solely constrained to residents of the state in which the resource is located.

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Keywords: Namibia, Kalahari, Hxaro & N!ore indigenous peoples, community PGIS, counter maps, conservation, social marginalisation, political, land claims,  
Abstract: reclaiming their pre-colonial rights, indigenous peoples have to deploy & logic of colonial state. In casestudy community conservancy in Namibia, this holds for practice of participatory mapping. Harley's deconstruction of maps, and use ethnographic data to reveal silences & lies inherent in the rigid cartographic representations of conservancy maps. Indigenous San peoples have been marginalized and displaced from their land. Highlight how these people, once perceived by colonialists as

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Abstract: Neogeography descriptive & analytical tool for people outside of academia, a process catalyzed by digital mapping technologies & social networking practices. Examine ontological & epistemological implications of this transition. Argue neogeography has democratized GIS practices, facilitated adoption of relational views of space & place, broadened ontological scope of GIS. Neogeog. also poses epistemological challenges to dominant theory of truth, advancing away from the correspondence model of truth toward consensus & performative interpretations. Recognizes multiple unintended consequences of neogeog. practices, but neogeog. is useful means for charting geographic space in intense postmodern time-space compression.

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Abstract: Geospatial tools and information role in urban planning and policymaking, maps diverse uses in legal, environmental, political, land rights, and social arenas. Widespread participation in mapmaking and access to its benefits limited by obscure expensive tools techniques. This results in poor or non-existent maps for much of world's population, especially in areas of urban poverty. In particular, public access to recent & high-resolution satellite imagery largely controlled by government & large industry. This thesis proposes balloon & kite aerial photography as low-cost, easy to learn to collect aerial imagery for mapping, introduces novel open-source online tool for orthorectifying and compositing images into maps. Case studies communities & activists in Lima, and 2010 BP oil spill. Empowering role of broader participation in cartography for advocacy, and potential for increased cartographic literacy to



level the playing field in territorial self-determination for small communities. Compared to other efforts to democratize mapmaking, which focus primarily on presentation & interpretation of existing map data, this emphasizes participation in creation of new data at source & direct imaging. Educational materials, workshops, active online community of participants, ensure adoption of Grassroots Mapping.

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Abstract Integrating strategies of nomadic pastoralists into GIS highlights complexity of the

temporo-spatial context of health care seeking. Method based on combination of P mapping with group discussions and semi-structured interviews. Resulting data allowed georeferencing of pastoral environment in inner Lake Chad Basin according to representation by Dazagada pastoralists of Bahr-el-Ghazal region (Kanem, Tchad). Provides better insight into day-to-day life of nomadic people determining their capacities to use primary health care, a tool to assist public health decision-makers.

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Human Ecology 38 (6) 731-746.

Keywords: Lambusango Forest, Buton Island, Indonesia, NRM, NTFPs, forest management systems, distance factor, forest products, rattan, conservation, (policy), PGIS

Abstract: Rattan cane important NTFP Indonesian tropical forests. Extraction NTFPs rattan cane may conflict with forest conservation efforts. Understand harvesting practices to assess extent of conflict and guide forest management. Study assesses if accessibility factors influence rattan harvesting levels in Lambusango Forest, Buton Indonesia, Is harvesting of rattan cane affected by designation of conservation areas? Analysis adopts P mapping, GIS, questionnaire survey, multiple regressions, analysis of covariance. Results show that accessibility, particularly slope & distance, play role in rattan cane harvested. Presence of conservation forest does not significantly affect harvesting levels. Could be due to limited awareness of harvesters going to the conservation areas and mixed sentiments towards conservation efforts due to long tradition forest dwelling and harvesting. successful establishment and management of conservation areas require consideration of the specificity of the local context

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Keywords: North Africa, West Asia, drylands, rainwater harvesting, ITK, degradation, PGIS, Abstract: Dry rangelands of West Asia, North Africa are fragile and severely degraded, low rainfall & mismanagement NR. Rainwater harvesting (RWH) interventions used to increase soil moisture content, vegetation cover, productivity. However, adoption rainwater harvesting by communities is slow. To understand adoption constraints and to develop options for sustainable integration of RWH, a benchmark watershed was established in dry rangelands Jordan. Objective is develop methodology for identify suitability for different RWH interventions using PGIS & field survey. Biophysical parameters to assess suitability: slope, soil depth, soil texture, stoniness. Criteria for parameters integrated & a suitability map produced using raster-based and polygon-based analysis. To integrate biophysical and socio-economic



aspects, the land tenure was superimposed with the suitability map. Options for different RWH interventions identified with participation of local communities. Field investigations indicated that applied approach helped to select most promising fields. Within 2 years, 4 types RWH implemented in fields of 41 farmers, covering 62.9 hectares, which helped increase water productivity (kg/m<sup>3</sup>) fourfold & reduced soil erosion fivefold compared to fields without. Approach shows PGIS approach may be used to integrate socio-economic & biophysical criteria and facilitate participation of farmers to introduce RWH interventions to mitigate land degradation.

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## **Selected VIDEOS**

**SEE: collection on IAPAD site**

<http://www.iapad.org/multimedia.htm>

**SEE: collection on Vimeo site**

<https://vimeo.com/channels/pgis>

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 Giacomo Rambaldi et al  
 Manila: ASEAN Regional Centre for Biodiversity Conservation.  
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 Keywords: Philippines, Vietnam; P3DM tools & procedures, training, watershed, forestry, conflicts.

Boelens, Rutgerd (?)  
Indigenous Water Rights in Ecuador  
 Keywords: Parish of Licto, near Riobamba, in Ecuador, the indigenous population fought for its water. Indian peasants participated in the design, construction and organisation of the irrigation system. After more than 20 years the water finally reached the community. The story is told by Inés Chapi, an Indian woman, who came a long way from being oppressed and discriminated against to become a most respected irrigation organiser in the system.  
 Wageningen University  
[http://www.iapad.org/applications/water/licto\\_2.htm](http://www.iapad.org/applications/water/licto_2.htm)

Chorotegas: Dignidad Indígena (2008?)  
 El Pueblo Indígena Chorotega del norte de Nicaragua, reclama sus derechos a las tierras ancestrales y reivindican su cultura. El mapeo participativo en 3 dimensiones (MP3D) está utilizado et está bien documentado en el video. Wapponi Productions, Managua. (20 minutes)

<http://www.wapponi.tv/Chorotegas.htm>

Keywords: video, Nicaragua, Chorotega, P3DM, indigenous knowledge, local NRM, agriculture, land use

CTA et al. (2010)  
Recreando nuestra Cultura, Mapeando nuestro Futuro  
<http://participatorygis.blogspot.com/2010/07/recreando-nuestra-cultura-mapeando.html>  
 Video c. 14 minutes  
 El cuento de un encuentro especial en Venda, Sur Africa, y un proceso comunitario de cartografía eco-cultural. Líderes indígenas del Altai (Rusia) y la Amazonía Colombiana, juntos con representantes de ONGs de Sur Africa, Kenia y Etiopía, acompañan a la comunidad de Tshidvizhe mientras que descubren una sencilla pero poderosa manera de expresar el pasado y el presente de su territorio en mapas hechos a mano. Los mapas destacan la importancia de su cultura, los sitios sagrados, el territorio y sus modos de vida, y empoderan a la comunidad mapear el futuro por lo cual deben luchar

CTA (2010)  
Localisation, Participation and Communication: an Introduction to Good PGIS Practice.  
<http://dotsub.com/view/f413d584-4f71-480a-8911-ad18cecd37ce>  
 25 min  
 Director: Jess Philmore.  
 practice of participatory spatial information management and communication (PGIS) in development context. designed to introduce development practitioners (technology intermediaries) to practice of demand-driven PGIS. PGIS practice is a continuum from community mobilisation to project planning and design, choice of mapping methods and technologies, visualisation of different technologies in diverse ethno-cultural and agro-ecological environments, and finally putting maps to work in the domains of identity building, self-determination, spatial planning and advocacy. Ethics and sound attitudes and behaviours are cross-cutting imperatives  
 Guide to Good PGIS Practice  
 (on CTA/IFAD/ff/ . PGIS Training programme - **English & Espanol** versions)

CTA (2010)  
Training Kit on Participatory Spatial Information Management and Communication.  
 Wageningen: CTA (ACP-EU Technical Centre for Agricultural and Rural Co-operation); and Rome: IFAD

(ISBN: 978-92-9081-446-7)

(**English, Spanish, Portuguese** versions)

15 Modules.

<http://pgis-tk-en.cta.int/>

Coordinator: G. Rambaldi

Keywords: training, PGIS, community mapping, P3DM, ethics, tools & techniques, participation, RS, GIS, dissemination, applications

Summary: The Training Kit has been developed with the objective 'to support the spread of 'good practice' in generating, managing, analysing and communicating community spatial information'.

Widespread use of the Training Kit, available online and on DVD, is expected to:

- ensure that indigenous and marginalised communities participate in documenting, representing and communicating their spatial knowledge and land-related issues, while taking control over the processes involved. This would:
- add value and authority to local knowledge;
- facilitate intergenerational knowledge exchange;
- build and support cohesive community identities;
- support sustainable planning through collaborative decision making.

Use of the Training Kit will also raise awareness about ethics in the PGIS practice and will influence the attitudes and behaviours of the following groups:

- technology intermediaries assisting vulnerable communities in asserting their rights;
- researchers performing action research;
- government officials calling for public inputs into spatial planning exercises;
- development agencies that are designing development projects.

Obviously, there are external factors (e.g. the presence or absence of enabling environments) which will influence the attainment of the project objective (see Module M05).

Beyond the project rationale, Modules and Units have their own objectives which, for ease of understanding and measurement, are formulated as learning outcomes.

Training Kit also available for free in DVD format:

<http://publications.cta.int/en/publications/publication/1625/>

CyberTracker

Educational video on CyberTracker in English

<http://vimeo.com/5639008>, Spanish

<http://vimeo.com/5639841> and French

<http://vimeo.com/5640170>

[http://www.youtube.com/watch?feature=player\\_embedded&v=HB\\_ge1TELl8](http://www.youtube.com/watch?feature=player_embedded&v=HB_ge1TELl8)

<http://www.youtube.com/watch?v=sG9rnLPbEqs&p=5A8078D991212421&index=97&feature=BF>

Keywords: CyberTracker, indigenous knowledge, indigenous science, navigation, wildlife, hunting, San people, Botswana, Namibia

Fiji Locally-Managed Marine Area ([FLMMA](#))

Network, WWF South Pacific Programme ([WWF-SPP](#)),

Technical Centre for Agricultural & Rural

Cooperation ([CTA](#)), Native Lands Trust Board

([NLTB](#)), National Trust of Fiji, the Development of

Sustainable Agriculture in the Pacific ([SPC-DSAP](#))

Project and Lomaiviti Provincial Council of the Ministry of Fijian Affairs and Provincial Development (2007)

Participatory 3D Modelling in Fiji for Safeguarding Cultural Heritage and Natural Resources

A 2-minute video summarizing the P3DM exercise done on Ovalau Island in Fiji.

[http://www.iapad.org/applications/plup/video\\_p3dm\\_ov\\_alau.htm](http://www.iapad.org/applications/plup/video_p3dm_ov_alau.htm)

Gonda, Noémi; and Pommier, Denis (2008)

Herramientas para la Gestión Social del Territorio y de los Recursos Naturales: Metodología Participativa para Construir una Maqueta de su Territorio.

Managua: Unión Europea (European Union)

Keywords: Nicaragua; community participation, community mapping, P3DM, PGIS, NRM, Training.

[http://www.youtube.com/watch?v=BcQvPh\\_Yo8&p=5A8078D991212421&index=104&feature=BE](http://www.youtube.com/watch?v=BcQvPh_Yo8&p=5A8078D991212421&index=104&feature=BE)

Gonzalez, Rhodora M. (2003?)

