

# "Where's My Map?"

## The Use of Mapping in Emergency Management

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**North Shore Emergency  
Management Office**

City of North Vancouver • District of North Vancouver • District of West Vancouver

NEW  
EXPANDED  
MAP  
COVERAGE

1991 REVISED ISSUE 2.95

# GREATER VANCOUVER

INCLUDING: WEST VANCOUVER, NORTH VANCOUVER, BURNABY, NEW WESTMINSTER, SURREY, RICHMOND, DELTA, COQUITLAM, PORT COQUITLAM, PORT MOODY, WHITE ROCK, LANGLEY CITY

"STREET WISE"

# Map Book



**U.B.C. & S.F.U.**  
CAMPUS MAPS

Included  
— see pages 56 & 80

# Maps in Emergency Management – Why?

- ▶ Tracking (resources, personnel, etc)
- ▶ Way-finding
- ▶ Hazard locations
- ▶ Hazard, risk & vulnerability analysis (HRVA)
- ▶ Visual representation of data (risk assessments, damage assessments, gap analyses)
- ▶ Track successes of prevention programs
- ▶ Pre-stage resources for preparedness

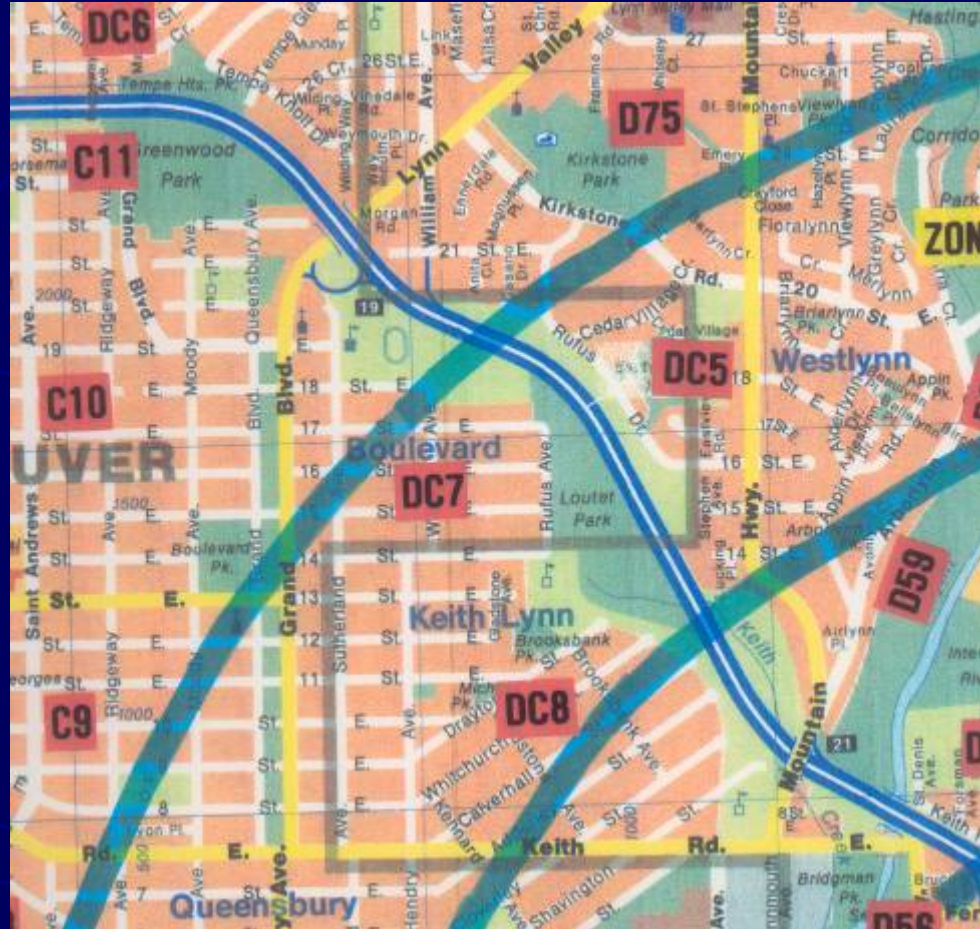


# Emergency Preparedness

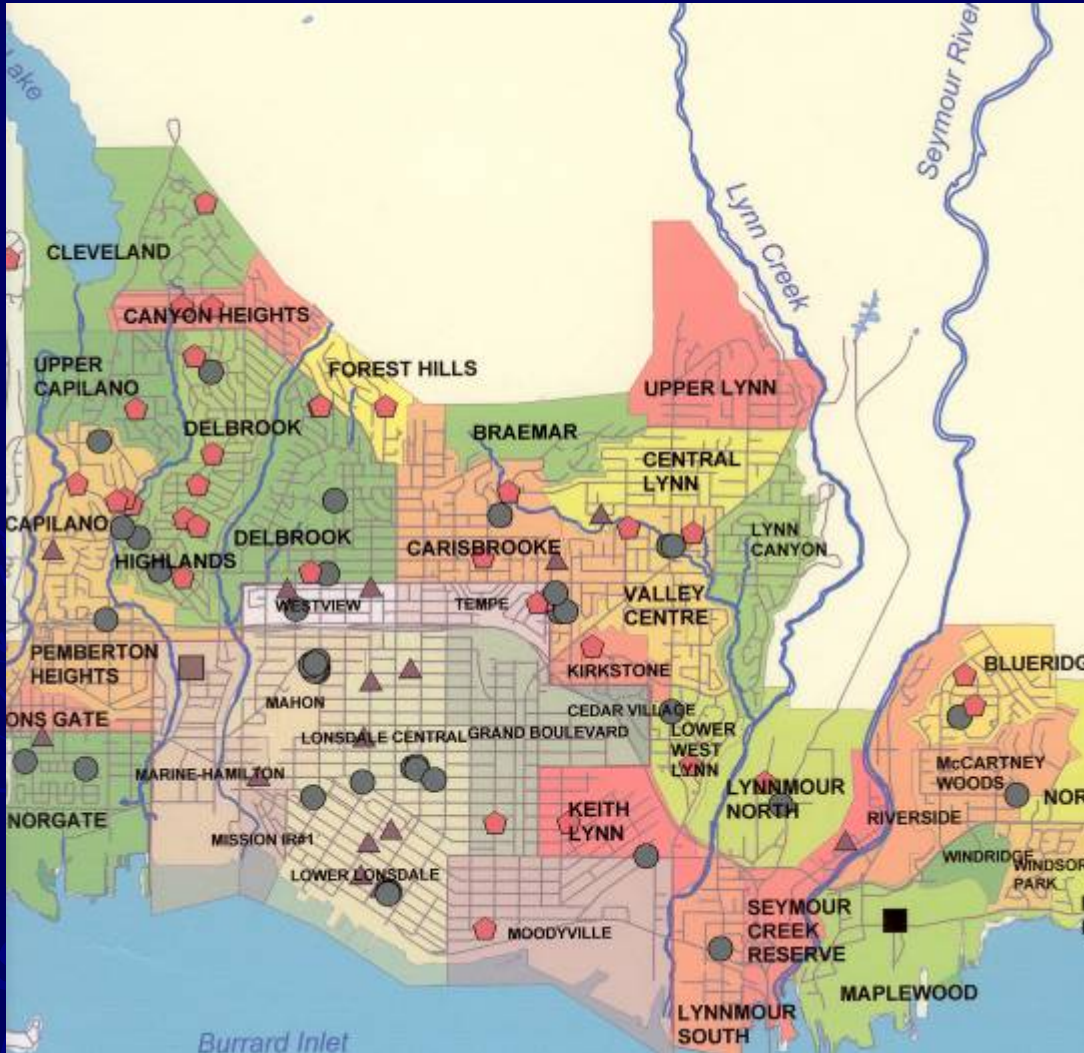
## ▶ Evacuation/Response Planning

- Zones
- Routes
- Resources
- Staging

Community Alert Network –  
Emergency Telephone  
Notification System, priority  
zones



