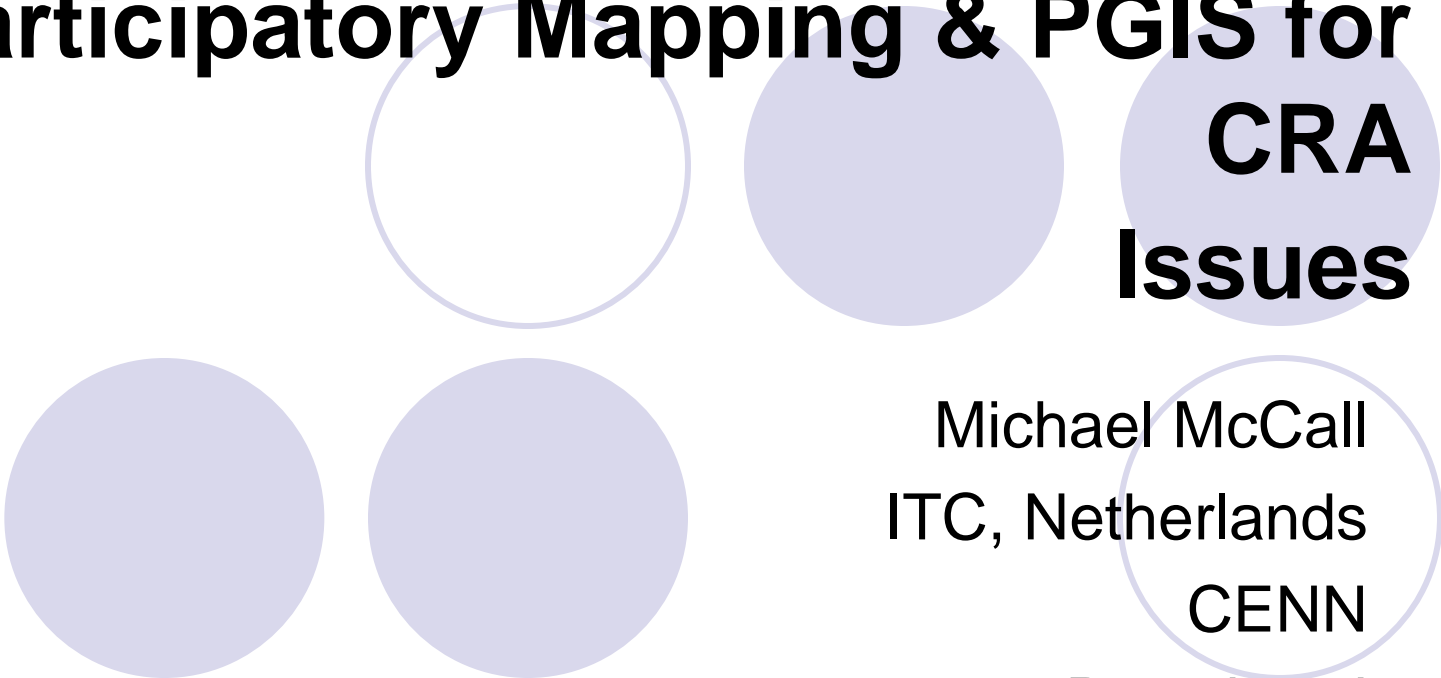


Community-Based Risk Management: Participatory Mapping & PGIS for **CRA Issues**



Michael McCall
ITC, Netherlands
CENN
Bulachauri
Georgia

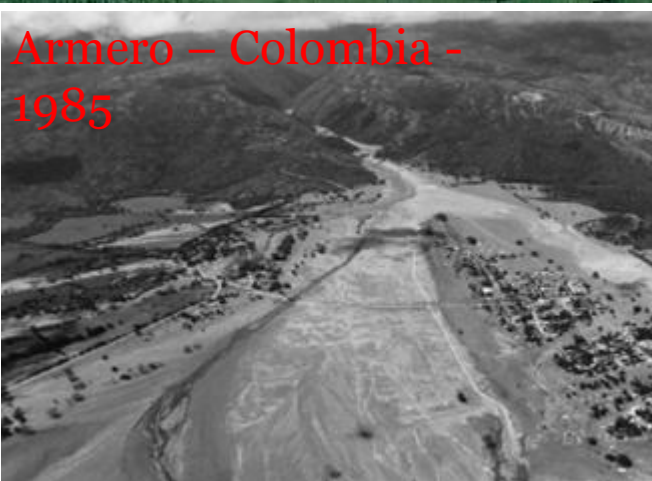


Risks

Hazards: physical and human/social

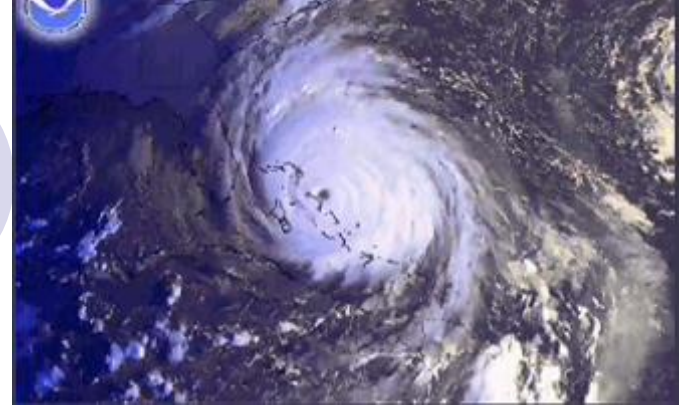
Vulnerability – physical, social, economic, & environmental factors or processes, increase the susceptibility of a community to impact of hazards.

Coping Capacity - strengths & resources within community or organization to reduce level of risk, or effects of a disaster. Capacity include physical, institutional, social economic means; skills, collective attributes, leadership.



Armero – Colombia -
1985

$$\begin{aligned} &\text{Risk} \\ &= f(\\ &\quad \{\text{Flood}\} \\ &\quad \text{Hazard} \\ &+ \\ &\quad \text{Vulnerable} \\ &\quad \text{Context}) \\ &- \\ &\quad \text{Coping} \\ &\quad \text{Capacity} \end{aligned}$$



Choluteca – Honduras -
1998

economic loss and social **dislocation** = **disaster**

Participación



PGIS represents Local Spatial Knowledge in CRA

- ❖ ADDING to CONVENTIONAL INFORMATION
- ❖ FINDING OUT NEW & UNKNOWN INFORMATION
- ❖ ALTERNATIVE COMPETING KNOWLEDGE
(*counter maps*)
- ❖ CULTURAL/ HISTORICAL (SACRED, MYSTICAL) K.

Mapping Social Vulnerability & Coping Capacity

Spatial elements are:

- Distance from sources
- Proximity to shelter, support, etc.
- Networks – transport, communications
- Networks – supporting mechanisms
- Thresholds – environmental. Social
- Land cover and land uses

ADDING to CONVENTIONAL GeoSpatial INFORMATION

- Specific local spatial ‘technical’ knowledge, similar in characteristics, structure, purpose, and cognition to ordinary ‘scientific’ knowledge, but known only (or in detail) to local people, e.g. local knowledge of frequency, intensity, variability, space of natural hazards; existence of man-made hazards, vulnerability, coping & adaptation, etc..
- Similar to spatial component of local people’s *ITK* about resources, events, activities, etc. - local instances unknown to external professionals, sciences
- Related to this is local spatial knowledge of physical phenomena that external scientists / professionals do not yet know, - e.g. in hazards and risks, hot spots, vulnerable areas, pests, diseases.

PGIS in CRA



- Cross-checking Hazard parameters (e.g. locations, boundaries, duration, extent, intensity, frequency), with external expert knowledge
- Ex-post Damage assessment
- Vulnerability, Preparedness (social & spatial variability)
- Coping Capacity and mechanisms, Resilience
- Location of resources for coping; e.g. water holes, dry season grazing, secure buildings, famine foods, secure escape routes
- Local (indigenous) forecasting – e.g. flood (river & coastal) areas, landslide & avalanche hazards, volcanic activities (e.g. thermal spots)

PGIS in CRA



- LK of slow onset hazards, - potential drought damage, soil degradation, forest degradation, pests & diseases,
- Pollution areas (& rates, routes, sources, etc.)
- Safety & security
- Land mine hazards, Cambodia
- Counter mapping - Children's maps, Women's maps, minority maps
- Conflict mapping
- Integrated Vulnerability assessments (people, groups, specific places)

Egs. P-Map in Community Risk Assessment

Rural lands & settlements

Participatory Mapping &/or PGIS of

- environmental hazard areas, Kerala, Pakistan, Australia, Ethiopia e.g. landslides, floods, pests, malaria, etc.).
- flood risk assessment – damage, vulnerability, coping, Mozambique, Guatemala, Philippines
- land mine hazards, Cambodia
- potential contamination in hunting areas from nuclear facilities, USA Native lands
- IK in water quality sampling near copper-zinc mine, Manitoba (changes in taste in local meat & water)

Community Risk Assessment - Rural

- Ethiopia & Kenya: Participatory mapping environmental & conflict risks with pastoralist peoples (Boran, Gabra, Samburu et al.) in arid lands (Smith et al. 2000)
- Mozambique, Sofala Province: P-GIS and disaster risk management, assessing flood vulnerability with PGIS methods; Community mapping and community integrated GIS. (Kienberger et al.)

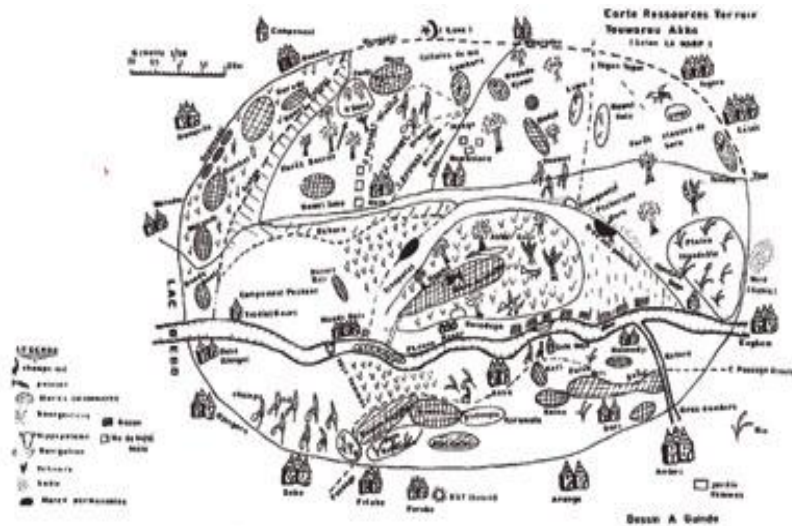
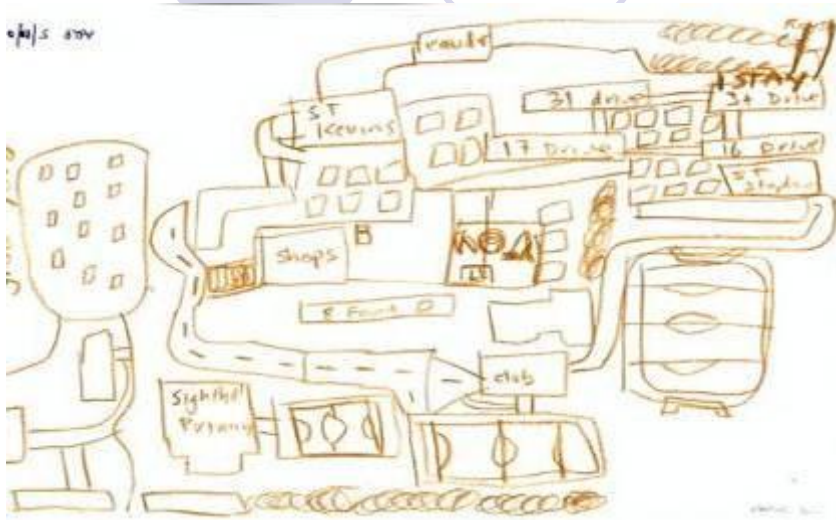
Local / Indigenous Spatial Knowledge (LSK): Hazards & Risks

- Mozambique PGIS and disaster risk management, assessing flood vulnerability with PGIS methods; Community mapping and community integrated GIS.
- Potential contamination in hunting areas from nuclear facilities, USA Native lands
- IK in water quality sampling near copper-zinc mine, Manitoba (changes in taste in local meat & water)
- Ethiopia & Kenya: Participatory mapping environmental & conflict risks with pastoralist peoples (Boran, Gabra, Samburu et al.) in arid lands

