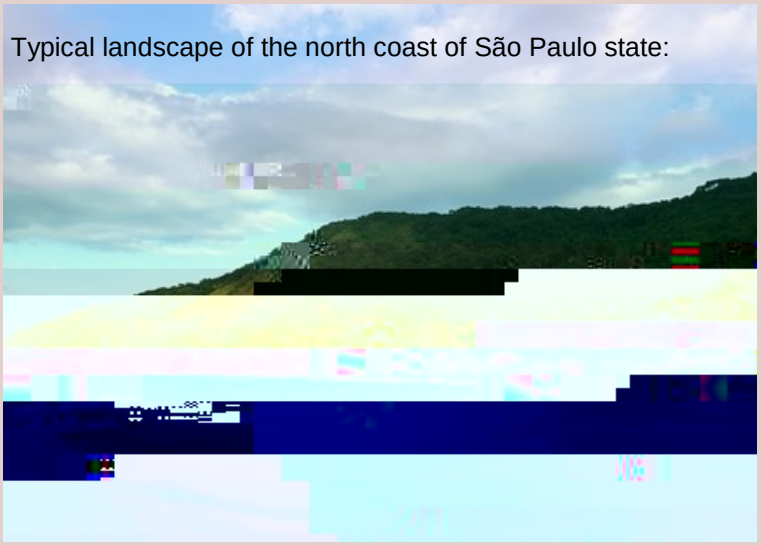
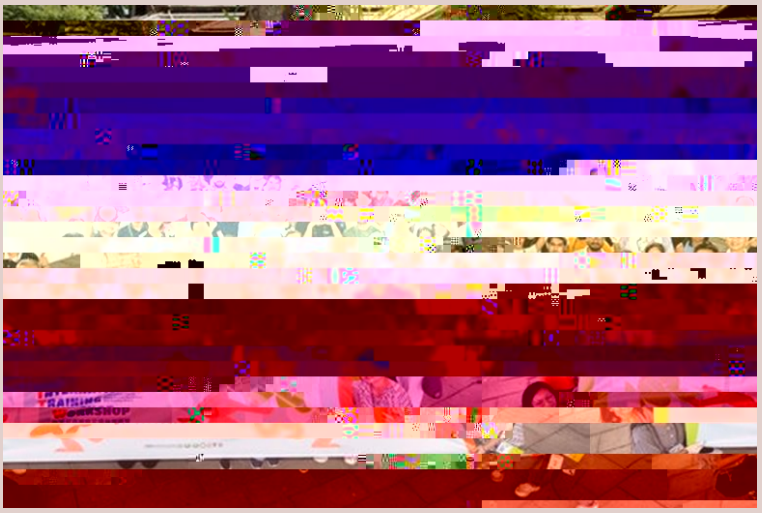
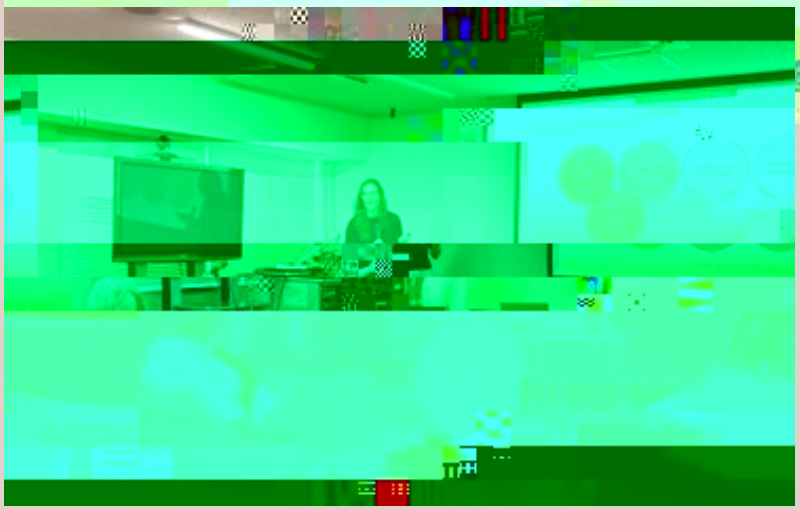


