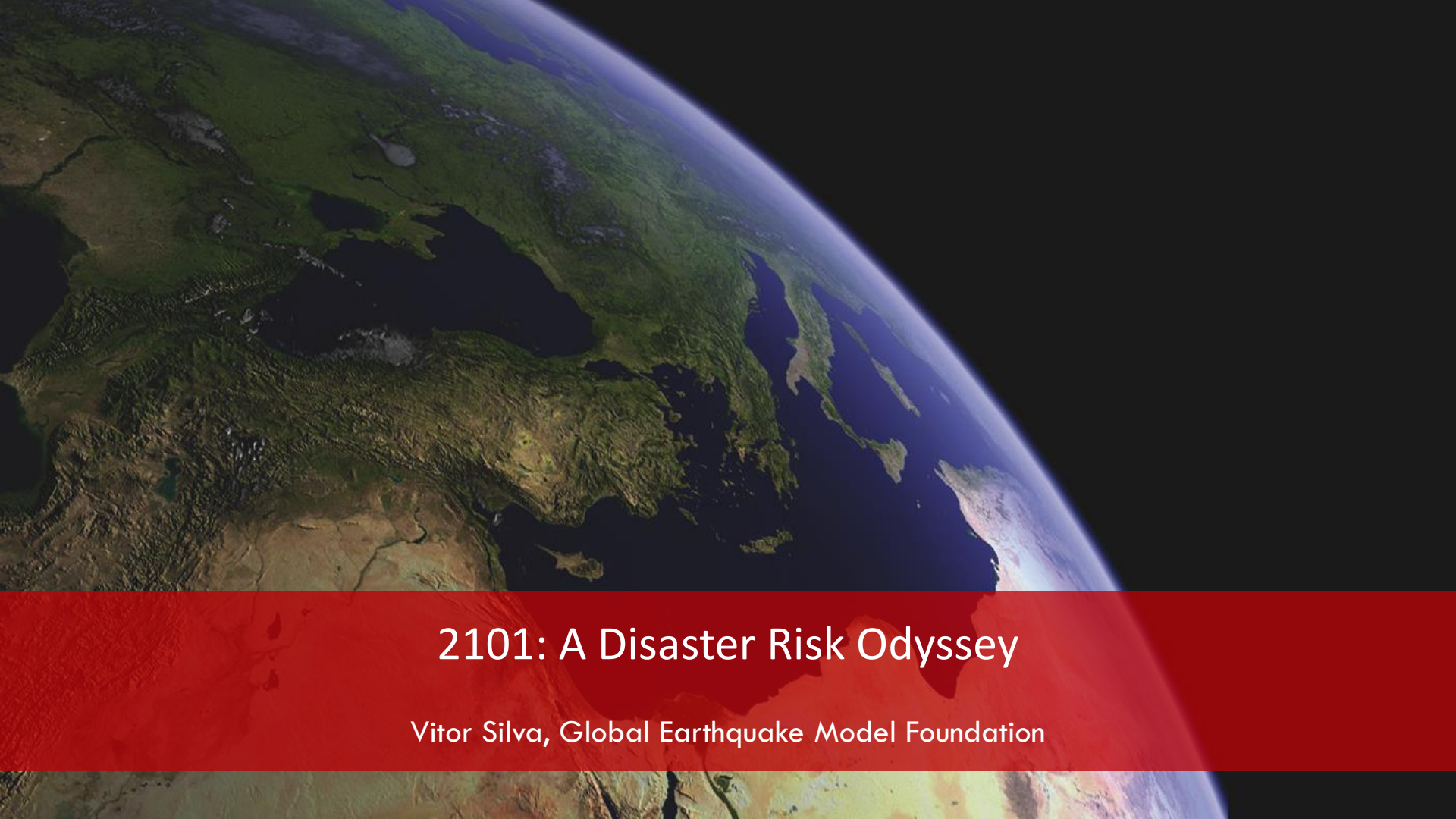


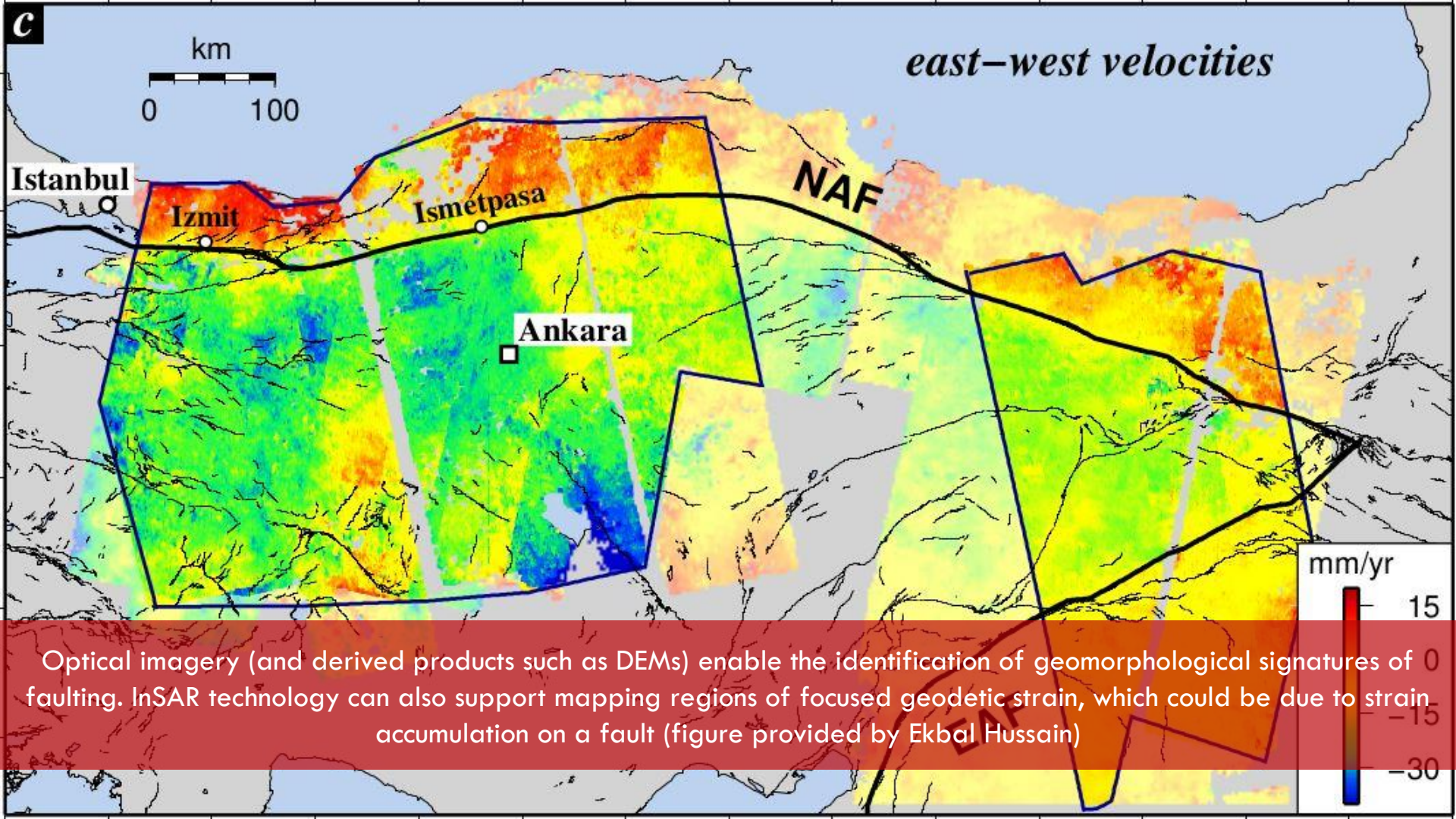
2101: A Disaster Risk Odyssey

Vitor Silva, Global Earthquake Model Foundation

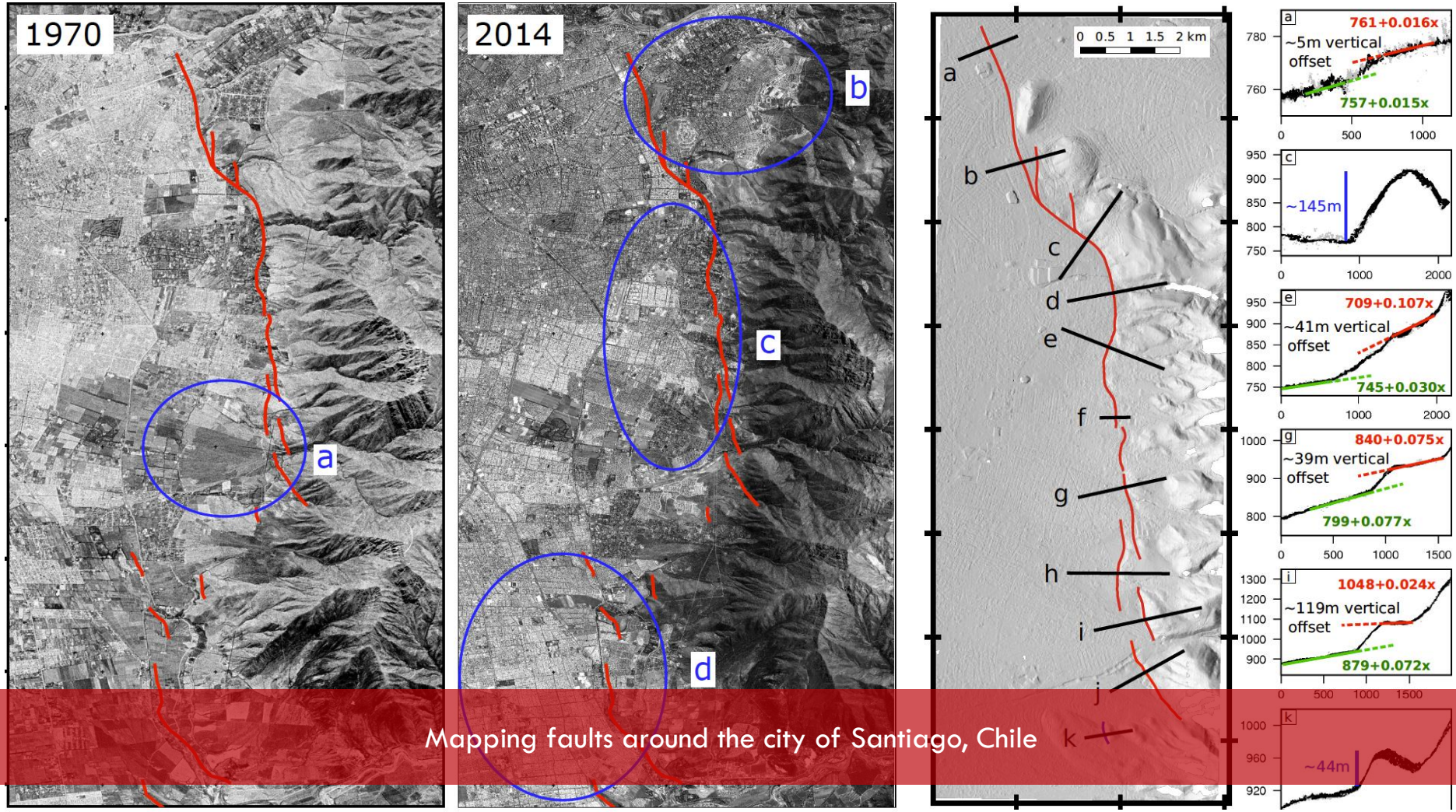
Hazard

Exposure