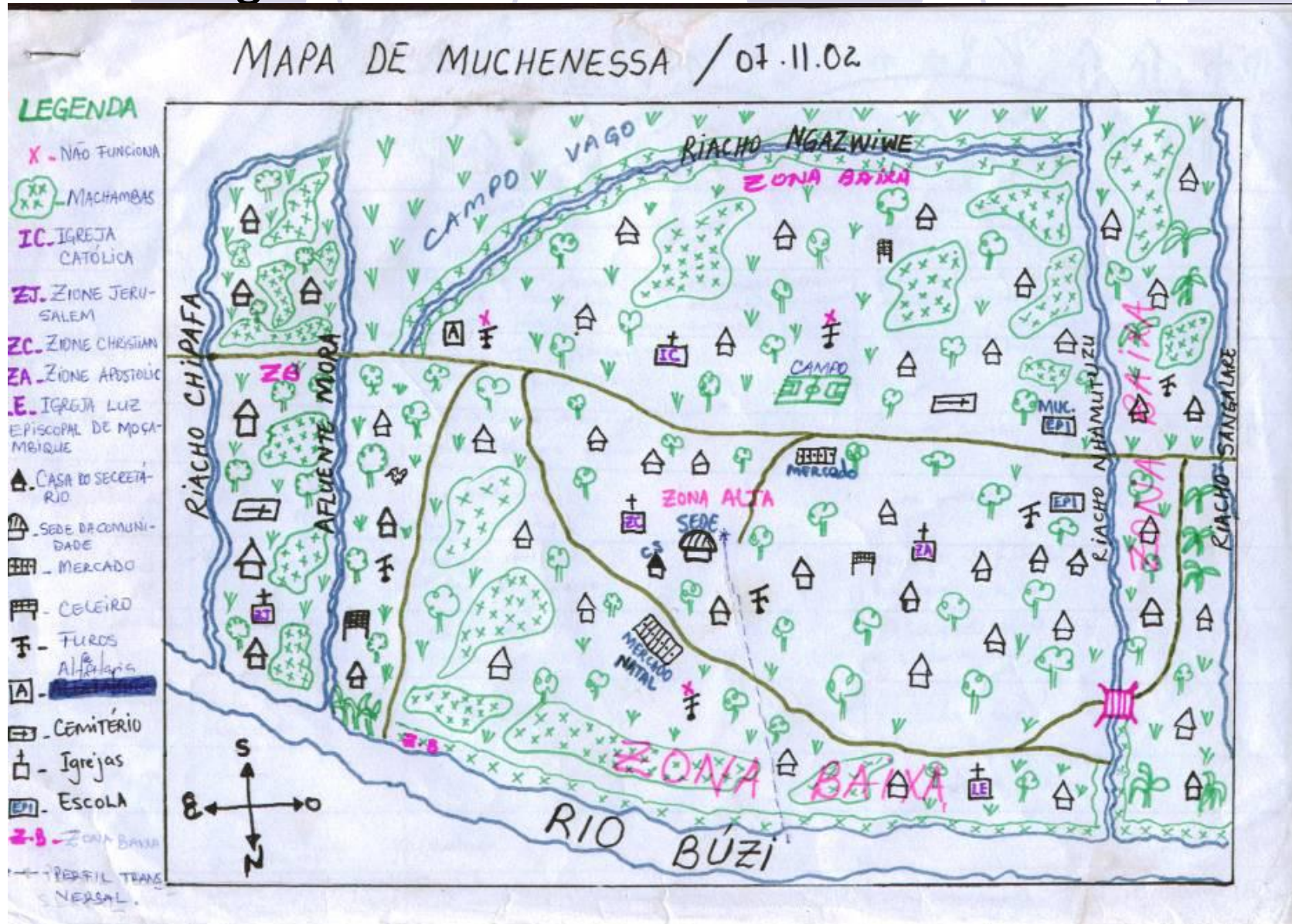
PGIS Tools for DRR Applications

APPLICATIONS TOOLS & METHODS	Communi ty map	Environ mental Hazards	Propert y allocate	Land use plan	Locatio n Hazards	Vulnerab ility Assess	Risk Map ping	Safety Securit y
RRA & PRA methods (for spatial info)		o		o		o	o	o
P-mapping with: Sketch mapping				o		o	o	0
P-mapping: Topo maps	o		o	o	o	o		
P-mapping: aerial photos	o	o	o	o	o	o	o	o
P-mapping: sat, images	o	o		o		o	o	o
P3DM	o	o	o	o	o	o		
Mobile GIS, GPS, Cyber Tracker	o				o	o	o	
GIS	o	o	o	o		o	o	
Visualisation, Graphics software		o		o		o	o	o
Digital camera, Video, Multi Media		o				o	o	o
Dynamic GIS (web-based GIS)				o			o	o
Virtual reality		o		o				o
Interactive Planning Tables	o	o	o	o	o	o	o	

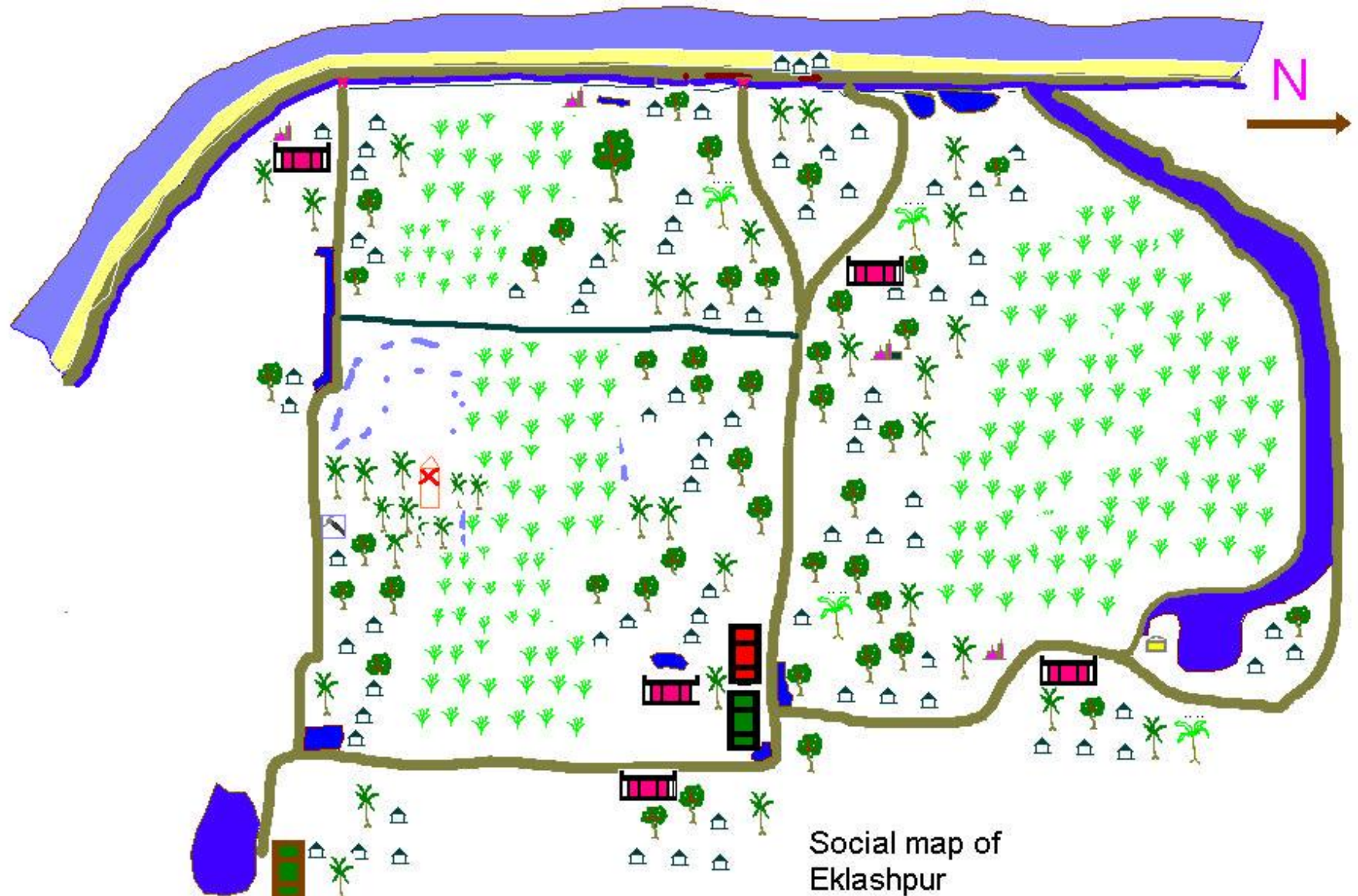
Participatory Mapping & PGIS Tools



Community Vulnerability Mapping, Mozambique, Kienberger



CARE Household Livelihood Security



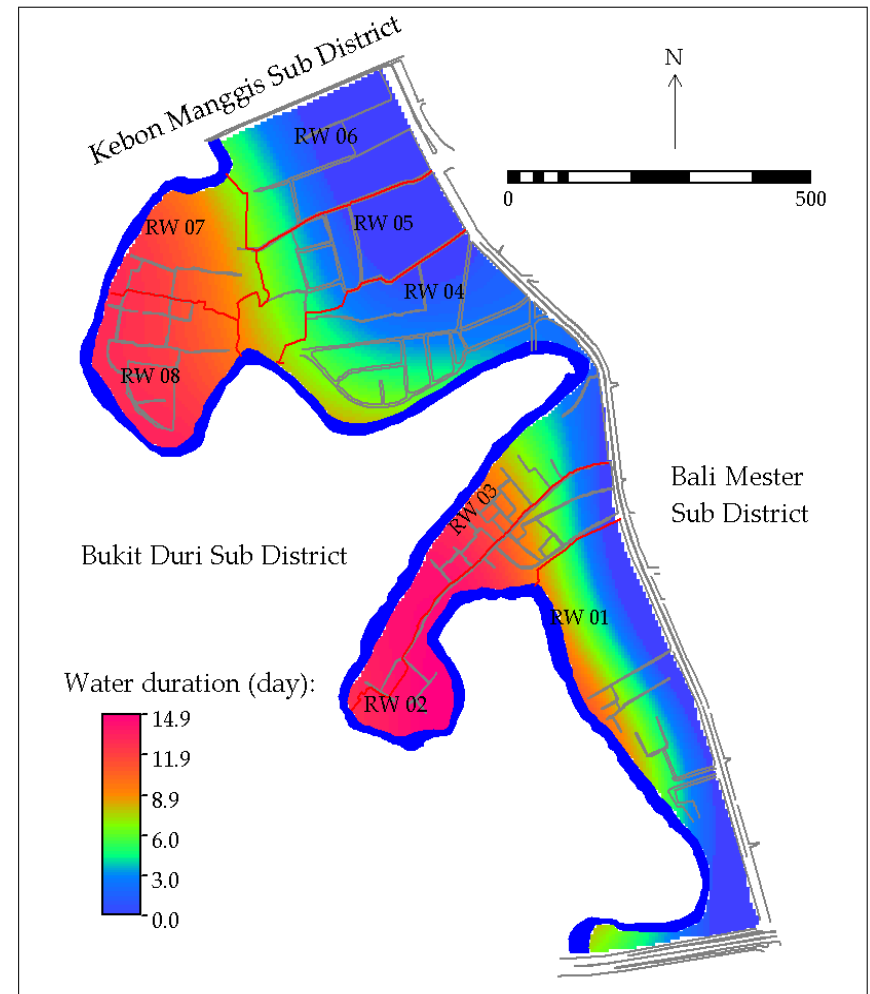
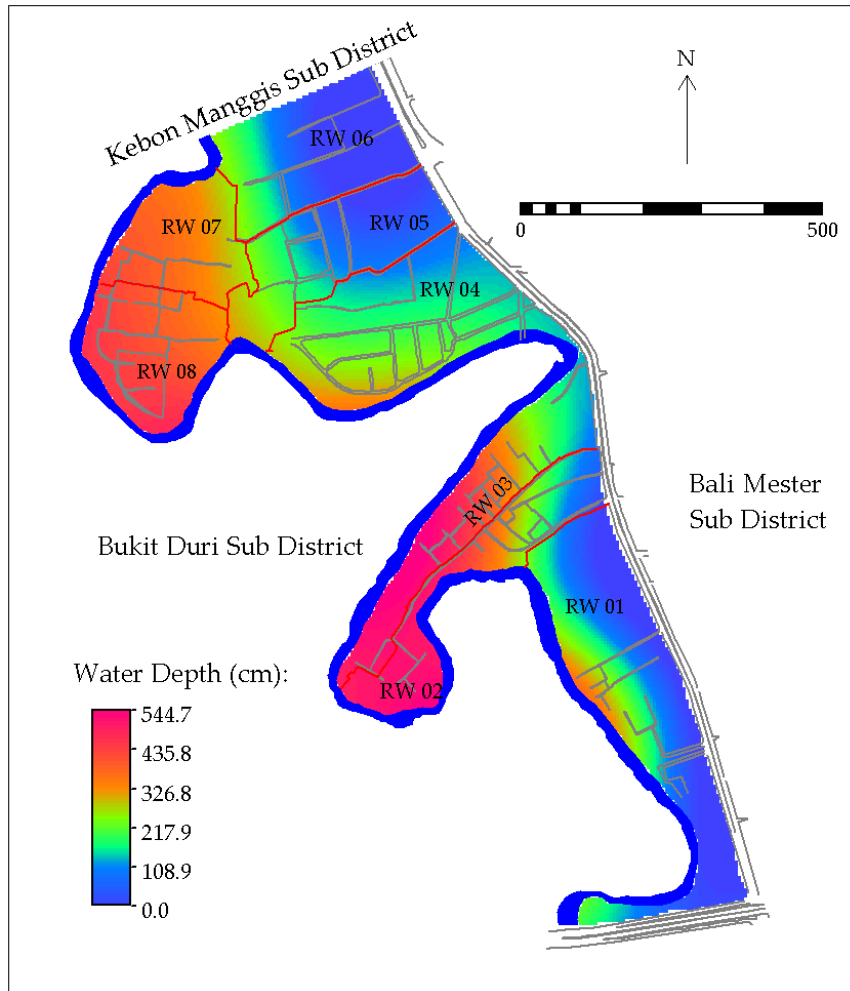
Participatory Mapping & PGIS Tools