Bridging Participation and GIS Technology for Natural Resource Management: GIS with the Ifugao People of the Philippines

[http://www.iapad.org/ifugao\\_and\\_gis.htm](http://www.iapad.org/ifugao_and_gis.htm)

Keywords: video, Philippines, Ifugao

Google Earth Outreach

Trading Bows and Arrows for Laptops in the Amazonas

Chief Almir Surui asked Google for help with preserving his Amazon tribe's culture and protect his indigenous territory from deforestation. In June 2008, a team of Googlers led by Rebecca Moore of the Google Earth Outreach team went to the Amazon to train over 20 indigenous tribes on using the internet to preserve their land and their way of life.

4 mins.

[http://www.youtube.com/watch?v=xVv\\_XF5mKhI](http://www.youtube.com/watch?v=xVv_XF5mKhI)

[http://www.iapad.org/video\\_amazon\\_google.htm](http://www.iapad.org/video_amazon_google.htm)

IIED (1995)

Questions of Difference. PRA, Gender & Environment. A Training Video 1995

London : IIED Sustainable Agriculture

Programme, for Oxfam, NOVIB, ODA, SIDA, etc.

Irene Guijt (co-ordinator). PRA helps development workers explore the links between gender and the environment, enabling more effective work with local communities. A PRA overview and 3 case studies.

Part I People's Roles; Images & Realities; Key Questions about NRM; Intro to PRA; Thinking about Communication; PRA Methods for Analysis; Revealing Differences.

Part II Exploring mangrove use in Pakistan.

“ Drylands Use in Burkina Faso.

“ Biodiversity in Brasil.

Duration: 120 mins.

<http://www.iied.org/pubs/display.php?o=6100PALIIED&n=14&l=44&k=video>

ILC International Land Coalition

[http://www.landcoalition.org/doc\\_video\\_photo/video\\_archive.html](http://www.landcoalition.org/doc_video_photo/video_archive.html)

Indonesia Community Mapping Network (Jaringan Kerja Pemetaan Partisipatif (JKPP), and Center for People Economic Development (Yayasan Rumpun Bambu Indonesia (YRBI). (2006) Community Mapping in Tsunami Affected Areas in Aceh, Indonesia.

(15-minutes)

<http://www.youtube.com/watch?v=XD99KLQERq4&p=5A8078D991212421&index=103&feature=BF>

<http://www.iapad.org/aceh.htm>

Keywords: video; community mapping used in post-tsunami Aceh, Indonesia.

ITC (2013)

Presentation Symposium “The Future of PGIS: Learning from Practice?”

ITC-University of Twente, 26 June 2013

Video 22mins 26

<https://vimeo.com/71323117>

<http://vimeo.com/album/2475389/video/71323117>

Pacific Adaptation to Climate Change (PACC) (2014)

Participatory 3D Modelling (P3DM) for bottom-up decision-making in Vanuatu,

VIDEO 5 mins 30 secs.

<http://participatorygis.blogspot.nl/2014/05/participatory-3d-modelling-p3dm-for.html>

Keywords: climate change, disaster risk (DRR), P3DM, video, participatory planning, Vanuatu, Pacific, coastal,

Abstract: community consultation & participatory planning, Island of Epi, Vanuatu. Residents assembled 1:20,000 3D model of island & coastal waters. Participants ownership of process, decisions to address climate change. GEF-UNDP-SPREP-supported Pacific Adaptation to Climate Change (PACC) project, 2013.

PAFID (

Journey of our lives (Paglawig Sa Among Kinabuhi)

14-minute

<http://www.iapad.org/journey.htm>

participatory video production by [PAFID](#) - Mindanao documenting a journey to the land of

the ancestors of Higaonon Indigenous Peoples living in Portulin, Bukidnon, Philippines. The virtual journey recreates experiences lived up by the members of the community in using a physical participatory 3D model to document, share across generations and safeguard their intangible cultural heritage.

Rainforest Foundation UK (RFUK) (2011?)

How to Map, Part 1: Mapping For Rights

[http://www.youtube.com/watch?v=qRhYktaBWYg&feature=player\\_embedded](http://www.youtube.com/watch?v=qRhYktaBWYg&feature=player_embedded)

[http://www.mappingforrights.org/How\\_To\\_Video\\_1](http://www.mappingforrights.org/How_To_Video_1)

Mapping For Rights, an initiative of the Rainforest Foundation UK, aims to support indigenous peoples and forest dependent communities to secure rights to their land and livelihoods through the use of participatory mapping. This short video shows how mapping can help to address problems faced by these communities from logging, mining and other threats as well as being a powerful tool for land use planning and developing new forms of community based forest management and protection. 5'11"

How to Map, Part 2: Scoping of forest communities.

<http://www.youtube.com/watch?v=KIDFBqDYQ1g&feature=related>

[http://www.mappingforrights.org/How\\_To\\_Video\\_2](http://www.mappingforrights.org/How_To_Video_2)

video describes the process of identifying communities to work with, of gaining their free, prior and informed consent (FPIC) and ultimately ownership of the project and of helping them plan a mapping and advocacy process. 11'51"

How to Map, Part 4: Ground and Sketch Maps

<http://www.youtube.com/watch?v=xOk32ljlC&feature=related>  
[http://www.mappingforrights.org/How\\_To\\_Video\\_3](http://www.mappingforrights.org/How_To_Video_3)

how to facilitate ground and sketch mapping exercises with forest communities. It describes how such maps can be powerful tools for addressing land and resource related issues and for planning further mapping activities on.

How to Map, Part 5: GPS Training

<http://www.youtube.com/watch?v=csKqmtFTB1w&feature=related>

[http://www.mappingforrights.org/How\\_To\\_Video\\_5](http://www.mappingforrights.org/How_To_Video_5)

how to explain the functions of a GPS receiver to people who may be illiterate or with little experience of electronic equipment, so that they may be able to record geo-referenced data of the lands and and resources.

How to Map, Part 7: Community Validation

<http://www.youtube.com/watch?v=gCzkIzPy0II&feature=related>

[http://www.mappingforrights.org/How\\_To\\_Video\\_7](http://www.mappingforrights.org/How_To_Video_7)

explores the process of validating maps with rural communities, a crucial and distinguishing feature of a sound participatory mapping process.

How to Map, Part 8: Putting Maps into Action



<http://www.youtube.com/watch?v=w9P5im0bOKs&feature=related>  
[http://www.mappingforrights.org/How\\_To\\_Video\\_8](http://www.mappingforrights.org/How_To_Video_8)

Rainforest Foundation

Ndima – Mapping our Future, Congo Basin  
 27 min. 42 secs

[http://www.mappingforrights.org/NDIMA\\_Doc](http://www.mappingforrights.org/NDIMA_Doc)

RROMUEPATRSO: Mapping the Historical-Cultural Space of the Yaneshas, Perú (2010)  
 Instituto Bien Común / ff / Oxfam

<http://www.youtube.com/watch?v=7GbOQQQH69Q>

This video is the first in a series titled "Where Our Ancestors Walked." Jun 13, 2010.

Richard Chase Smith (on CTA/IFAD/ff/. PGIS Training programme. English & Español versions)  
 Keywords: Peru, Yaneshas people, cultural, historical, land claims, community mapping

Sacred Land Film Project

Mapping is Power

Set in the Altai Republic of Russia in southern Siberia, Mapping is Power follows cultural specialist Maya Erlenbaeva and shaman Maria Amanchina as they visit sacred sites near Kosh Agach. Indigenous people are mapping their sacred sites to protect them. This scene is a preview of Losing Sacred Ground, a 12-part series produced by the Sacred Land Film Project, which will profile sacred land struggles around the world.

3 mins.

<http://www.iapad.org/mip.htm>

[http://www.youtube.com/watch?v=myF2\\_aCT5r0](http://www.youtube.com/watch?v=myF2_aCT5r0)

Sekadau Consensus: Community Mapping in West Kalimantan, Indonesia

<http://www.youtube.com/watch?v=9IGBxwJEp08>

Keywords: West Kalimantan, Indonesia, Sekadau, community mapping, video

Tracking in the Cyber Age

CyberTracker, (Louis Liebenberg, Kalahari)  
 (on CTA/IFAD/ff/. PGIS Training programme English & Español versions)

Training in PGIS

Mike McCall (on CTA/IFAD/ff/. PGIS Training programme. English & Español versions)

Uraq Pacha

Bolivia

33 mins. Español, English

Wapponi (2008?)

Chorotegas: Dignidad Indígena.

El Pueblo Indígena Chorotega del norte de Nicaragua, reclama sus derechos a las tierras ancestrales y reivindican su cultura. El mapeo participativo en 3 dimensiones (MP3D) (P3DM) está utilizado y está bien documentado en el video.

Wapponi Productions, Managua. Apartado Postal A 36, Managua, Nicaragua  
 (20 minutes)

<http://www.wapponi.tv/Chorotegas.htm>

Keywords: video, Nicaragua, Chorotega, P3DM, indigenous knowledge, local NRM, agriculture, land use

Wuhu Community Map

<http://www.youtube.com/watch?v=Vfk2W-FYIIM&feature=related>

Kham Film Project –

<http://www.khamfilmproject.org/>

Keywords: Tibet, China, community mapping, primary school, mountain pastoralism.

Summary: short participatory video based on community map detailing Wuhu region of Chungba Valley, students from Chungba Primary School, facilitated by Cecil Esquivel-Obregon. Chungba rural Tibetan township, in heartland of Kham, Revitalize local community through education & capacity-building. 5000 pop. subsistence economy, grow own tsampa & herd livestock in high pastures.

6'28"

## **PGIS and P-Mapping Web Sites** **a global selection.**

### **PPgis.net**

PPgis.net is an informal network of development and GIS practitioners and researchers operating in developing countries, first nations & elsewhere. Sharing common interests in participatory spatial information management, community mapping, and participatory GIS practice and science.

Membership is free and is moderated

<http://www.iapad.org/ppgis/>

Join via this link:

[http://www.dgroups.org/groups/ppgis/index.cfm?op=ds\\_p\\_join](http://www.dgroups.org/groups/ppgis/index.cfm?op=ds_p_join)

### **Public Participation GIS (PPGIS)**

#### **WebRing**

Ring of Webs sharing common interests in community mapping and collaborative spatial information management practices aimed at integrated conservation and development, sustainable natural resource management, customary property rights and peer-to-peer communication. Community of practice around the concept of Public Participation GIS (PPGIS), this WebRing aims at stimulating exchange of information on progress made in visualizing community-based knowledge and perceptions to provide stakeholders and less-favoured community members added stake in designing and owning development and natural resource management initiatives.

<http://t.webring.com/hub?ring=ppgis>

#### **GSDI**

<http://gsdi.org/events/upcnf.asp>

#### **GISDevelopment**

<http://www.gisdevelopment.net>

#### **Geoplace**

Geoplace.com :

<http://www.geoplace.com>

#### **GIScafe**

<http://www10.giscafe.com>

#### **GEO Community**

<http://www.geocomm.com/> lists and reviews some free viewers:

<http://spatialnews.geocomm.com/features/viewers2002/>

and: <http://software.geocomm.com/viewers/general/>

Some of the viewers or programs can do basic mapping.

Geocomm has a fairly good event directory here:

<http://events.geocomm.com/events/>

## **Free Mapping/ GIS software Lists**

qgis <http://www.qgis.org>

Open Source Geospatial Foundation

<https://www.osgeo.org/>

<http://freegis.org/>

The FreeGIS Project provides

\* software overview on free GIS (this web site)

\* communication on developments, plans, info on free GIS software and free Geo-Data (mailing list)

\* software and data prepared for direct use (CD)

GEO Community <http://www.geocomm.com/> lists

and reviews some free viewers:

<http://spatialnews.geocomm.com/features/viewers2002/>

and: <http://software.geocomm.com/viewers/general/>

Some of the viewers or programs can do basic mapping.

