

The Revision of Geocentric Datum of Malaysia 2000 (GDM2000)

5 – 9 October 2015 / 21 - 25 Zulhijjah 1435H



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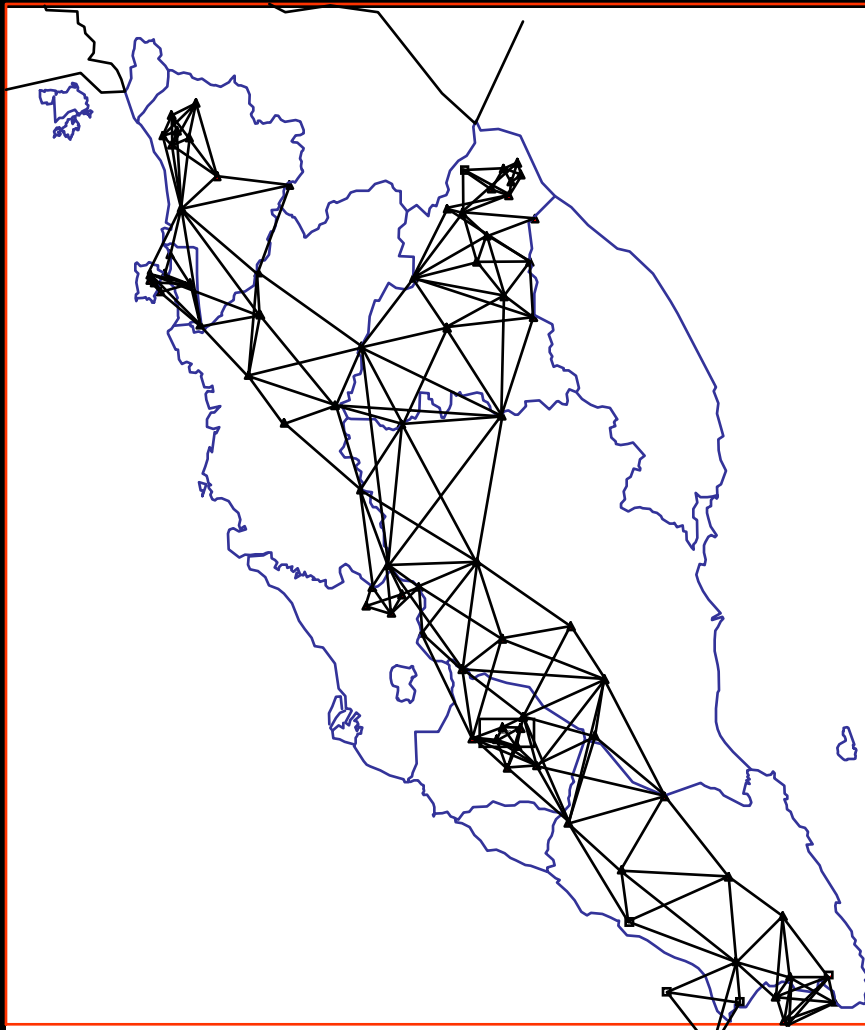
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Main Items

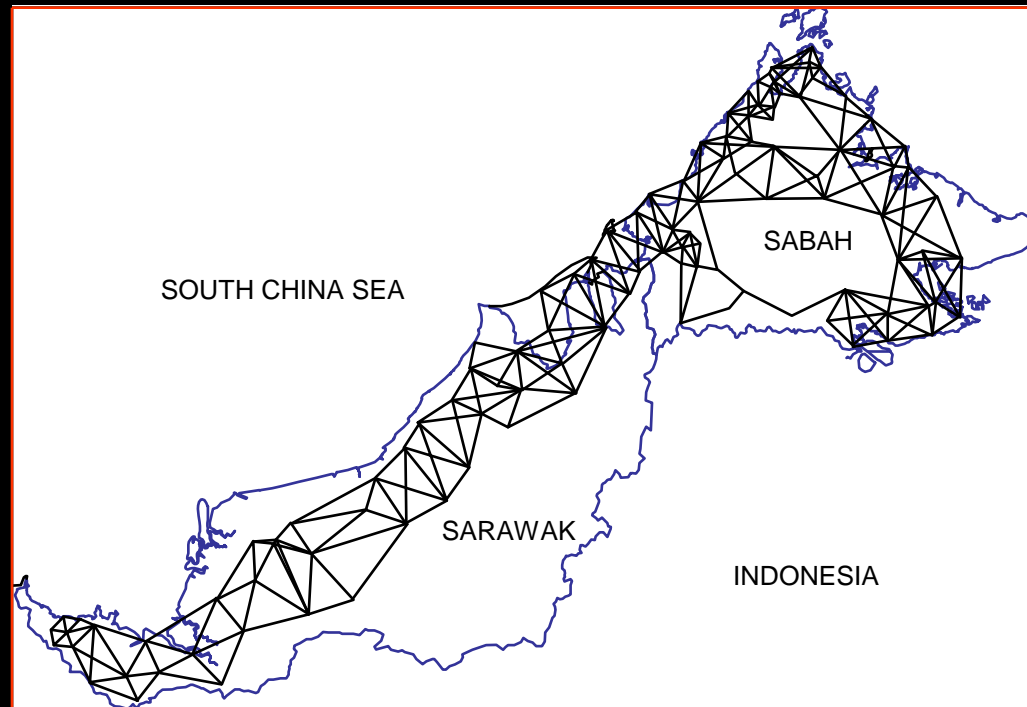
- Background
- Malaysia's CORS Network – MyRTKnet
- Launching of GDM2000
- Revision of GDM2000
- Conclusion

Coordinate Reference System

Malayan Revised Triangulation 1948 (MRT48)

