



Hazards - *minimising risk, maximising awareness*

What are geo-hazards?

"Geo-hazard" is a term that includes geological hazards, like landslides and volcanic eruptions, hydro-meteorological hazards like floods and freak tides, and geophysical hazards like earthquakes. Any Earth process that poses risk to human life can be said to be a geo-hazard, ranging in scope from local events (such as small rockfalls) to global geophysical events that can threaten the existence of our entire species, like major asteroid impacts and super-volcanic eruptions.

Mother Earth can seem like an uncaring parent. The impact of geo-hazards on our lives and economy is very great, and will never go away. Every year floods, tsunamis, severe storms, drought, wildfires, volcanoes, earthquakes, landslides and subsidence claim thousands of lives, injure thousands more, devastate homes and destroy livelihoods.

Damaged infrastructure and insurance premiums increase costs. Industrialised nations are affected mostly in financial terms. The human impact - injury and loss of life - is concentrated in the developing world. As the world's population increases, more people are going to live in hazardous areas and thus the impact grows.

Humans Have Altered the Geosphere, Biosphere and Landscapes which Can Trigger Hazards



Meteorites of the famous Gibeon Meteorite Swarm on display in Windhoek's Post Street Mall



Roter Kamm meteorite crater, southern Namib Desert



Weakened by steady erosion, Mukorob (the 'Finger of God', left) was finally toppled over by the repercussions of a distant earthquake; landslides (below) can be occasioned by even small local tremors or by heavy rains



Uncommonly heavy rainfalls can turn from a blessing into a disaster, if communities are caught unprepared for the emergency

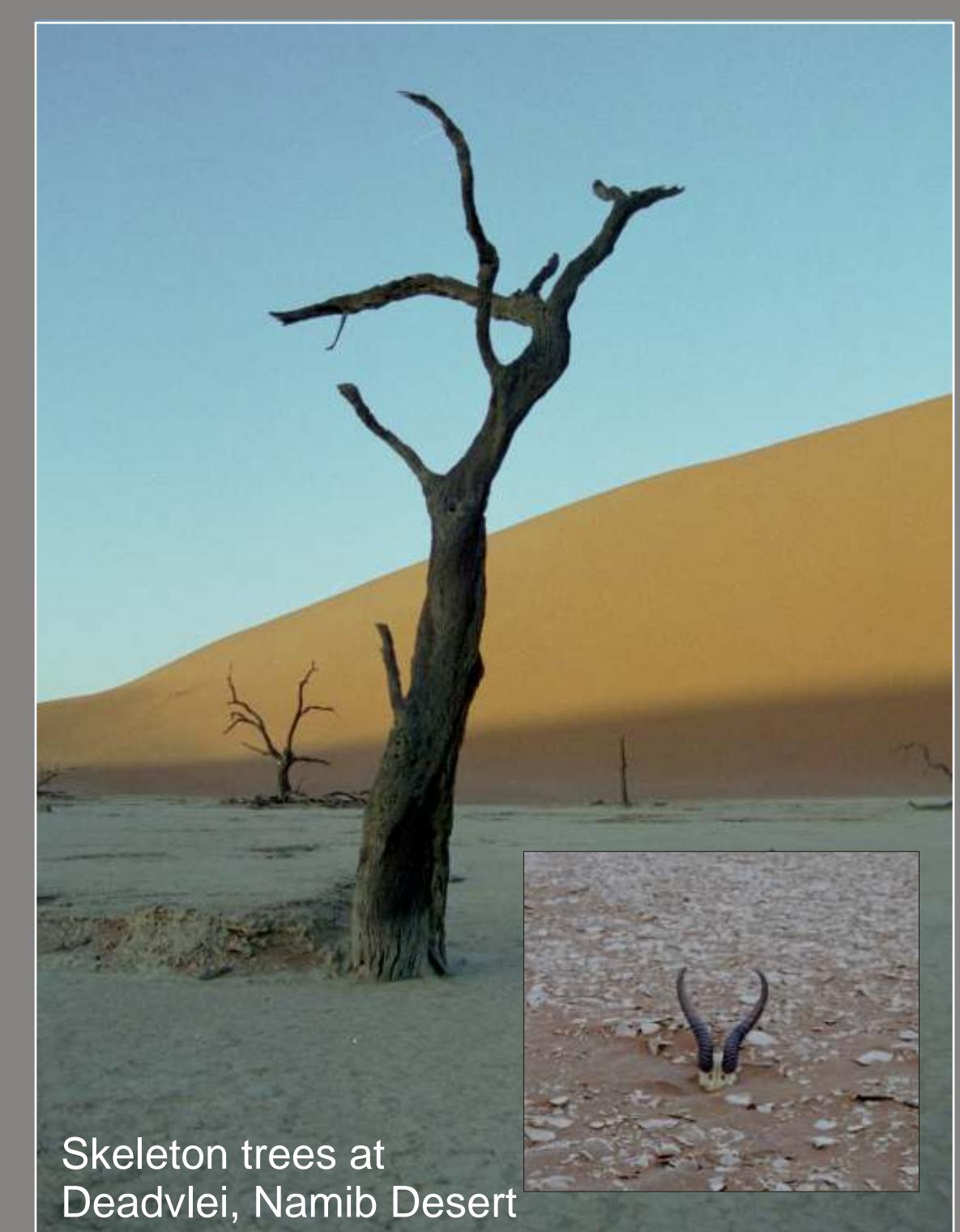


Lightning over Windhoek

When talking of 'geo-hazards', the first things that come to mind are catastrophic earthquakes, volcanic eruptions, major floods, and - a little more exotically - asteroid impacts, which are believed to have been responsible for the decline of many species, including the dinosaurs. However, geo-hazards needn't be anything so dramatic, and while Namibia - being situated in the middle of the African Plate, away from the Earth's most active regions - is comparatively little threatened by such major disasters, smaller ones are very much a part of daily life. For instance, the flooding of ephemeral rivers during a good rainy season may cause considerable problems to farmers and householders, and thus has to be classified a 'geo-hazard', if only of localized impact. Landslides and veld fires fall into the same category, while desertification, i.e. the 'drying up' of previously fertile land is more of a global problem due to overall climate change - although its various effects can be disastrously aggravated by the prevailing conditions. The careful study of local circumstances and possible effects of human interference on the environment is therefore imperative in natural hazard mitigation.



Bush and veld fires are a continuous threat in dry countries like Namibia. Due either to natural causes like lightning or to human agency, they can cause considerable damage to life and/or property



Skeleton trees at Deadvlei, Namib Desert

Drought and desertification are natural hazards brought about by climate change, which can be significantly aggravated through human action (e.g. overgrazing by livestock, destruction of natural land cover)

International Year of Planet Earth