### **Open Source**

<http://opensourcegis.org/>

has gis and related software

### **Indigenous Peoples ...**

*(See: Africa, Asia, North America, Australia, etc. below)*

## **International**

### **PPgis.net**

#### **Open Forum on Participatory Geographic Information Systems and Technologies.**

This forum serves as global avenue for discussing issues, share experiences and good practices related to community mapping, participatory mapping, counter mapping, Public Participation GIS (PPGIS), Participatory GIS (PGIS or PGIS), Community Integrated (CiGIS), Mobile Interactive (MiGIS) and other geo-spatial information technologies and system used in participatory settings to support integrated conservation and development, sustainable natural resource management and customary property rights in developing countries and First Nations.

<http://ppgis.iapad.org/>

### **IAPAD**

Website based in Philippines (managed by G. Rambaldi) with many documents and links to participatory spatial planning, PGIS, and especially to P3-DM = "Participatory 3-Dimensional Mapping" = 3-D modelling.

<http://www.iapad.org/>

[http://www.iapad.org/participatory\\_p3dm.htm](http://www.iapad.org/participatory_p3dm.htm)

### **Online PPGIS Bibliography, IAPAD website**

links to downloadable .pdf versions of papers

<http://www.iapad.org/bibliography.htm>

### **"Mapping for Change"**

International Conference on Participatory Spatial Information Management and Communication. (PGIS 2005), Nairobi, Kenya, 7-10 Sept 2005  
<http://pgis2005.cta.int/>

### **AnthoWatch**

[abepad@anthrowatch.org](mailto:abepad@anthrowatch.org)

has been building ancestral domain terrain models (3D) through collaborative efforts of community members, student volunteers & local government officials.

GIS translates & integrates community mental maps with topo maps, DEMS & satmaps to generate contours, base & extent of territories. Pre-construction activities are combination of lab work & community integration.

Not only the maps localize the GPS points surveyed by community members. LCD projectors & notebook computers also .. Our GIS team show community how work is done & images of their areas. Immediate validation of results.

### **Conservation GIS - ESRI**

Website of ESRI (cf. ArcView) with many documents & links to applications of PGIS for indigenous people's land rights & entitlements, indigenous environmental and NRM, etc.  
<http://www.conservationgis.org/links/native.html>  
<http://www.conservationgis.org/aatribal.html>

### **CyberTracker**

CyberTracker software creates data entry templates, or a screen sequence, to use on Windows Mobile PocketPC or PalmOS handheld computer to gather and map locally-generated, indigenous spatial knowledge. Connected to a GPS, CyberTracker instantly geo-references data. "CyberTracker's unique design allows users to display icons, text or both, which makes data collection faster. It also allows field data collection by non-literate users and school children."

CyberTracker, PO Box 1211, Noordhoek, Cape Town, 7985, South Africa  
[info@cybertracker.co.za](mailto:info@cybertracker.co.za)

<http://www.cybertracker.org/index.html>  
<http://www.cybertracker.co.za/tracking.htm>

Educational video on CyberTracker in English  
<http://vimeo.com/5639008>, Spanish  
<http://vimeo.com/5639841> and French  
<http://vimeo.com/5640170>

### **GISDECO - GIS for Developing Countries**

network, currently hosted by ITC.  
 Previous conference of GISDECO held at ITC, Enschede, Netherlands, May 2002.  
 May 2004 at Universiti Teknologi Malaysia, Skudai, Johor.

Latest is Istanbul, June 2007.

<http://www.geog.uu.nl/gisdeco/gisdeco.html>

**GEO4NGO** website - exchange platform related to use of geographical information by humanitarian organisations, especially NGOs. No sign of any PGIS applications.

<http://www.geo4ngo.org/geoneeds01.html>

### **Innovative Resources Management (IRM)**

(Michael Brown, Pres.), 2421 Pennsylvania Ave., NW, Washington, D.C. 20037

Tel.: 202-293-8384, fax: 202-293-8386

[info@irmgt.com](mailto:info@irmgt.com)

IRM is a non-profit NGO working with local communities in developing countries to strengthen local institutions that promote sustainable natural resources management. Currently focusing on COAIT (Community Options Analysis and Investment Tool ) which involves '*landscape-level*' participatory mapping, participatory resource inventory, participatory cost benefit & risk analysis, and identifying natural product development opportunities for local communities to identify equitable development options linking to for-profit, private-sector investors.

### **MapAction**

Lime Farm Cottage, Little Missenden, Buckinghamshire, HP7 ORQ, UK.

<http://www.mapaction.org/>

<http://www.mapaction.org/index.html>

is a UK-based charity, "Supporting humanitarian operations with real time mapping", staffed by specialist volunteers, whose core role is supporting humanitarian operations through provision of spatial data collection and mapping capabilities in the field. Large-scale maps focused on specific relief requirements through sectoral overlays; Maps formatted to specific needs of aid agencies. MapAction were into Sri Lanka and Sumatra days after the tsunami disaster.

Interactive Geographic Information, GIS technology on web based servers, enabling interrogation on-line; enhance existing baseline maps in the field through computer-linked GPS/GIS systems.

Pilot e.g. of GPS + PDA (PGIS) for water & sanitation issues in Delhi.

Field Guide to Humanitarian Mapping. (2009)

<http://www.reliefweb.int/rw/lib.nsf/db900SID/SHIG-7QE7D?OpenDocument>

<http://www.mapaction.org/news.html>

Video

[http://www.youtube.com/watch?v=k9meFFZxkWY&feature=player\\_embedded](http://www.youtube.com/watch?v=k9meFFZxkWY&feature=player_embedded)

**GISCorps** is since 2003 an URISA program and operates entirely on a volunteer basis. GISCorps volunteers reside in different states across the USA and use a wiki site to work collaboratively. Emergency & relief work in: Andaman Is., India Tsunami. and with Global MapAid, post-tsunami; Katrina USA MI & LA, Afghanistan Current operations in: Armenia, Hungary, Kenya. Marshall Is., Mali, Namibia Larry Orman, San Francisco CA, USA <http://www.giscorps.org/> Chair: Shoreh Elhami, GIS Director, Delaware County, Ohio. URISA, 1460 Renaissance Drive, Suite 305, Park Ridge, IL 60068, USA [info@urisa.org](mailto:info@urisa.org)

**Global MapAid**, a not-for-profit organization, was initiated with a view of supplying specialist maps to emergency & humanitarian aid workers. The Group consists of experienced Aid Workers, GIS Analysts, web developers, and core volunteers from Stanford University. The focus is to map humanitarian crises hotspots by capturing data to assist predominantly in slow onset disasters such as food security, drought, HIV monitoring and orphanage survey refugee, programs. but also when necessary in rapid onset disasters such as floods. GMA's mission is to assist aid efforts by providing and assisting in the provision of mapping and corresponding communications systems for aid agencies, e.g. UN World Food Program. Recent e.gs: Afghanistan, USA Katrina; and currently seeking funding with World Vision International in a pilot project in Zimbabwe to survey and map famine according to UN guidelines. <http://www.globalmapaid.rdvp.org/> [info@globalmapaid.rdvp.org](mailto:info@globalmapaid.rdvp.org)

- Global MapAid  
Enterprise Network of Silicon Valley (TEN)  
2953 Bunker Hill Lane, Suite 400,  
Santa Clara, CA 95054, U.S.A.  
- P.O. Box 15223, Vlaeberg Cape Town, South Africa  
- Suite 153, 3 Edgar Buildings, George Street  
Bath, BA1 2FJ United Kingdom

#### **Mercy Corps:**

<http://www.mercycorps.org/>  
Mercy Corps Geospatial Relief & Development Team. Volunteer base of over 50 GIS & RS professionals in the Pacific Northwest of USA mobilized to apply geospatial technologies to expedite the flow of aid and accelerate recovery. "Establishing an NGO geospatial coordination team to reduce redundant efforts in emergency mapping, increase efficiency, detect change, transfer knowledge, and provide a geospatial data repository for all NGOs in collaboration with the

United Nations Geospatial Initiative throughout all phases of recovery."

#### **ReliefWeb**

ReliefWeb directory of websites related to GIS and mapping post-disaster & emergencies.: [www.reliefweb.int/w/contactDir.nsf/RelatedSites?OpenForm&Query=MAP2](http://www.reliefweb.int/w/contactDir.nsf/RelatedSites?OpenForm&Query=MAP2)

#### **Mobile Crisis Mapping**

What is Mobile Crisis Mapping? The most obvious answer is that MCM is the collection of geo referenced crisis information using peer to peer (P2P) mobile technology.

<http://irevolution.wordpress.com/2009/05/04/mobile-crisis-mapping-mcm/>  
<http://irevolution.wordpress.com/2009/03/12/a-brief-history-of-crisis-mapping/>

Contact: Patrick Meier

<http://fletcher.tufts.edu/phd/students/meier.shtml>

#### **Green Map System**

Green Map System (GMS) is locally adaptable, framework for environmental mapmaking, utilizing GMS's shared visual language – set of Icons representing different kinds of green sites and cultural resources. About 65 countries, (850 examples 2014) Primarily USA beginning with Wisconsin, & e.g. New Jersey. Increasing number in South countries – examples from; Cameroon, Nigeria, Uganda, South Africa, Argentina, Brasil, Chile, Colombia, Costa Rica, Cuba, Jamaica, Peru, Uruguay, China, Malaysia, India, Indonesia, Philippines, Thailand

[www.greenmap.org](http://www.greenmap.org)

<http://www.greenmap.com/home/home.html>

#### **Youth Mapmakers**

<http://www.greenmap.org/ymaps/ymindex.html>

#### **Green Map System (2004)**

Green Map Atlas: Map Making Stories: Volume 1.

<http://www.greenatlas.org/>

e.g. **Greater London**

<http://greenmap.london21.org/>

#### **Biodiversity Support Program**

<http://www.worldwildlife.org/bsp/>

Support to local mapping projects in Indonesia, Namibia, Panama, the Philippines and Thailand. c/o World Wildlife Fund, 1250 24th Street, NW, Washington, DC 20037, USA.

TEL: 202-861-8313/ 8347 FAX: 202-861-8324.

## **Africa**

#### **ERMIS – Environmental Research Mapping & Information Systems in Africa**

Nairobi, Nakuru, Eldoret, Kenya

<http://www.ermisafrica.org/programs/cmneca.php>

ERMIS Africa promotes environmental conservation & management through local



institutions, schools & civil society organizations. Building capacities among (indigenous) communities & development practitioners in using Participatory Information Management Technologies, Approaches and Ethics (PIM Tools) towards enhanced Community Ecological Governance. Since 1999, ERMIS works with communities and schools around Kenyan forest and watersheds including Mt. Kenya, Mau Forest Complex, Charangany Forest, Aberdares and Mt. Elgon using PIM tools such as PGIS, P3DM, GPS, aerial photography, web-mapping, Web 2.0 technologies, and training in basic computing skills.

The **Community Mapping Network (CMN)** is a regional virtual network from ERMIS Africa and CTA. The network makes it possible for PGIS and community mapping practitioners working with local communities to share knowledge, experiences, skills to secure intangible cultures, territories and commonly shared natural resources.

Julius Githinji Muchemi, Exec. Director, ERMIS, Nairobi, Nakuru & Eldoret.

+254 020-2026282; 0720 703 606

Fax: +254 – 051 – 2214536;

E-mail: [julius@ermisafrica.org](mailto:julius@ermisafrica.org) [julius@ermisafrica.com](mailto:julius@ermisafrica.com)

### **Participatory Planning and Integrated Management for the Limpopo Basin.**

UN-Habitat, UNEP, GEF.

[http://www.limpopo-project.net/index.php?option=com\\_frontpage&Itemid=1](http://www.limpopo-project.net/index.php?option=com_frontpage&Itemid=1)

Objective is to develop and implement participatory land use tools and plans for sustainable land management in the Lower Limpopo River Basin to reduce impact of floods on land, ecosystems and human settlements. Includes participatory land use planning & management, PSP, and some PGIS with local knowledge of flooding risks etc using APs etc. Mozambique, South Africa, Zimbabwe, Botswana.