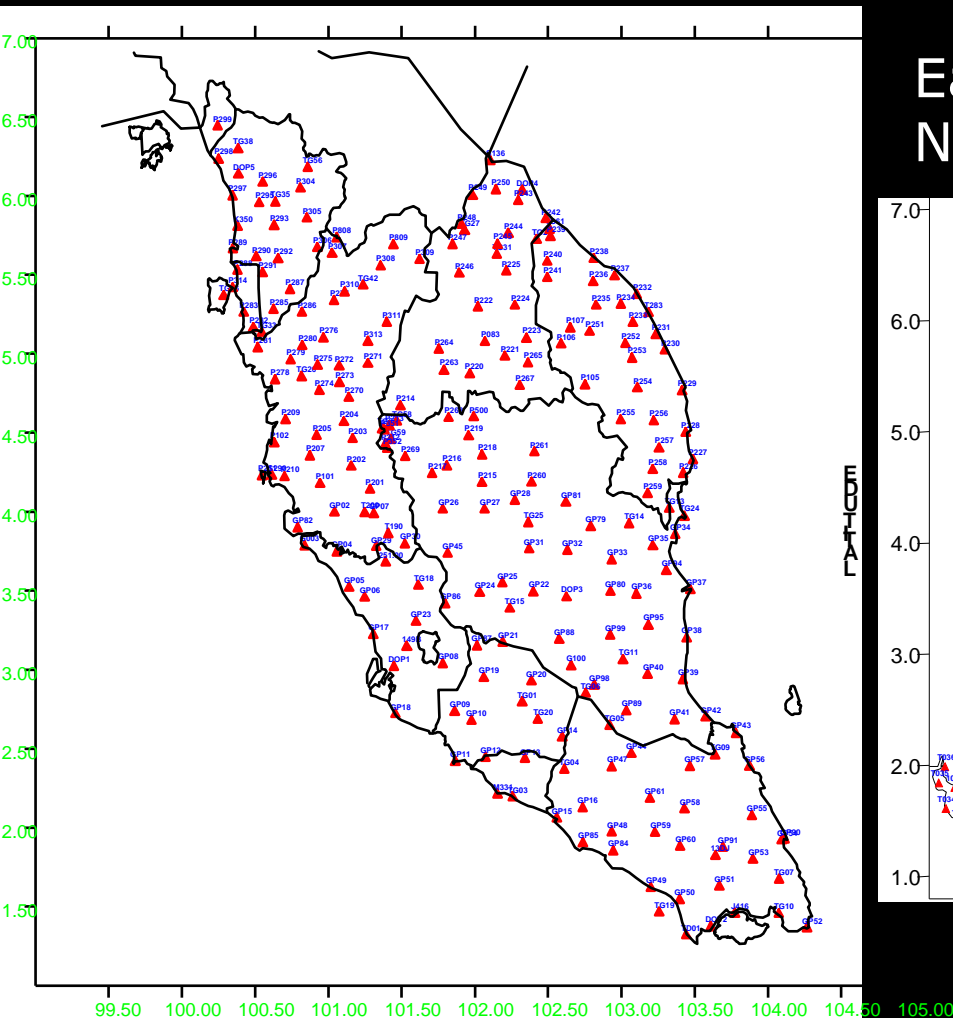


Borneo Triangulation 1968 (BT68)

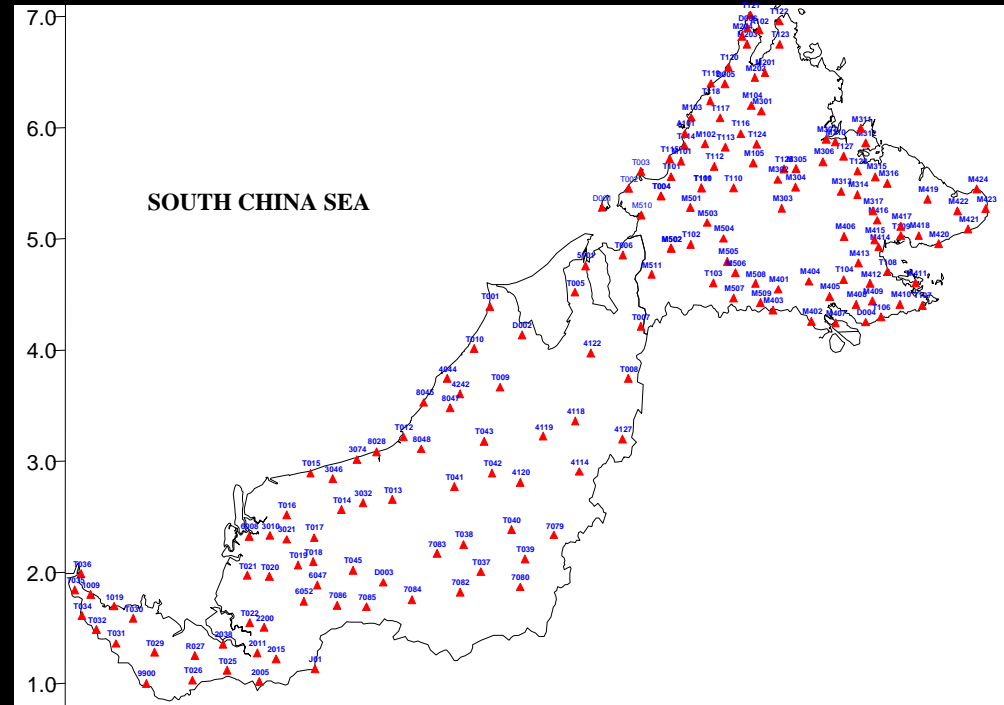


Coordinate Reference System

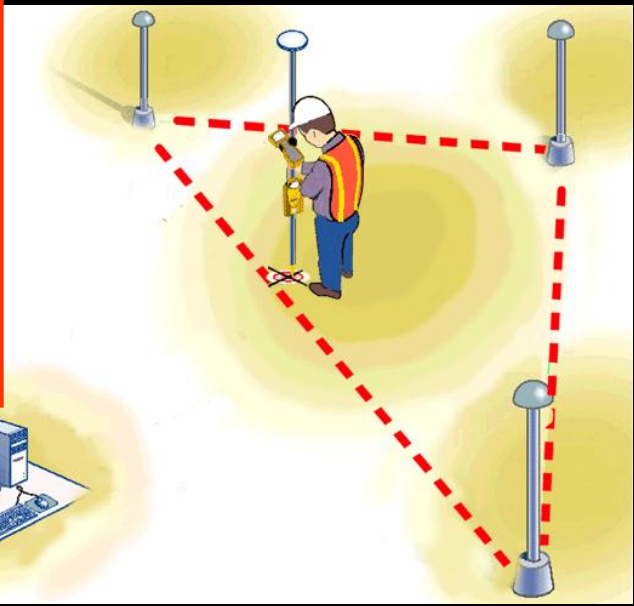
Peninsular Malaysia Geodetic Scientific Network 1994 (PMGSN94)



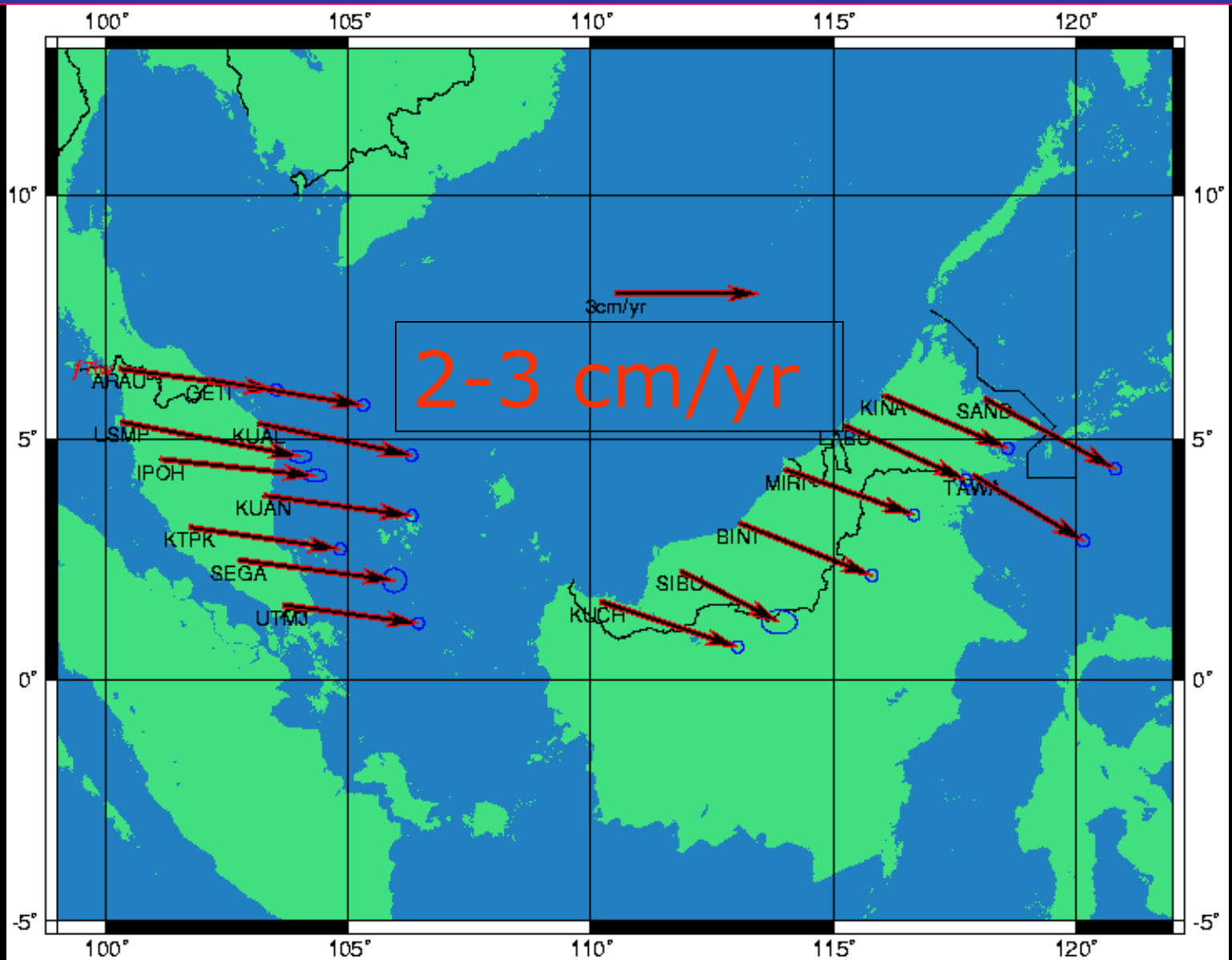
East Malaysia Geodetic Scientific Network 1997 (EMGSN97)



