



Geo-engineers without Borders GeoWB presentation Vienna, 16 June 2026



*Providing international
geotechnical engineers
all over the world to help
with geo-disasters*

Pierre Delage, Daniela Pollak,
Contributions of B. Caicedo, A. Chraibi, H. Hazarika, J. Kupec, F. Marinho, N. Satyam

*“To show solidarity among the geotechnical engineering community
worldwide by supporting countries affected by geo-disasters.”*

Sagaing bridge, Myanmar, credit photo H. Hazarika

GeoWB started in Sydney (2022), Idea Pdt Marc Ballouz



Astana Council meeting (2023)

- Climate change : More and more frequent geodisasters

Heavy rains

- Landslides, mudflows
- Floods
- Failure of embankments, dams, dykes

- Recurrent disasters

- Earthquakes
- Failure of geotechnical structures
 - Deep excavations
 - Foundations
 - Tunnels
 - Harbour geotechnics: dykes, breakwater, quays

GeoWB membership includes outstanding experts in all these fields

GeoWB missions, 2022 - 2026



Derna dam, Libya, A. Chaibi, Sept. 2023



Multaka landslide, PNG, J. Kupec, May 2024



Heavy rains, Rio Gr. do Sul, F. Marinho, June 2024



Earthquake in Myanmar, H. Hazarika, March 2025



Slope stability in La Paz, B. Caicedo, F. Marinho, May 2025



Rainfall induced disaster in India, N. Satyam, July 2025

GeoWB missions, 2022 - 2026



Derna dam, Libya, A. Chraibi, Sept. 2023



Mulitaka landslide



Heavy rains, Rio Gr. do Sul, F. Marinho, June 2024



Earthquake in Myanmar, H. Hazarika, March 2025



Slope stability in La Paz, B. Caicedo, F. Marinho, May 2025



Rainfall induced disaster in India, N. Satyam, July 2025

Forensic-style diagnosis and prevention-oriented recommendations

Local authorities, institutions and people very grateful with mission teams

Other GeoWB members (total 20)



Daniela Pollak
Chile



Georges Gazetas,
Greece



Will Ibim, Nigeria



Léo Alibert, Lebanon



Lawrence de Leeuw, UK



Engong Liu, China



Ezra Tjung,
USA – Indonesia



Antonio Gens, Spain



Behrouz Gatmiri, Iran



Tugce Baser,
USA - Turkey



Qun Chen, China



Pierre Delage, France



Luciano Picarelli, Italia



Shu Yu, China

Languages: Arabic, Portuguese, Chinese mandarin, English, French, Farsi (Iran), Greek, Indian, Indonesian, Italian, Japanese, Spanish, Turkish.

Other GeoWB members (total 20)



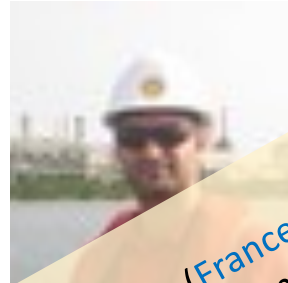
Daniela Pollak
Chile



Georges Gazetas,
Greece



Will Ibe, Nigeria



Sylvie Bretelle, France



Lawrence de Leeuw, UK



Engong Liu, China



Ezra Tjung,
USA – Indonesia



Eduardo Botero-Jaramillo, Mexico



Antonio Gens, Spain



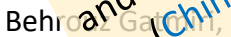
Luciano Picarelli, Italia



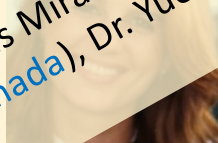
Shu Yu, China



Qun Chen, China



Behrooz Gattani, Iran



Tugce Baser,
USA - Turkey



Pierre Delage, France

Liaison members with Member Societies (12)
 Prof. Eduardo Botero-Jaramillo (Mexico), Eng. Sylvie Bretelle (France), Profs Darren Chian (Singapore) and Sabatino Cuomo (Italy), Dr. Jan Kupec (New Zealand), Profs Anthony Leong (Hong-Kong) and Enlong Liu (China), Dr. Luis Miranda (Portugal), Profs Andrei Olteanu (Romania), Viktor Nosenko (Ukraine) and Kshama Roy (Canada), Dr. Yue Xu (USA).

New MS liaison members still welcome

Languages: Arabic, Portuguese, Chinese mandarin, English, French, Farsi (Iran), Greek, Indian, Indonesian, Italian, Japanese, Spanish, Turkish.

Lessons learned 1.



A structured, volunteer-based mobilisation of geotechnical engineers can, within a reasonable cost:

- complement emergency response
- support recovery and enhance resilience.

Lessons learned 2.



- Need of motivated and efficient **local contacts**
- Need to ensure **safe working conditions** (at least two people in missions)

Lessons learned 2.