### **Kilum-Ijim Forest community management project, Cameroon**

Oregon State University, Corvallis, OR

<http://kilumijimforest.wordpress.com/about-us/>

<http://kilumijimforest.wordpress.com/kilum-ijim-forest/>

A case study of the Kilum-Ijim Forest community management project in Cameroon.

Website created by OSU Geography grad.

students guided by Dawn Wright. The project purposes are to: Create website associated with PPGIS community management; Propose a strategy for soliciting “local knowledge” about land management; Describe problems of spatial aspects of local knowledge; Explain how, & how well, local knowledge represented in a GIS.

## **Asia**

### **CSDMS**

Centre for Science, Development and Media Studies, New Delhi

3 print journals, also on the web:

GIS@ Development

i4D

eGov

<http://www.csdms.in/>

*Mapping the Neighbourhood* – project under NRDMS (Natural Resource Data Management Section) of Dept of Science and Technology, India, takes mapping science to community through participation of school children. in 20 schools in Almora & Nainital districts, Uttaranchal. 500+ students & 50 teachers participating since Oct 2003. Maps prepared using GPS with PDA. *GramChitra* - open source GIS “for the masses” developed by Media Lab Asia (MIT research initiative in India) collect geographic information, spatial & non-spatial using GPS and PDA.

<http://www.neighbourhood-mapping.org/GramChitra.htm>

### **CRMP – Coastal Resource Management Project, Philippines.**

Training tools, - sketch mapping, drawing over base map. Philippines

[http://www.oneocean.org/pcra/mapping\\_menu.html](http://www.oneocean.org/pcra/mapping_menu.html)

### **The Borneo Project**

Supported by Earth Island Institute.

Community based mapping of traditional village land, Sarawak rainforests, Malaysia. Communities and local organisations document and map ancestral land claims, litigate to halt forest destruction, teach villagers their rights, reforest degraded areas, and protect wildlife and biodiversity.

<http://borneoproject.org/article.php?list=type&type=3>  
[www.communitymap.org](http://www.communitymap.org)

### **Jidnyasa the “Quest Of Learning”**

is designed for networking amongst the learning community. The website facilitates people and organizations around the globe who are working in the development sector. This is our true effort to enable change in developing nations through information technology

GI Products include:

**Data Maps:** This GIS based tool provides map interface to data, this application allows user to prepare thematic maps, generate queries of data. It is useful for NGOs, scholar who handle spatial data.

**Micro Mapper:** Community & PRA Application : Provides interface for village information and planning. Primary and secondary information can be entered. Village level activities, facilities can be

viewed and monitored. Water budgeting is calculated. Local language interface available. Village resource / PRA application can be drawn with GIS interface

MICRO TECHNOLOGIES (INDIA) LTD, C-46,  
Electronic Sadan 1, 3rd Floor, Electronic Zone,  
MIDC, Mahape, Navi Mumbai, India.  
Tel : (91) (022) 2768 6687 / 2768 6689  
Fax : (91) (022) 2767 2196  
<http://www.micromict.net/jidnyasa/index.html>

### **Sekala**

Denpasar, Bali, Indonesia

<http://www.sekala.net/>

Community mapping for conflict management and land rights negotiations, and for proposed REDD projects for financing carbon offsetting through avoided deforestation, & carbon sequestration. Working in Papua with WWF, PPMA etc.

## **Latin America**

### **The Center for Native Lands**

1616 P. Street NW Suite 200, Washington DC 20036, USA

The Center for Native Lands has been at work for over 15 years to protect biological and cultural diversity in Latin America and elsewhere. A key part of its work involves mapping of traditional indigenous territories, at small and large scales, using participatory approaches.

<http://www.nativelands.org/bin/view.pl/36024.html>

### **Center for the Support of Native Lands**

Support for community-based mapping projects in Honduras, Panama, Nicaragua and Belize.

3240 Wilson Boulevard, Suite 220, Arlington, VA 22201, USA.

### **Iconoclasistas**

Talleres, cartografías e investigación colectiva, Somos un dúo que desde el año 2006 combina el arte gráfico, los talleres creativos y la investigación colectiva a fin de producir recursos de libre circulación, apropiación y uso, para potenciar la comunicación, tejer redes de solidaridad y afinidad e impulsar prácticas colaborativas de resistencia y transformación.

Nuestra práctica se extiende por y mediante una red dinámica de afinidad y solidaridad construida a partir de compartir e impulsar proyectos libres y talleres colectivos por Argentina, Latinoamérica y Europa.

<http://www.iconoclasistas.net/>

Keywords: training materials, books, guides. Latin America, radical political social critical commentary, urban, territory, control, neighbourhood management,

Eg. Mapeo Colectivo – Collective Mapping, tools for critical local social mapping, Maps and territorialisation.

<http://www.iconoclasistas.net/post/manual-de-mapeo-colectivo-en-pdf/>

*Cosmovisión Rebelde*

Planchas de íconos para mapear.

<http://www.iconoclasistas.net/post/iconos-para-mapear>

### **Instituto del Bien Común**

<http://www.ibcperu.org/index.php?lg=EN>

Instituto del Bien Común is a Peruvian civil association, principal concern is caring for common resources: the well-being of population living in rural areas, forests & coastal zones; health & continuity of ecological services; our common well-being for the future.

### **Nova Cartografia Social da Amazônia**

<http://www.novacartografiasocial.com/>

Belem i Manaus: PPGCS-UFPA Universidade Federal do Amazonas - Programa de Pós-Graduação Sociedade e Cultura na Amazonia. (PNCSA/PPGSCA-UFAM/ F.Ford)

Grupo de Pesquisa: Mapeamento social dos povos e comunidades tradicionais

Núcleo de Pesquisas em Territorialização, Identidade e Movimentos Sociais.

Coordinator, Nova Cartografia Social da Amazônia: Alfredo Wagner Berno de Almeida.

Series of > 22 documents of c.10-12 p. each reporting on Community and P mapping of NRM (e.g. cocoa, fisheries, NTFP) and land of indigenous and urban peoples. The series includes urban, socio-cultural, gender, health, and environmental issues, in Brazilian Amazonia, Belem, Amazonas, Para States

<http://dgp.cnpq.br/buscaoperacional/detalhegrupo.jsp?grupo=431170382CJT5E>

On the mapping of indigenous communities in the cities, visit the site [www.novacartografiasocial.com](http://www.novacartografiasocial.com)

Specifically the links of the books:

- Terras Indígenas nas Cidades

[http://www.novacartografiasocial.com/arquivos/publicacoes/livro\\_indigenasnascidades2.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/livro_indigenasnascidades2.pdf)

- Estigmatização e território: Mapeamento situacional dos indígenas em Manaus

[http://www.novacartografiasocial.com/arquivos/publicacoes/livro\\_estigmatizacao.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/livro_estigmatizacao.pdf)

- Terra urbana e território na Pan-Amazônia: III Fórum Social Amazônico, ciudad Guayana (Venezuela)

[http://www.novacartografiasocial.com/arquivos/publicacoes/livro\\_indigenasnascidades2.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/livro_indigenasnascidades2.pdf)

And the issues:

- Mulheres Artesãs Indígenas e Ribeirinhas de Barcelos (18)

[http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/18\\_ncsa\\_artesasBarcelos.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/18_ncsa_artesasBarcelos.pdf)

- Indígenas na cidade de Belém (1)

[http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/52\\_mscca\\_%2001\\_indigenasbelem.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/52_mscca_%2001_indigenasbelem.pdf)

- Indígenas na Cidade de Manaus: Os Sateré Mawé no Bairro Redenção (17)

[http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/68\\_mscca\\_17\\_saterenobairroredencao\\_manaus.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/68_mscca_17_saterenobairroredencao_manaus.pdf)

- Mulheres Indígenas e Artesãs do Alto Rio Negro em Manaus (18)

[http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/69\\_mscca\\_18\\_mulheresindigenasartesã\\_rionegromanaus.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/69_mscca_18_mulheresindigenasartesã_rionegromanaus.pdf)

- Indígenas na Cidade de Rio Preto da Eva: Comunidade Indígena Beija Flor, Rio Preto da Eva: Amazonas (20)

[http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/71\\_mscca\\_20\\_indigenasriopretodaevam\\_manaus.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/71_mscca_20_indigenasriopretodaevam_manaus.pdf)

- Indígenas nas Cidades de Manaus, Manaquiri e Iranduba: Processo de Territorialização dos Sateré-Mawé (23)

[http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/74\\_mscca\\_23\\_indigenasmanausmacap\\_urumanauquiriam.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/74_mscca_23_indigenasmanausmacap_urumanauquiriam.pdf)

- Associação de Mulheres Indígenas do Alto Rio Negro: Amarn (24)

[http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/75\\_mscca\\_24\\_associaçõesindigenasma\\_nausam.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/75_mscca_24_associaçõesindigenasma_nausam.pdf)

- Povo Indígena Kanela do Araguaia (49)

[http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/49\\_pctbc\\_01\\_indigenakanela.pdf](http://www.novacartografiasocial.com/arquivos/publicacoes/fasciculos/49_pctbc_01_indigenakanela.pdf)

### **El Universal** (2010 ff)

Mapa Delictivo.Website

[http://www.eluniversal.com.mx/graficos/00coberturas/mapa\\_delictivo/](http://www.eluniversal.com.mx/graficos/00coberturas/mapa_delictivo/)

[http://www.eluniversal.com.mx/graficos/00coberturas/mapa\\_delictivo/mapa.html](http://www.eluniversal.com.mx/graficos/00coberturas/mapa_delictivo/mapa.html)

El clima de inseguridad que vivimos obliga a la sociedad a tomar acciones. Por ello, EL UNIVERSAL emprende esta iniciativa que sólo es posible con la colaboración ciudadana.

Si fuiste víctima de algún delito como robo de auto, asalto, secuestro exprés u otros, indícanos donde ocurrió (calles y colonia). Dinos también si sabes de algún lugar donde se cometen ilícitos con frecuencia.

Ayúdanos a seguir identificando zonas de peligro en este Mapa Delictivo. Es por tu seguridad y por la de todos los habitantes de la ciudad de México

## **USA and Canada** (incl. Indigenous peoples)

Website of the “**Aboriginal Mapping Network**”, a community of participatory mappers and PGIS’ers among First Nations groups in Canada and the USA. Downloadable case studies, guides, and other documents and news items on practices & policy.

[www.nativemaps.org](http://www.nativemaps.org)

Many examples of, and linkages to, First Nations maps, Canada, USA.

[http://www.nativemaps.org/map\\_gallery.html](http://www.nativemaps.org/map_gallery.html)

### **International Forum on Indigenous Mapping: “Mapping for Indigenous Advocacy and Empowerment”**

Vancouver, Canada, March 11-14, 2004.

<http://www.culturalsurvival.org/news/canada/international-forum-indigenous-mapping-vancouver>

*“Maps are inseparable from the political and cultural contexts in which they are used.”*

### **Maps: GIS Windows on Native Lands, Current Places, and History.**

North America, Canada, USA, maps & GIS dealing with Native American spaces, locations, resources, communities. Eg. Wisconsin, Minnesota, British Columbia First Nations.

<http://www.kstrom.net/isk/maps/mapmenu.html>

### **Website of GIS ’91 Natural Resources**

**Symposium**, Vancouver, Feb. 1991 and the papers given there, with many relevant papers on PGIS, PPGIS.

[http://www.innovativegis.com/papers/abstracts/min\\_gis\\_91.html](http://www.innovativegis.com/papers/abstracts/min_gis_91.html)

### **“Six Nations Geo Systems “**

<http://www.sngeo.com/contact.html>

Six Nations of the Grand River, Ontario; First Nations; Canada; Commercial GIS software for research into land rights, entitlements (*letters patent*), ownership, electoral boundaries, infrastructure, housing, forestry, services, etc.