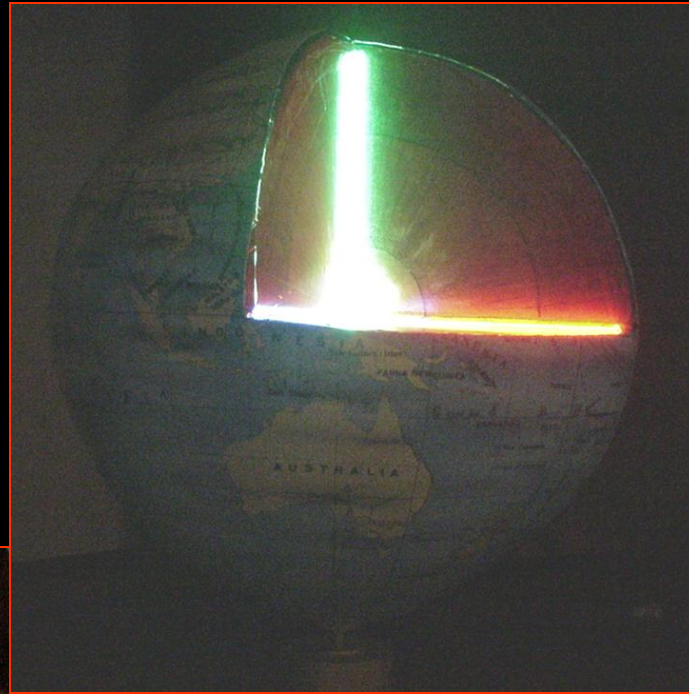
Malaysia RTK Network (MyRTKnet)



Estimated Velocities (1999 – 2002)



Launching of GDM2000



Datum: GRS80

Reference Frame: ITRF2000

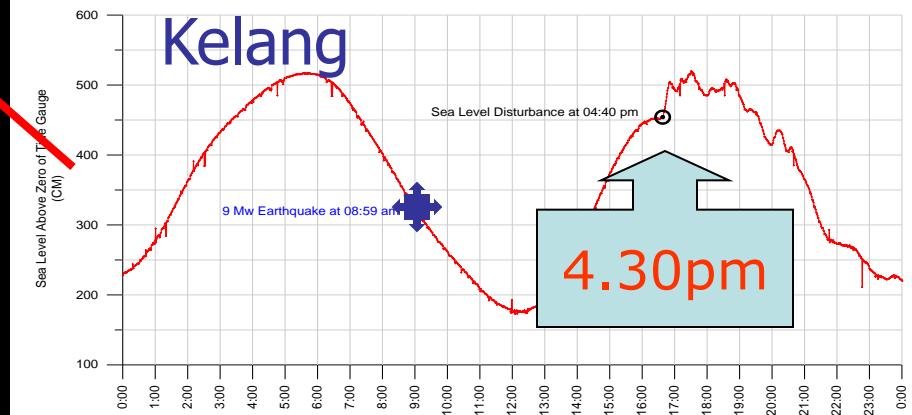
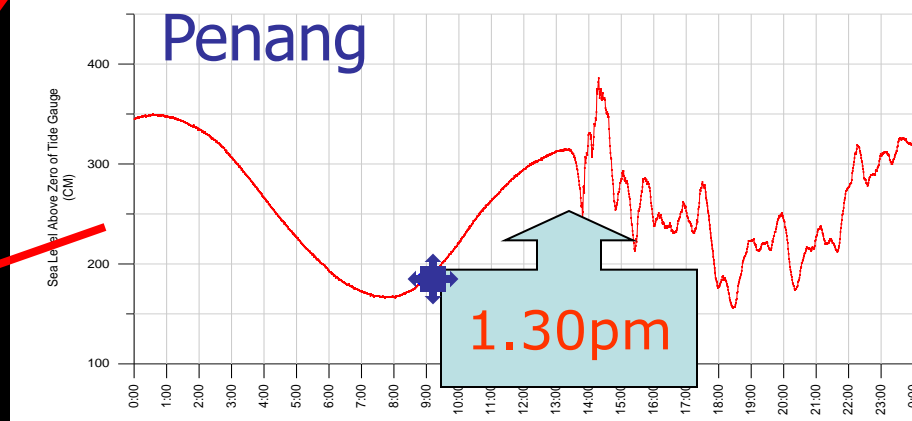
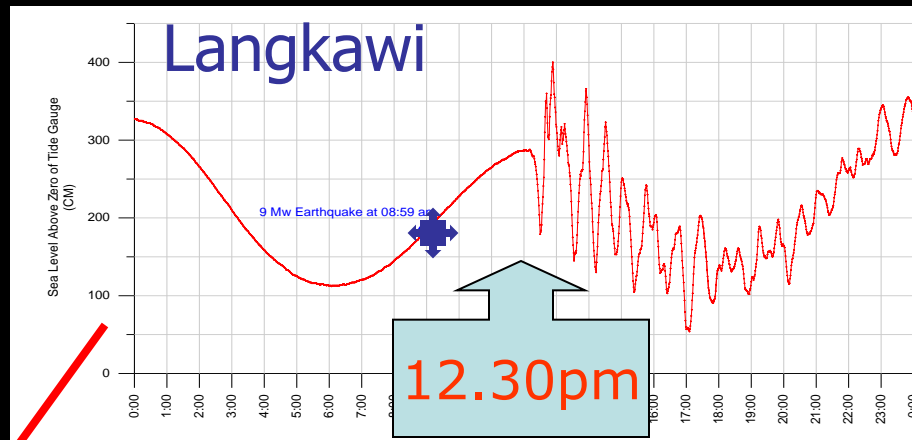
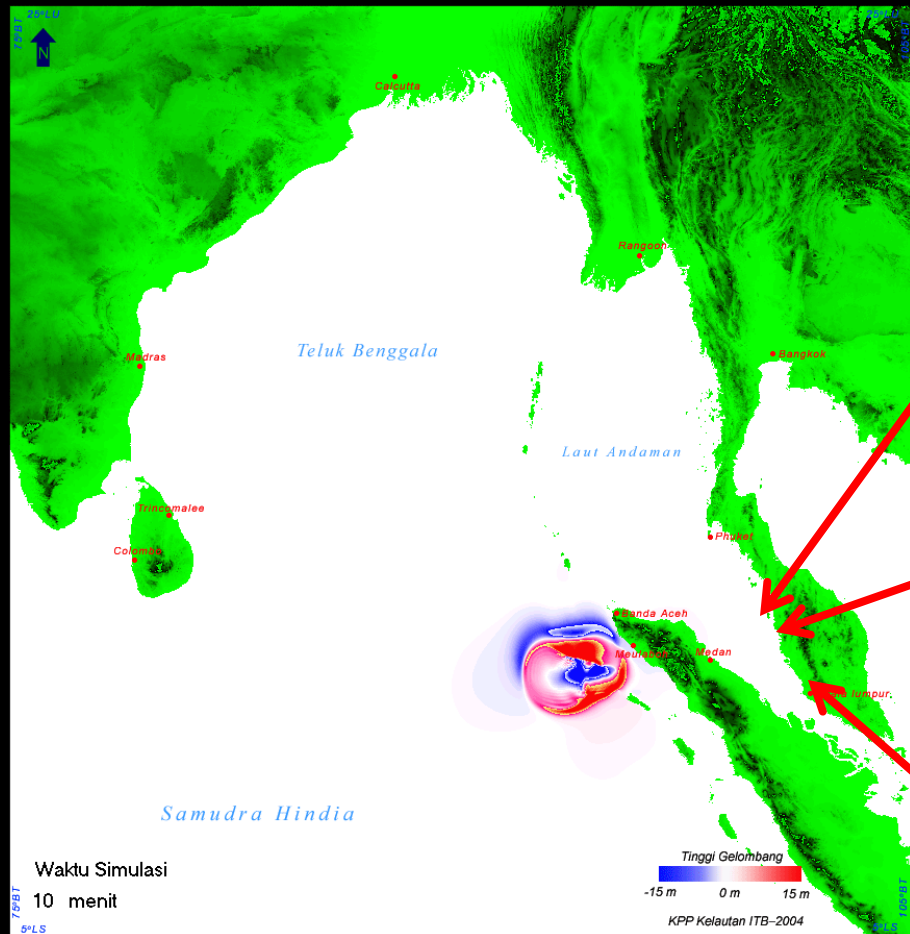
Epoch: 1 Jan 2000