# Preparedness Programs



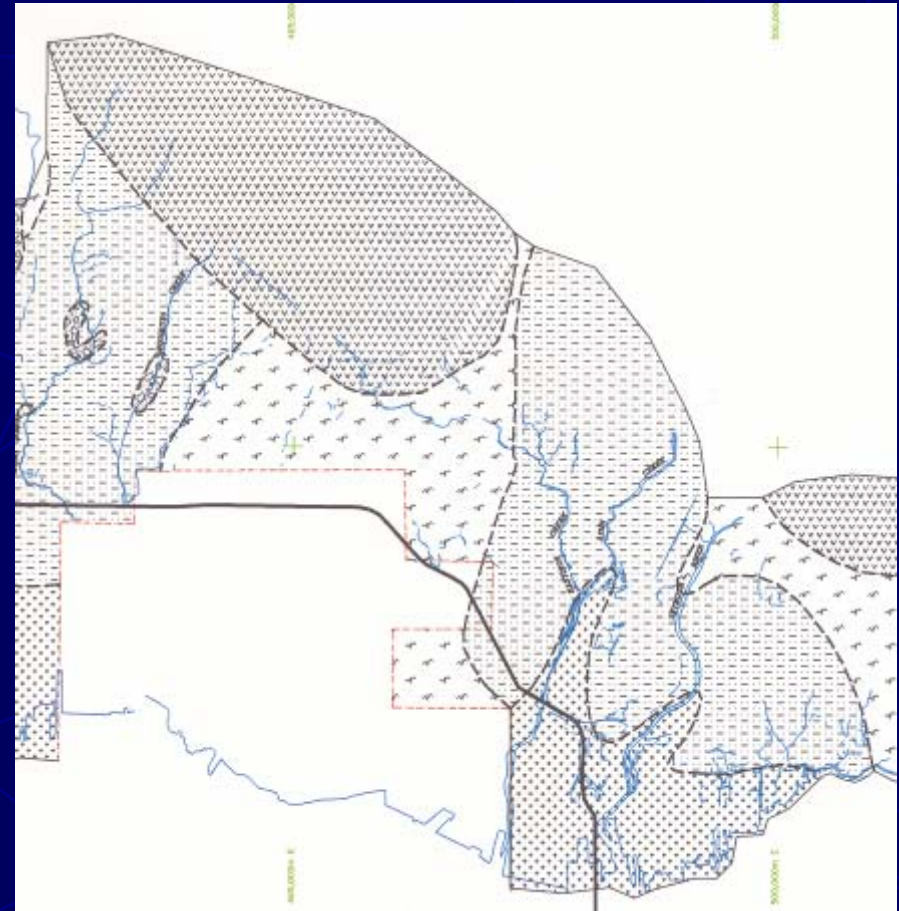
Demographics of prevention and education programs

North Shore - Emergency Preparedness Programs, by neighbourhood and type of program

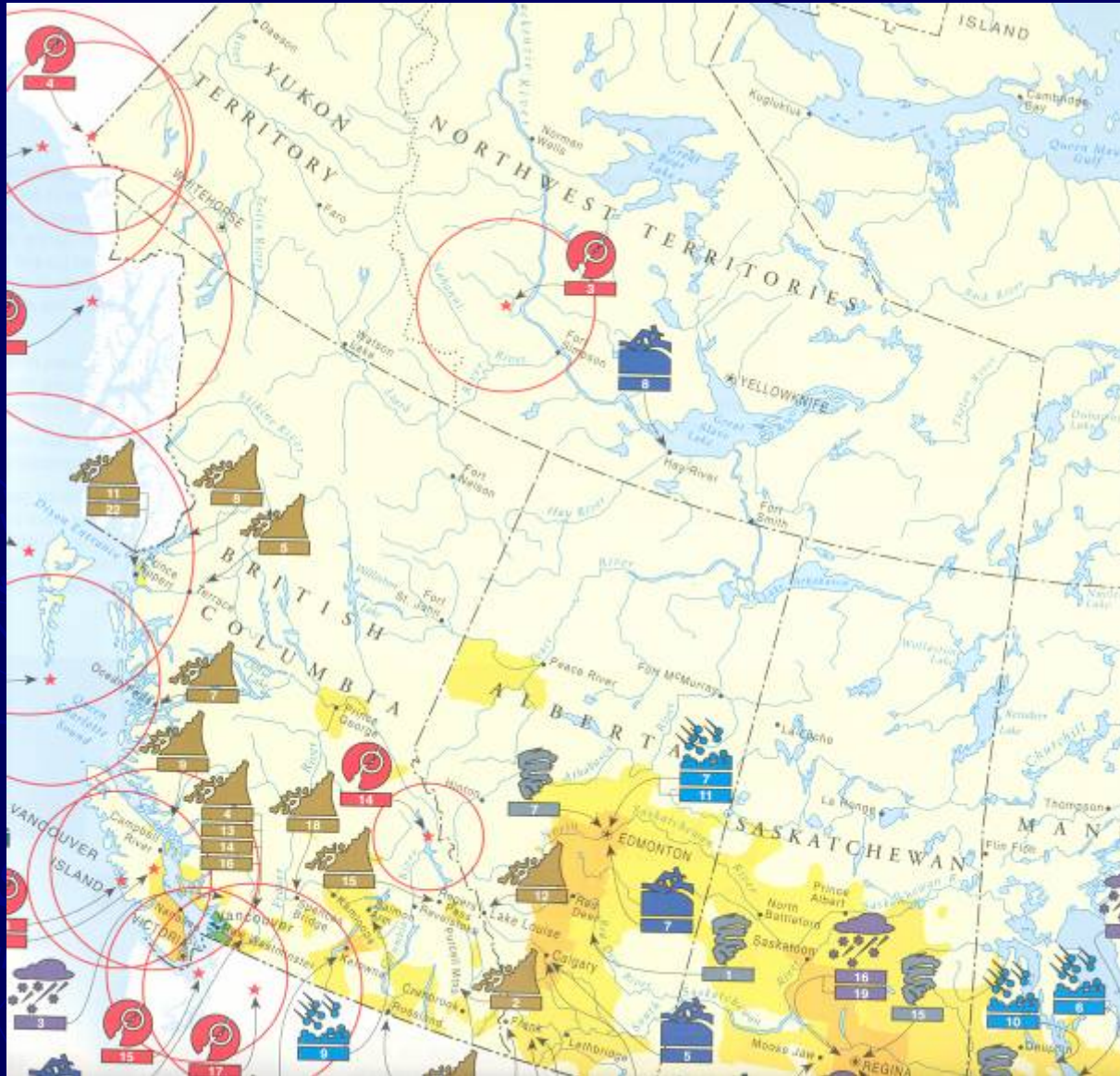


# Hazard, Risk & Vulnerability Analysis

- ▶ Soil types
- ▶ Flood zones
- ▶ Liquefaction
- ▶ Tsunami risk
- ▶ Fire risk
- ▶ Hazmat
- ▶ Tectonic plates
- ▶ et al...