<http://www.cmapgallery.org/resources/>

### **Cherokee Nation**

GIS Indigenous Mapping Conference, Tulsa, OK., March 2005

The Cherokee Nation, Tahlequah, OK; First Nations

<http://www.cherokee.org/extras/events/gis/default.aspx?page=home>

### **URISA – Urban & Regional Information Systems Association**, Park Ridge IL., USA

<http://www.urisa.org/>

<http://www.urisa.org/ppgis.htm>

<http://www.esri.com/library/userconf/.htm>

<http://www.urisa.org/publicat.htm>

Websites of ESRI’s annual User Conferences and the papers given there, with many relevant papers on PGIS, PPGIS. Publications available from URISA.

Electronic on-line **URISA Journal** from the Urban and Regional Information Systems Association.

<http://www.urisa.org/Journal/onlinejournal.htm>

**NCGIA Varenius** meeting on "Empowerment, Marginalization and Public Participation GIS" 1998.

Specialist meeting on a range of topics in intersection of community interests and GIS technology. Site includes links to research papers;

<http://www.ncgia.ucsb.edu/varenius/ppgis/papers/index.html>

<http://www.ncgia.ucsb.edu/varenius/ppgis/ncgia.html>

<http://www.ncgia.ucsb.edu/varenius/ppgis/>

1996 NCGIA workshop on PPGIS

<http://www.ncgia.maine.edu/ppgis/ppgishom.html>

### Initiative 19: GIS and Society

<http://www.geo.wvu.edu/i19/>

From West Virginia University, this site provides background information on, and reports and publications resulting from, the NCGIA's "GIS and Society" initiative.

### Volunteered Geographic Information

UCSB, NCGIA, Los Alamos Nat. Lab., Vespucci Institute.

Michael F. Goodchild, UCSB

Rajan Gupta, LANL

<http://ncgia.ucsb.edu/projects/vgi/>

New web services & other digital sources emerging to potentially provide rich, abundant, timely flows of geographic and geo-referenced information. Might be termed *volunteered* sources, include geotagged entries in Wikipedia, specialized place descriptions in Wikimapia, OpenStreetMap supporting volunteer efforts to create public-domain geospatial data layers, geotagged photographs of Flickr, mashups with Google Earth and Google Maps. Now possible to find geographic domain from such sources, provided they can be synthesized, verified, integrated & distributed. Precursors in *citizen science*, eg. Christmas Bird Count or Project GLOBE.

Workshop on 'Volunteered Geographic Information', Dec. 2007

### Development Seed

<http://developmentseed.org/about/>

Development Seed is a creative data visualization and mapping team based in Washington, DC. We help organizations use data to explain complex issues and make better decisions. We work on projects with partners in government, international development, and the private sector who are trying to make things better, improve policy, and touch the lives of people around the world.

Our agile strategy has been refined over years, and our projects and partnerships are successful because of our integrated team of strategists, designers, and developers. We work together with our partners to solve complex communications

challenges using data visualizations and interactive web content. Our work runs the spectrum of identifying key problems, strategizing opportunities, building solutions, and designing communications. At our core, we are a product company building incredibly fast and flexible open source tools that provide the foundation for our solutions. This approach allows us to tackle large scale projects in record time, whether that's taking the World Bank from concept to site launch with [data.worldbank.org](http://data.worldbank.org) or helping Internews and NAI expose patterns of violence against journalists on the ground in Afghanistan.

### MapBox

<http://developmentseed.org/about/mapbox/>

#### Design, host, and share custom maps

**MapBox** makes it easy to design beautiful custom maps, and fast to integrate them into websites and mobile applications. Whether you want to visualize census data in Chicago, [monitor seismic activity](#) in the aftermath of the Japan earthquake, [plot drone strikes](#) in Pakistan, or [analyze election results](#) in Afghanistan, MapBox will help you make more sense of your data.

MapBox is our suite of open source tools for creating, hosting, and sharing web maps.

#### Overview of our tools

- **Create** maps using [TileMill](#), an easy to install desktop app.
- **Host & share** maps using [TileStream Hosting](#), our cloud-based map hosting service.
- **Go mobile** with the [MapBox iPad app](#).

[TileMill](#) is a design studio for creating maps from custom and publicly available geodata. TileMill radically lowers the barrier to entry to web cartography by streamlining the mapping process through an elegant interface. TileMill includes data inspection, layer management, palette design, typographical tools, and export to standard, portable map formats.

Data analysts, GIS experts, journalists, and web designers can get started with modern web cartography in minutes with TileMill.

[TileStream Hosting](#) makes it easy to host and share maps created with TileMill. TileStream serves map tiles at high speeds immediately after you upload any [MBTiles](#) map file exported from TileMill onto our cloud-based hosting infrastructure.

TileStream provides a suite of tools for building, sharing, and analyzing maps in the wild. An intuitive map builder and layer compositor lets you combine contextual base layers with overlay data, and you can copy and paste embeddable interactive maps onto any web page. If your map goes viral, TileStream has analytics for you to see exactly where and how your map is being used.



The [MapBox iPad app](#) lets you take maps anywhere with or without an internet connection. The MapBox iPad app can be used for presentations, offline mapping, and live visualization of situational data where it matters most - on the ground.

### **RGIS - National Consortium for Rural Geospatial Innovations in America**

Contact: Steve Ventura, [sventura@wisc.edu](mailto:sventura@wisc.edu)  
Land Information and Computer Graphics Facility,  
University of Wisconsin-Madison, 550 Babcock  
Drive, Madison, WI, USA.

RGIS assists state, tribal, regional and local governments, and non- & for-profit organizations in implementing advanced geospatial information technologies. To improve quality of life, environmental health, & economic competitiveness of rural communities.

<http://www.ruralgis.org/>

### **Shaping Dane Project Website**

Goal of 'Shaping Dane' is provide local communities with opportunity to participate in community-based, technology-linked land use decision-making.

Contact: Stephen J. Ventura,  
University of Wisconsin-Madison, WI, USA.

[www.lic.wisc.edu/shapingdane](http://www.lic.wisc.edu/shapingdane)

USA, Wisconsin, urban communities

### **Island Institute.**

Sustaining the islands and communities of the Gulf of Maine.

Community-Integrated approach to GIS involves building local capacity using existing community resources. The Island Institute supports a community-integrated GIS approach in 3 Maine island communities: Vinalhaven, Islesboro, & Peaks. The goal is to increase local information management capacity and make quality information accessible to the entire community, to support planning, conservation, education, & governance. Examples: watershed assessment, trails mapping, fire pond locations.

<http://www.islandinstitute.org/communitygis/>

### **Public Participation GIS**

Watching and exploring as PPGIS emerges as a practice and a science

Contact: Tulloch, David L.; Center for Remote Sensing & Spatial Analysis, Rutgers University, New Brunswick, NJ:

<http://www.crssa.rutgers.edu/ppgis/>

Website & paper by Krygier dealing with **PP Visualization.**

[http://www.owu.edu/~jbkrygie/krygier\\_html/lws/ppviz.html](http://www.owu.edu/~jbkrygie/krygier_html/lws/ppviz.html)

### **Community Mapping and GIS**

USA urban.

[http://go.owu.edu/~jbkrygie/comgis/comgis\\_overview.html](http://go.owu.edu/~jbkrygie/comgis/comgis_overview.html)

### **Making Maps: DIY Cartography. Resources and Ideas for Making Maps**

John Krygier, Ohio Wesleyan University

<http://makingmaps.wordpress.com/about/>

A very interesting, and often entertaining on-going blog to supplement the book, *Making Maps* by John Krygier & Denis Wood (Guilford Press), written for the Do It Yourself (DIY) cartographer - the student, the new GIS user, the internet user - anyone who wants to make maps that work and look great. This blog highlights resources that supplement the Making Maps book and help make better maps. Like the Making Maps book, this blog also provides examples of creative and provocative maps and material on map making and understanding, culled from contemporary and historical sources.

Mike Shiffer - **participation in planning.**

<http://yerkes.mit.edu/ncpc96/home.html>

### **MapCruzin - Clary-Meuzer Research Network**

Excellent site with resources, access to free data, software etc.

<http://www.mapcruzin.com/>

### **Orton Family Foundation**

Community Mapping Program. 'This Land: Mapping Our Communities'..

USA, e.g. Vermont, Colorado, New Hampshire: educational & social.

a non-profit foundation working with rural communities coping with rapid economic, social, and environmental change. Mission is provide rural America with tools to undertake responsible rural & land use planning. Programs & projects communities can use in planning discussions and decision-making. Est. 1995 by Lyman Orton and Noel Fritzinger.

The Orton Family Foundation, 128 Merchants Row, 2nd Floor, Rutland, Vermont 05701, USA

<http://www.orton.org/projects/community/Mapping.asp>

### **Common Ground Community Mapping Project.**

Contact: LifeCycles Unit #1A - 625 Hillside Avenue Victoria, BC V8T 1Z1.

Common Ground is a community-based mapping and planning project that provides mapping and learning resources for schools, neighborhoods and communities wishing to undertake sustainable community development and planning projects. Community mapping is a way for local citizens to reinhabit their home place. It is a participatory educational and planning process which maps the social, economic and ecological assets, history and development of a given place. People of all ages share their knowledge, values

and experience with others as a basis for visioning and planning. Community mapping provides inclusive & graphic framework for people to affirm and pool their experiences and knowledge about their home place. Community mapping is as much about process as it is about 'getting the map done.' Common Ground provides training, & exchange of experiences. Including **Green Maps**.  
[http://lifecyclesproject.ca/initiatives/common\\_ground/](http://lifecyclesproject.ca/initiatives/common_ground/)  
 Common Ground Resource Guide  
[http://lifecyclesproject.ca/resources/mapping\\_common\\_ground.php](http://lifecyclesproject.ca/resources/mapping_common_ground.php)

### **Getty Research Institute**

Mapping Local Knowledge.  
 USA, urban, Los Angeles, educational & social

### **GreenInfo**

California, "Information & Mapping in the Public Interest" Mission of GreenInfo Network is to bring the power of computer based mapping to non-profits, public agencies and other public interest organizations. We enable these groups to more effectively show the relationships between issues, people and places. We do this by conducting GIS and other projects, providing access to GIS resources, supporting groups who desire their own GIS, and fostering collaboration around data and GIS projects.  
<http://www.greeninfo.org/gin@greeninfo.org>

### **Ecotrust Canada**

Information Services and Planning Programme.  
[www.ecotrust.ca](http://www.ecotrust.ca).

### **Community Mapping Network**

<http://shim.bc.ca/>

Gawker's **New York City Subway Smell Map**. Created from reports sent in by Gawker readers, the map displays particular smells -- horrific and sublime -- encountered throughout New York's subway stations. Mouse over any station to see the station name, subway lines, and types of smells to be found there. Click on any station for a popup with actual reader smell reports. Includes: Alcohol, body odour, chemicals, faeces, food, mould & wet, perfume, sewage, urine, vomit. Smell something? Say something to [subwaystink@gmail.com](mailto:subwaystink@gmail.com). Give the station, subway line, and smell you detected, and we'll incorporate your report into the map.  
<http://gawker.com/maps/smell/>  
 USA, New York, urban

### **Olfactory Factory**

"global smell map". Map of mainly US city smells -- contributed. "Simply put olfactory factory is about smell and place, a geographical study of

smell -- a smell spelunking of sorts. In particular olfactory factory is about smell experience and the smells that surround you and me."

[http://www.olfactoryfactory.org/olfactory\\_en.asp](http://www.olfactoryfactory.org/olfactory_en.asp)

### **Local Government Commission.**

#### **Participation Tools for Better Community and Land Use Planning.**

Participatory Land-Use Mapping is a technique to involve members of the public in exploring local and regional land-use planning issues. Participatory Land Use Mapping can utilize GIS software tools to help policy makers and stakeholders be more informed and make more effective decisions by relating data with place; .. more meaningful to local government staff, policy makers and the public.