Mobile GIS



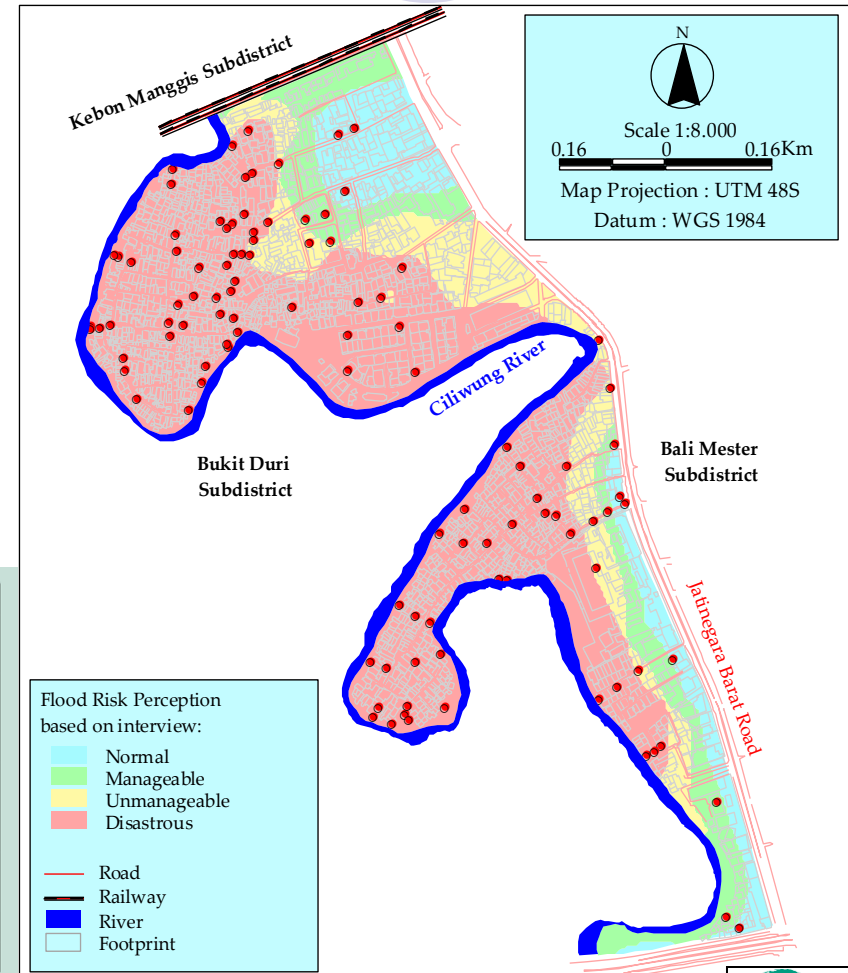
Flood Map and Flood Duration Map



People's perception

- The annual flood comes every rainy season; big floods come with five years return period.
- *Gotong royong*
- Location factors: Proximity to livelihood rather than safety
- The root causes of flooding :are *banjir kiriman*, garbage blocking the river channel, and excessive rainfall.

Water depth (cm)	Duration (days)			
	< 1 day	1 – 3 days	3 – 7 days	> 7 days
10 – 50	Normal	Normal	Disturbing but still manageable	Disturbing but still manageable
51 - 100	Normal	Disturbing but still manageable	Disturbing but still manageable	Unmanageable
101 – 200	Disturbing but still manageable	Disturbing but still manageable	Unmanageable	Unmanageable
201 – 300	Unmanageable	Disastrous		
> 300	Disastrous			



ALTERNATIVE COMPETING GeoSpatial INFORMATION – *Counter Maps*

- Knowledge representing different viewpoints, priorities, interests, problems of different local actors, (different from dominant ‘official’ view, & from other local actors).
- The knowledge of local actors’ needs, priorities values includes local configurations of land & resource ownership with complexities of multiple user rights, communal property regimes, etc.

Different viewpoints can be reflected in ‘*counter maps*’.

Counter maps first applied to mapping gendered spaces, especially women’s maps of resource access or control. Children, landless, resource-poor, subordinate ethnic groups or castes also merit dedicated counter-maps.

Using local knowledge: priorities of local inhabitants

Inhabitants priorities of hazards & risks, Cape Town, Hangberg

1. poacher drownings
2. falls from walls
3. informal dwelling fires
4. Serious & minor floods
5. violence at clubs



Municipality only sees fires as major hazards in Hangberg, CT

*Source: Johan Minnie, City of Cape
Town, July 2007*



People's perception - Flooding, Java

- The annual flood comes every rainy season; big floods come with five years return period.
- *Gotong royong*
- Location factors: Proximity to livelihood rather than safety
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> 300	Disastrous			

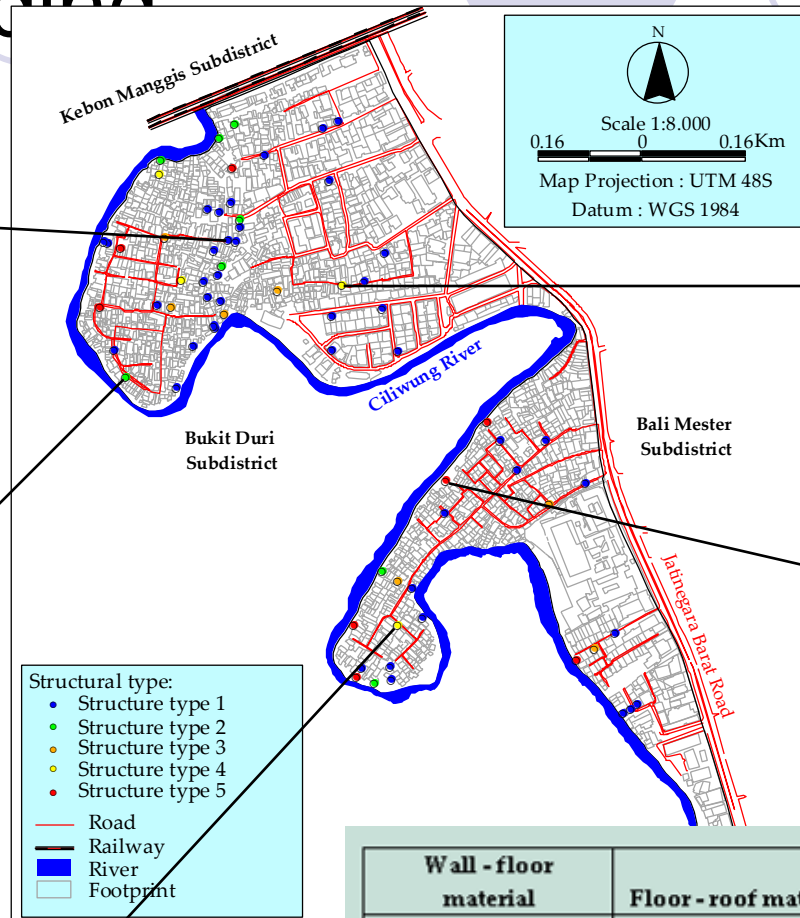
Mapping Vulnerability & Coping



Spatial elements are:

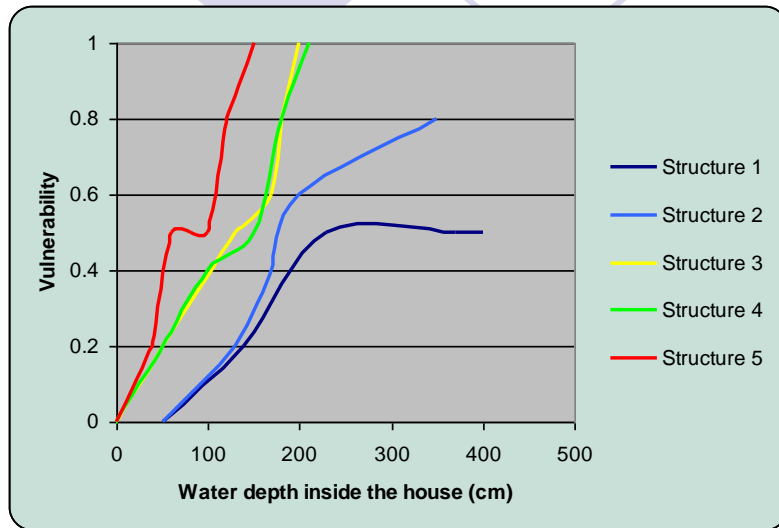
- Event Locations
- People locations
- Distance from sources
- Proximity to shelter, support, etc.
- Networks – transport, communications
- Networks – supporting mechanisms
- Spatial Thresholds – environmental. social
- Land cover and land uses

Distribution of each structural type of building

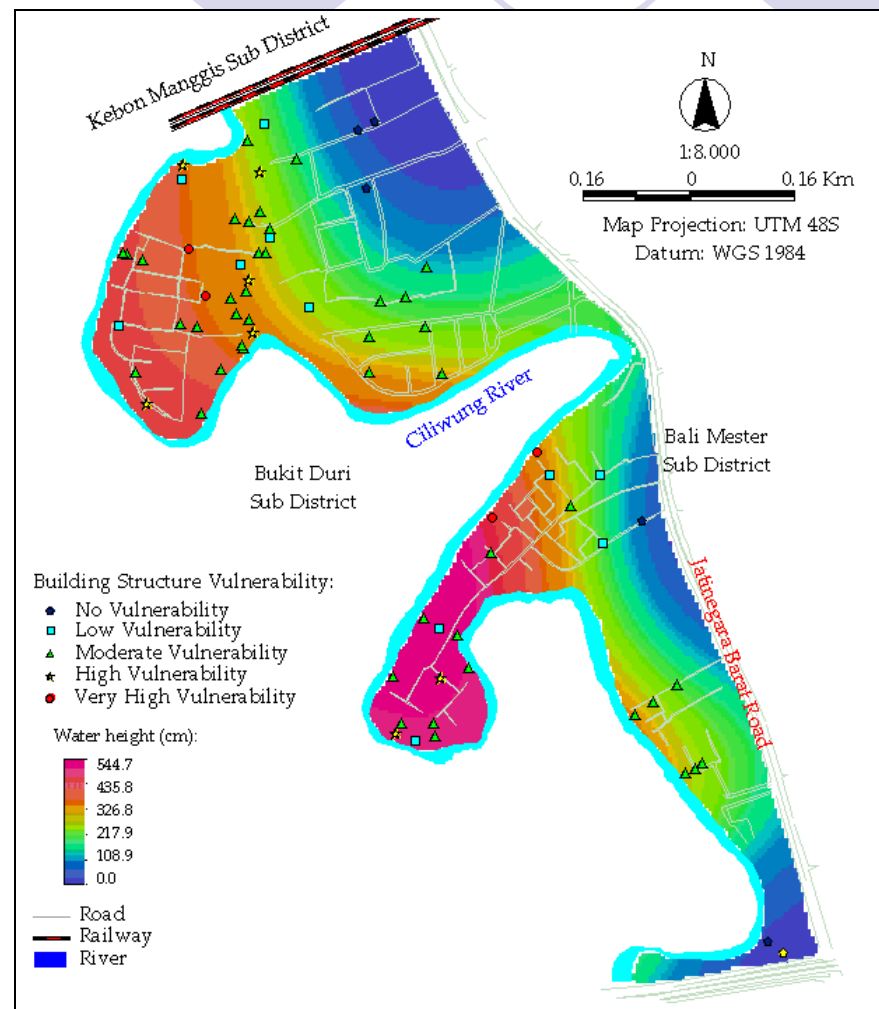


Wall - floor material	Floor - roof material	Wall - floor - roof material	Total
Brick - concrete	Concrete - clay	Brick-concrete-clay	44
	Concrete - asbestos	Brick-concrete-asbestos	8
Mix - concrete	Concrete - clay	Mix-concrete-clay	7
	Concrete - asbestos	Mix-concrete-asbestos	4
Mix - mix	Mix - asbestos	Mix-mix-asbestos	8

Vulnerability Assessment –



Structural Vulnerability Class	Vulnerability
No Vulnerability	0
Low Vulnerability	≤ 0.2
Moderate Vulnerability	≤ 0.5
High Vulnerability	≤ 0.8
Very High Vulnerability	≤ 1