# Hazard, Risk & Vulnerability Analysis



## Public Education

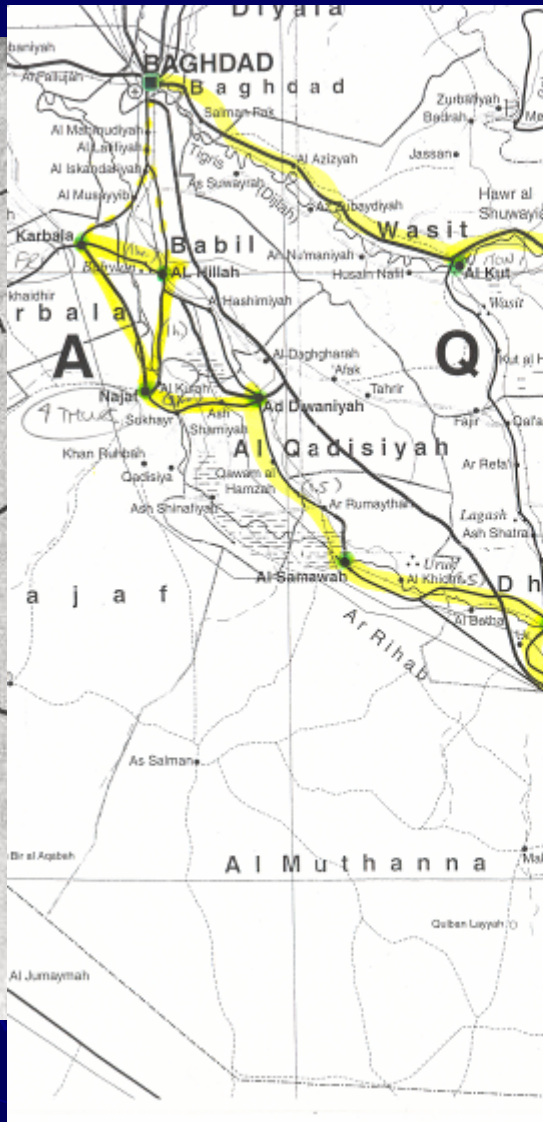
- ▶ Natural Hazards - a historical mapping of significant natural disasters

# Types of Maps

- ▶ Hand-drawn
- ▶ Printed
- ▶ Electronic (static, dynamic, interactive programs)
- ▶ WIA



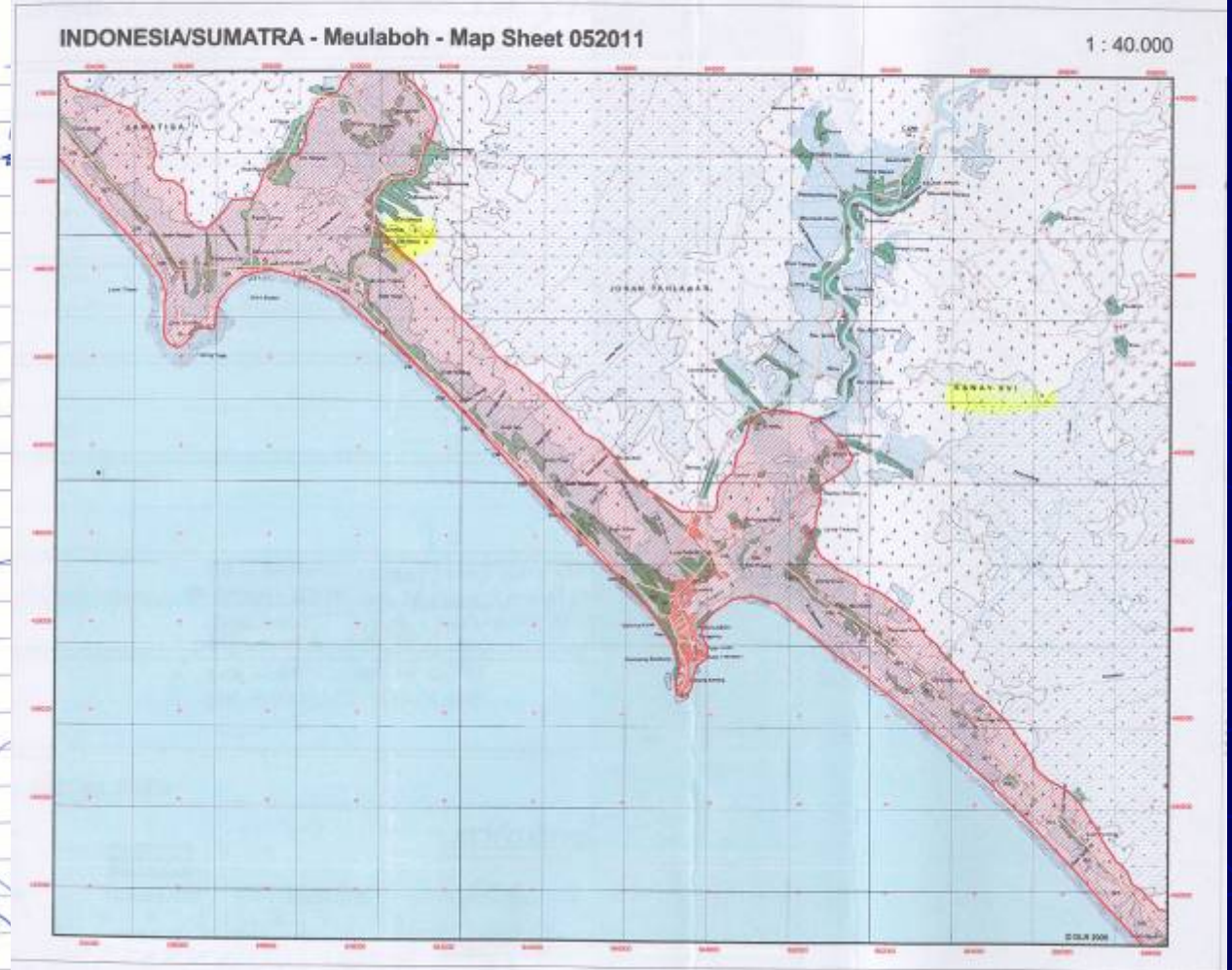
# Disaster Response...Heading In...



# Disaster Response

nesia\_sumatra1\_1-40k\_medium.jpg (JPEG Image, 4673x3214 pixels) - Scaled (18%) <http://www.zki.caf.dlr.de/media/image/page/applic>

① if circled, it has been disturbed.