"Through Participatory Land-Use Mapping, community members learn about the hazards of inefficient land-use and the challenge of accommodating a growing population in a compact urban area without densifying development and adopting alternative modes of transportation. The end result is often the fostering of public support for smart growth."

[http://www.lgc.org/freepub/land\\_use/participation\\_tools/landuse\\_mapping.html](http://www.lgc.org/freepub/land_use/participation_tools/landuse_mapping.html)

- Public Participation in Community Planning
- Computer Simulation as a Public Participation Tool
- Public Participation and Visual Surveys
- Participatory Land Use Mapping
- Organizing a Mapping Exercise in Your Community

Local Government Commission

1414 K St., Ste 600, Sacramento CA, USA

[www.lgc.org](http://www.lgc.org)

### **Mental Maps: Making the Invisible, Visible.**

Sorin A. Matei, (2003-07)

[mental@matei.org](mailto:mental@matei.org)

<http://www.mentalmaps.info/>

Mental mapping visualizes the imaginary maps people carry in their minds to navigate in geographic space. Sorin Matei has found an efficient way to make these maps visible and analyzable with quantitative methods.

e.g. USA, Los Angeles three-dimensional mental map of fear. Mountain and green areas represent zones perceived as comfortable; valleys and canyons in red represent areas perceived as "feared."

Eg. Romania, Brasov.

### **Silence of the Lands**

"Silence of the Lands enables annotation and mapping the **soundscape** of urban and natural environments. .. record and collect ambient sounds, create and share individual and collective cartographies, and use them as .. a social

dialogue. ... natural quiet is transformed into a living and affective geography that changes over time according to perceptions and interpretations of environmental setting. The project under development explores locative media as a component of large sociotechnical architectures aimed at supporting ,, collaborative design. University of Colorado at Boulder.  
<http://www.thesilence.org/index.html>  
 [Checked 12 Dec. 2005]

### **The Landscape Values Institute**

Central Washington University  
 Ellensburg, WA, USA

Landscape Values Institute is an institute of researchers and planners with expertise and experience in mapping, interpreting, or using landscape value and special place information for land use planning and decision-making. Landscape value and special place mapping is a planning technique whose principles are grounded in sustainable land use and environmental protection, meaningful public participation, and the inclusion of multiple values in land use decision-making. Landscape value and special place mapping is a type of PPGIS used to support land use planning efforts at multiple scales ranging from local, to regional, to national scales.

Web site has applications, methods, tools for mapping and analyzing landscape values and special places, resources to help design and implement landscape value mapping for planning applications.

<http://www.landscapevalues.org/>

## **Australasia**

### **Digital Songlines Environment (DSE)**

ACID, Australasian CRC for Interactive Design, project to develop new software tools to assist in the digital protection, preservation and promotion of Australian Indigenous culture, practices, myths and legends based upon Aboriginal Australia's most prized asset – the land.

Digital Songlines is an ACID Virtual Heritage Program Initiative creating virtual landscapes based upon oral histories and mythological stories that reflect spiritual connection understood by the Aboriginal people. Digital Songlines toolkit as a platform-independent software developed in variety of formats as a virtual heritage for indigenous community, edutainment, museums, science centres and homes.

<http://www.cyberdreaming.com.au/>

### **Landscape Values & PPGIS Institute**

Greg Brown,

School of Geography, Planning, and Environmental Management, University of Queensland.

The Landscape Values and PPGIS Institute is a non-profit consortium of international researchers and planners interested in advancing knowledge about landscape values and PPGIS to improve land allocation and management. Landscape value and special place mapping is a planning technique whose principles are grounded in sustainable land use and environmental protection, meaningful public participation, and the inclusion of multiple values in land use decision making. Landscape value and special place mapping is a type of public participation geographic information system or (PPGIS) used to support land use planning efforts at multiple scales ranging from local, to regional, to national scales.

<http://www.landscapemap2.org/>

### **Nature Conservation Council of NSW**

Community Mapping for NSW:

“Community mapping is about empowering the community to: Collect community & environmental information; Organise information; View as interactive map, shared with other communities & government; interpretive framework; document and support community decision making” Internet mapping; maps on paper or earth, 3-D models.

<http://www.nccnsw.org.au/mapping/index.html>

### **Manaaki Whenua— Landcare Research**

PO Box 40, 7640 Lincoln., New Zealand / Aetoroa

Māori Perspectives and Waitangi Treaty Responsibilities. “Historically, physical survival and spiritual well-being for Māori depended on the land. Traditional protocols developed and practised over the centuries were a form of resource management. Contemporary scientific process has largely ignored Māori cultural values and the rationale from which these developed. We have a responsibility to set this right and accept the validity of traditional perspectives and approaches. Among Māori, there is a desire for increased involvement in science and resource management.”

<http://www.landcareresearch.co.nz/>

Indigenous knowledge and values - involvement of iwi and hapū as participants, recognising their interlinked involvement as Treaty partners, tangata whenua and members of key stakeholder groups. Also, key ingredients of successful collaborative research with iwi; barriers to, and difficulties in, setting up collaborative research projects with Māori.

Contact: Garth Harmsworth

[http://www.landcareresearch.co.nz/research/research\\_details.asp?Research\\_Content\\_ID=117](http://www.landcareresearch.co.nz/research/research_details.asp?Research_Content_ID=117)

## UK

**CASA** – Centre for Advanced Spatial Analysis, University College, London  
1999, CASA researchers disseminated work on multimedia, GIS, & virtual reality in urban design to local communities. **Hackney Building Exploratory Interactive** was first application & led to current project in **Woodberry Down** where CASA is building a multimedia resource for public participation. Woodberry Down is one of the most deprived public housing estates in the UK and participation is central to the process of community regeneration. An example of how digital technologies can enable a disenfranchised community to realise its own future  
Muki Haklay: University College, London  
<http://www.casa.ucl.ac.uk/muki/>

### **Extreme Citizen Science: ExCiteS**

Extreme Citizen Science is a situated, bottom-up practice that takes into account local needs, practices and culture and works with broad networks of people to design and build new devices and knowledge creation processes that can transform the world.

Includes participatory mapping of forest use and indigenous land claims in Congo-Brazzaville.

<http://www.ucl.ac.uk/excites>

### **Mapping for Change**

The Chorley Institute, University College London, Gower Street, WC1A 6BTUK, London  
Mapping for Change is an innovative social enterprise that exists to support the development of sustainable communities. We specialise in providing participatory mapping services to communities, voluntary sector organisations, local authorities and developers using a suite of innovative tools for communication. Our work has a strong focus on engaging and empowering communities to make positive transformations to their localities. Whether you need a map to support a funding application or you want us to develop an online interactive map to engage with communities as part of a consultation process. We can work on school programmes, food growing and distribution, sustainable tourism and much more. Our experience and understanding across the fields of community engagement, Geographic Information Systems (GIS) and Mapping technology brings strength to our work in each sector.

Community action pack, Noise mapping toolkit.

<http://www.mappingforchange.org.uk/more-information/toolkits-publications/>

**Woodbury Down Regeneration**, Hackney, London

[www.casa.ucl.ac.uk/woodberry/](http://www.casa.ucl.ac.uk/woodberry/)  
<http://156.61.16.5/woodberry/>  
<http://www.casa.ucl.ac.uk/research/woodberrydown.htm>

### **PPGIS Research Group (Manchester Uni)**

Web-based Public Participation Geographical Information Systems Research

The main aim is to develop and test web-based GIS to enhance public involvement and participation in environmental planning and decision making processes.

The main objective is based on the belief that by providing citizens with access to information and data in the form of maps and visualisations they can make better informed decisions about the natural and built environment around them. researching and developing participatory decision support solutions for smarter cities to enhance public involvement and participation in environmental planning and decision making.

Contact: Richard Kingston

Planning & Environmental Management,  
University of Manchester

[richard.p.kingston@manchester.ac.uk](mailto:richard.p.kingston@manchester.ac.uk)

<http://www.ppgis.manchester.ac.uk/>

### **University of Leeds**

On-line Digital Democracy Group, University of Leeds, School of Geography.

10 years developing web-based Geographical Information Systems for Public Participation in environmental decision making; innovative work in participatory, on-line, interactive GIS using the web.

Contact: Steve Carver, The Centre for Computational Geography, School of Geography, University of Leeds, Leeds, UK. LS2 9JT

<http://www.ccg.leeds.ac.uk/groups/democracy/>

(check: 9 May 2006)

Nuclear Waste Disposal: Interactive web exercise: Exploring environmental decision making using Internet GIS. Public participation in locating a nuclear waste disposal site in UK.

<http://www.ccg.leeds.ac.uk/atomic/>

Woodland Online Decision System (WOODS) - Yorkshire Dales National Park New Woodland Planting Scheme. Interactive web exercise: Using internet GIS decision-making for new woods planted in the Yorkshire Dales.

<http://www.ccg.leeds.ac.uk/dales/>

A Village Based Planning for Real<sup>®</sup> Initiative.  
See Univ. of Manchester.

A Village Based Planning for Real<sup>®</sup> Initiative.  
**Slaithwaite** is the Yorkshire village where the methods were being developed.



<http://www.ppgis.man.ac.uk/projects/slaithwaite/>  
(latest update 4 May 2005)

Virtual Slaithwaite PfR-NIF refers to the 'Planning for Real' ® Web-based Public Participation exercise by Neighbourhood Initiatives Foundation using a 1:1000 3-D scale model of Slaithwaite village, in West Yorkshire, UK.

### Maps and Stats

Bradford, Yorks.: Bradford Council in partnership with Bradford Resource Centre (BRC).

<http://www.mapsandstats.com/>

**Online Planning** research into utilising internet based virtual reality within planning system. Centre for Advanced Spatial Analysis (CASA) University College London.

Contact: Andrew Hudson-Smith

[Asmith@geog.ucl.ac.uk](mailto:Asmith@geog.ucl.ac.uk)

<http://www.casa.ucl.ac.uk/research/onlineplanning.htm>

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

### Online Planning Journal

<http://www.casa.ucl.ac.uk/planning/olp.htm>

### Bio Mapping

Christian Nold, BioMapping.net

Bio Mapping is a research project beginning in London in Jan. 2004 and on-going, "which explores new ways that we as individuals can make use of the information we can gather about our own bodies. Instead of security technologies that are designed to control our behaviour, this project envisages new tools that allows people to selectively share and interpret their own biometric data.

The Bio Mapping tool allows the wearer to record their Galvanic Skin Response (GSR), which is a simple indicator of emotional arousal in conjunction with their geographical location. This can be used to plot a map that highlights point of high and low arousal. By sharing this data we can construct maps that visualise where we as a community feel stressed and excited.

How will our perceptions of our community and environment change when we become aware of our own and each others intimate body states?"

<http://biomapping.net/index.htm>

UK, London, urban, community mapping, fear mapping, biomapping

### London 21 - Networking for a Green and Sustainable City.

London 21 is a network of community groups, individuals and representatives who work in all parts of Greater London to help create a greener, healthier and more sustainable city. A registered charity operating since 2000. London 21 is known for London Sustainability Weeks, or, 'Love London' in June, 2 weeks of green events.

London 21 runs projects including the 'Environmental Justice Project', the 'Black Minority and Ethnic Groups (BME) Project', 'Mapping Change for Sustainable Communities', 'Bio Mapping', and the 'London Green Map' which maps green activities, projects, businesses, organisations over London.