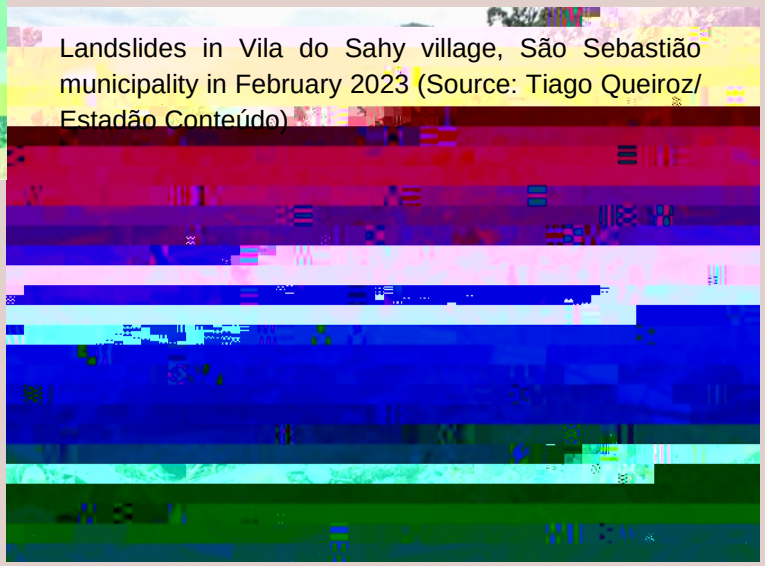
Typical landscape of the north coast of São Paulo state:

GADRI ACTIONS

Summer 2023
Volume — Number 1







Landslides in Vila do Sahy village, São Sebastião municipality in February 2023 (Source: Tiago Queiroz/ Estadão Conteúdo)

Contents

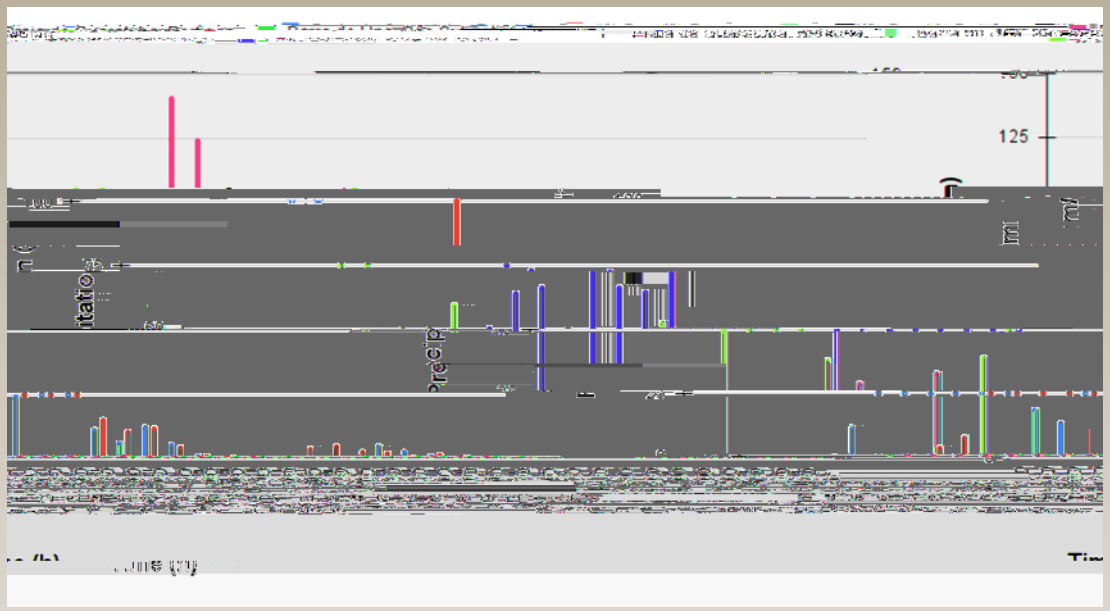
Souza et al. (2018) demonstrated that a slope distribution of the north coast is 20.33% (< 2%), 3.29% (2-5%), 19.14% (5-15%), 42.57% (15-30%) and 14.68% (> 30%). Their report on a slope distribution of the region clearly indicates that there are very few flat or safe areas in this region. At such flat or safe areas, wealthy hotels and exclusive residential areas have been constructed. On the other hand, though many of the hillslopes that occupy most of the region are covered with Atlantic Forest which is legally protected, some of them are illegally occupied by a lot of houses.