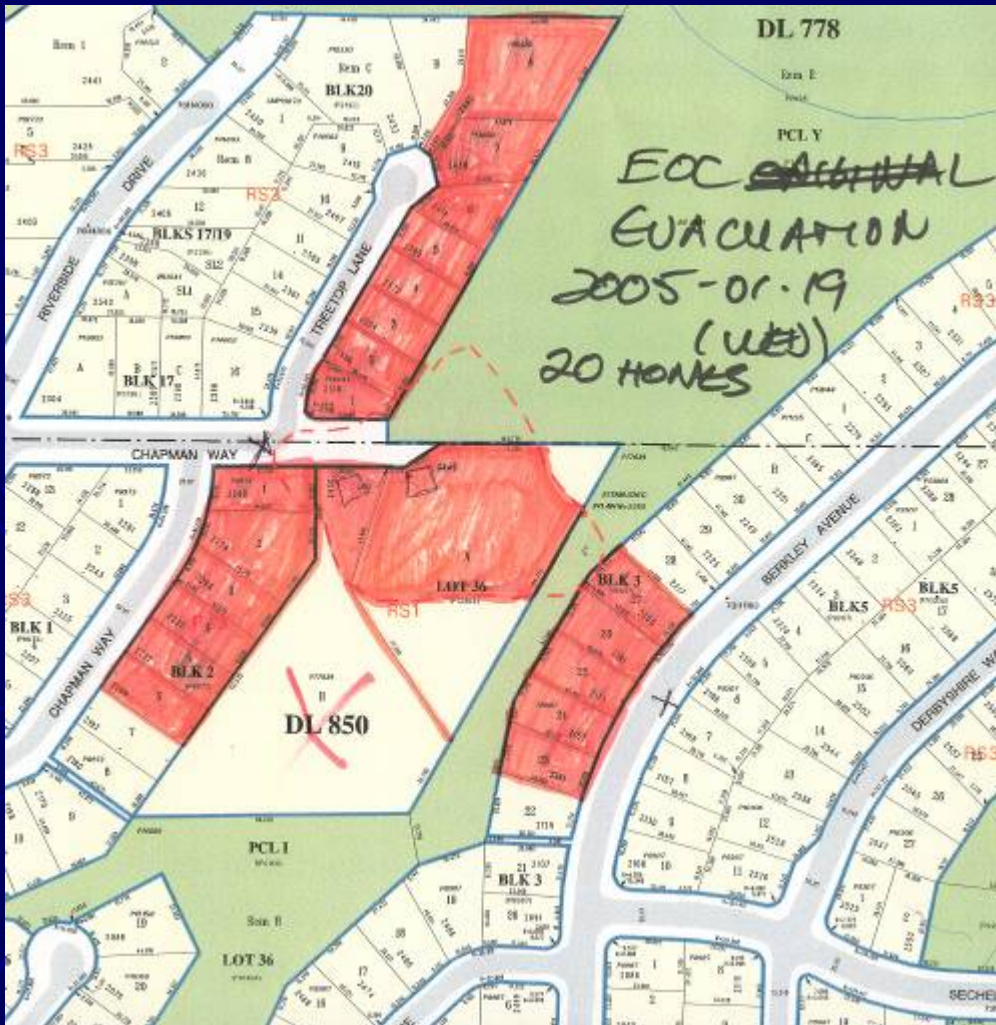


13



# The Evolution of Disaster Tracking

- ▶ Pre-GIS
- ▶ Manual information inputting



RC - registered at Reception centre  
# number of people in family.

★ - evacuated overnight Jan.



# Evolution of... Disaster Tracking

- ▶ Ortho-photo overlay
- ▶ Municipal GIS system





# Disaster Response

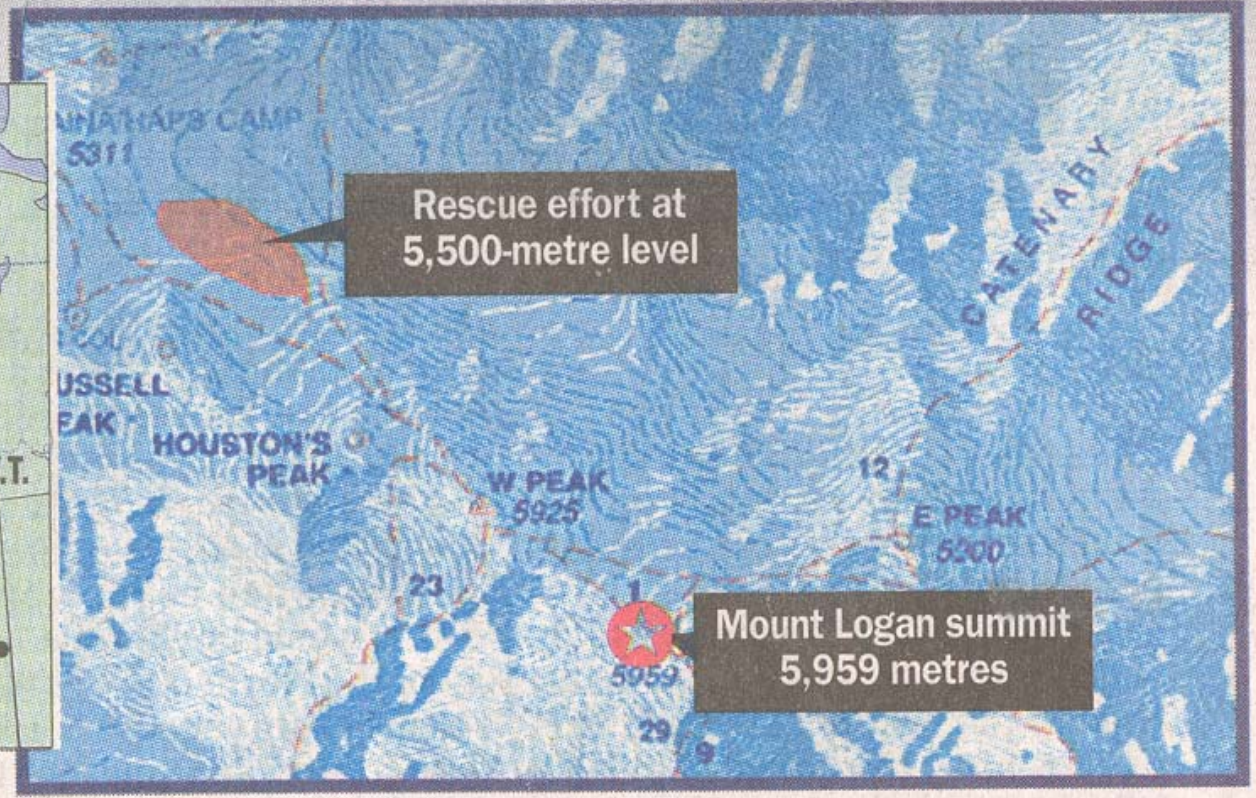
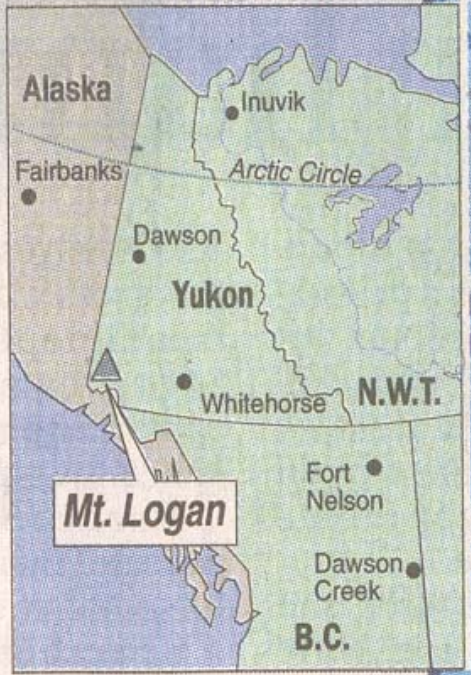
## TERROR AT 18,000 FE