<http://www.london21.org/>

UK, London, urban, community mapping, environmental justice, social, ethnicity, health, 'biomapping'

## EUROPE

**Bürgerbeteiligung Online** – landscape plan, Königsutter

<http://thuja.land.uni-hannover.de/entera/mapserv.phtml>

Source: ref. in Steinmann et al. (2004)

**Vernetzter Bebauungsplan – Landkreis Freising**

<http://fs.mapsailor.de/fs-start.htm>

Source: ref. in Steinmann et al. (2004)

### RoadNavigator Libelle

<http://www.emancipatie.nl/documenten/nws/2007/september/070901avkr.pdf>

<http://www.roadnavigator.nl/libelle/>

Adaptation of tomtom car navigation. Marketing gimmick?, or, gendered navigation tool more appropriate to (European) women's navigation preferences?

### NoiseTube

<http://noisetube.net/>

"Turn your mobile phone into an environmental sensor and participate to the monitoring of noise pollution."

NoiseTube is a research project about a participative approach for monitoring noise pollution involving the general public. The goal is to extend the current usage of mobile phones by turning them into noise sensors enabling each citizen to measure own exposure in everyday environment. Users participate to create a collective map of noise pollution by sharing geolocalized measures.

By installing Sony's free application on GPS equipped phone, measure the level of noise in dB(A) (with a precision a bit lower than a sound level meter), and contribute to the collective noise mapping by annotating it (tagging, subjective level of annoyance) and sending geolocalized information automatically to the NoiseTube server by internet (GPRS).

**SoftGIS**

Marketta Kyttä, Maarit Kahila, Aalto University,  
Finland

<http://opus.tkk.fi/softgis/>

softGIS = Geographical Information produced by the users of the environment which usually is empirical and can be collected and processed as a part of the GIS.

softGIS methods used in planning & researching living environment.

With softGIS study the experiences, e.g. safety or quality of living environment can be mapped.

Information gathered for scientific purposes also for support of planning and decision-making.

Participative Geographical Information also used in Internet based Forums for gathering local knowledge & information by different actors e.g. a city district.

SoftGIS enables combination of 'soft' subjective data with 'hard' objective GIS data. Large datasets can be collected for urban planners & professionals development of more user-friendly physical settings.

## GEOGRAPHICAL INDEX

- Afghanistan, 136  
 Africa, 24, 26, 56, 94, 125  
     Central Africa, 14, 20, 49, 69  
     East Africa, 84, 102  
     North Africa, 128  
     West Africa, 48  
 Amazonia, 4, 5, 7, 8, 11, 15, 21, 22, 31, 33, 36, 38, 39, 41, 45, 48, 51, 52, 54, 55, 62, 71, 72, 74, 83, 88, 89, 90, 94, 95, 100, 101, 108, 109, 112, 113, 123, 138  
 Andes, 10, 21, 37, 39, 44, 89, 101, 107, 122  
 Arctic, 12, 23, 47, 56, 58, 61, 69, 89, 95, 100, 101, 102, 104, 109, 113, 125, 126  
 Argentina, 9, 45, 114, 136  
     Mapuche, 9  
 Armenia, 136  
 Asia, 6, 21, 26, 42, 49, 56, 67, 94, 98, 104  
     West Asia, 128  
 Australia, 9, 12, 14, 17, 18, 19, 22, 24, 30, 31, 35, 43, 49, 68, 86, 96, 97, 115, 117, 119, 120, 123, 127, 143  
     Aboriginal, 14, 17, 18, 19, 24, 30, 31, 35, 49, 68, 86, 96, 97, 115, 117, 119, 120, 127, 143  
     Arnhem Land, 9, 30  
     Central Australia, 68  
     Djelk, 9  
     East Kimberley, 96  
     Great Barrier Reef, 43  
     Jaru, 96  
     Kija, 96  
     Loritja, 68  
     Murray-Darling, 115  
     NSW, 143  
     Pintupi, 68  
     Queensland, 24, 43  
     Victoria, 12  
     Western Australia, 22  
     Yolngu, 30, 127  
 Bangladesh, 6, 50, 57, 60, 91, 126  
     Matlab Upazila, 57  
 Belize, 28, 117, 123, 138  
 Benin, 21, 25  
 Bolivia, 18, 26, 31, 38, 54, 58, 89, 101, 112  
     Pando, 31, 38  
     Titicaca, 89  
     Tsimane', 101  
     Yuqí, 58  
 Botswana, 6, 23, 51, 53, 115, 137  
 Brasil, 4, 5, 7, 8, 11, 15, 21, 22, 25, 29, 33, 40, 41, 43, 44, 45, 51, 52, 55, 71, 74, 80, 83, 88, 102, 106, 112, 113, 123, 136, 138  
     Acre, 7, 8, 40, 41, 44, 74, 106  
     Amazonas, 15  
     Belem, 88, 138  
     Espírito Santo, 45, 102  
     Jau, 106  
     Kayapo, 33, 55  
     Manaus, 123  
     Mebengokre, 33, 55  
     Para, 33, 55, 88, 138  
     Rio Grande, 43  
     São Paulo, 25  
     Surui, 22, 83  
     Waiãpi, 44  
     Xingu, 51  
     Yanomamý, 80  
 Bulgaria, 17, 18  
 Burkina Faso, 21, 25, 33, 48, 53, 107  
 Cambodia, 42, 63, 80, 81, 82, 127  
 Cameroun, 20, 24, 26, 29, 66, 67, 69, 70, 77, 79, 82, 83, 84, 87, 101, 102, 105, 137  
 Canada, 4, 8, 9, 12, 16, 18, 19, 21, 22, 23, 24, 28, 29, 30, 33, 34, 35, 36, 38, 40, 46, 48, 50, 53, 55, 56, 58, 59, 61, 62, 63, 69, 70, 72, 73, 74, 75, 80, 82, 83, 86, 88, 89, 90, 91, 93, 94, 95, 97, 101, 102, 104, 109, 113, 117, 119, 125, 126, 139, 142  
     Alberta, 16, 73, 91  
     Anishinaabe, 97  
     Beaver, 19  
     British Columbia, 4, 7, 8, 12, 19, 23, 24, 28, 29, 30, 36, 46, 48, 53, 58, 63, 70, 102, 109, 119, 125, 126, 139, 141  
     Clayoquot, 36, 46, 53  
     Cree, 109  
     Deh Cho, 33, 88  
     Dene, 9, 33, 86, 88  
     Gitksan, 9, 28, 36, 59, 83, 113  
     Great Lakes, 23, 97  
     Heiltsuk, 24, 126  
     Inuit, 56, 61, 95, 101, 104, 109, 113, 126  
     Inuktitut, 23  
     Keewatinowi Okimakanak, 8  
     Labrador, 95, 97  
     Manitoba, 8  
     Métis, 30  
     Newfoundland, 72  
     Nisga'a, 36, 113  
     Nova Scotia, 8, 61  
     Nunavut, 23, 101, 117  
     Ojibwa, 124  
     Ontario, 80, 109  
     Prince Albert, 117  
     Quebec, 97, 109  
     Salish, 24  
     Saskatchewan, 62, 91, 117  
     Shuswap, 58, 109  
     Six Nations, 139  
     Sliammon, 102  
     Squamish, 22  
     Stolo, 24, 126  
     Teme-Augama Anishnaba, 109  
     Tlowitsis Nation, 12  
     Tsimshian, 36  
     Tsleil-Waututh, 4  
     Vancouver Island, 63

- Wendaban, 109  
Wet'suwet'en, 36, 59, 83, 113  
Yukon, 12  
Caribbean, 11, 12, 18, 26, 28, 32, 33, 34, 47, 49,  
64, 70, 81, 94, 102, 104, 110, 112, 114, 126  
Central America, 10, 13, 26, 28, 46, 52, 64, 85,  
94, 131  
Maya, 117  
Chad, 126  
Chile, 9, 29, 53, 55, 84, 136  
Mapuche, 9, 53  
China, 22, 58, 79, 80, 81, 82, 115, 124, 128, 136  
Fujian, 128  
Inner Mongolia, 58  
Jiangxi, 115  
Shanxi, 115, 124  
Tibet, 14, 104, 133  
Yunnan, 79, 80, 81, 82  
Colombia, 4, 5, 9, 13, 21, 36, 37, 44, 46, 52, 54,  
66, 71, 100, 103, 112, 118, 121, 122  
Afro-Colombian, 122  
Amazonia, 36  
Antioquia, 44  
Cauca, 122  
Pereira, 118  
Vichada, 122  
Comoros, 82  
Congo DRC, 16, 20, 30, 32, 49, 85, 105  
Congo-Brazzaville, 119, 144  
Costa Rica, 18, 47, 120, 136  
Cuba, 136  
Dominican Republic, 102, 111, 114  
East Timor, 22, 23  
Ecuador, 8, 17, 24, 44, 54, 75, 90, 107, 112, 123  
Licto, 17  
Egypt, 40  
El Salvador, 28  
Eritrea, 81  
Ethiopia, 11, 30, 37, 40, 54, 67, 92, 101, 105, 112  
Addis Ababa, 67  
Boran, 54, 112  
Gabra, 112  
Guji, 112  
Oromo, 30  
Tigray, 11, 40, 92  
Wollo, 37  
Europe, 19  
Fiji, 62, 65, 69, 99  
Finland, 19, 54, 61  
Sami, 61  
First Nations, 9, 29, 33, 35, 36, 46, 53, 58, 72, 87,  
88, 102, 124, 134, 139  
French Guiana, 4, 5  
Gabon, 32  
Gambia, 20  
Georgia, 113  
Germany, 145  
Ghana, 5, 12, 24, 48, 64, 65, 66, 71, 126  
Greece, 36  
Greenland, 126  
Grenada, 11, 12, 33  
Guatemala, 11, 25, 28, 66, 71, 92, 93  
Guinea, 22  
Guinea-Bissau, 87  
Guyana, 4, 5, 28, 48, 54, 100, 105  
Haiti, 22, 101, 129  
Honduras, 26, 28, 32, 33, 34, 35, 52, 67, 127, 138  
Miskitu, 35  
India, 9, 13, 16, 25, 26, 31, 40, 43, 48, 49, 53, 54,  
56, 59, 64, 73, 76, 77, 84, 86, 87, 91, 93, 94,  
96, 97, 100, 101, 104, 105, 106, 108, 109, 110,  
115, 116, 120, 122, 123, 136, 138  
Andaman Is, 16, 91, 136  
Chennai, 86  
Delhi, 26, 49, 77  
Haryana, 84  
Indore, 9  
Kerala, 25, 26, 43, 56, 97, 108, 109, 116  
Madras, 86  
Maharashtra, 64  
Mumbai, 105  
Pune, 48  
Rajasthan, 25  
Uttar Pradesh, 64  
Uttaranchal, 64, 73, 122, 137  
Indonesia, 6, 8, 9, 15, 24, 25, 29, 30, 31, 32, 36,  
41, 42, 45, 48, 51, 55, 58, 61, 67, 69, 70, 75,  
83, 86, 92, 95, 101, 106, 108, 110, 114, 115,  
120, 127, 128, 133, 136, 138  
Aceh, 58, 132  
Buton Island, 127  
East Kalimantan, 32  
Jakarta, 48, 75  
Java, 9, 32, 41, 42, 92, 127  
Kalimantan, 8, 25, 29, 30, 31, 42, 45, 51, 61,  
67, 83, 86, 92, 95, 108, 110, 114, 127, 128  
Moluccas, 67  
Papua Barat, 41, 42, 106, 138  
Sulawesi, 70, 128  
Sumatra, 115  
West Kalimantan, 133  
Yogyakarta, 15  
Iraq, 71  
Israel, 11, 68, 97, 128  
Italy, 12, 32, 118  
L'Aquila, 12  
Tuscany, 32  
Jamaica, 104, 136  
Japan, 48  
Jordan, 8, 91  
Kenya, 5, 29, 30, 33, 55, 60, 64, 66, 67, 76, 77,  
84, 85, 89, 91, 99, 101, 105, 112, 116, 136  
Aberdares, 137  
Amboseli, 5  
Keiyo, 84  
Kibera, 101  
Lambwe Valley, 89  
Maasai, 5, 85  
Makueni, 55  
Marakwet, 84, 91