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- Need to ensure **safe working conditions** (at least two people in missions)
critical in Libya and PNG, OK in Myanmar



Papua New Guinea, photo J. Kupec

Lessons learned 3. - Slopes



- Rapid, defensible **risk screening** for recovery decisions and prevention-oriented recommendations:
 - field reconnaissance (+ drone, PNG and India).
 - mapping of cracks and slope processes,
 - preliminary mechanism assessment.

to support emergency mitigation and decision-making.

Lessons learned 3. - Slopes



- Rapid, defensible **risk screening** for recovery decisions and prevention-oriented recommendations:
 - field reconnaissance (+ drone for slope instability, PNG and India).
 - mapping of cracks and slope processes,
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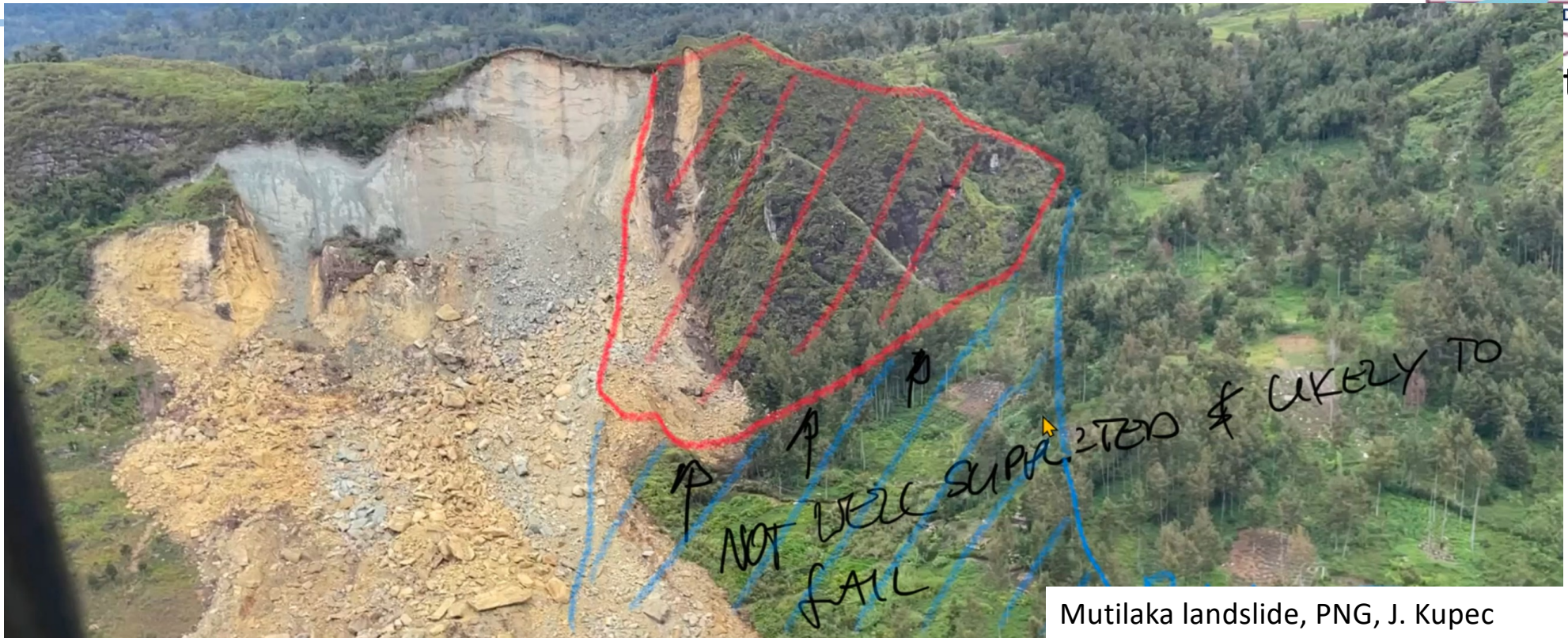
to support emergency mitigation and decision-making.

- enabled **reopening a school** (outside risk zone, Rio Grande do Sul).



Rio Grande do Sul, Brazil, F. Marinho

Lessons learned 3. - Slopes



- safely relocation of displaced people (Papua New Guinea)

Lessons learned 4. – Earthquake



- **Seismic Monitoring** for early warning and hazard assessment
- **Urban microzonation** for liquefaction assessment and site amplification



Myanmar earthquake, H. Hazarika

Lessons learned 4. – Earthquake



- **Seismic Monitoring** for early warning and hazard assessment
- **Urban microzonation** for liquefaction assessment and site amplification
- River embankments: **avoid loose fills**

Lessons learned 4. – Earthquake



- **Seismic Monitoring** for early warning and hazard assessment
- **Urban microzonation** for liquefaction assessment and site amplification
- River embankments: **avoid loose fills**
- **Revise standards** structural (building collapse) and geotechnical (poor water lowering)