Violent storms strand three North Shore rescuers who were climbing Mo

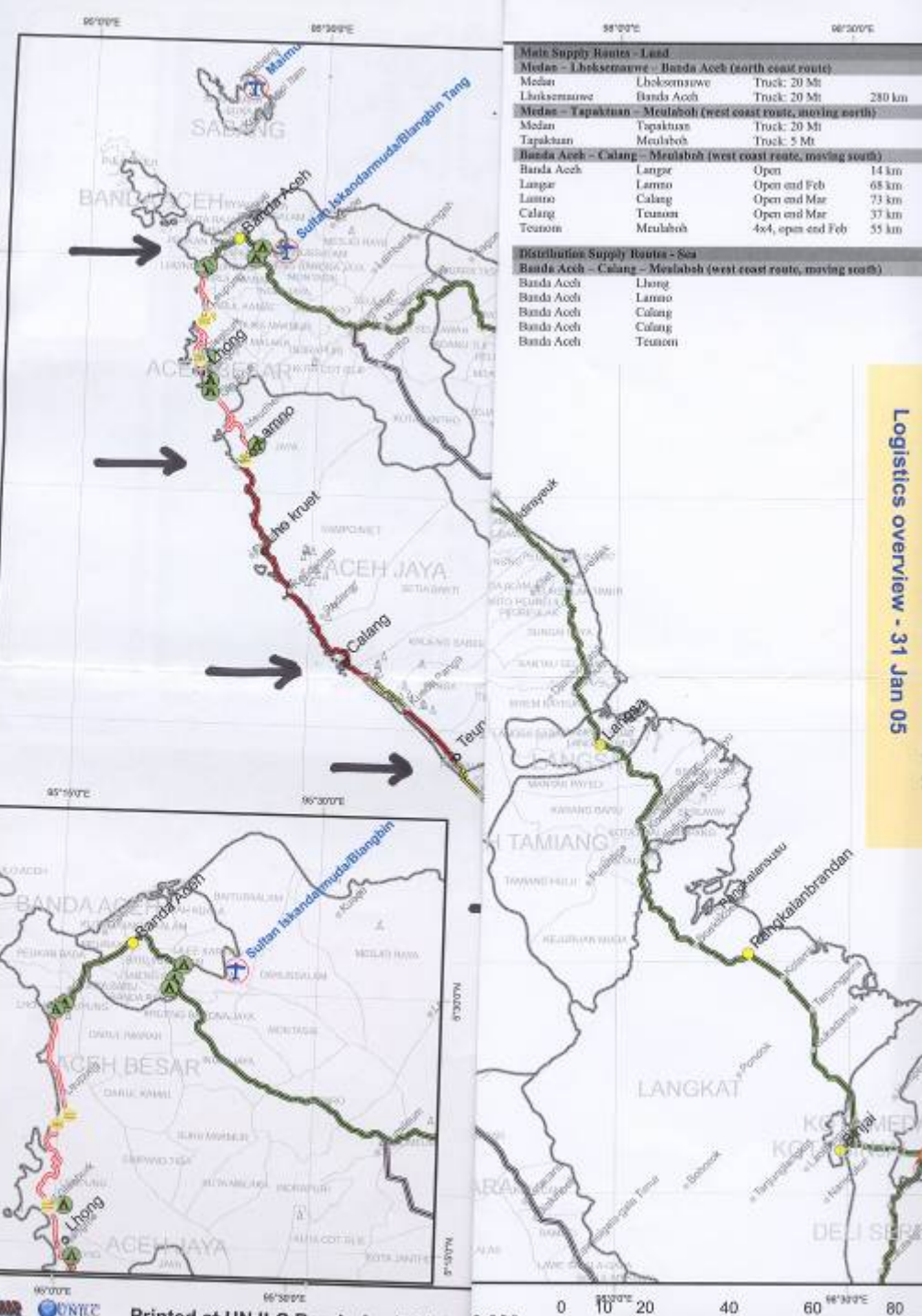
BY DAR  
VANCOU

### Mount Logan: 'The top of Canada'

Trapped on Mount Logan.







# Disaster Response

- ▶ Operational bases
- ▶ Transportation routes
- ▶ Distance estimates
- ▶ Post-disaster accuracy?

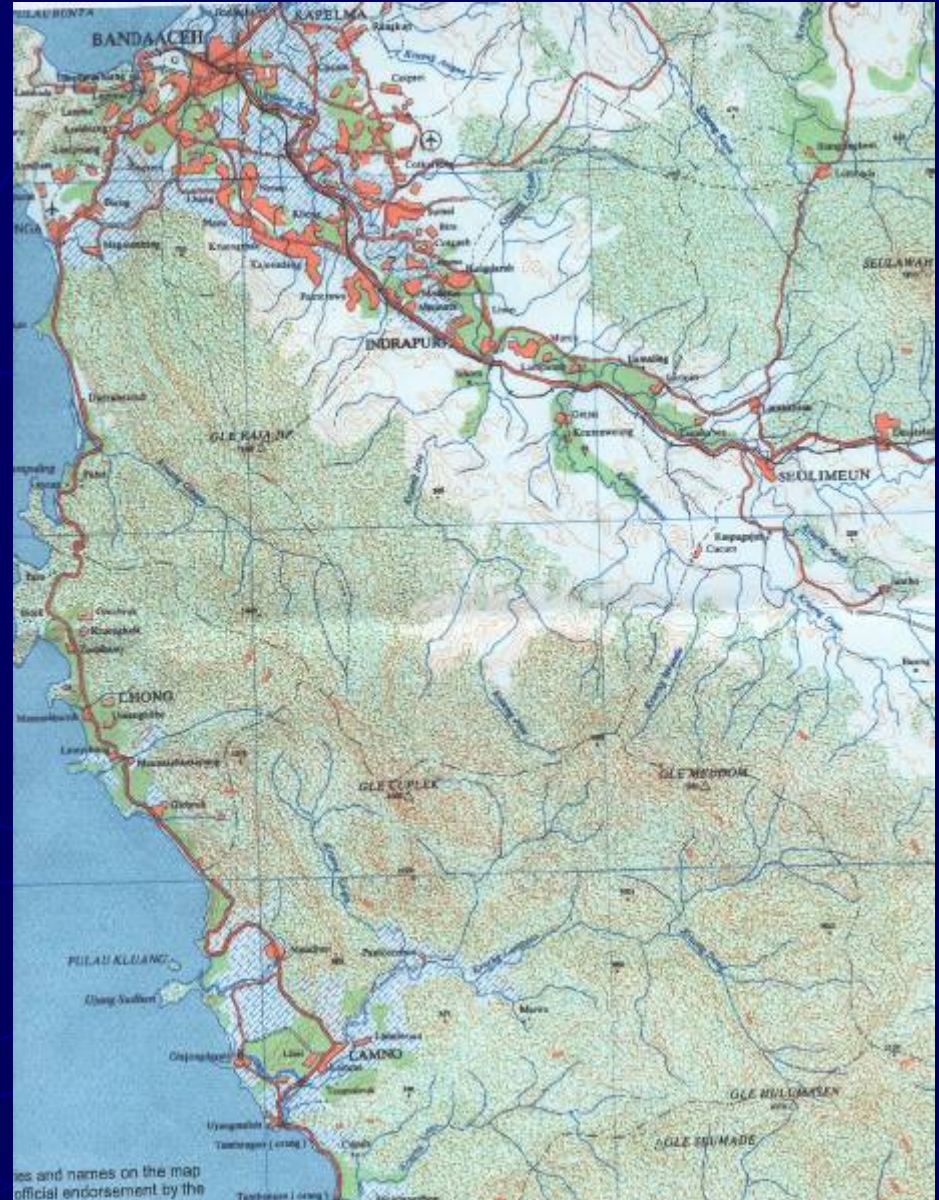
Indonesia Tsunami 2004 – road network and transportation distances in Aceh Province