The Atlantic forest is especially prone to landslides because the soil layer is not so deep and the rocks commonly have fractures. The region, at the same time, encompasses most of the larger Brazilian cities and tourist centers, where landslides disasters have been concentrated in recent years. Figure 3 shows municipalities with records of deaths due

With the construction of the Brazil's Route BR-101 between Bertioga and São Sebastião municipalities (Figure 1), the local communities living just near the sea were displaced by force, and the beaches were occupied by closed subdivisions (an illegal urban plan at that time) aimed at the implementation of summer houses for the very high-income population. The poor population, whether former local communities or those who came to work for construction, had to occupy the foothills of the mountains, the areas geologically formed by the accumulation of soil and rocks caused by landslides. Therefore, such areas could be affected by

As with any natural disaster, there are many factors involved in this disaster. However, here are three key points that seem decisive, being that one is related to natural phenomena and the other two are social issues.

Figure 7 demonstrates hyetographs obtained at two rainfall gauge stations: Praia de Guartuba (Bertioga municipality) and Barra do Una (São Sebastião municipality) which are both maintained by the Brazilian Center for Monitoring and Early Warnings of Natural Disasters (*Centro Nacional de Monitoramento e Alertas de Desastres Naturais* – CEMADEN). It was observed that in Bertioga, an extremely intense rainfall event occurred with 273 mm in 2 hours and 25 mm in 10 minutes on February 18th at night. On the same day overnight, Bertioga received more than 400 mm of rain for 6 hours.



– Hyetographs obtained at two rainfall gauge stations: Praia de Guartuba (Bertioga municipality) and Barra do Una (São Sebastião municipality) from February 18th 13:00 to 19th 23:00.

If only this rainfall factor is observed, the present disaster can be easily considered purely natural-hazard-induced disaster i.e., natural disaster However, we need to see other factors which attributes to a local society.

On the 19th (Sunday), at 2:00 am, the rain

The occupation is irregular because it is located within an environmental protection area. This village is a "frozen" area, i.e., where new land-occupations are prohibited. The freezing took place in 2009. However, expansion of the area (village) continues even today.

– Very simple houses destroyed by landslide in Vila do Sahy village, São Sebastião municipality in February 2023 (Source: Rovena Rosa/ Agência Brasil)

Schmidt (2023) reported that the City Hall of São Sebastião has received at least four warnings ńchmid ʿ Hallف h l’ ʿ

Finally, as the forth warning, in 2022, the Housing and Urban Development Company of the State of São Paulo (*Companhia de Desenvolvimento Habitacional e Urbano do Est o*

These states and local governments often lack real-world experience and are unable to act appropriately in an emergency. This strongly underlines the urgent need for simulated behavioral training and risk management awareness rising at the local and state government level.

Dr. Kaushal Keraminiyage, Associate Professor, Centre for Disaster Resilience, School of Science Engineering and

During her visit to the Disaster Prevention Research Institute (DPRI), Kyoto University, Uji Campus, Kyoto, Japan, Dr. Caroline Gevaert, Assistant Professor, Faculty of Geo-Information Science and Earth Observation (ITC), University of Twente, Netherlands, delivered a lecture to the students and faculty of DPRI on 5 October 2023.

Dr. Gevaert was introduced to DPRI by Prof. Charles Scawthorn. Both, Prof. Scawthorn and Dr. Gevaert were attending the Science and Technology in Society (STS Forum held at the Kyoto International Conference Center from 1 to 3 October 2023.