26 August 2003

Sea Level Heights

26 Dec 2004 / 8:59 am
M9.2 Mega Earthquake

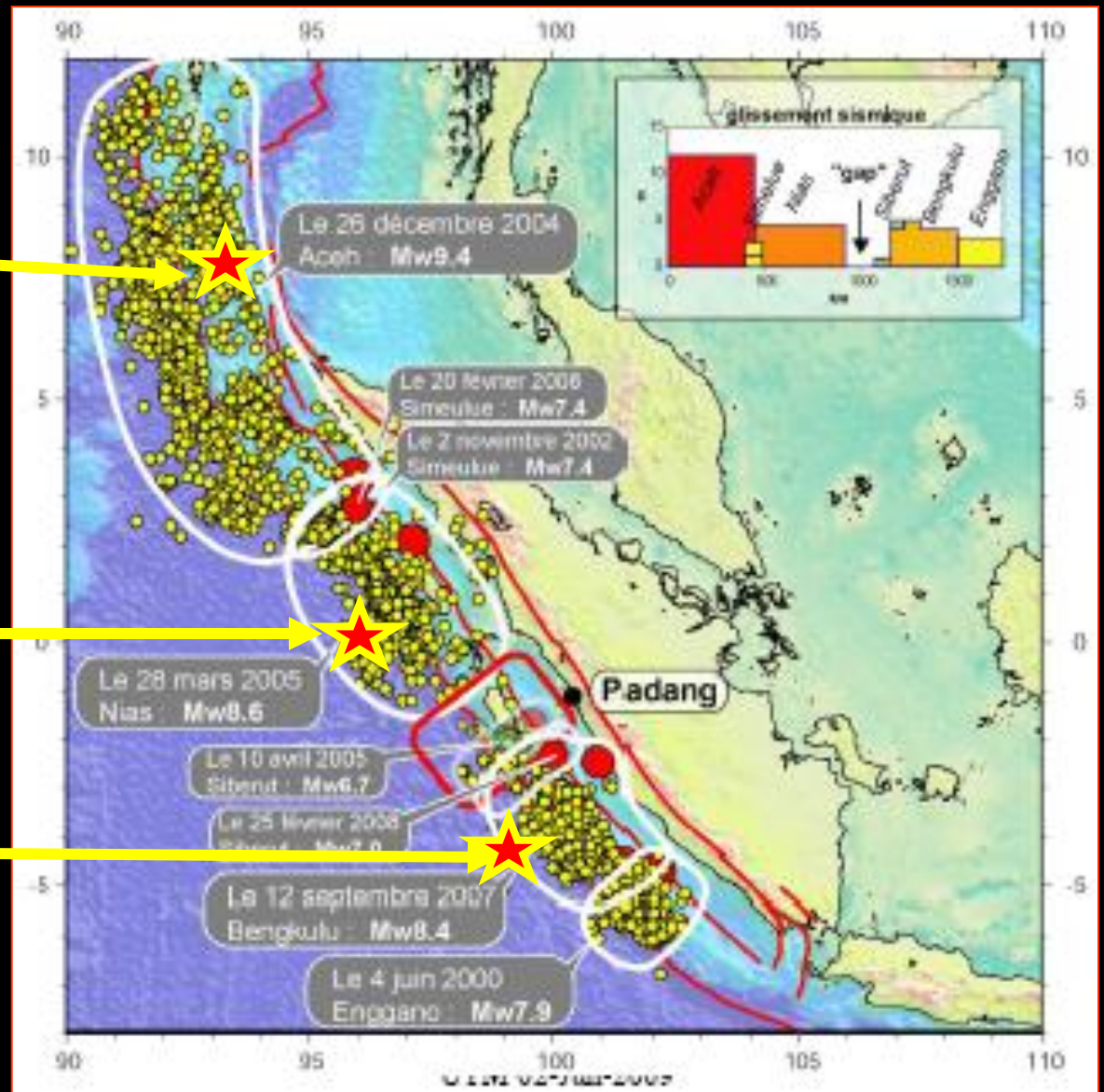


The 3 Earthquakes

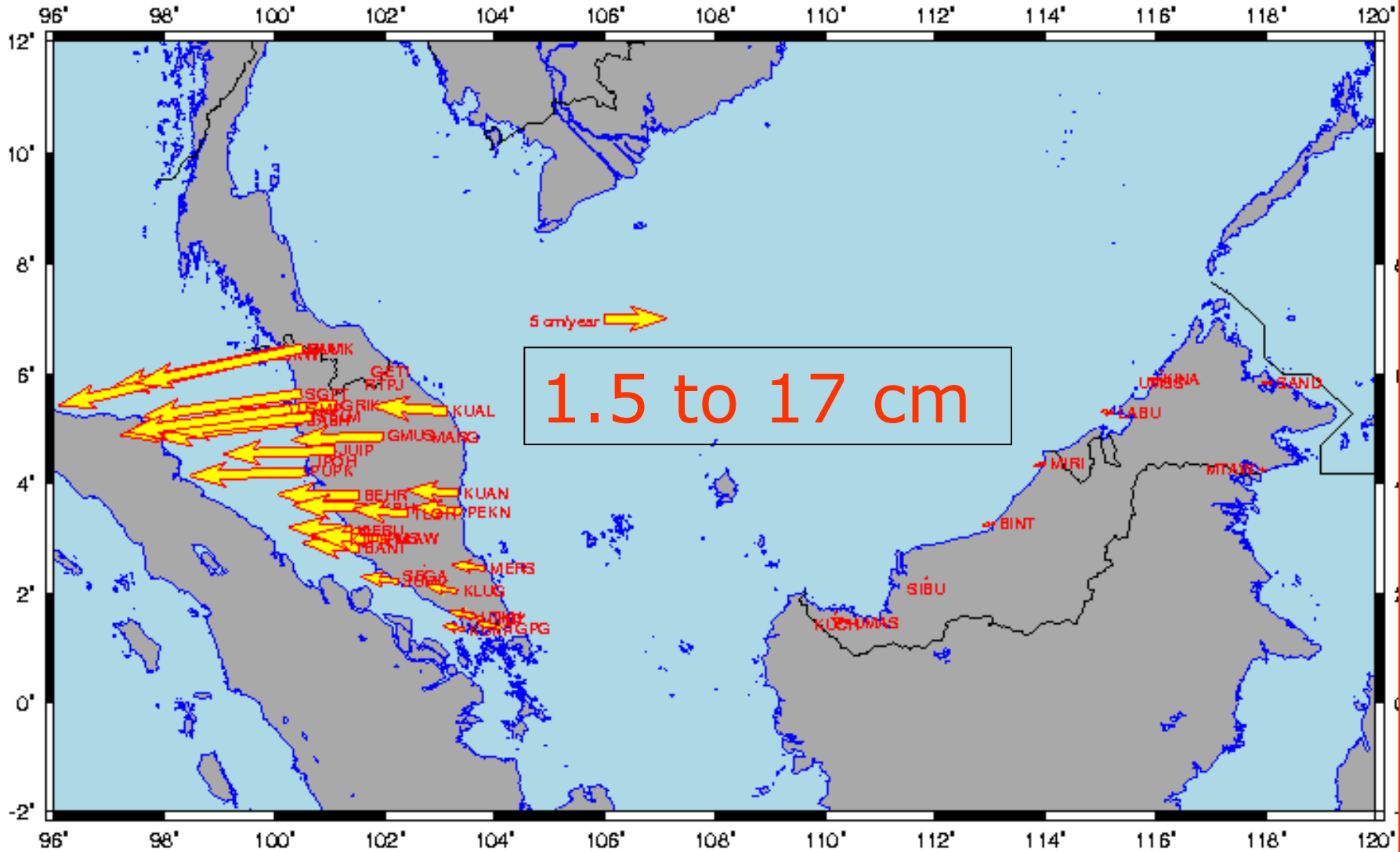
Acheh, 26 Dec 04
9.2 Richter Scale