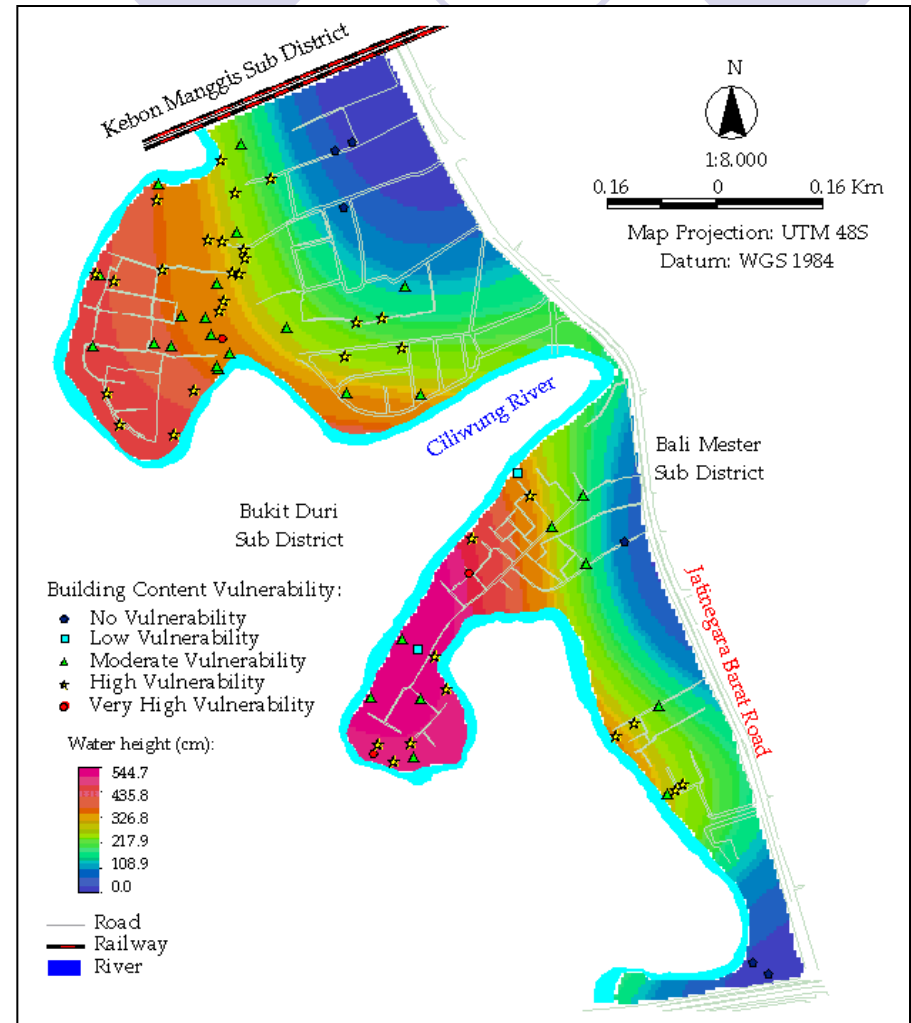


Vulnerability Assessment – Building Content

Assumptions:

- Located in bedrooms, living room, dining rooms and kitchen.
- Three socio-economic levels have different values of building contents.
- Value of articles differs related to the income level; and the number of items increases with the economic class.

BC Vulnerability Class	Vulnerability
No Vulnerability	0
Low Vulnerability	≤ 0.2
Moderate Vulnerability	≤ 0.5
High Vulnerability	≤ 0.8
Very High Vulnerability	≤ 1



Coping Capacity & Coping Mechanisms

TECHNOLOGICAL / STRUCTURAL	ECONOMIC	SOCIAL
BEFORE FLOODING		
<p>Long term:</p> <ol style="list-style-type: none"> 1. Build a secure place 2. Build the house with more than one floor 3. Cleaning the canal 4. Construct house using the concrete material 	<p>Long term:</p> <ol style="list-style-type: none"> 1. Store basic food items 2. Store clothes and valuable things in the plastic bag 3. Store the properties in higher place 	<p>Long term:</p> <ol style="list-style-type: none"> 1. Cleaning the house and surroundings together (<i>gotong royong</i>) 2. Discuss with other households about the action plan to cope with flood
<p>Short term:</p> <ol style="list-style-type: none"> 1. Placing the motorcycle in safe place 2. Put sand bags in front of the house to barrier the water 	<p>Short term:</p> <ol style="list-style-type: none"> 1. Prepare the cooking equipment 2. Prepare baby's stuffs (clothes, blankets, etc), light and battery 	<p>Short term:</p> <ol style="list-style-type: none"> 1. Check the water depth in Watergate 2. Placing properties in relative's or neighbor's house

Coping Capacity & Coping Mechanisms

DURING FLOODING

1. Evacuate personal goods to the higher place
2. Evacuate the children, pregnant women and the elderly
3. Rescue the important documents
4. Tie a rope in dangerous places

- Long term:
1. Find alternative jobs
 2. Extra money for buying the food
 3. Continue to *work*
 4. Can not go to work ... reasons?

- Long term:
1. Stay at evacuation centre/neighbors/relatives
 2. Help each other during evacuation
 3. Guard their house
 4. Disseminate flood information
 5. Share their food and water

IMMEDIATE POST- FLOOD

1. Repairing the damage
2. Sourcing house materials
3. Cleaning the mud from house and furniture
4. Drying wet clothes, furniture, etc

1. Sell goods
2. Borrowing money from relatives or friends

1. Clean up the mud and debris after the flood together (*gotong royong*)

Coping Mechanisms





Why 'Spatial' Knowledge

What are the spatial features?

What spatial elements need to be mapped?

Mapping Social Vulnerability & Coping Capacity

Spatial elements are:

- Distance from sources
- Proximity to shelter, support, etc.
- Networks – transport, communications
- Networks – supporting mechanisms
- Thresholds – environmental. Social
- Land cover and land uses

P-Mapping and PGIS in CRA

<i>"Natural" Hazards</i>	Point location	Spatial Extent	Frequency	Vulnerability measures	Contributory Causes
Floods		√	√	√	√
Landslips / faults	√	√		√	
Bush fires		√	√		√
Township fires	√	√		√	√
Storms, Wind		√	√	√	
Pest outbreaks		√		√	
Drought		√	√	√	
Rare events		√		√	

P-Mapping and PGIS in Community Hazard Assessment

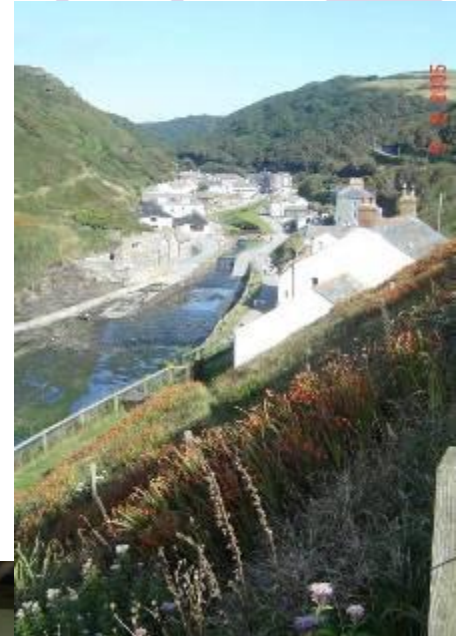
<i>Economic Activities</i>	Point location	Spatial Extent	Frequency	Vulnerability	Contributory Causes
Air Pollution	✓	✓	✓	✓	✓
Hazardous wastes	✓		✓	✓	✓
Water pollution - illegal discharges, etc	✓	✓	✓	✓	✓



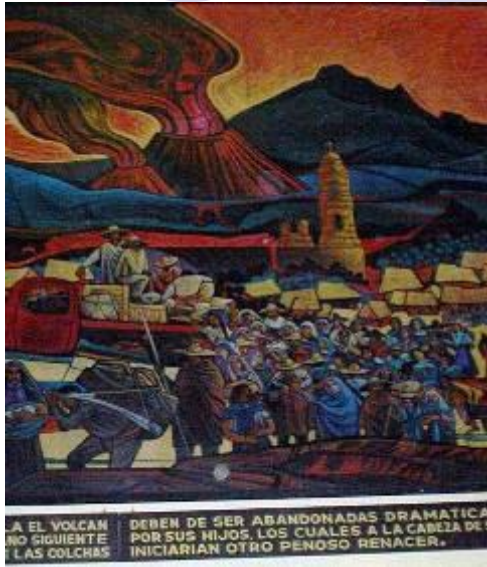
P-Map in Community Risk Assessment Urban Neighbourhoods

Urban hazards:

- Landslides,
- Urban fires.
- Flood risk assessment – damage, vulnerability



P-Map in Community Risk Assessment Urban Municipalities



- Volcano areas threatening urban expansion Mexico
- Landslides
- Tsunamis
- Industrial air pollution, Haryana, Mexico DF
- Community involvement in siting of *LULUs* (locally unacceptable land uses)



Urban Hazards: Refuse, Traffic



- The Daily Hazards

Environmental Equity & Justice

Environmental Equity

no subpopulations bear disproportionate risk from environmental hazards

- distributional equity of outcomes, and equity during the (causal) planning processes.
- **Environmental justice** spatial distribution of environmental impacts



Social Hazards



Crime, Drugs, Accidents

- Mapping the realities and the perceptions of social dangers and safety and lifestyle hazards, crime and security.
- Urban issues: anti-social behaviour, street drunkenness, street and house crime, drug dealing, road and other accidents, robbery and rape.
- Links to gender issues, especially women's actual and perceived spaces, and to children's safe spaces.
- Mapping of public (individual and group) perceptions and attitudes towards sites of presumed social risks e.g. prisons, drug rehab centres, asylum / immigration centres.

Egs. Social Hazards, Crime, Health

- Neighbourhood environmental information system for inner-city communities, Cleveland, tracking hazards.
- Local knowledge of environmental risk of breast cancer. UK
- Spatial /social associations between HIV and youth violence: Dar es Salaam
- Photo mapping and PGIS with residents of a low-income urban fringe, Mexico - hazards from crime, drug-dealing, lack of policing, poor street lighting etc. outweighed the hazards due to flash floods, landslips, garbage dumping,

Mapping Urban Security with Aerial Photos



Counter Maps – Competing Views of Spatial Information

- Knowledge represent different viewpoints, needs, priorities, problems, values of local actors, (different from dominant ‘official’ view, & other local actors).
- Different viewpoints reflected in ‘***counter maps***’.
Counter maps of **gendered spaces**, esp. women’s maps of accessibility, vulnerability.
Children, landless, resource-poor, subordinate ethnics or castes - dedicated counter-maps.

Gendered Risk Spaces Equity, Legitimacy

Ignorance – of Women's specialised K of hazards and risks & risk management.

Double (triple) labour burdens.

Gendered spaces are different in character and value and use.

Exclusion

Women's space, mobility & opportunities may be very restricted (due to culture, or danger)

E.g. house fires, earthquakes, tsunami (SL). Safe places, refuges

Invisibility – Spatial scale of women's activities. Women's space may not be visible, nor easily transferable to conventional GIS





Mapping Children Safety & Security

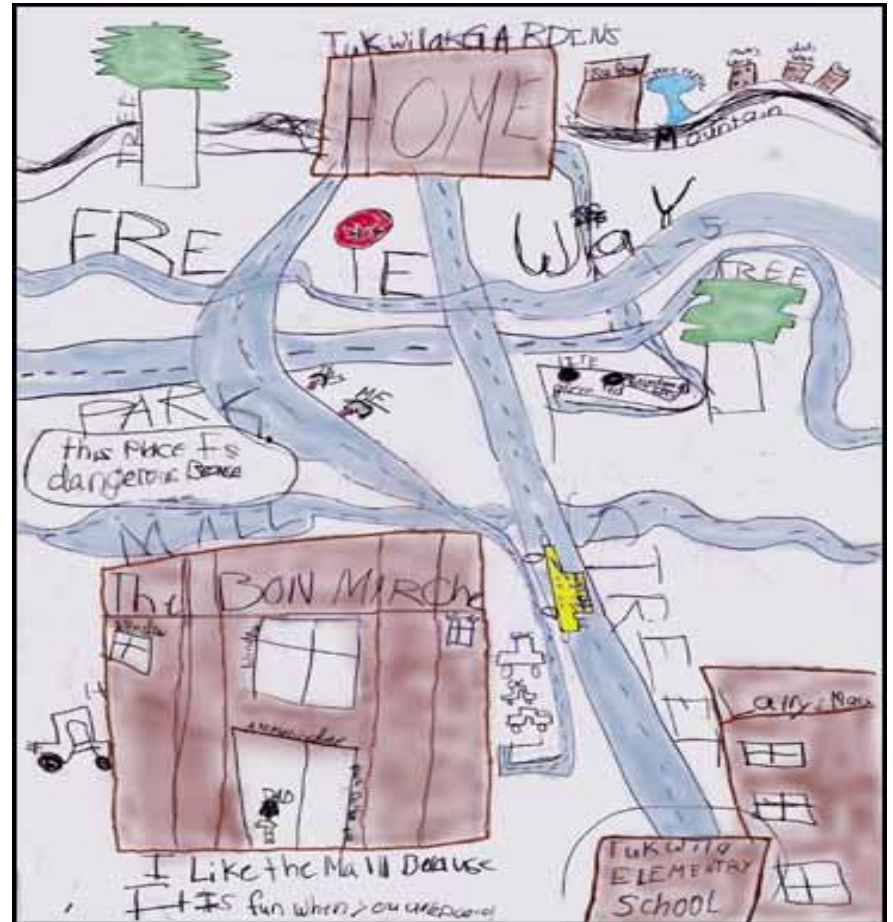
- Children's journey to school
- Road safety
- Play areas
- Environmental & pollution hazards
- Drowning hazards
- Animal & Human dangers, Drugs

Children's Space

radical participatory planning USA &
Canada 1970s William Bunge,
“Society for Human Exploration”,
“Detroit Geographical Expedition”,

Items & map legend of Geography of
the Children of Detroit include:
automobiles, trucks, dogs, cats,
green shrubs & trees, dead shrubs
& trees, bicycles, ... rubbish, trash,
broken bottles, paper, litter cans,
...