# Disaster Response

- ▶ Humanitarian Information Centre (i.e., "Joint Information Centre")
- ▶ United Nations coordination & cooperation
- ▶ Multi-agency participation

Indonesia Tsunami 2004 – map of disaster zones in Aceh Province



ies and names on the map  
official endorsement by the

# Disaster Response – Assessments

- ▶ Tracking damage assessment data
- ▶ Centralized, standardized information collected a similar fashion

Rapid Damage Assessment Tool

**RAPID ASSESSMENT FORM (Section 1)** Date completed (dd/mm/yyyy) \_\_\_\_\_

1.1 Date of visit: (dd/mm/yyyy) \_\_\_\_\_ 1.2 Surveyor's Name: \_\_\_\_\_ 1.3 Organization: \_\_\_\_\_

1.4 Is this an Area or a Site?  Area  Site

**\*\* CHOOSE EITHER RURAL OR URBAN:**

**RURAL LOCATION** 1.1 Settlement Type:  Permanent  Seasonal/Nomadic  Camp  The place is new since 01/01/2003

2.1 Village Name: \_\_\_\_\_ 2.2 P-Code: \_\_\_\_\_

2.3 District: \_\_\_\_\_ 2.4 Governorate: \_\_\_\_\_

2.5 Latitude: \_\_\_\_\_ 2.7 Determined Using:  GPS

2.6 Longitude: \_\_\_\_\_  Map If so, map name and source: \_\_\_\_\_

2.7 Other Coordinates: \_\_\_\_\_  
Type: \_\_\_\_\_

\*GPS data is subject to the device setting. The UN Geographic Information Working Group recommends collecting latitude and longitude in decimal degrees, WGS84 datum. Any different setting should be reported in the form to allow conversion.

**LOCAL LEADERSHIP** Position, Name, Address \_\_\_\_\_

**Lat / Long**

**URBAN LOCATION**

2.1 Town Name: \_\_\_\_\_ 2.2 P-Code: \_\_\_\_\_

2.3 District: \_\_\_\_\_ 2.4 Governorate: \_\_\_\_\_

2.5 Latitude: \_\_\_\_\_ 2.7 Determined Using:  GPS

2.6 Longitude: \_\_\_\_\_  Map If so, map name: \_\_\_\_\_

\*GPS data is subject to the device setting. The UN Geographic Information Working Group recommends collecting latitude and longitude in decimal degrees, WGS84 datum. Any different setting should be reported in the form to allow conversion.

2.8 Cities/towns are normally subdivided into distinct sections. If subdivided, what are these sections called:  
List the section names below: \_\_\_\_\_ Please provide coordinates to the physical center of the section:

a1 _____	b1 Latitude: _____	c1 Longitude: _____
a2 _____	b2 Latitude: _____	c2 Longitude: _____
a3 _____	b3 Latitude: _____	c3 Longitude: _____
a4 _____	b4 Latitude: _____	c4 Longitude: _____
a5 _____	b5 Latitude: _____	c5 Longitude: _____
a6 _____	b6 Latitude: _____	c6 Longitude: _____

**CITY ADMINISTRATION / LOCAL LEADERSHIP** 2.9 Is the city administration still functioning?  YES  NO

Contact details for key departments (names/addresses):

City Administrator: \_\_\_\_\_

Water/Sewer: \_\_\_\_\_

Public Works: \_\_\_\_\_

Health: \_\_\_\_\_

Education: \_\_\_\_\_

Police: \_\_\_\_\_

**INFRASTRUCTURE DAMAGE ASSESSMENT GUIDE - RURAL / URBAN**

(A)

(B)

(C)

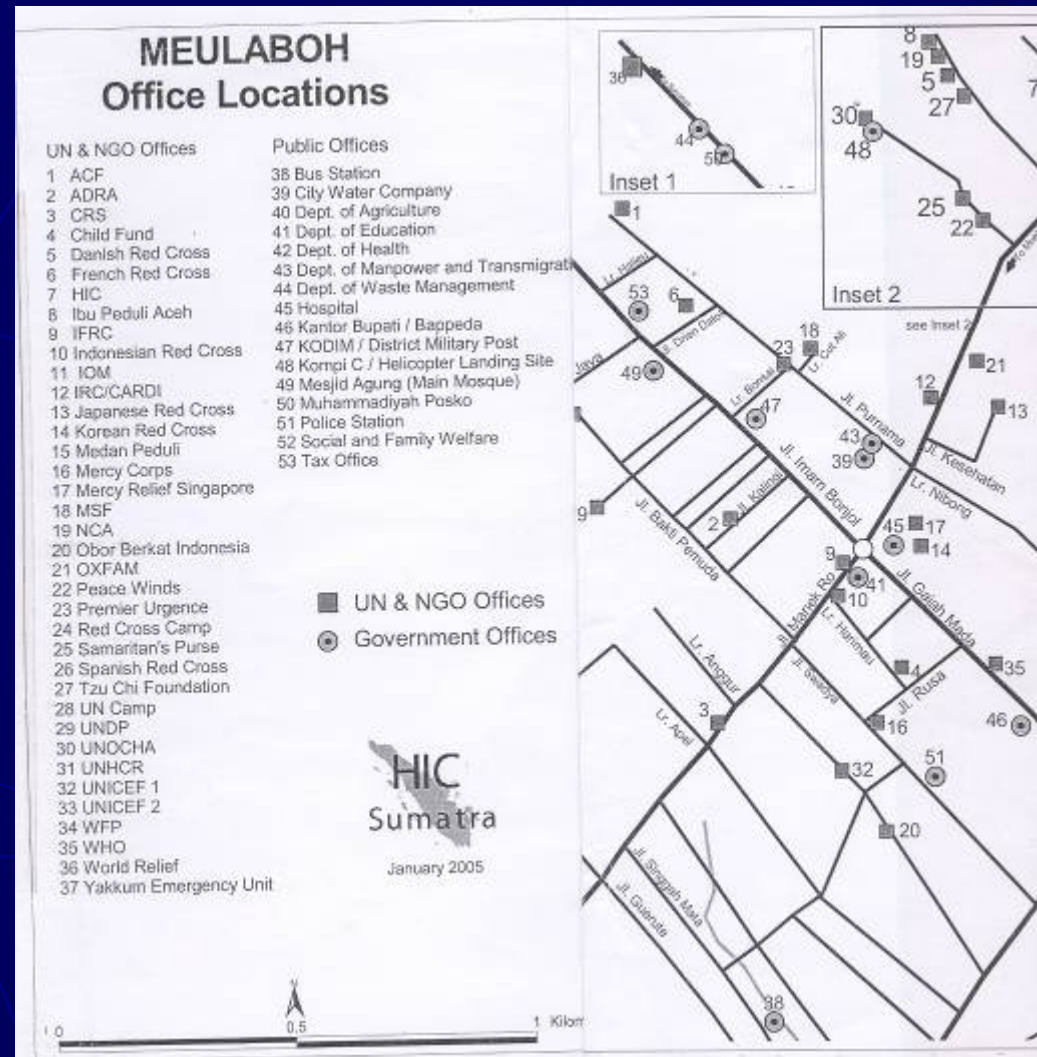
(D)