- Marsabit, 112  
 Mau Forest, 84, 137  
 Moyale, 112  
 Mt. Elgon, 137  
 Nairobi, 64  
 Ogiek, 84, 99  
 Samburu, 67, 112  
 Taita, 60  
 Western Kenya, 76  
 Laos, 65, 97  
 Latin America, 6, 20, 24, 26, 44, 54, 55, 64, 78, 94, 111, 122, 126, 138  
 Lebanon, 49, 129  
 Lesotho, 121  
 Liberia, 105  
 Madagascar, 18, 29, 41, 67, 75, 105, 115  
 Malawi, 14, 18, 36, 117, 123, 126  
 Malaysia, 8, 21, 29, 34, 38, 45, 67, 72, 103, 106, 120, 136, 137  
     Negeri Sembilan, 34  
     Penang, 67  
     Sarawak, 8, 21, 38, 45, 66, 72, 106, 120, 137  
     West Malaysia, 66  
 Maldives, 82  
 Mali, 93, 122, 123  
 Marshall Is, 136  
 Mauritius, 82  
 Mexico, 8, 9, 10, 13, 15, 17, 18, 22, 23, 24, 27, 43, 45, 48, 52, 59, 64, 69, 71, 76, 79, 81, 82, 83, 85, 89, 92, 97, 101, 103, 108, 112, 113, 121, 139  
     Baja California, 108, 113  
     Chiapas, 43, 45, 52, 76  
     Ciudad de Mexico, 101  
     Huasteca Potosina, 112  
     Jalisco, 23  
     Mexico DF, 83, 113, 139  
     Michoacan, 10, 13, 17, 48, 59, 79, 92  
     Nahua, 112  
     Nayarit, 18  
     Oaxaca, 18, 52, 112, 113, 121  
     Quintana Roo, 97  
     San Luis Potosi, 52, 112  
     Sierra Norte de Puebla, 71  
     Teneek, 112  
     Tenochtitlan, 15  
     Texcoco, 89  
     Valley of Mexico, 22  
     Veracruz, 64  
     Yucatan, 27  
     Zapotec, 112  
 Micronesia, 69  
 Mongolia, 14, 81, 100  
 Morocco, 18  
 Mozambique, 8, 61, 62, 74, 84, 87, 113, 137  
     Sofala, 61, 62  
 Namibia, 63, 85, 86, 95, 115, 122, 136  
     Kalahari, 122  
 Nepal, 5, 12, 17, 18, 24, 41, 42, 43, 44, 53, 54, 57, 59, 66, 76, 87, 94, 95, 100, 108, 109  
     Banke, 94  
     Dhading District, 100  
     Dhauligiri, 76  
     Dolakha, 59  
     Jhikhu Khola, 17, 108  
     Langtang, 42, 43, 95  
     Makalu, 41  
     Mugu, 87  
     Parbat, 76, 108  
     Sagarmatha, 54  
     Terai, 43  
 Netherlands, 67  
 New Zealand, 14, 37, 49, 50, 54, 62, 66, 73, 84, 115, 128, 143  
     Māori, 14, 37, 49, 50, 54, 62, 66, 73, 84, 128  
     Waitaki, 115  
     West Coast, 54  
 Nicaragua, 4, 28, 32, 34, 40, 46, 47, 52, 57, 81, 87, 88, 90, 114, 122, 123, 124, 130, 131, 133, 138  
     Garifuna, 32, 47  
     Miskitu, 87, 88, 114  
     Telpaneca, 4  
 Niger, 21, 25, 120  
 Nigeria, 16, 24, 55, 105  
     Cross River State, 16  
 North America, 71, 84, 94, 104  
     First Nations, 4, 7, 8, 9, 12, 16, 18, 19, 22, 23, 24, 26, 28, 29, 30, 33, 34, 35, 36, 38, 40, 45, 46, 50, 51, 53, 54, 56, 58, 59, 61, 69, 70, 72, 73, 74, 75, 82, 86, 88, 89, 90, 93, 94, 95, 97, 101, 102, 104, 108, 109, 113, 117, 120, 124, 125, 126, 139  
 Norway, 12  
     Sami, 12  
 Pacific, 10, 15, 19, 22, 40, 43, 49, 69, 75, 77, 93, 94, 99, 109, 116, 118, 123, 136  
 Pakistan, 29, 37, 66, 79, 84  
     Khyber Pakhtunkhwa, 7  
     Peshawar, 7  
 Pakistan,, 7  
 Palestine, 11, 48, 68, 97, 128  
     Gaza, 48  
 Panama, 26, 33, 46, 52, 65, 112, 136, 138  
 Papua New Guinea, 14, 81, 109  
 Paraguay, 67, 86, 105  
 Peru, 7, 21, 29, 30, 39, 45, 52, 62, 72, 83, 89, 90, 101, 108, 112, 113, 116, 124, 133, 138  
     Achuar, 89, 90  
     Iquitos, 112  
     Matsés, 112  
     Yanesha, 133  
     Yanomano, 7  
 Philippines, 4, 5, 6, 10, 15, 17, 20, 21, 22, 29, 31, 33, 34, 37, 39, 43, 44, 47, 49, 55, 67, 70, 72, 73, 82, 89, 90, 92, 93, 98, 99, 105, 116, 124, 129, 130, 131, 136, 137  
     Bacolod City, 89  
     Benguet, 67  
     Bicol, 92, 93

- Capiz, 5
- Coron, 6
- Dumagat, 116
- Ifugao, 47, 131
- Luzon, 47, 131
- Masantol, 22
- Mindanao, 4, 34, 82, 90
- Naga City, 92, 93
- Negros Occidental, 33
- Palawan, 6, 129
- Samar, 43, 72
- Polynesia, 15, 69, 123
- Portugal, 95
- Puerto Rico, 113
- Romania, 142
- Russia, 29, 69, 77, 89, 100
  - Inuit, 69
  - Siberia, 69, 89
- Rwanda, 93
- Saint Vincent & Grenadines, 11, 12, 33
- São Tomé & Príncipe, 82
- Scandinavia, 63, 77
- Senegal, 5, 18, 20, 115, 118
- Seychelles, 82
- Sierra Leone, 105, 126
- Solomon Islands, 10, 93
- Somalia, 13, 30, 41, 116
- South Africa, 4, 6, 13, 14, 16, 27, 30, 31, 32, 33, 50, 59, 70, 80, 87, 91, 103, 105, 107, 118, 123, 125, 126, 135, 136, 137
  - Cape, 6, 33, 103, 107
  - Cape Town, 13, 14, 91, 123
  - Kalahari, 53, 70
  - Kat River, 103
  - Kiepersol, 4
  - Kruger, 32, 91, 123
  - KwaZulu-Natal, 59
  - Limpopo, 87
  - Mpumalanga, 50, 125, 126
  - Namaqualand, 32, 33, 105
  - San, 118
  - Table Mountain, 32
  - Venda, 30
  - Vulindlela, 27
- South Sudan, 101
- Sri Lanka, 6, 16, 49, 57, 64, 67, 75, 120
  - Matale, 6
- St. Lucia, 70, 102, 112
- Sudan, 46, 61, 93
- Suriname, 4, 5, 21, 94, 99, 100
- Sweden, 26, 105
  - Sami, 105
- Switzerland, 107
- Syria, 29
- Tahiti, 69, 123
- Taiwan, 66, 70, 119
- Tanzania, 10, 14, 18, 27, 34, 36, 38, 39, 43, 53, 60, 62, 72, 73, 89, 91, 93, 104, 108, 114, 122, 123
  - Arusha, 53
- Babati, 73
- Bagamoyo, 10, 122
- Dar es Salaam, 14, 34
- Gombe, 93
- Kilimanjaro, 72
- Kilosa, 108
- Kisarawe, 123
- Mbulu, 18
- Ngara, 104
- Rufiji, 36
- Serengeti, 89
- Tabora, 114
- Usambaras, 60, 104
- Zanzibar, 38, 39, 60
- Thailand, 9, 19, 42, 44, 49, 53, 56, 57, 71, 95, 96, 98, 99, 104, 116, 120, 121, 136
  - Chiang Mai, 116, 121
  - Mae Hong Son, 57, 96
  - Mae Tho, 103
  - Prachuap Khiri Khan, 9
- Tibet, 14, 104, 133
- Tonga, 15, 69
- Trinidad, 110
- Turkey, 90
- Turks & Caicos, 28, 49
- Uganda, 7, 16, 24, 84, 85, 91, 117, 120, 125, 136
  - Bwindi, 16
  - Kagera, 117
  - Mabira, 7
  - Masindi, 120
- UK, 10, 12, 24, 41, 48, 59, 62, 63, 113, 126, 128, 144
  - East Anglia, 10
  - England, 27
  - London, 62, 63, 136, 144, 145
  - NE England, 62
  - Norfolk, 59
  - Scotland, 48
  - Scotland, Harris, 54
  - Slaithwaite, 12, 63, 145
  - Yorkshire, 12, 63, 144, 145
- USA, 12, 15, 16, 18, 19, 20, 21, 22, 24, 27, 28, 29, 31, 35, 38, 39, 46, 47, 48, 51, 52, 57, 58, 60, 61, 62, 65, 66, 68, 69, 70, 71, 72, 74, 75, 80, 81, 82, 83, 88, 89, 90, 93, 100, 104, 106, 108, 109, 113, 115, 118, 119, 120, 121, 122, 124, 125, 136, 139, 141, 142
  - Alaska, 20, 47, 58
  - Appalachia, 19, 121
  - Arapaho, 66
  - Arizona, 20, 51
  - California, 46, 70, 74, 82, 89, 106, 142
  - Cherokee, 18, 139
  - Cheyenne, 104
  - Chicago, 12, 62, 70
  - Colorado, 28, 141
  - Colville, 74
  - Creek, 104
  - Detroit, 21, 113
  - Gulf Coast, 15

Gulf of Mexico, 124  
 Hawai'i, 22, 28, 58, 60, 62, 68, 77  
 Ho Chunk, 51  
 Hopi, 104, 120, 124  
 Idaho, 57, 88, 100  
 Iñupiat, 58  
 Kiowa, 90  
 Kumeyaay, 74  
 Lakota, 104  
 Louisiana, 15, 136  
 Maidu, 82  
 Maine, 24, 113, 141  
 Massachusetts, 113  
 Minnesota, 27, 139  
 Mission, 74  
 Mississippi, 71  
 Navajo, 93  
 New England, 62, 69  
 New Hampshire, 121, 122, 141  
 New Jersey, 119  
 New Orleans, 31, 52  
 New York, 142  
 North Carolina, 72  
 Ojibwa, 124  
 Oklahoma, 90  
 Oregon, 20, 35, 61  
 Palute, 28  
 Pueblo, 104  
 Salish, 24

Santa Barbara CA, 47  
 Shoshone, 66  
 Texas, 113  
 Tohono O'odham Nation, 51  
 Vermont, 141  
 West Virginia, 51, 113, 118, 125  
 Winnebago, 51  
 Wisconsin, 139, 141  
 Zuni, 39, 104, 124  
 Vanuatu, 116  
 Venezuela, 9, 54, 85, 94, 96, 109, 110, 111, 112, 128  
     Mérida, 112  
     Pemon, 110, 111  
     Pemón, 96, 110  
     Ye'kwana, 109  
 Vietnam, 10, 24, 25, 36, 42, 49, 51, 75, 85, 87, 98, 99, 108, 113, 118, 130  
     Bac Kan, 24, 25, 36, 75  
     Bach Ma, 87  
     Dao, 113  
     Pu Mat, 99  
     Quang Nam, 49  
     Son La, 108  
     Thua Thien Hue, 51, 118  
 Zambia, 59, 68, 85  
 Zimbabwe, 27, 34, 41, 74, 126, 137  
     Muzarabani, 27