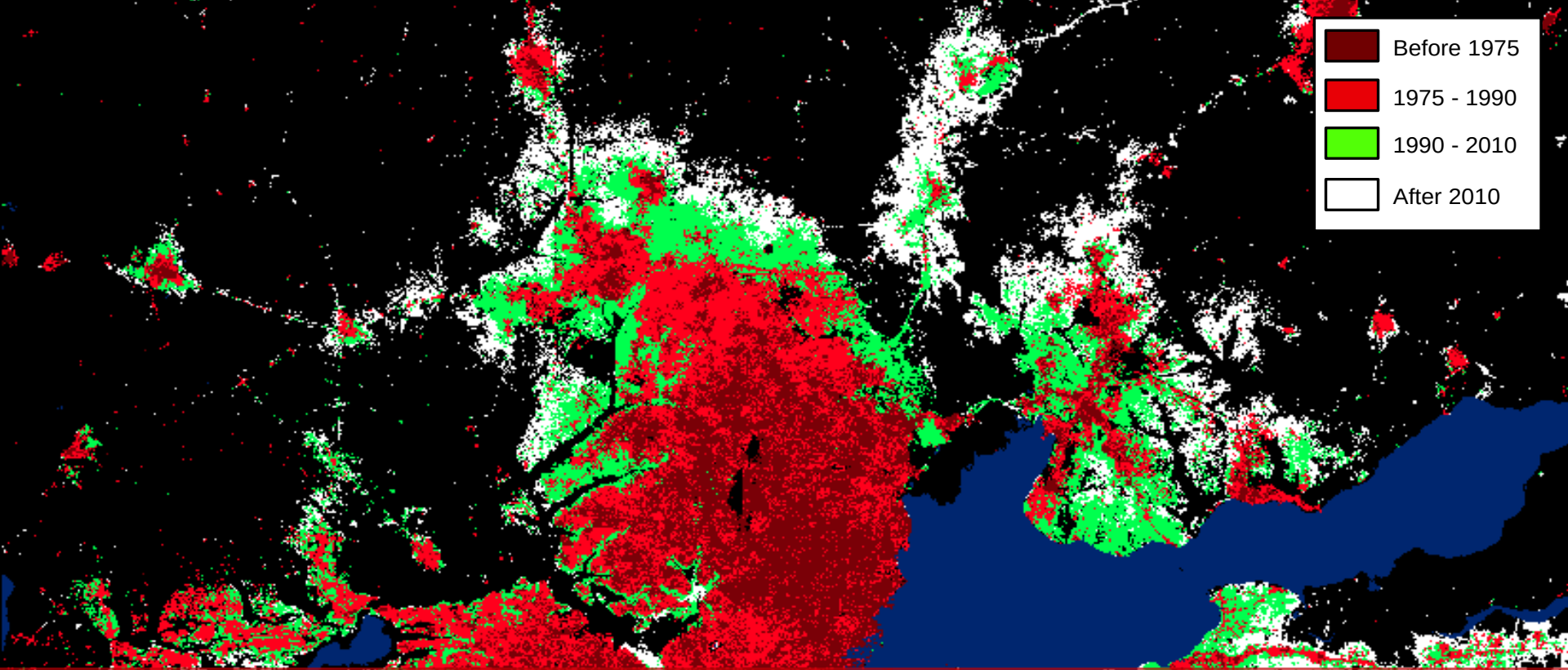
Vulnerability



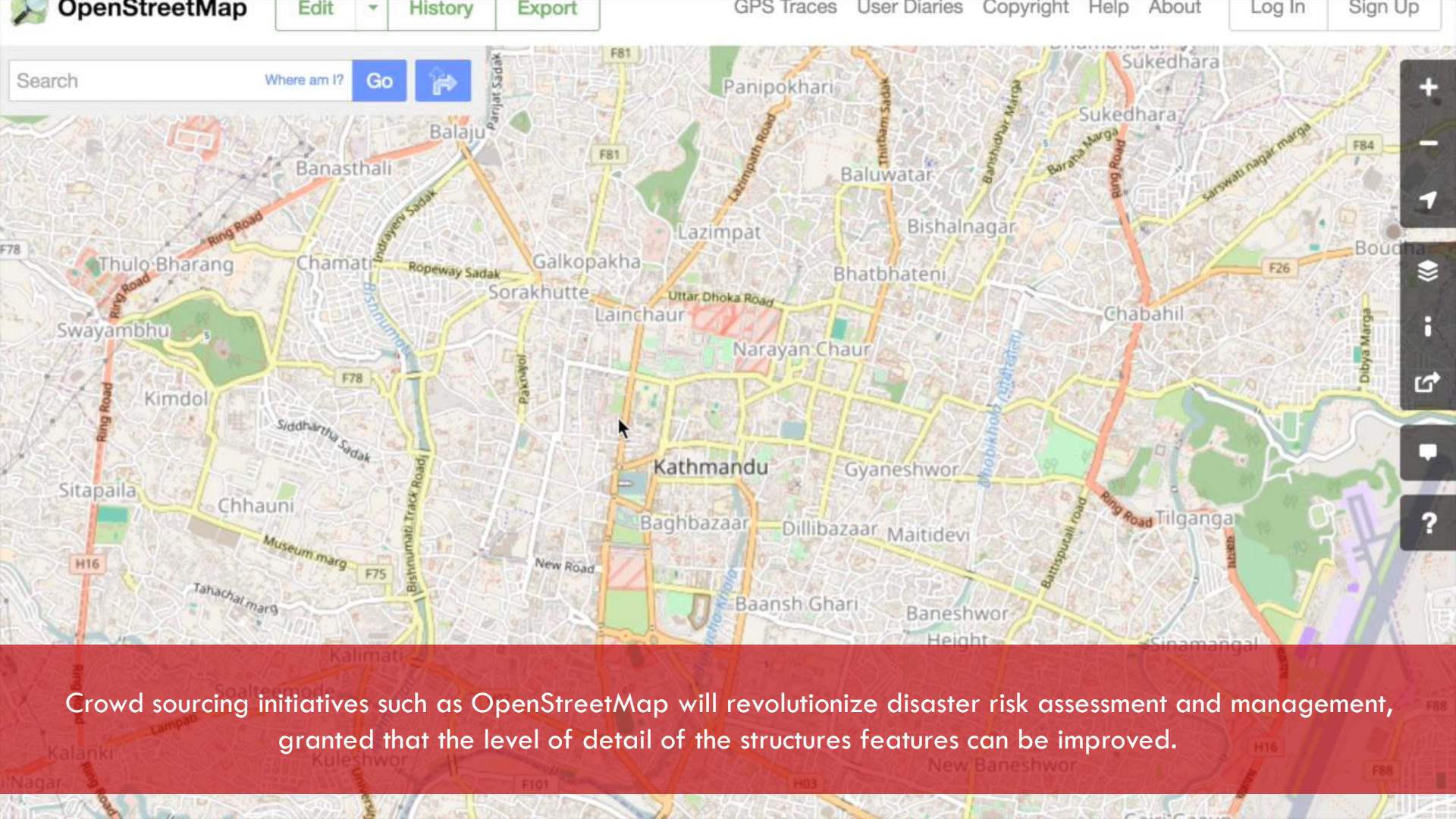
Optical imagery (and derived products such as DEMs) enable the identification of geomorphological signatures of faulting. InSAR technology can also support