# Disaster Response - Other uses

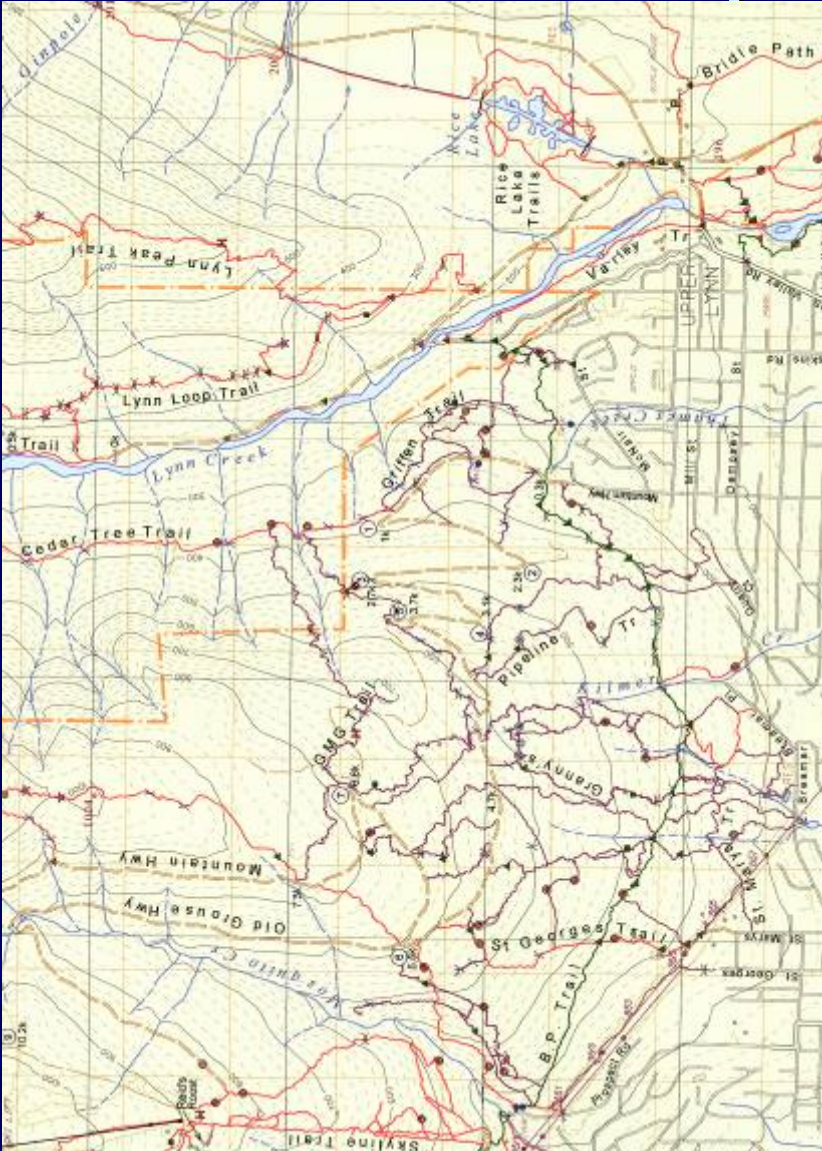
- ▶ Identify location of agencies participating in the disaster response

Indonesia Tsunami 2004 – location of aid agencies in Meulaboh





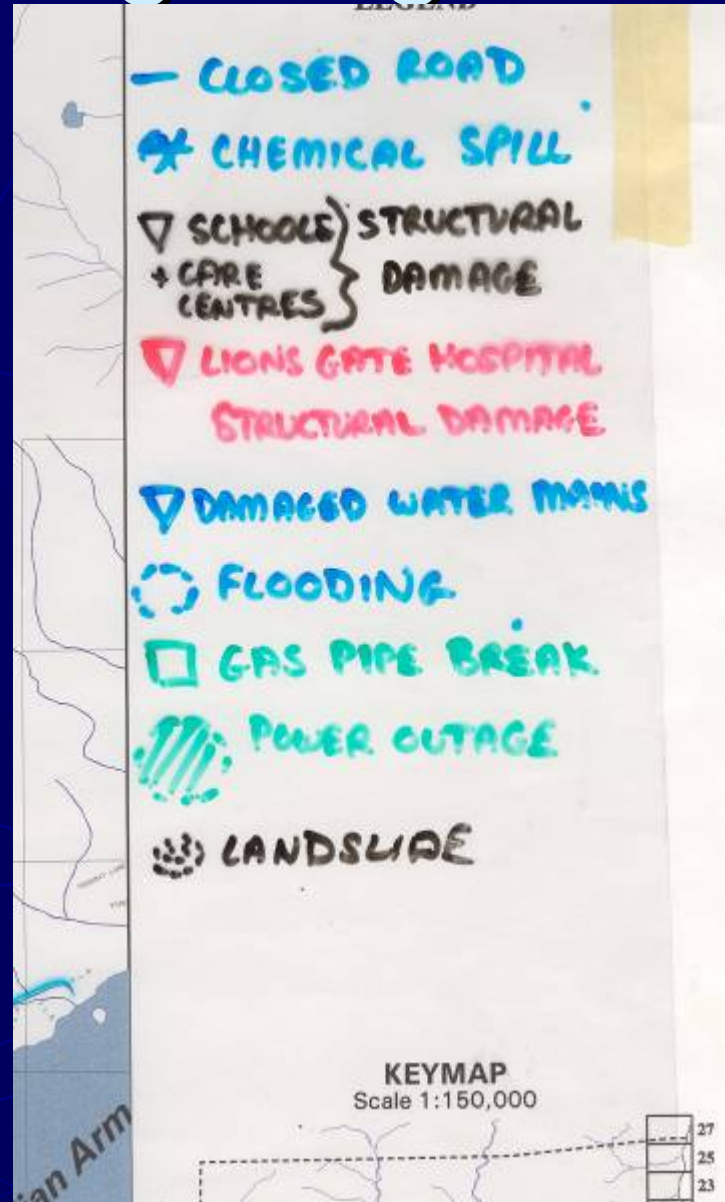
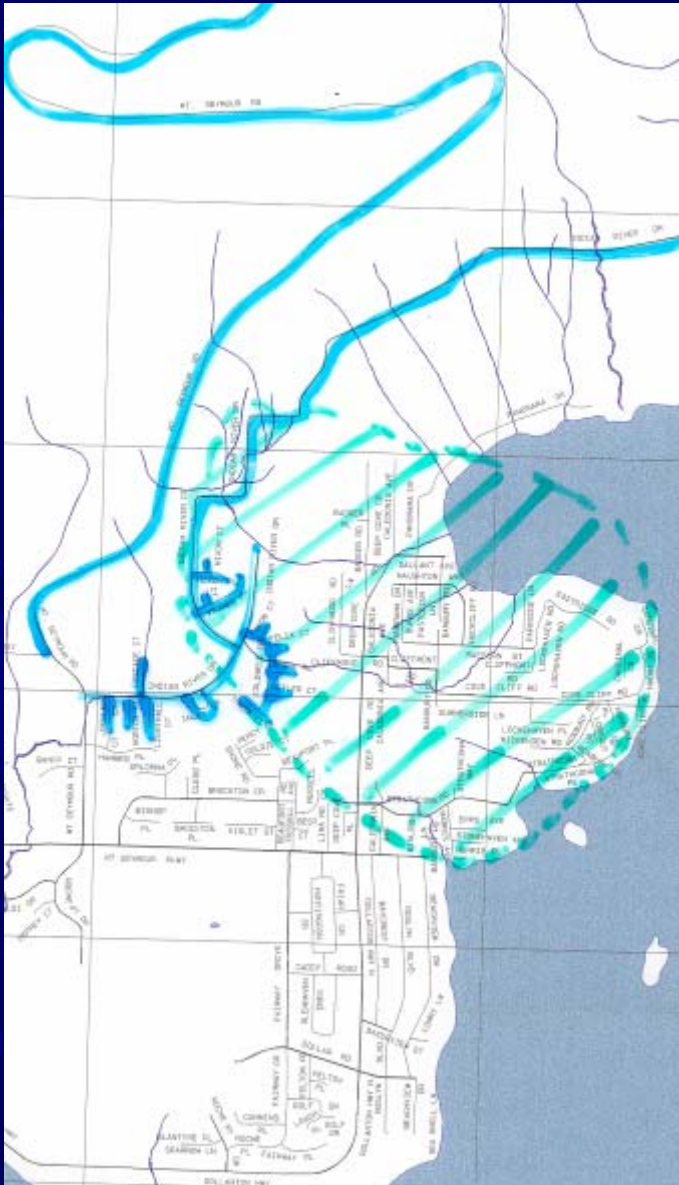
# Map Sources