Nias, 28 Mar 05
8.7 Richter Scale

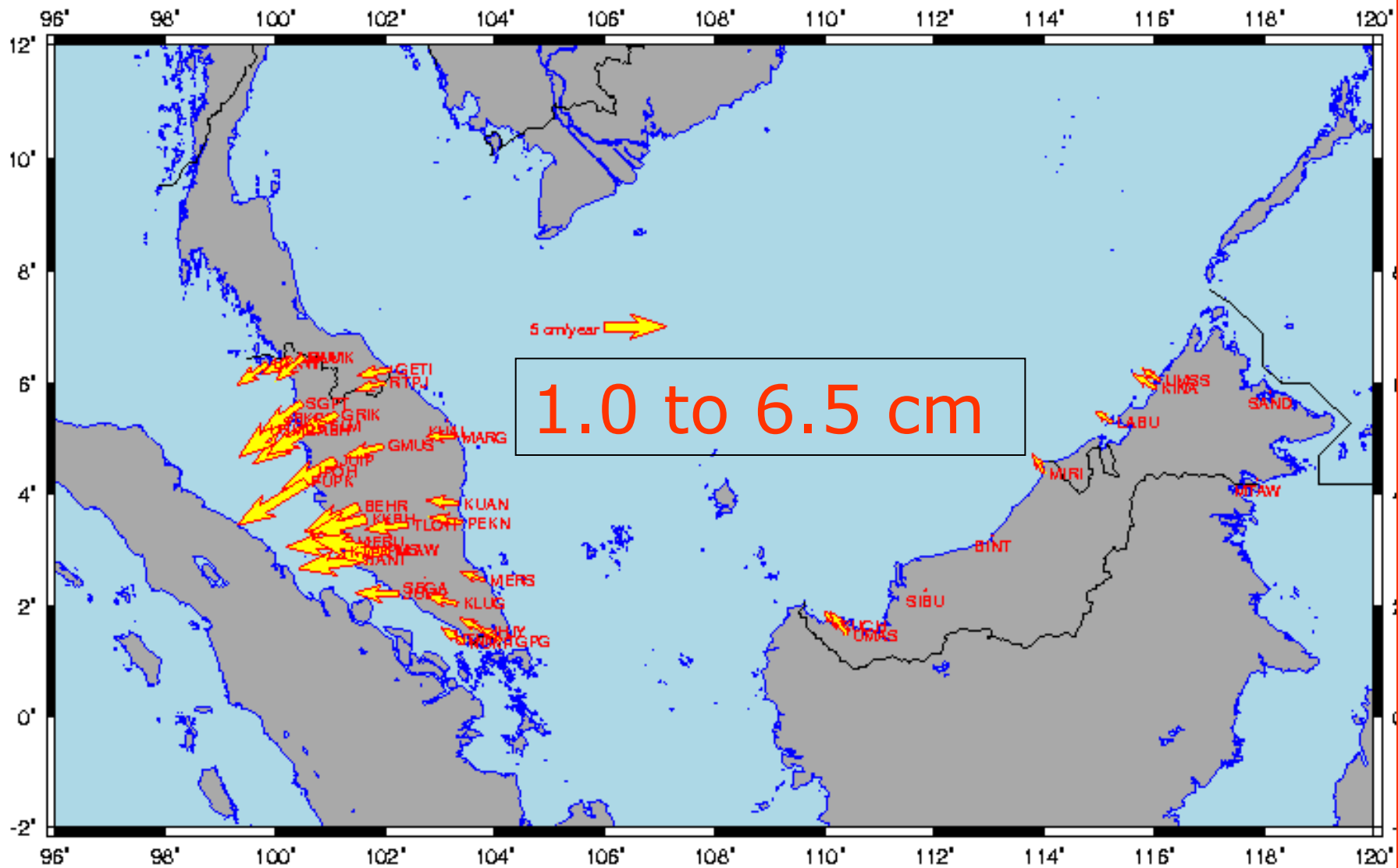
Bengkulu, 12 Sep 07
7.9 Richter Scale



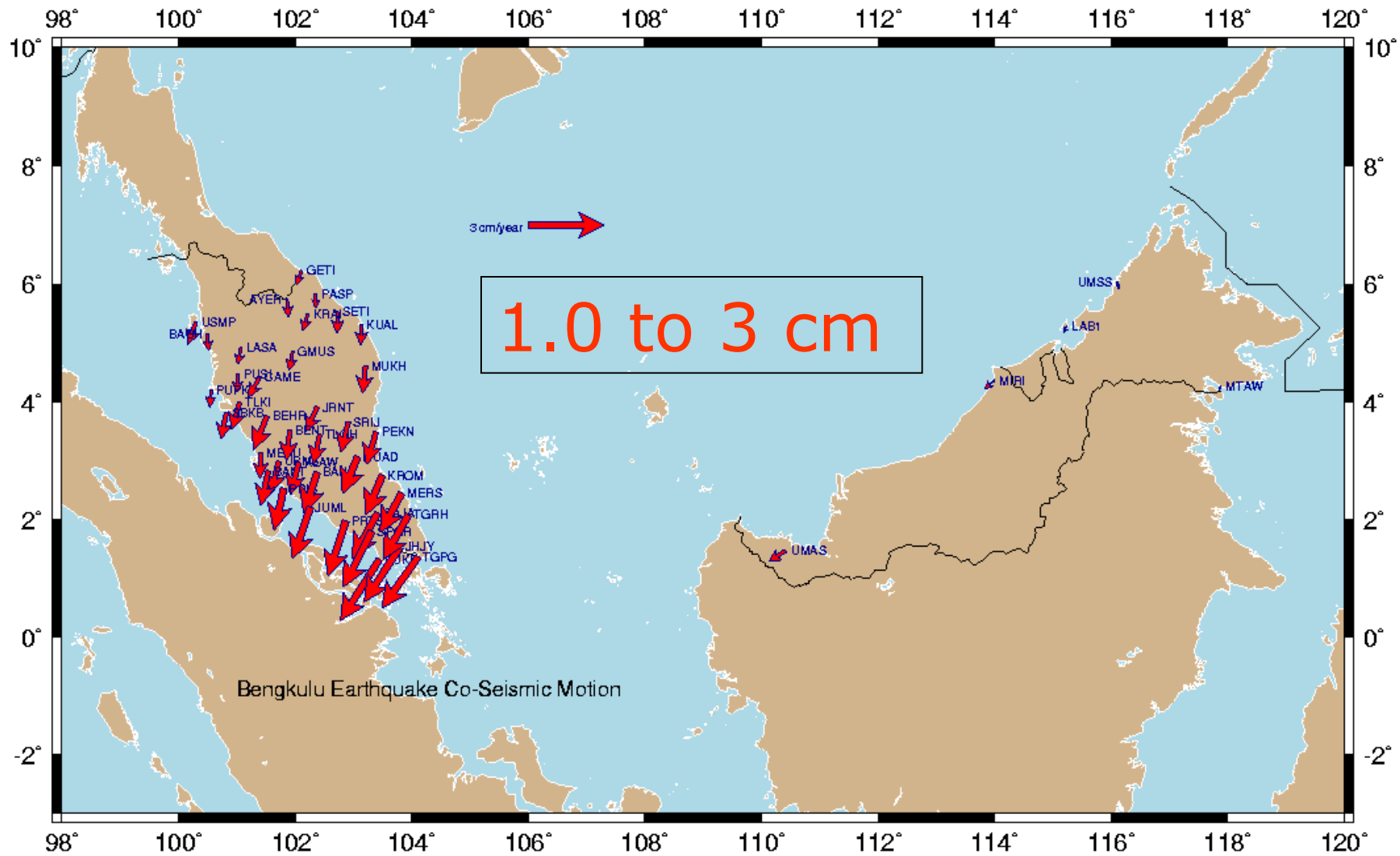
Co-seismic motion during the 26 December 2004 earthquake