mapping regions of focused geodetic strain, which could be due to strain accumulation on a fault (figure provided by Ekbal Hussain)



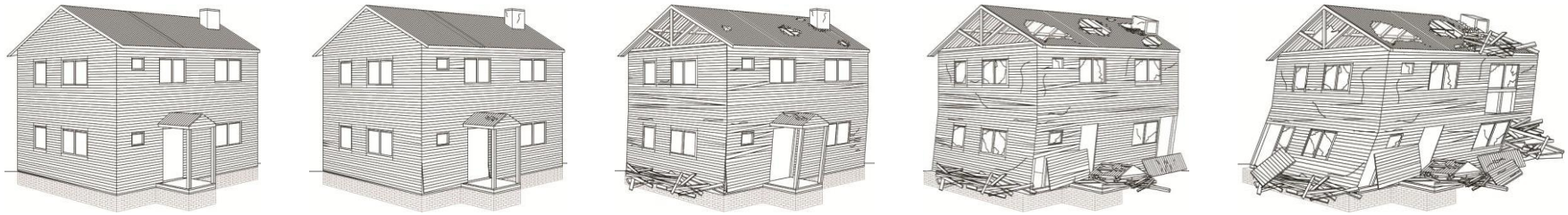
Mapping faults around the city of Santiago, Chile