Atlas of Love and Hate mapped “areas
friendly to children” and “areas
hostile to children”.



Children's cognitive map Tukwila

Mapping Children's Spaces



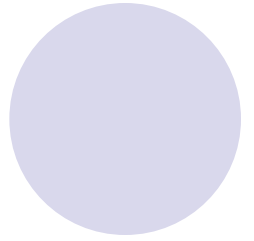
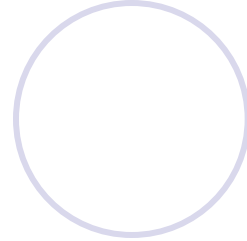
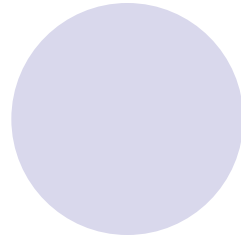


Mapping the Journey to School

Mapping behaviour pattern of school children as road users (mainly pedestrian, also bus & other vehicles) on travel to/from school.

Children's mobility and road use behaviour.

Some applications





Mapping Lost Homes

- Drawing & painting are therapeutic after trauma of surviving disasters, wars, earthquakes, tsunami,
- especially for children – who can map their ‘lost home spaces’, e.g. play areas, relatives’ homes, schools, shopping, recreation, playgrounds, ‘secret sites’, dangerous areas
- Memories of home & community need preserving, “home map” recreates child’s lost neighbourhood.
- Maybe the only preserved spatial records for the older generations

TOOLS – mapping lost homes



- Sketch maps; plastic overlays on topographic maps, tourist map; best on aerial photos; 3D models.
- Symbology (map legend) selected and placed by the children
- Digitally photograph the children's map for preservation

Fear maps

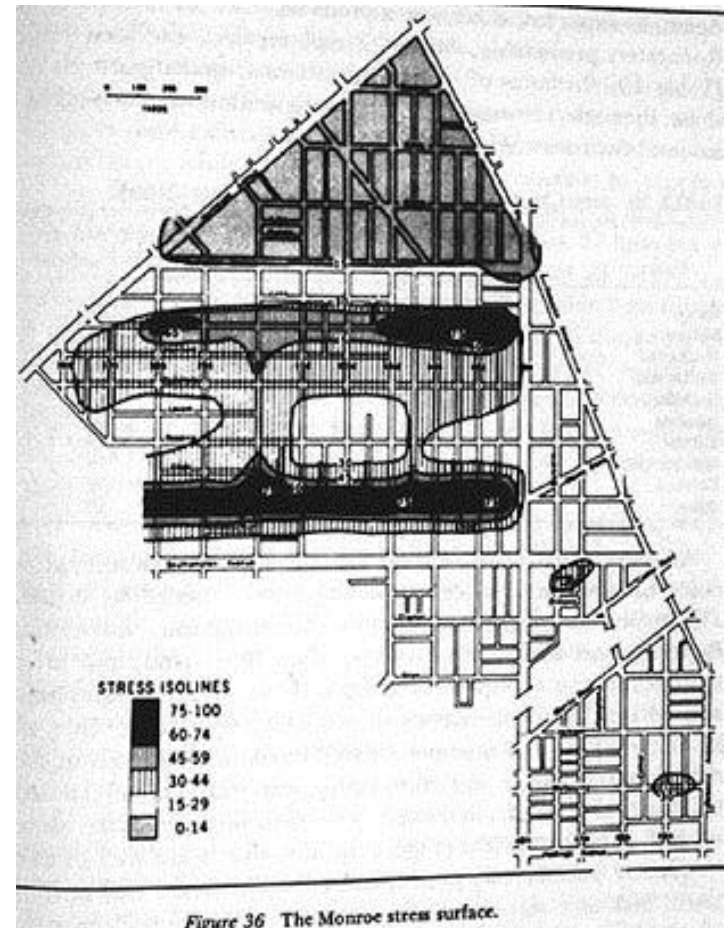


Figure 36 The Monroe stress surface.

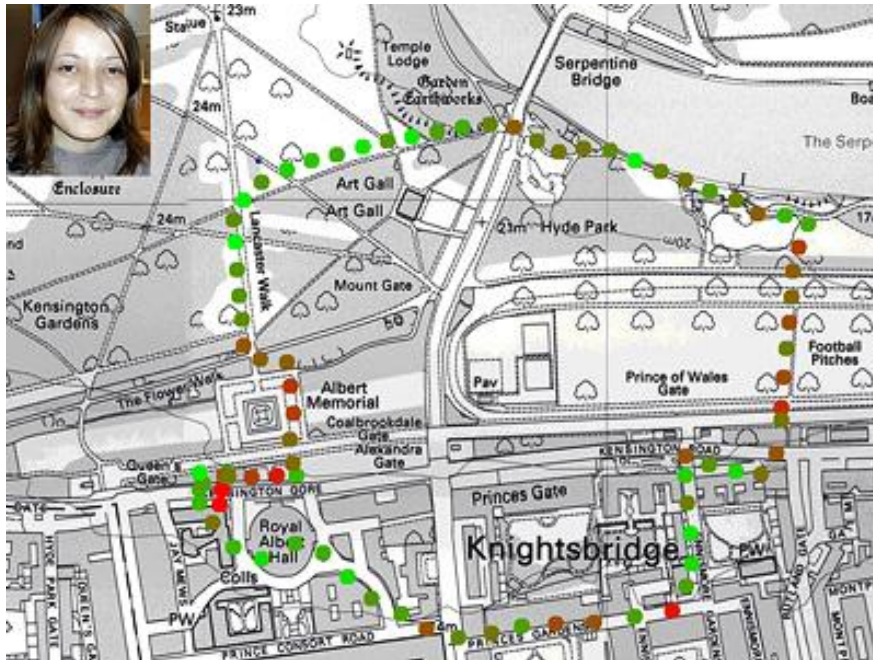
Bio Mapping



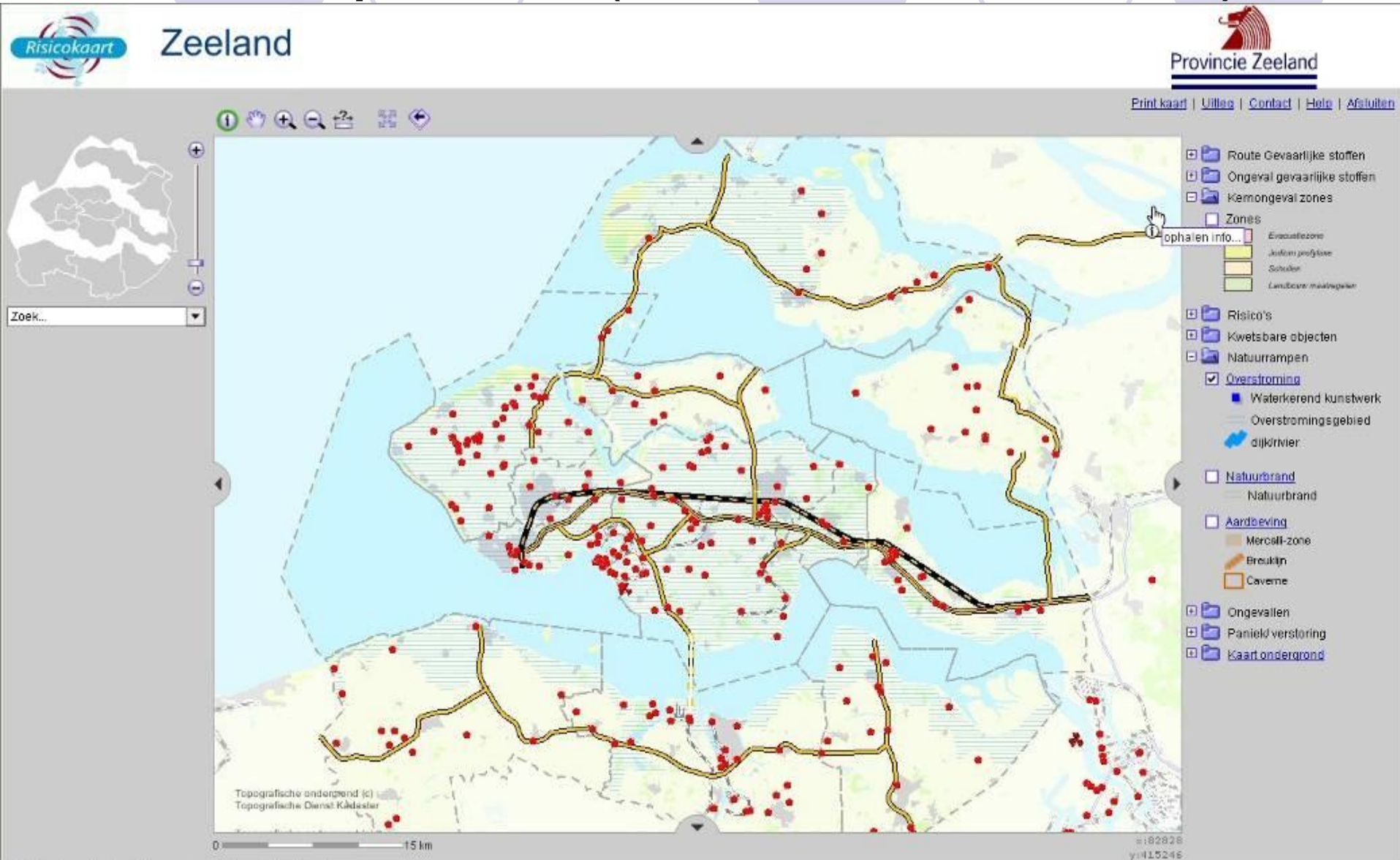
The Bio Mapping tool allows the wearer to record their Galvanic Skin Response (GSR), which is a simple indicator of emotional arousal in conjunction with their geographical location. This can be used to plot a map that highlights point of high and low arousal. By sharing this data we can construct maps that visualise where we as a community feel stressed and excited.

<http://biomapping.net/index.htm> Christian Nold

Bio Mapping (C. Nold)



Risk map (www.risicokaart.nl)



Risk map

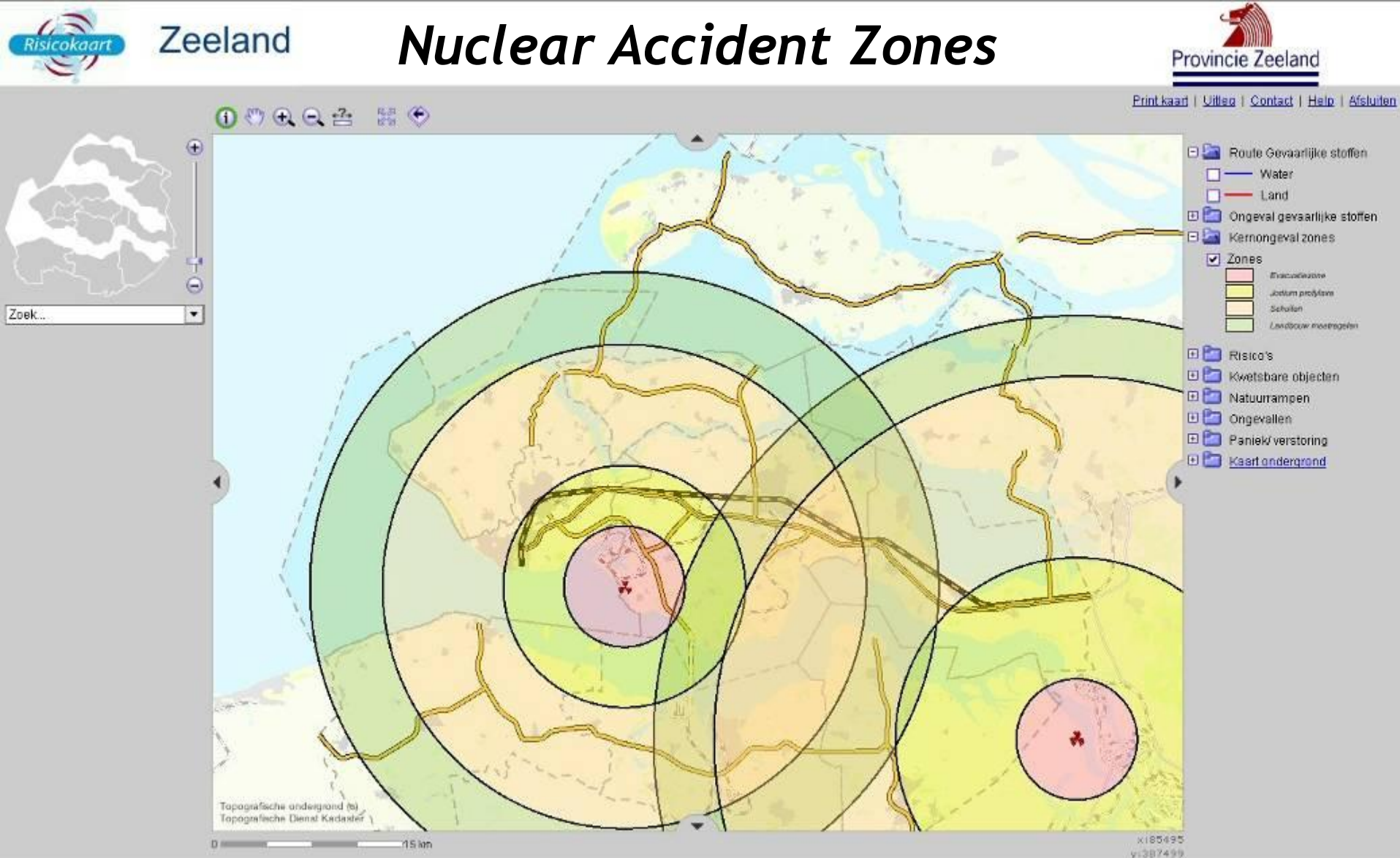
(www.risicokaart.nl)