Co-seismic motion during the 28 March 2005 earthquake

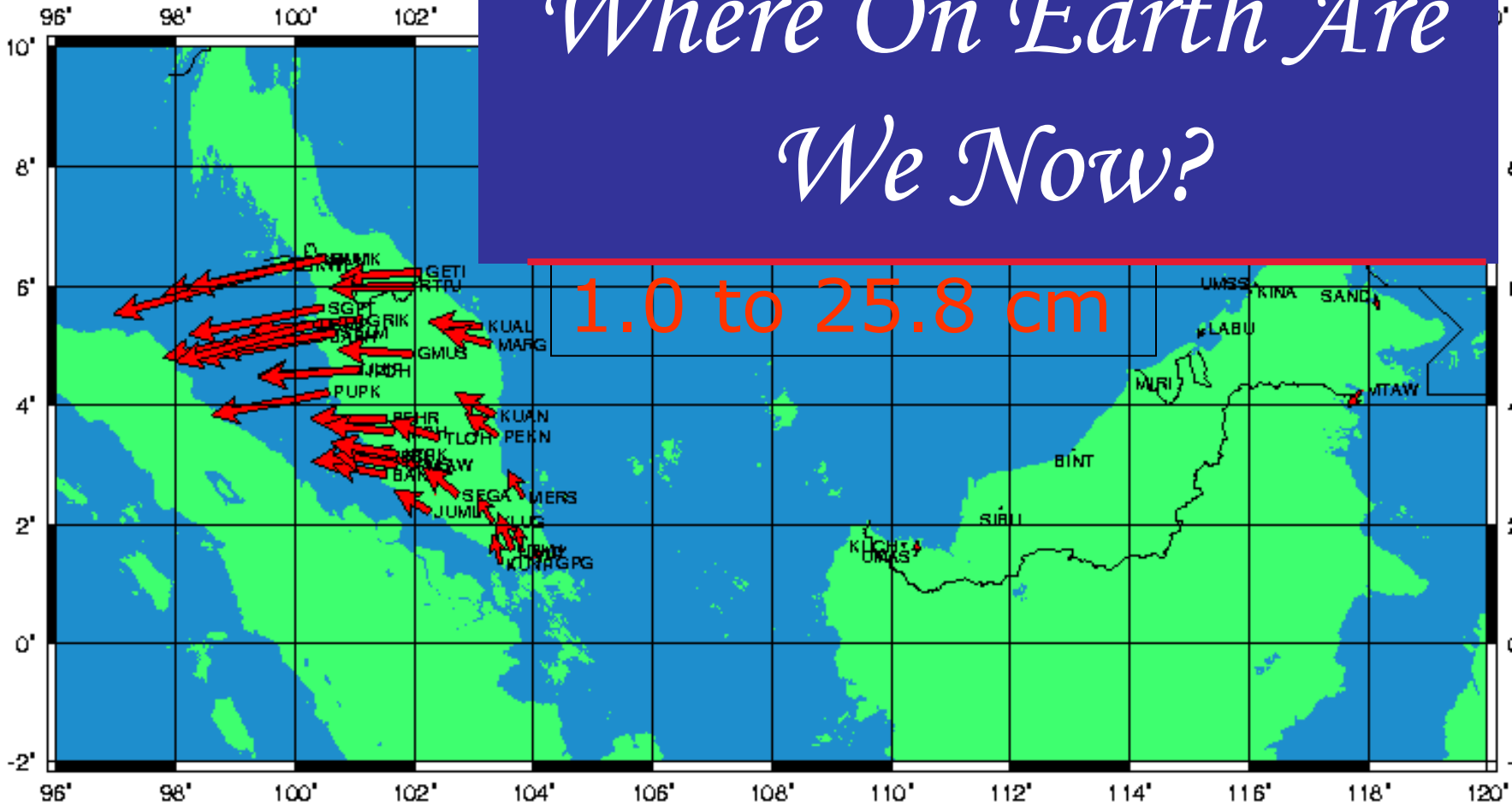


Co-seismic motion during the 12 September 2007 earthquake



Accumulated displacement of MyRTKnet stations (26 December 2004 to 30 April 2009)