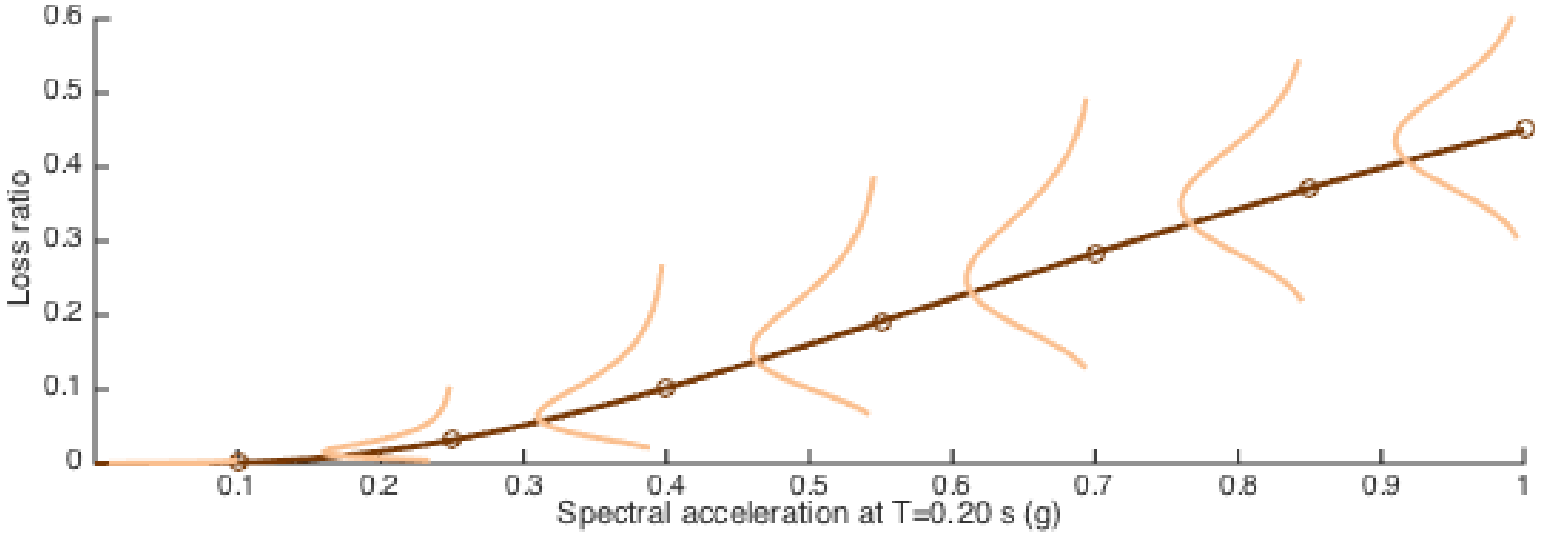
Recently released satellite data provides urban footprints according to the vintage. It can support the development of new exposure datasets, or the improvement of the spatial resolution of existing datasets.