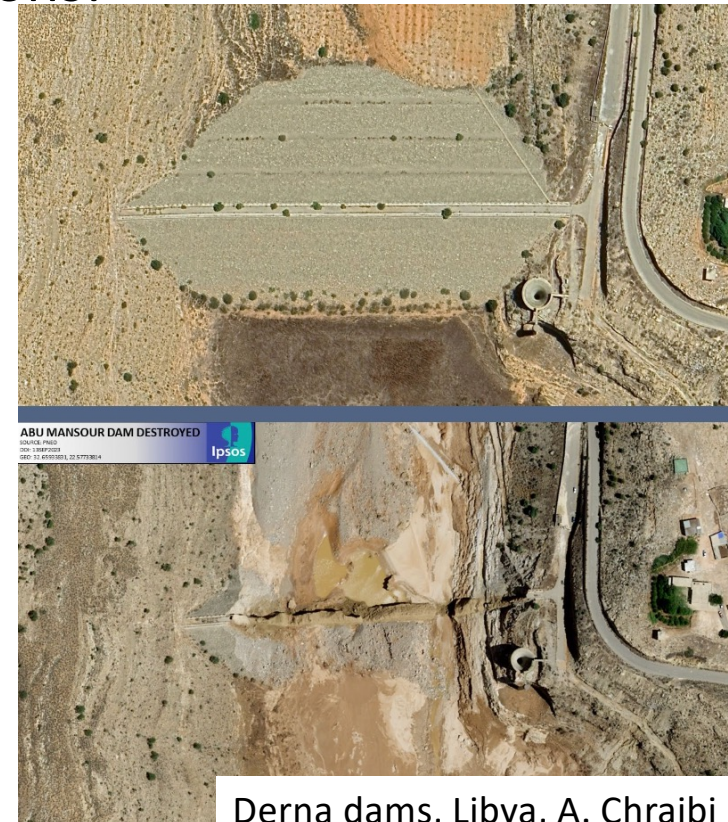


Myanmar Earthquake, H. Hazarika

Lessons learned 5. – Dams



- Assessment based on design and monitoring documentation supported causal interpretation and remedial recommendations:
 - **poor maintenance**
 - **improved design floods**
 - **reliable foundations**



Derna dams, Libya, A. Chraibi

Other activities 1.



- Contacts with other similar organisations
 - **UNDRR**: voluntary commitment
 - **RedR UK**: *“Enable disaster response through learning and development”*
 - **GEER – USA** (D. Frost): *Geotechnical Extreme Events Reconnaissance: “Turn disasters into knowledge”*
 - **Technical Oversight Committee** (M. Sanchez)
 - **TC 302 – Forensic** (D. Frost)
 - **LARAM School** (*LAndslide Risk Assessment and Mitigation* - S. Cuomo)

Other activities 2.



- GeoWB Panel (Panamerican Conference, Chile 2024)
- Regular on-line meetings
 - To discuss GeoWB activities and orientation
 - To present missions recently carried out
- In person meeting in Vienna:

Wednesday 17 June, room L1, 16h15 – 17h45

Perspective



- To organise in-person educational workshops for local stakeholders and authorities
 - Contacts with the **Philippines Member Society** and **SEAGS**

Roy Luna and Marc Zarko (in Vienna)

- Rain-induced landslides

support of LARAM School, Prof. S. Cuomo, liaison member, Italy

- Earthquakes

T. Baser, G. Gazetas, B. Gatmiri, H. Hazarika



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T. Baser, G. Gazetas, B. Gatmiri, H. Haz



Earthquake (7.8) in Southern Philippines, Monday 8 June 2026

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T. Baser, G. Gazetas, B. Gatmiri, H. Hazarika
 - Project in **South America**, rain induced landslides in tropical soils
F. Marinho, B. Caicedo + experience in Hong-Kong (liaison member Prof. A. Leong)

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 - Rain-induced landslides in tropical soils
 - *support of Prof. S. Carnio, liaison member, Italy*
 - Earthquakes
 - *T. Baser, G. Gazetas, B. Gatmiri, H. Hazarika*
- Project in **South America**, rain induced landslides in tropical soils
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« We have to be patient: GeoWB needs time to be well known and fully mobilised to help in geodisasters all over the world »
prof. G. Gazetas, GeoWB member

Social media



in Buscar

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SIMSG ISSMGE
GeoWB

ISSMGE Geo-engineers Without Borders

GeoWB aims to offer their global competence to countries that have experienced a natural disaster
Ingeniería civil · 52 seguidores

Dimitrios y 7 contactos más siguen esta página

Enviar mensaje Siguiendo

Inicio **Acerca de** Publicaciones



GeoWB paper to Vienna Conference



Extreme Climate Disaster Management: The Role of Voluntary Actions in Response, Recovery, Risk Assessment and Preventive Planning

Pierre Delage, Ahmed Chraïbi, Jan Kupec, Fernando Marinho, Daniela Pollak and Marc Ballouz



Thank you for your attention



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all over the world to help
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Sagaing bridge, Myanmar, credit photo H. Hazarika