: The Digital Earth Partnership aims to enhance the resilience of vulnerable countries and communities to climate change and natural hazard disasters through greater access to and adoption of frontier earth observation tools & services. Climate resilient development is especially reliant on stakeholders' abilities to use accurate and timely information about our changing climate, environment and livelihoods, for risk aware insights and risk reduction actions. Through knowledge building and partnership developmck

In the meantime, the College of Civil Engineering, Tongji University and Elsevier invited everyone to join their free Resilient Cities and Structures (RCS) Webinar Series. Each talk organized was associated with an RCS journal paper (or within the journal's scope) which includes fundamental research, innovative technologies, and engineering applications in resilient cities, infrastructure, structures, and resilience based management by an eminent scholar selected by the editorial board.

The eminent professor was no other than Prof.

is the Harold H. Short Endowed Chair Professor in the Department of Civil and Environmental Engineering at Colorado State University. Over the last two decades van de Lindt s research program has focused on performance-based engineering and test bed applications of buildings and other systems for earthquakes, hurricanes, tsunamis, tornadoes and floods. He has led data collection efforts following hurricanes, earthquakes, floods, and tornadoes with the most recent being the December 2021 Midwest tornado outbreak. Professor van de Lindt is the Co-director for the National Institute of Standards and Technology-funded Center of Excellence (COE) for Risk-Based Community Resilience Planning headquartered at Colorado State University in its ninth year. A major portion of the COE is to develop a computational platform IN-CORE to enable communities to measure their resilience to natural hazards. He serves as the Past Chair of the Executive Committee for the American Society of Civil Engineer s (ASCE) Infrastructure Resilience Division, current Chair of the ASCE Technical Administrative Committee of the Structural Engineering Institute and has published more than 450 technical articles and reports, including 230 journal articles. He currently serves on a number of journal editorial boards including Resilient Cities and Structures, and is the Editor-in-Chief for the ASCE Journal of Structural Engineering.

NCDR resumed the flagship International Training Workshop on Humanitarian Assistance and Disaster Relief (HADR) for Raising Youth Leadership this year. NCDR,

Courtesy Visit by the Croatian Centre for Earthquake Engineering, University of Zagreb

A delegation headed by Prof. Josip Atalic, Head of HCPI, Associate Professo Ì

Dr. Sachiko Kanbara and her Team at the Kobe City University of Nursing joined the GADRI Community.

The Kobe City University of Nursing opened in April 1996, and the Kobe City University of Nursing Graduate School opened in April 2000, both to train nursing professionals with advanced clinical skills and educators, researchers, and administrators, and to further promote nursing research. The School of Nursing encompasses the areas of basic nursing, disaster nursing, and global nursing. The undergraduate curriculum includes courses such as "Disaster Prevention" and "Disaster Nursing I & II." The Graduate School of Nursing offers a "Certified Nursing Specialist Course in Disaster Nursing" within its master's program and a "Global Health and Disaster Nursing" course as part of its doctoral program.

Our research interest primarily lies in the domain of Disaster Nursing and Global Nursing, pivotal components within the Fundamental Nursing Science Field. We endeavor to cultivate a multifaceted approach in our research and educational programs, focusing on disasters and global health challenges to induce transformative advancements in nursing practices.

Visit the website for further details:

Planning and Development Research Foundation, Inc., University of the Philippines, Diliman, Quezon City, Philippines

It includes mainstreaming Disaster Risk Reduction (DRR) and Climate Change Adaptation and Mitigation (CCAM) in policy formulation; Institutional development, urban and rural land-use and development planning; and public infrastructure and housing among othersO l'

Established in 2006, Republic of Korea's first Crisisonomy specialized research institute:

- Conducting research for the academic advancement and providing education for the training of experts of Crisisonomy
- Collaborates and cooperates with central government agencies, local government, research institutions, and NGOs to develop policies and provide consulting services related to Crisisonomy