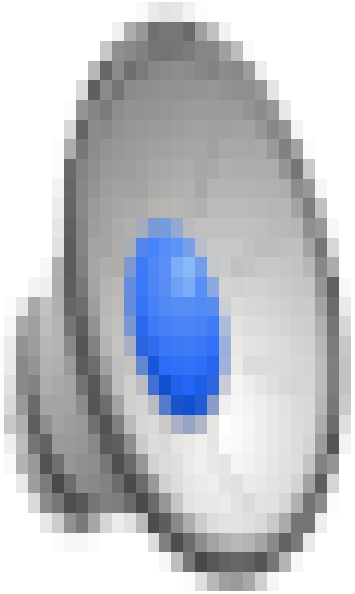
Crowd sourcing initiatives such as OpenStreetMap will revolutionize disaster risk assessment and management, granted that the level of detail of the structures features can be improved.

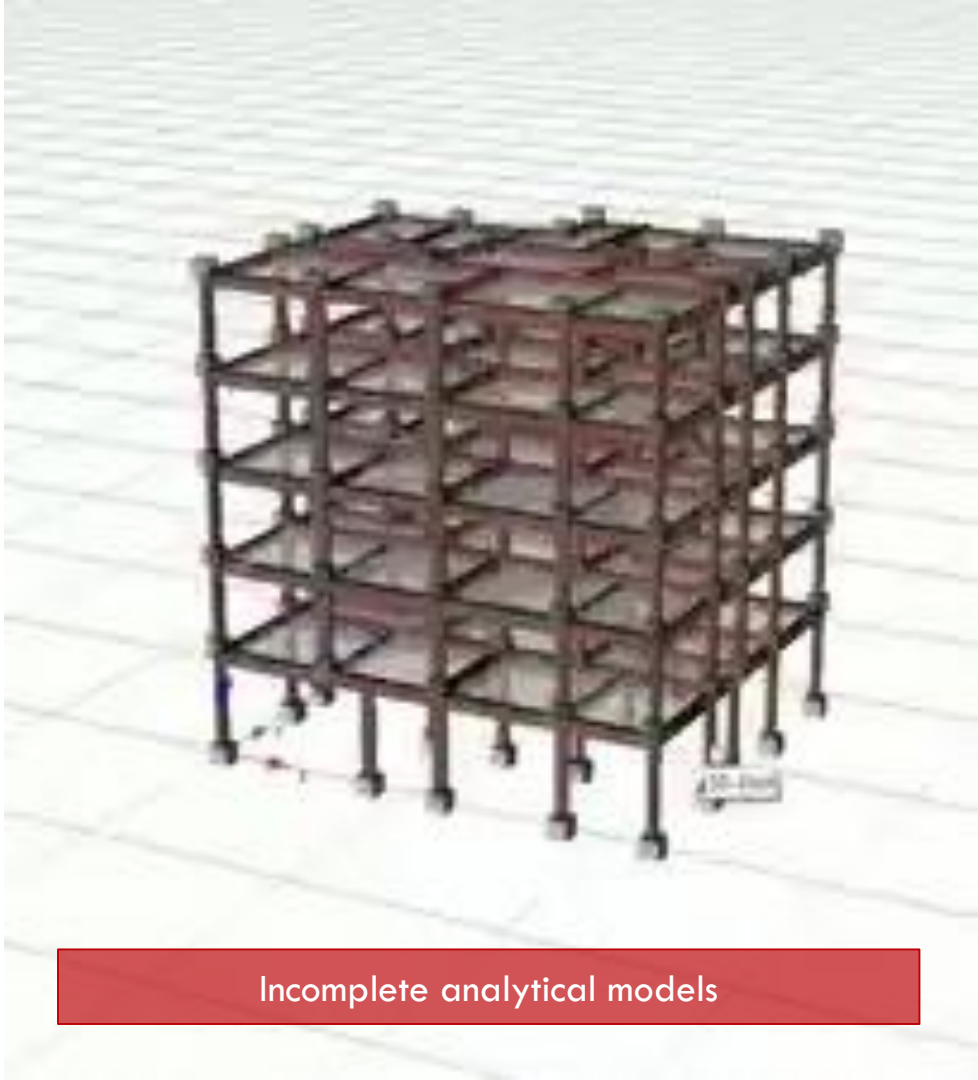


Hazard Intensity

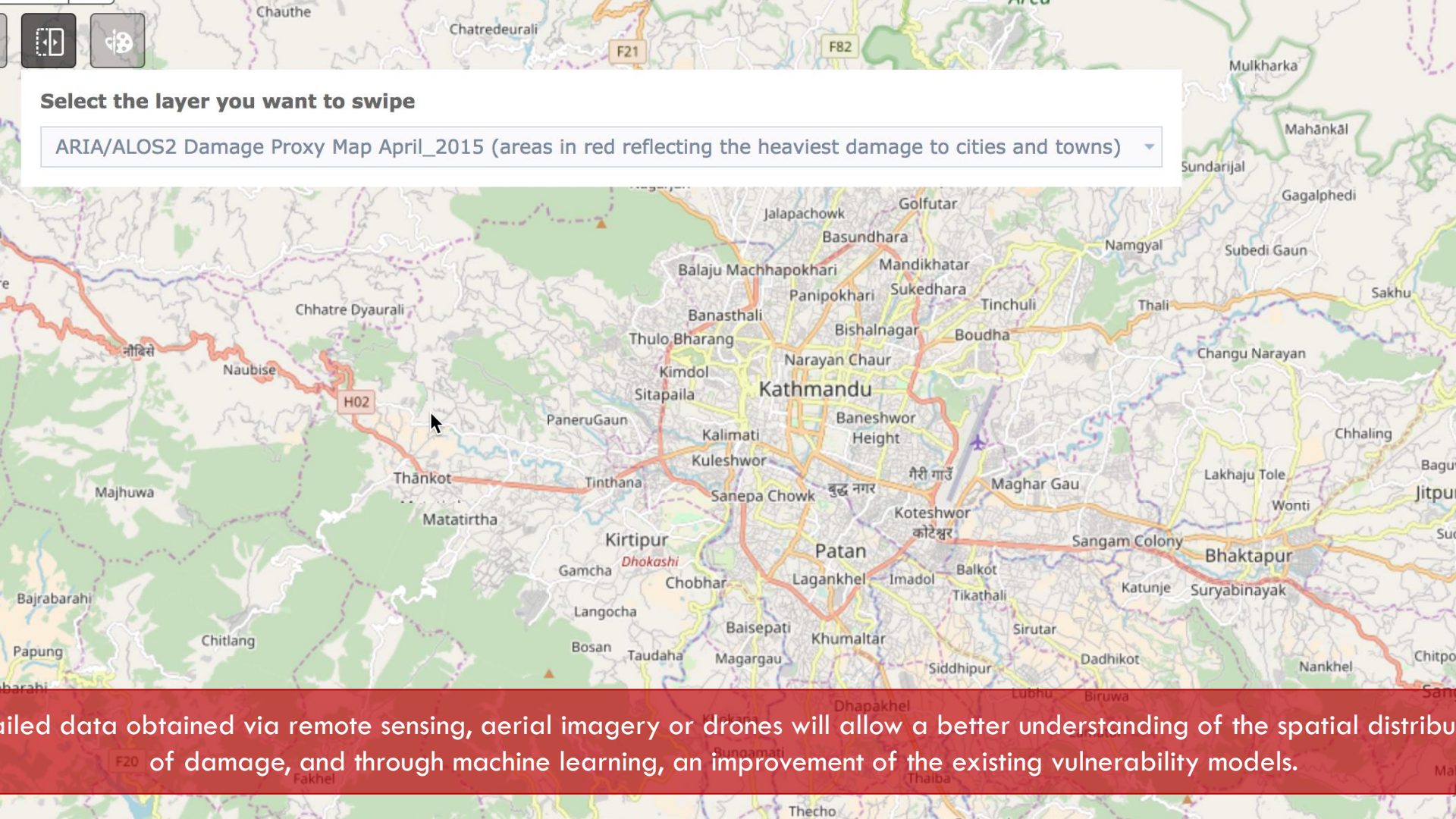


Insufficient empirical data

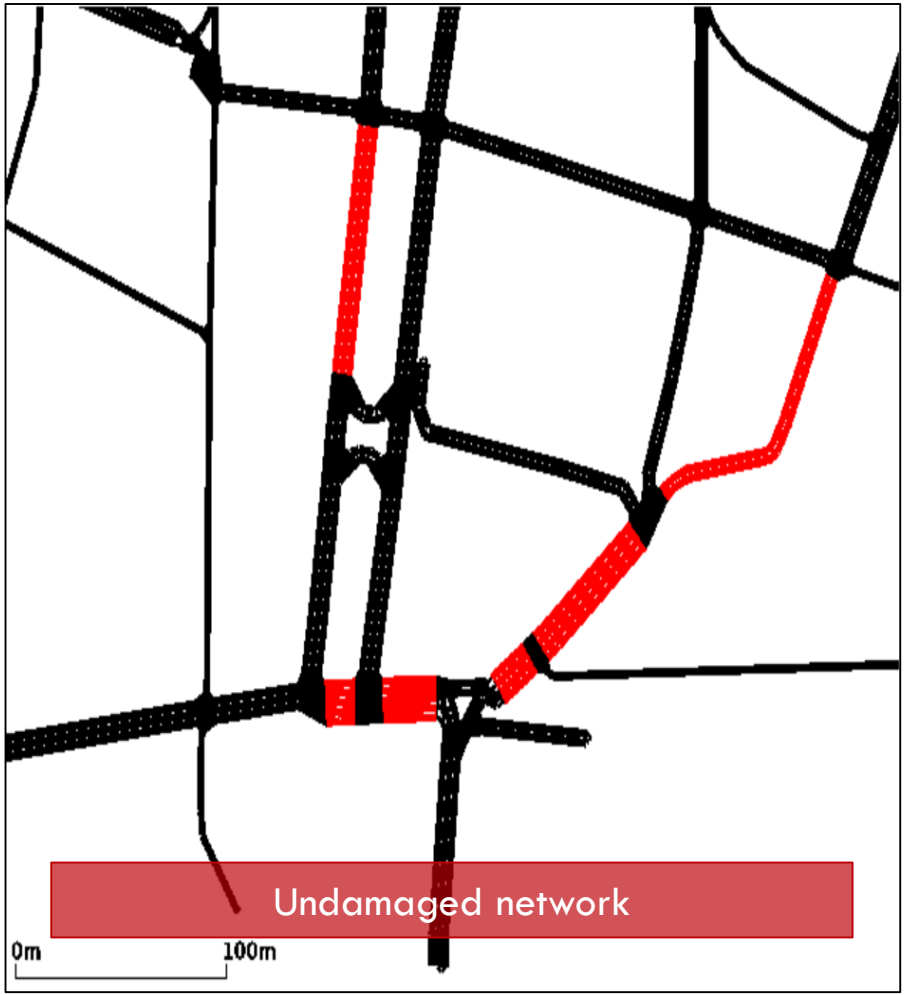


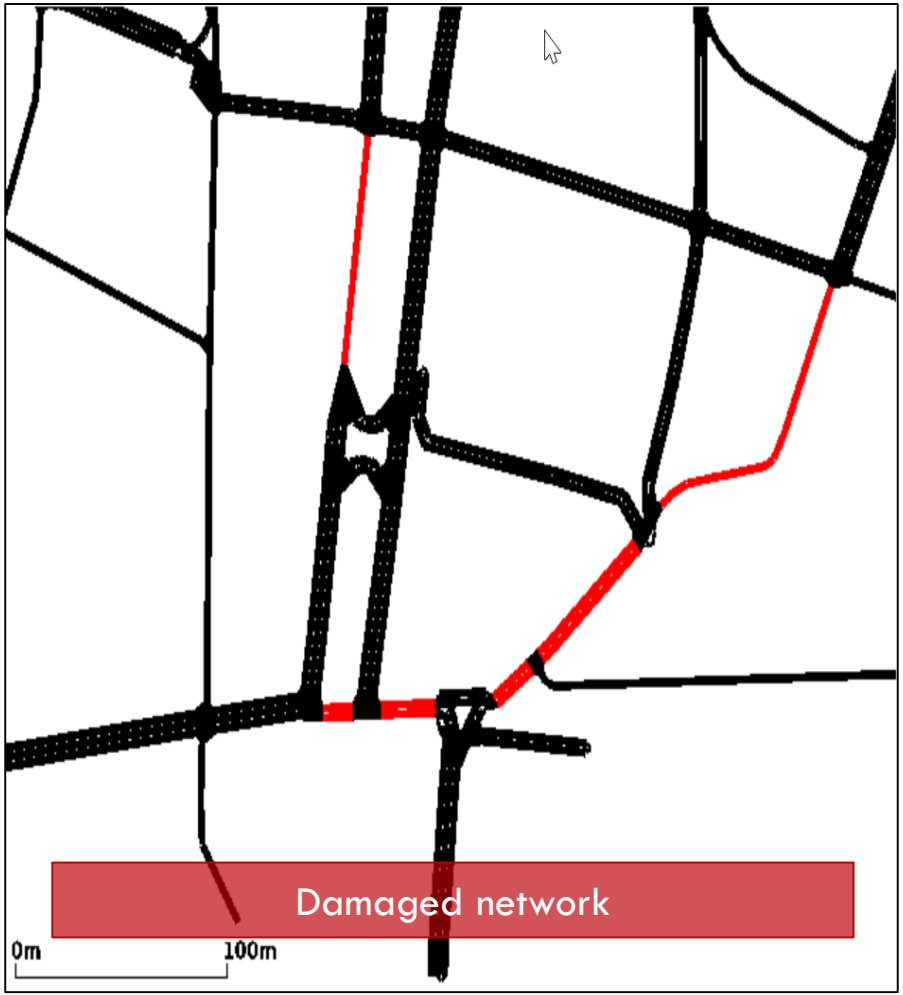


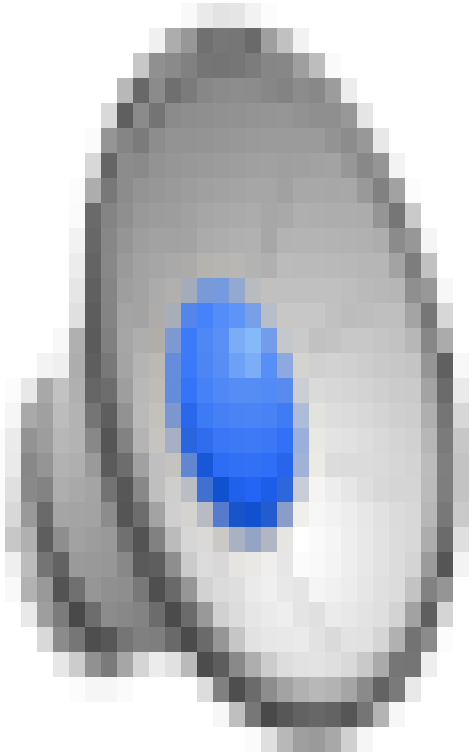
Incomplete analytical models


Select the layer you want to swipe