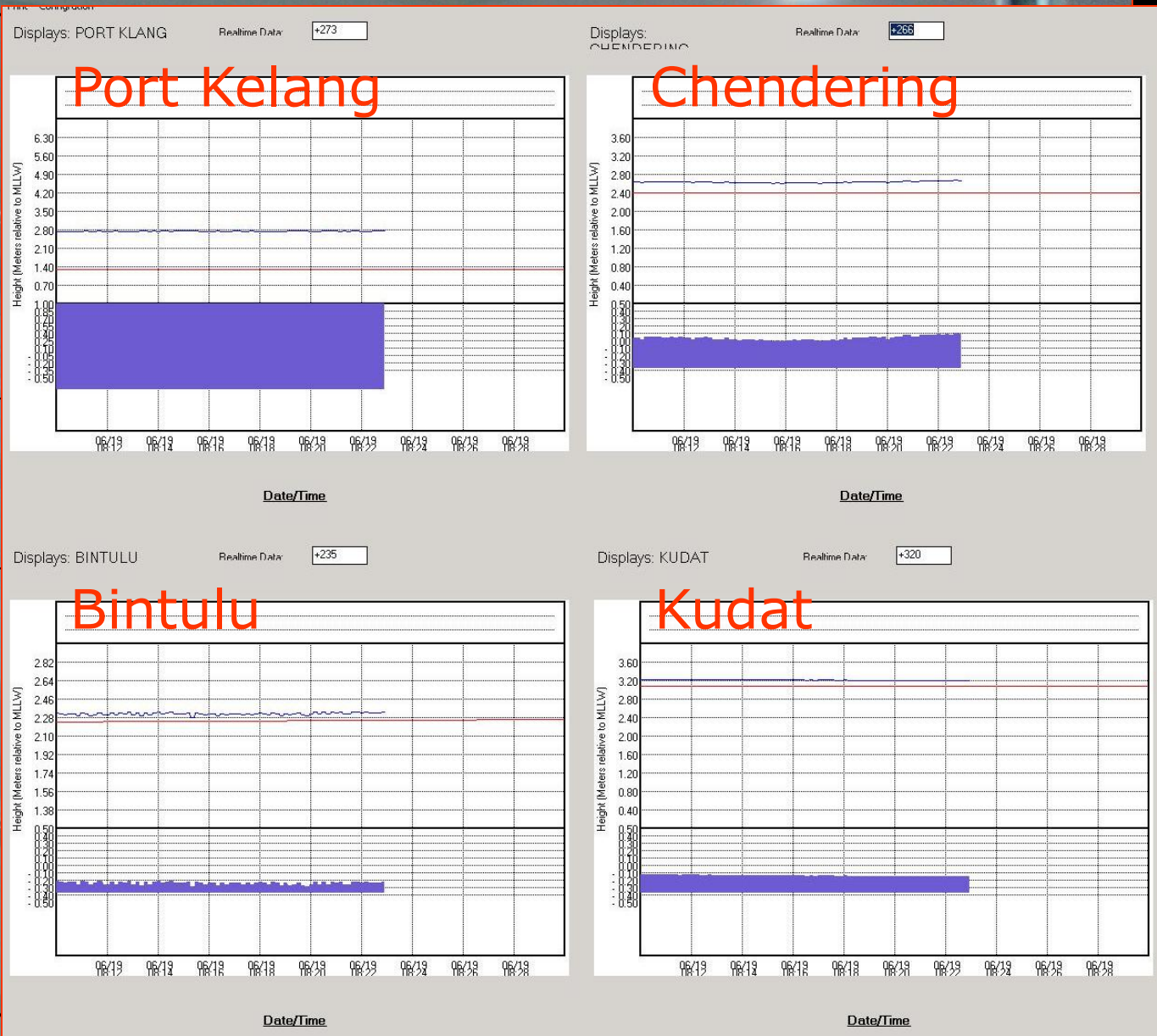
*Where On Earth Are
We Now?*



Conclusion & What's Next?

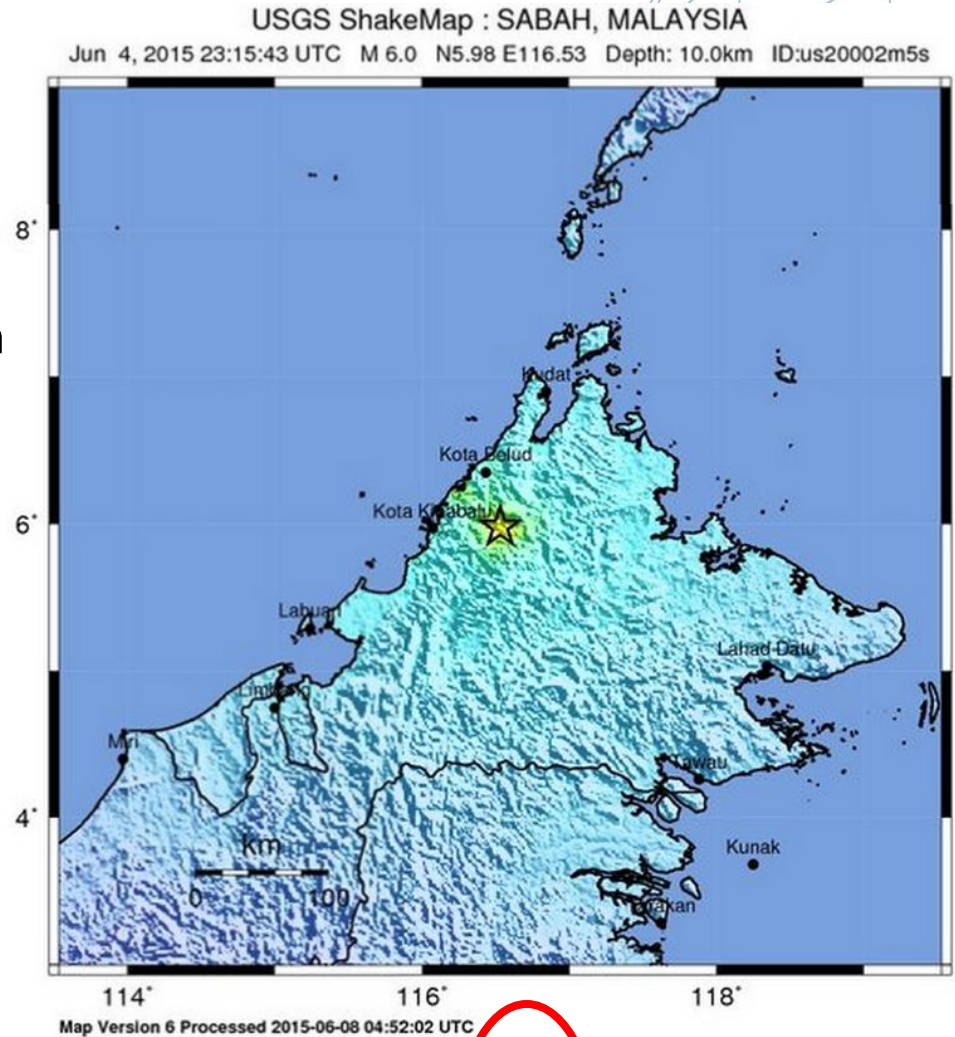
- continuous monitoring of MyRTKnet
- Preparing a roadmap for another revision with an expert (Nov 2015)
- Status of NDCDB?
- sub-Working Groups under the JPDSN
- Bernese Team
- Telemetric link to all tide gauges
- GPS Observational Campaign in Ranau

JUPEM Real Time Sea Level Monitoring Control Centre



EARTHQUAKE IN RANAU, SABAH

- Occurred on 5 June 2015 at 7.15 am (MST)
- At 10km depth, with epicenter at Mt. Kinabalu (15km north of Ranau)
- 30 seconds duration
- Magnitude 5.9 on Richter scale (MetMalaysia) / 6.0 (USGS)



| PERCEIVED SHAKING | Not felt | Weak | Light | Moderate | Strong | Very strong | Severe | Violent | Extreme |
|------------------------|----------|--------|-------|------------|--------|-------------|------------|---------|------------|
| POTENTIAL DAMAGE | none | none | none | Very light | Light | Moderate | Mod./Heavy | Heavy | Very Heavy |
| PEAK ACC.(%g) | <0.05 | 0.3 | 2.8 | 6.2 | 12 | 22 | 40 | 75 | >139 |
| PEAK VEL.(cm/s) | <0.02 | 0.1 | 1.4 | 4.7 | 9.6 | 20 | 41 | 86 | >178 |
| INSTRUMENTAL INTENSITY | I | II-III | IV | V | VI | VII | VIII | IX | X+ |

Kesan Gempa Bumi di Ranau



Kesan Gempa Bumi di Ranau (samb...)