Zeeland

Transport

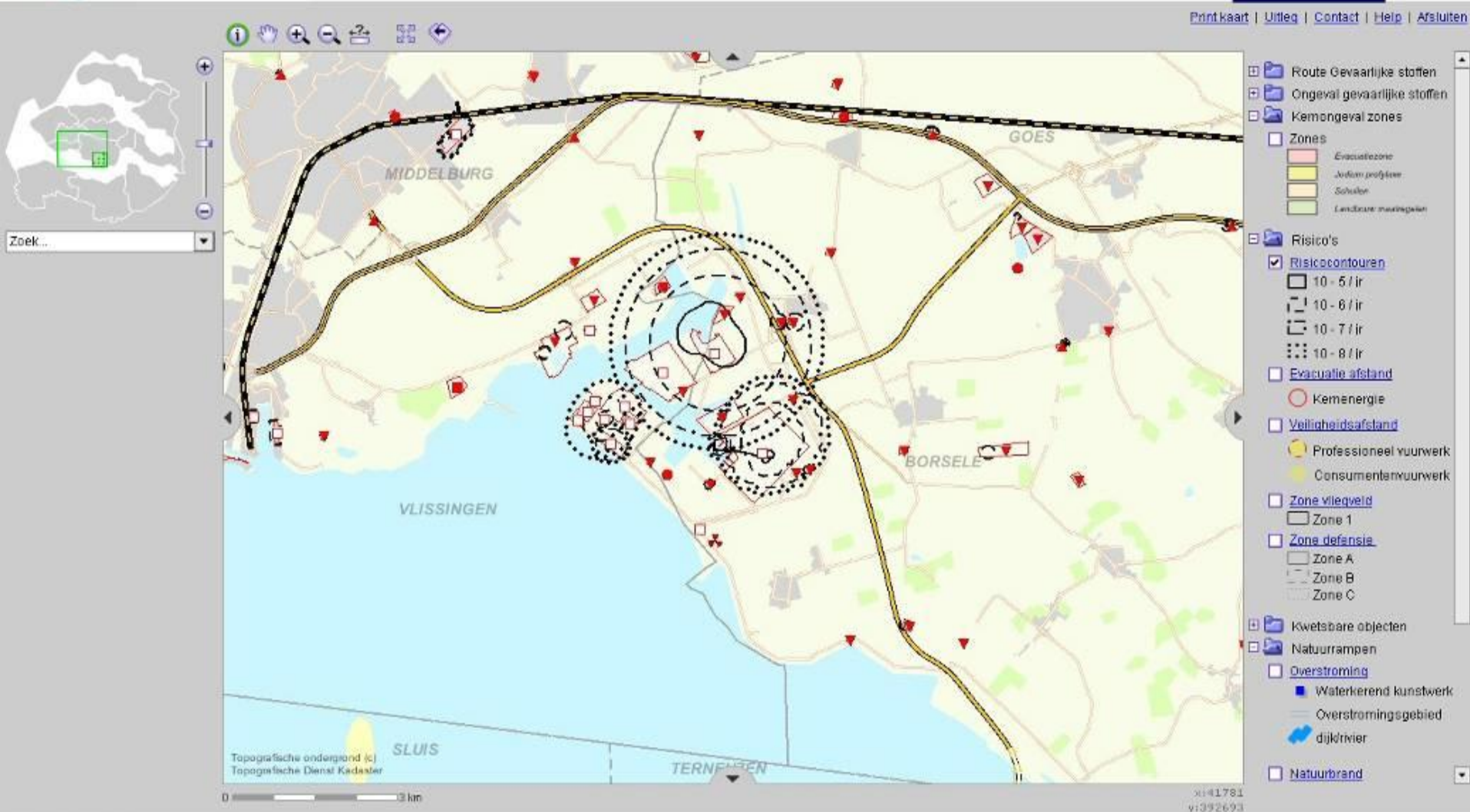


Risk map (www.risicokaart.nl)

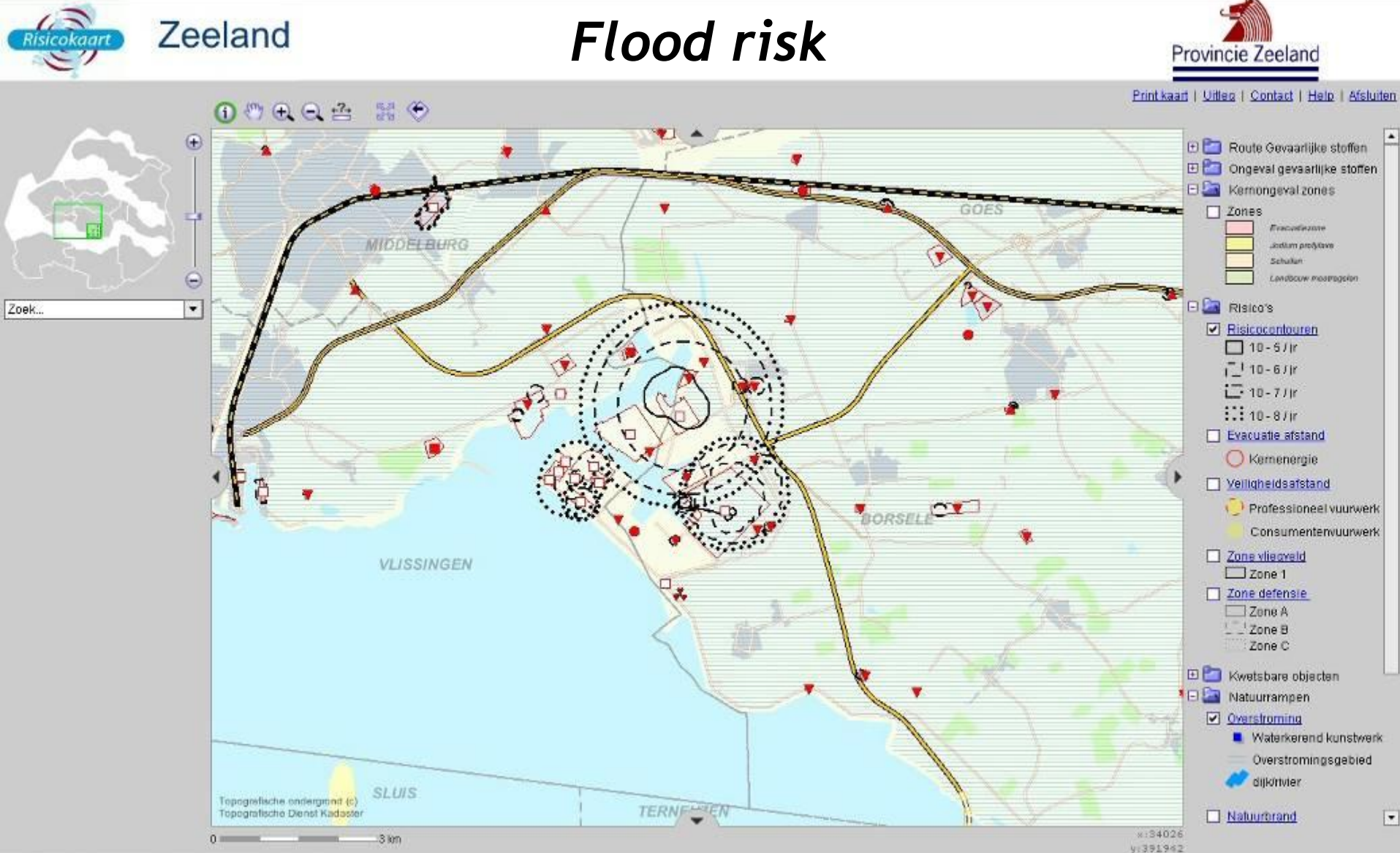


Risk map (www.risicokaart.nl)

Hazard contours



Risk map (www.risicokaart.nl)



The text is flanked by decorative circles. On the left, there is a solid light purple circle followed by an outlined light purple circle. On the right, there is a solid light purple circle, followed by an outlined light purple circle, and then another solid light purple circle.

Crime mapping (www.misdaadkaart.nl)

Misdaadkaart.nl

Al meer dan 38730 misdaden doorzoekbaar

Uw woonplaats | Uw buurt

amsterdam

Moord/doodslag/overlijden

zoeken

Waar, bijv. Amersfoort

Wat, bijv. inbraak

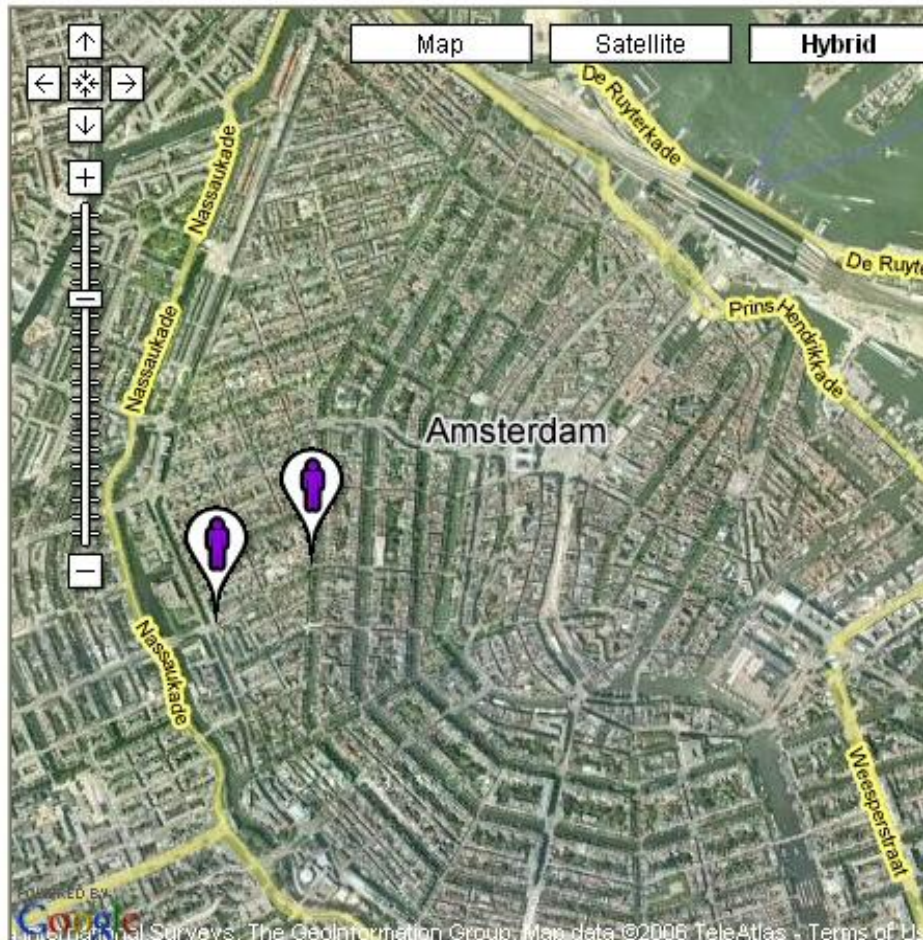
BRAND DIEFSTAL DRONKENSCHAP DRUGS INBRAAK MISHANDELING/VECHTPARTIJ MOORD/DOODSLAG ONGELUK OPLICHTING
OVERIG MISDRIJF/MELDING OVERLAST/WANDALISME OVERVAL/BEROVING SCHIETPARTIJ STEEKPARTIJ VERKEERSCONTROLE WAPEN ZEDENMISDRIJF

Ads door Google

[Verse bloemen bestellen?](#)

Prachtig voorjaarsboeket bestellen en laten bezorgen door heel NL!