ARIA/ALOS2 Damage Proxy Map April_2015 (areas in red reflecting the heaviest damage to cities and towns)
Chauthe
Chatredeurali
F21
F82
Mulkharka
Mahankal
Sundarijal
Gagalphedi
Jalapachowk
Golfutar
Basundhara
Namgyal
Subedi Gaun
Balaju Machhapokhari
Mandikhatar
Panipokhari
Sukedhara
Tinchuli
Thali
Sakhu
Chhatre Dyaurali
Banasthali
Thulo Bharang
Bishalnagar
Boudha
Changu Narayan
Naubise
Kimdol
Narayan Chaur
Sitapaila
Kathmandu
H02
PaneruGaun
Baneshwor
Height
Kalimati
Chhaling
Kuleshwor
Thankot
Tinthana
Sanepa Chowk
Maghar Gau
Lakhaju Tole
Majhuwa
Matatirtha
Koteshwor
Wonti
Kirtipur
Dhokashi
Patan
Sangam Colony
Bhaktapur
Gamcha
Chobhar
Lagankhel
Imadol
Balkot
Katunje
Suryabinayak
Bajrabarahi
Tikathali
Langocha
Baisepati
Sirutar
Chitlang
Khumaltar
Bosan
Taudaha
Magargau
Dadhikot
Papung
Siddhipur
Nankhel
Dhapakhel
Lubhu
Biruwa
F20
Fakhel
Thaiba
Thecho
ailed data obtained via remote sensing, aerial imagery or drones will allow a better understanding of the spatial distribu
of damage, and through machine learning, an improvement of the existing vulnerability models.