GPS Campaign in Ranau – The Network

Five (5) observation epochs using GPS equipments have been carried out.

a) 19-20 February 2010

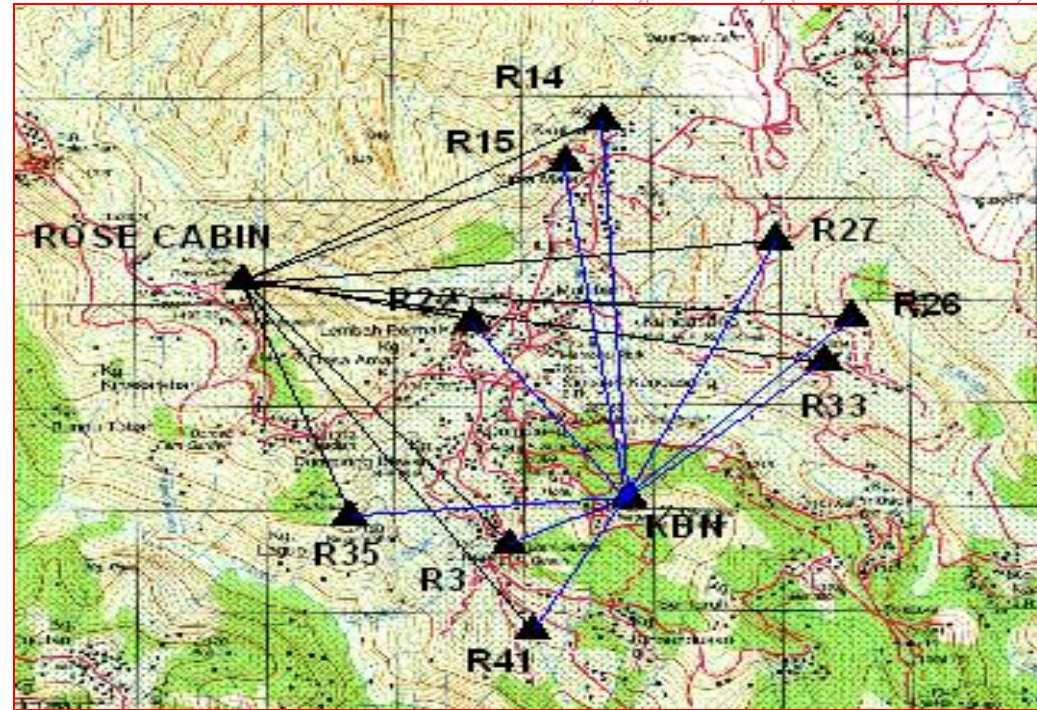
b) 22-23 June 2010

c) 16-22 December 2010

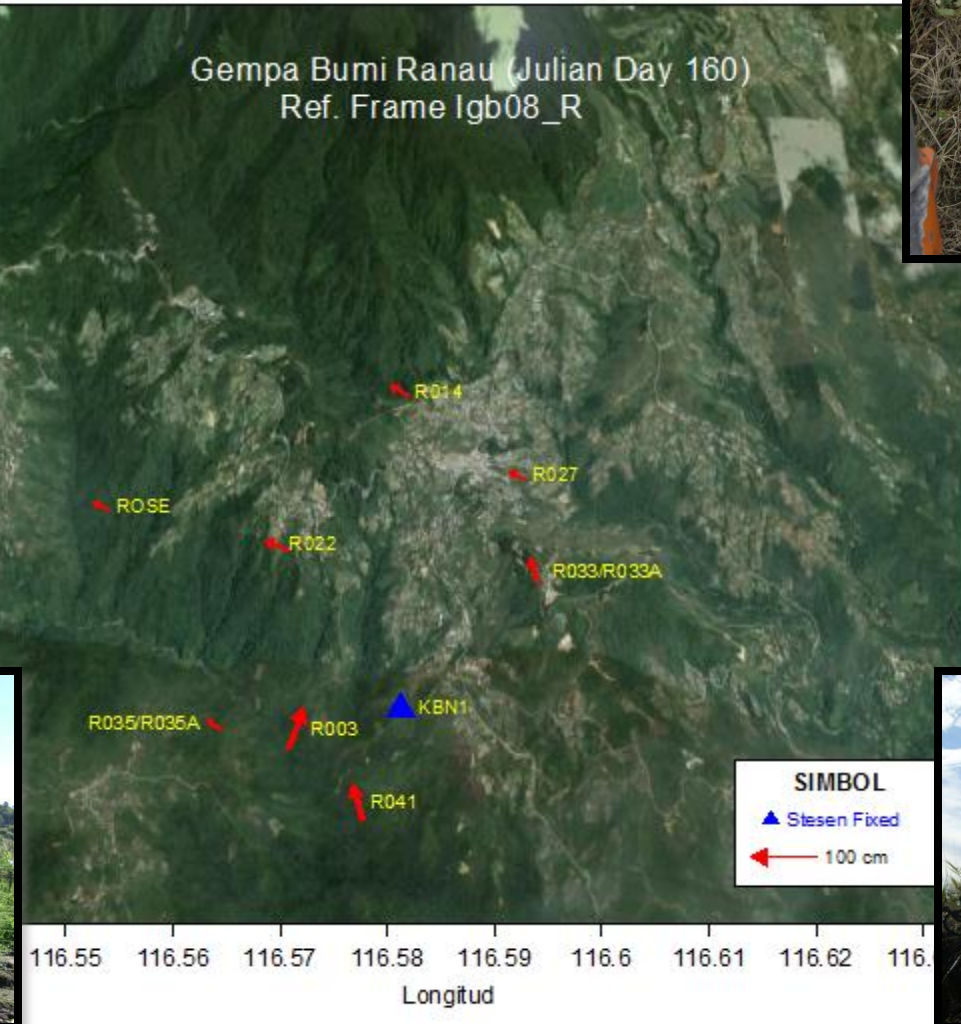
5 June 2015 earthquake

d) 6 – 11 June 2015

e) 6 – 7 July 2015



Magnitude of Station Julian Day 160 (9 June 2015)



Proposing:



UN-GGIM-AP

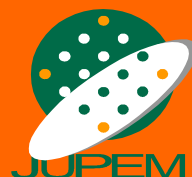
REGIONAL COMMITTEE OF
UNITED NATIONS
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT
FOR ASIA & THE PACIFIC

5th Plenary Meeting,
October 2016,
Malaysia





Terima kasih
Tq 4 yr kn attn



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