www.bloemplein.nl



Nieuwste resultaten (11) voor: amsterdam, Moord/doodslag/overlijden

1. (8 juni, 2006) Moord/doodslag/overlijden op de Kuipersstraat in Amsterdam
2. (31 mei, 2006) Moord/doodslag/overlijden op de Linnaeusstraat in Amsterdam
3. (2 mei, 2006) Moord/doodslag/overlijden op de Leeuwendalersweg in Amsterdam
4. (1 mei, 2006) Moord/doodslag/overlijden op de Elandsgracht in Amsterdam
5. (25 april, 2006) Moord/doodslag/overlijden op de Prinsengracht in Amsterdam
6. (23 april, 2006) Moord/doodslag/overlijden op de Diepenbrockstraat in Amsterdam
7. (11 april, 2006) Moord/doodslag/overlijden op de Vondelpark in Amsterdam
8. (7 maart, 2006) Moord/doodslag/overlijden op de Goeman Borgesiusstraat in Amsterdam
9. (3 maart, 2006) Moord/doodslag/overlijden op de Goeman Borgesiusstraat in Amsterdam
10. (27 december, 2005) Moord/doodslag/overlijden op de Jan van Galenstraat in Amsterdam

[Volgende \(oudere\) 10 resultaten](#)

Misdaadkaart.nl

Al meer dan 38730 misdaden doorzoekbaar



Uw woonplaats | [Uw buurt](#)

amsterdam

Moord/doodslag/overlijden

zoeken

Waar, bijv. Amersfoort

Wat, bijv. inbraak

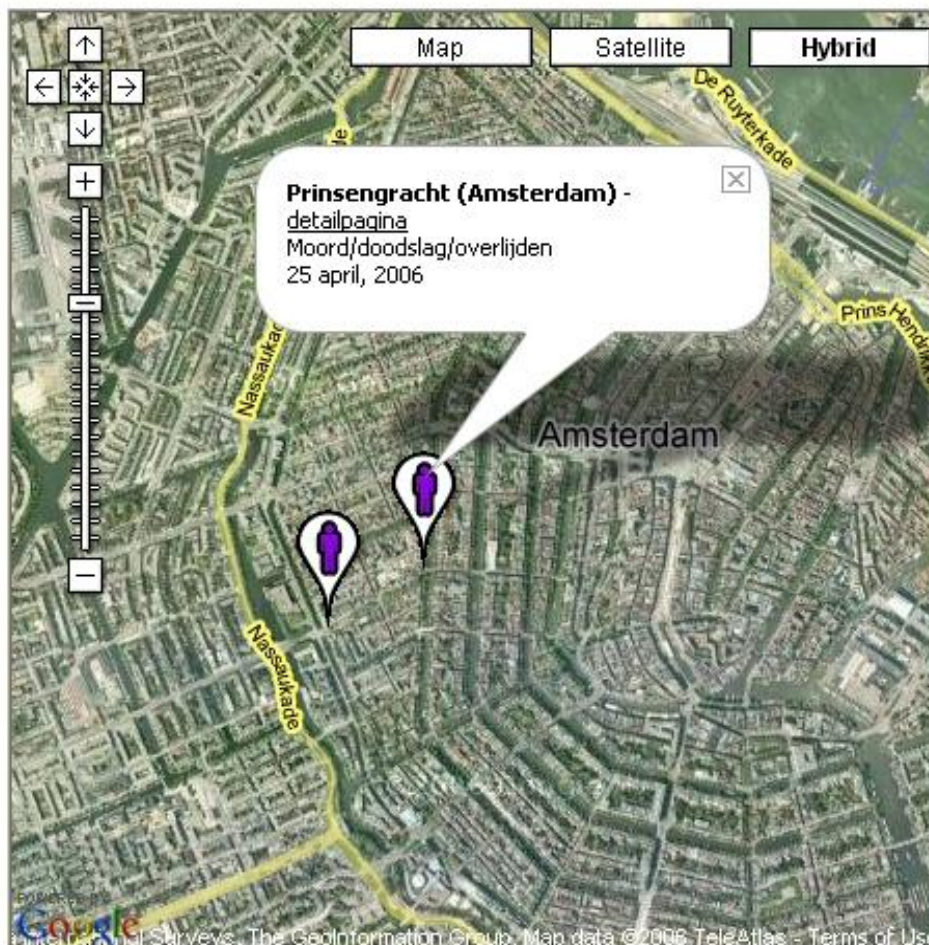
BRAND DIEFSTAL DRONKENSCHAP DRUGS INBRAAK MISHANDELING/VECHTPARTIJ MOORD/DOODSLAG ONGELUK OPLICHTING
OVERIG MISDRIJF/MELDING OVERLAST/WANDALISME OVERVAL/BEROVING SCHIETPARTIJ STEEKPARTIJ VERKEERSCONTROLE WAPEN ZEDENMISDRIJF

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www.bloemplein.nl



Nieuwste resultaten (11) voor: amsterdam, Moord/doodslag/overlijden

1. (8 juni, 2006) Moord/doodslag/overlijden op de Kuipersstraat in Amsterdam
2. (31 mei, 2006) Moord/doodslag/overlijden op de Linnaeusstraat in Amsterdam
3. (2 mei, 2006) Moord/doodslag/overlijden op de Leeuwendalersweg in Amsterdam
4. (1 mei, 2006) Moord/doodslag/overlijden op de Elandsgracht in Amsterdam
5. (25 april, 2006) Moord/doodslag/overlijden op de Prinsengracht in Amsterdam
6. (23 april, 2006) Moord/doodslag/overlijden op de Diepenbrockstraat in Amsterdam
7. (11 april, 2006) Moord/doodslag/overlijden op de Vondelpark in Amsterdam
8. (7 maart, 2006) Moord/doodslag/overlijden op de Goeman Borgesiusstraat in Amsterdam
9. (3 maart, 2006) Moord/doodslag/overlijden op de Goeman Borgesiusstraat in Amsterdam
10. (27 december, 2005) Moord/doodslag/overlijden op de Jan van Galenstraat in Amsterdam

[Volgende \(oudere\) 10 resultaten](#)

Misdaadkaart.nl

Al meer dan 38730 misdaden doorzoekbaar



Uw woonplaats | [Uw buurt](#)

amsterdam

Moord/doodslag/overlijden

zoeken

Waar, bijv. Amersfoort

Wat, bijv. inbraak

- BRAND
- DIEFSTAL
- DRONKENSCHAP
- DRUGS
- INBRAAK
- MISHANDELING/VECHTPARTIJ
- MOORD/DOODSLAG
- ONGELUK
- OPLICHTING
- OVERIG MISDRIJF/MELDING
- OVERLAST/VANDALISME
- OVERVAL/BEROVING
- SCHIETPARTIJ
- STEEKPARTIJ
- VERKEERSCONTROLE
- WAPEN
- ZEDENMISDRIJF

Ads door Google

[Uw auto verzekeren?](#)
Vergelijk alle autoverzekeringen en sluit online de goedkoopste af
www.independ.nl



Prinsengracht (Amsterdam) - Terug

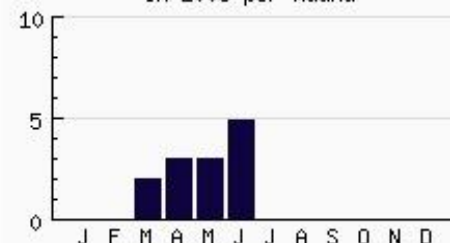
Moord/doodslag/overlijden

25 april, 2006 - 0 reactie(s)

Politie Amsterdam-Amstelland

Lichaam dode man in water van Prinsengracht aangetroffen / Prinsengracht

Moord/doodslag/overlijden in Amsterdam in 2006 per maand



Geef uw reactie op dit artikel

Uw naam:

Uw e-mailadres:

Uw reactie:

Verstuur

Post-Disaster emergency Mapping

- **MapAction**, UK-based specialist volunteers, support humanitarian operations provide spatial data & mapping capabilities in the field. Large-scale maps focused on specific relief requirements sectoral overlays. <http://www.mapaction.org/>

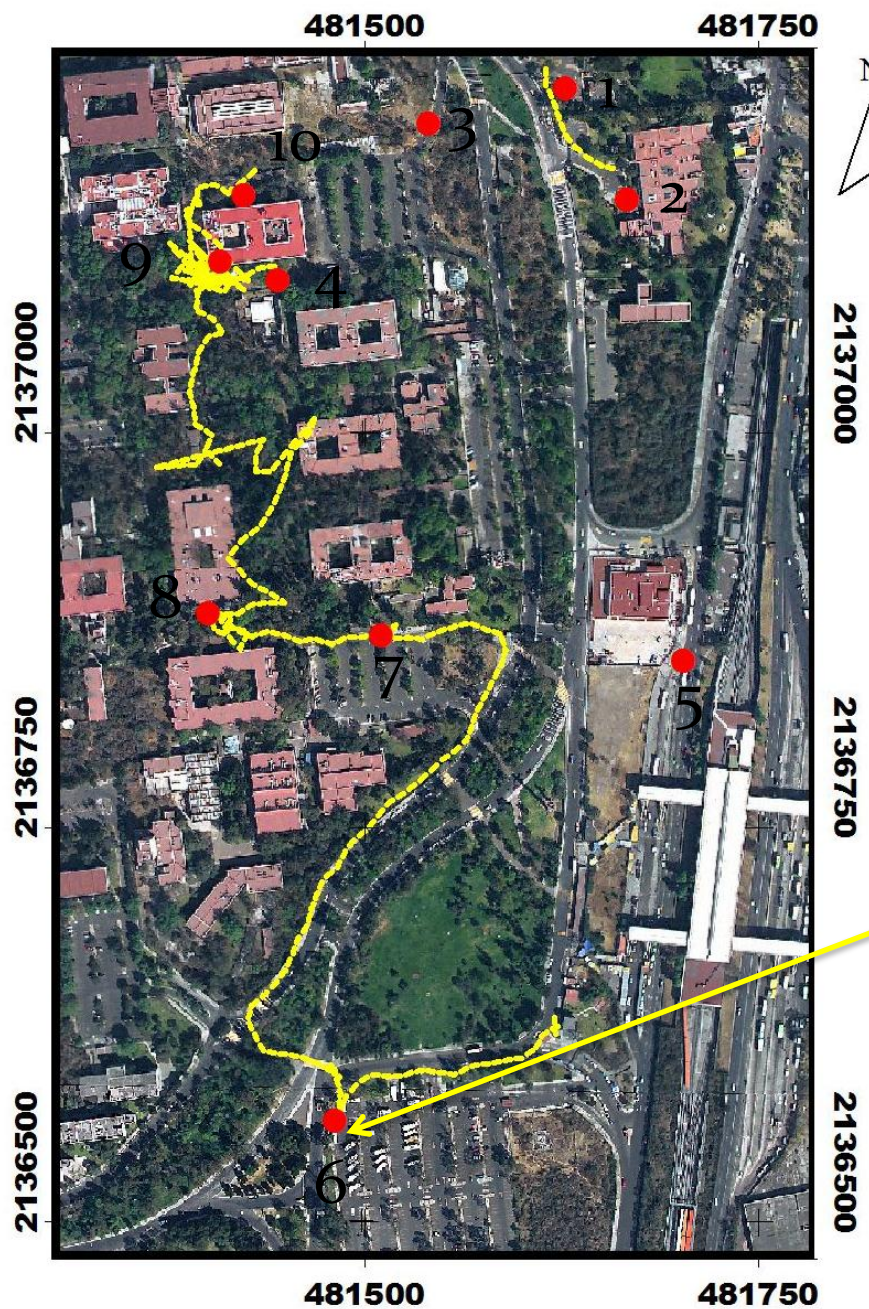
- **GISCorps** since 2003 volunteer basis. GISCorps volunteers reside in USA and work collaboratively. Emergency & relief work in: Andaman Is. Tsunami. With Global MapAid, post-tsunami; Katrina USA, Afghanistan; Armenia, Hungary, Kenya. Marshall Is., Mali, Namibia

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

Global MapAid, supplies specialist maps to emergency & humanitarian aid. Aid Workers, GIS Analysts, web developers. Map crisis hotspots by capturing data in slow onset disasters such as food security, drought, HIV monitoring, refugee programs e.g. UN WFP. Also rapid onset disasters such as floods.