Palisades
Interstate Park
12 AM
MON

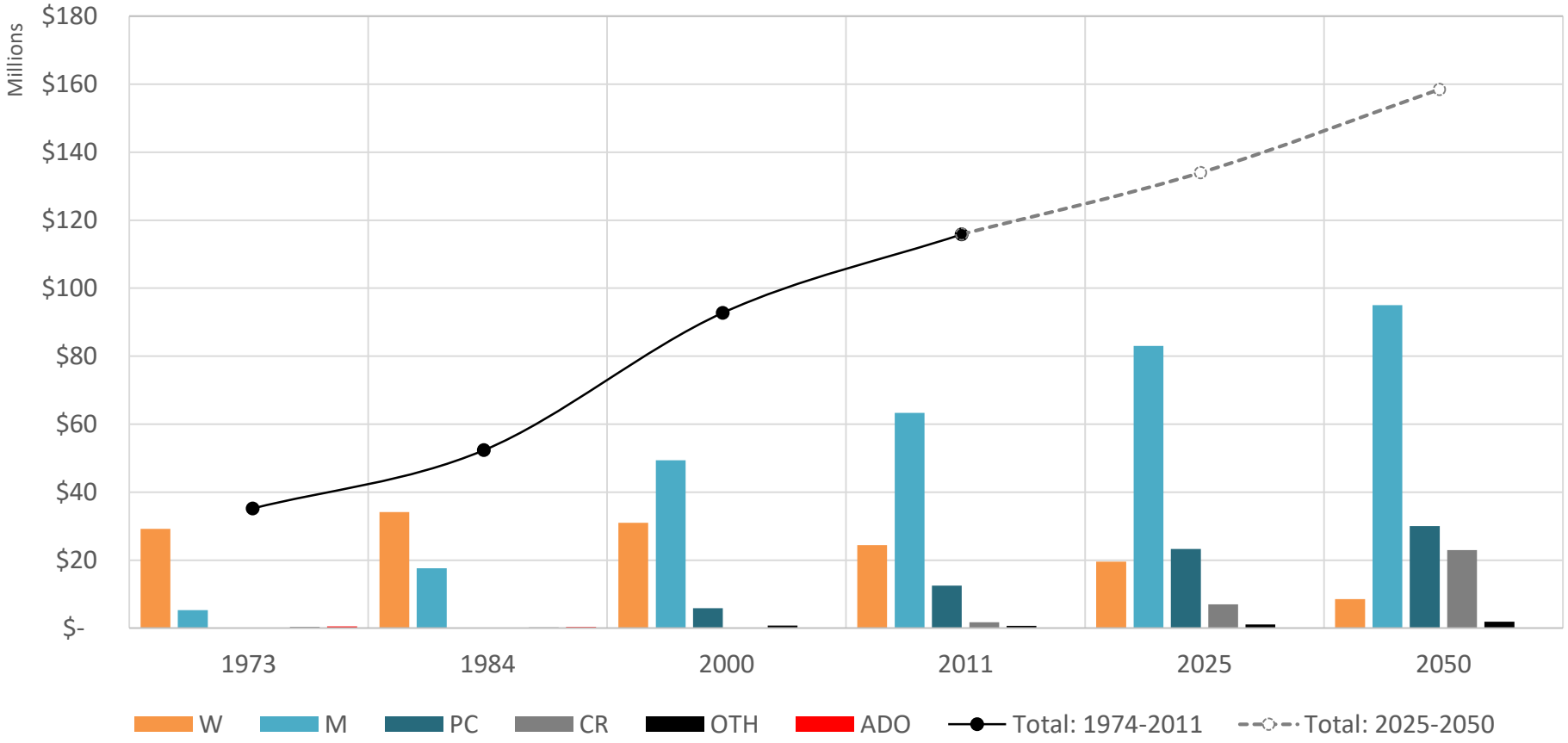

Undamaged network
0m
100m


Damaged network
0m
100m




THAILAND
Bangkok
CAMBODIA
VIETNAM
Ho Chi
Minh City
1992
Existing Light
1992 Light
New Light

Prediction of the evolution of seismic risk (economic losses) for Costa Rica



Current and future technology will radically change the way in which disaster risk assessment is performed. Models and datasets are expected to be more accurate, reliable and up to date.

The future of risk modeling is bright. Thank you