- ▶ Government (all levels)
- ▶ Private sector
- ▶ Industries
- ▶ First Responders
- ▶ Tourism
- ▶ NGO's & IO's
- ▶ Locals

North Shore Rescue – trail map (mountain biking / hiking)

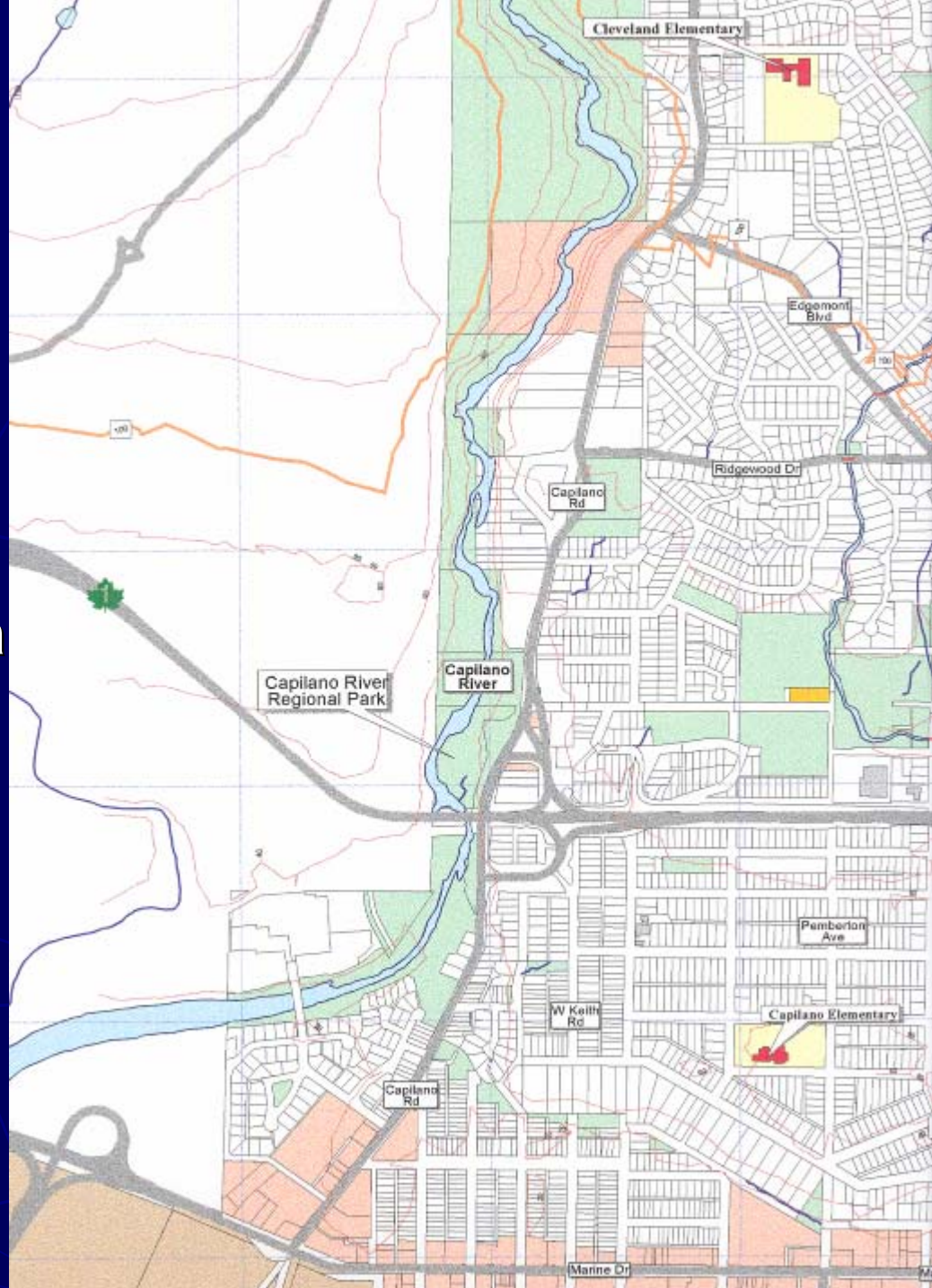
# Pet Peeves: Being "Legendary"





# Pet Peeves: Data Sharing

- ▶ What's on the other side...?
  - Local government data sharing
  - MoA's
  - Advance planning





# Characteristics of Effective Maps

- ▶ Accurate
- ▶ Dynamic\Adjustable
- ▶ Dated (i.e., date-marked)
- ▶ Current
- ▶ Archive-able
- ▶ Source-able
- ▶ Standard symbols
- ▶ Understandable

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