<http://www.globalmapaid.rdvp.org/>

Campus dangers – UNAM. Mexico DF

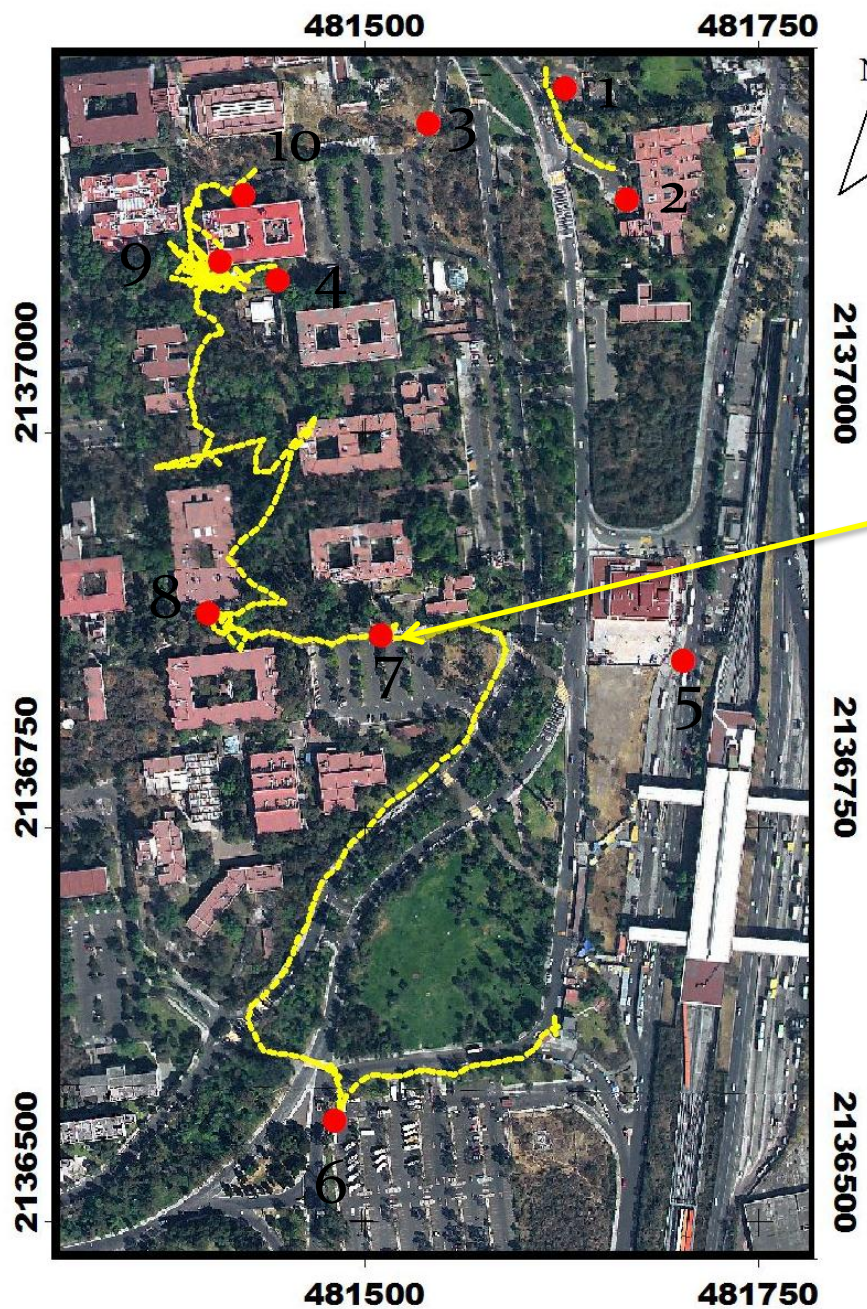


● **Sitios Peligrosos**

— **Recorrido**

0 90 180 m



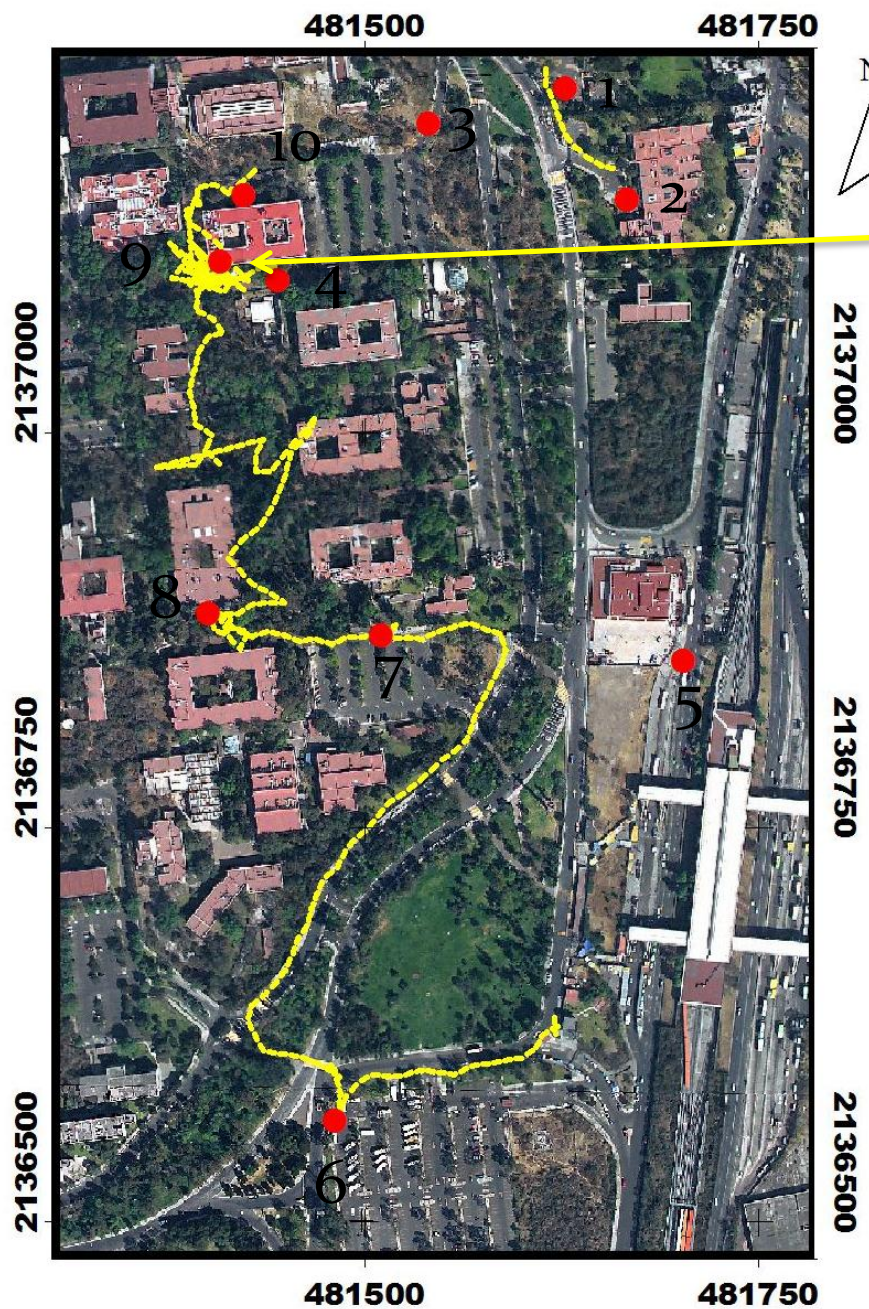


● **Sitios Peligrosos**

~ **Recorrido**

0 90 180 m





● **Sitios Peligrosos**

— **Recorrido**

0 90 180 m



Methods and Toolboxes (using PGI)

ACTIONAID

PVA Participatory Vulnerability Analysis

Focus groups. Historical profiles, Vulnerability map, seasonal calendar.
Livelihood analysis, problem trees, concept mapping?, Coping matrix, venns, scenarios, timelines

Action Aid Participatory Vulnerability Analysis (PVA) Case Studies

Johannesburg: Action Aid

<http://www.actionaid.org/wps/content/documents/PVA%20case%20studies%20Final.pdf>

CEPREDENAC

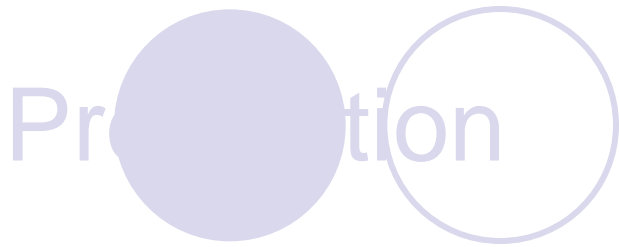
Local Risk Management

Lavell, Allan with Elizabeth Mansilla and David Smith (2003)

Local Risk Management: Ideas and Notions relating to Concept and Practice.

Guatemala: CEPREDENAC Centro de Coordinación para la Prevención de los Desastres Naturales en América Central, CEPREDENAC – PNUD; and: Geneva: UNDP, Regional Programme for Risk Management in Central America. (62p.)

<http://www.crid.or.cr/digitalizacion/pdf/eng/doc15784/doc15784-contenido.pdf>



ProVentio

Measuring Mitigation. Tools for Mainstreaming Disaster Risk Reduction

Collecting & using Info on Natural Hazards

Economic appraisal; environmental appraisal , Log Frames; M & E; appraisal of Institutions

Vulnerability & Capacity Analysis (VCA) (cf. VA, SIA, HIA, livelihoods analysis)

Sustainable Livelihoods Approaches; 2ry data; sample surveys, Interviews, HH Case studies; Envir. Checklists, Timelines, Seasonal calendars, mapping, Ranking methods, Venns, Shocks & Trends Indicators

Risk Assessment - hazard mapping, forecasts, economic appraisal, social appraisal

ProVentio (2006?) Community Risk Assessment Methodologies and Case Studies.

Compiled by Maya Schaerer. Geneva: ProVentio.

<http://www.proventionconsortium.org/?pageid=43> or, go to main website
www.proventionconsortium.org

Working with **women at risk**: practical guidelines for assessing local disaster risk.
International Hurricane Research Centre, Florida International

Methods and Toolbox (using PGI)

ADPC - CBDRM Community based disaster Risk Management

Disaster Risk Assessment: Gender analysis Gender Needs Activity Profiles
vulnerability assessment, Timeline. Hazard & Resources Map, Seasonal Calendar, Ranking.
Transect. Historical Transect. Matrix Ranking. Proportional Piling,
CBDRM Field Practitioners' Handbook

Abarquez, Imelda; and Zubair Murshed (2004) Pathumthani, Thailand: ADPC (163p.)

<http://www.adpc.net/pdr-sea/publications/12Handbk.pdf>

GTZ

CBDRM Community Based Disaster Risk Management

Timelines actor mapping. Problem trees ranking venns vulnerability & capacity
analysis

SSI Participatory observation Social / Wellbeing Ranking

Bollin, Christina (2003) Community-Based Disaster Risk Management Approach.

Experience gained in Central America. Eschborn: GTZ, Division 4200 Governance
and Democracy. <http://www.gtz.de/de/dokumente/en-community-based-drm.pdf>

IFRC

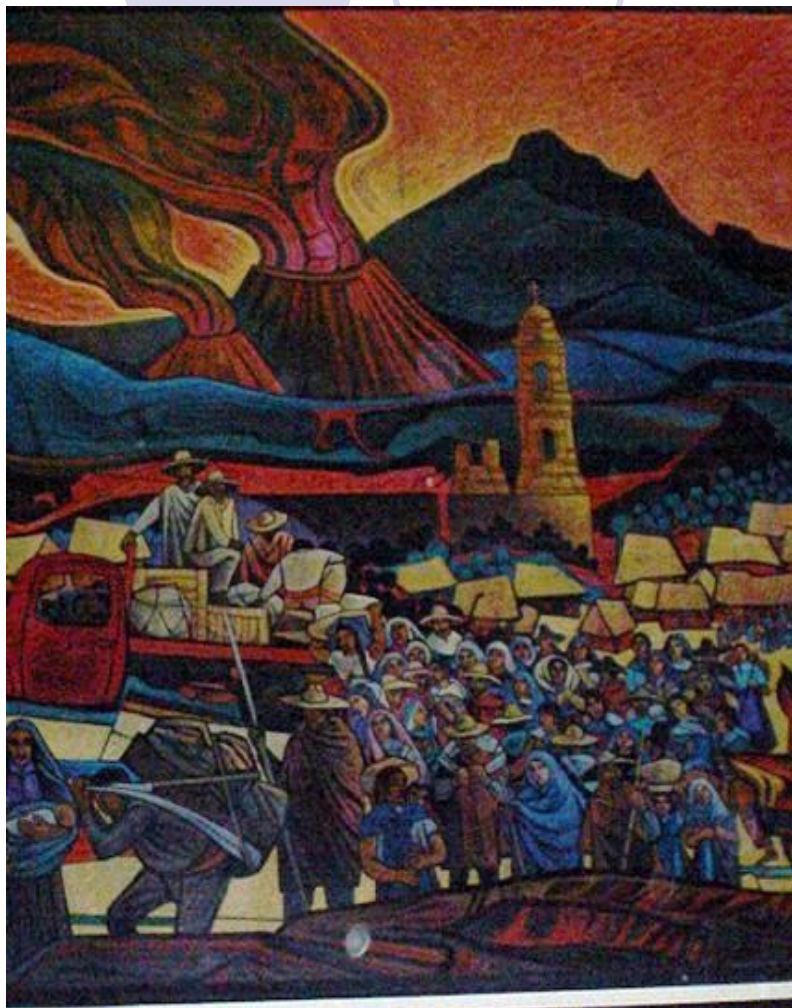
VCA Vulnerability & Capacity Assessment

e.g. Solomon Islands

Stakeholder analysis; seasonal calendar; Cause analysis, SWOT Community
Mapping. Scoring & ranking of health problems Food security SSI etc







LA EL VOLCAN
NO SIGUIENTE
LAS COLCHAS

DEBEN DE SER ABANDONADAS DRAMATICA
POR SUS HIJOS, LOS CUALES A LA CABEZA DE S
INICIARIAN OTRO PENOSO RENACER.



Art Colombia



antes



Instituto Geográfico Agustín Codazzi

después



Instituto Geográfico Agustín Codazzi

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