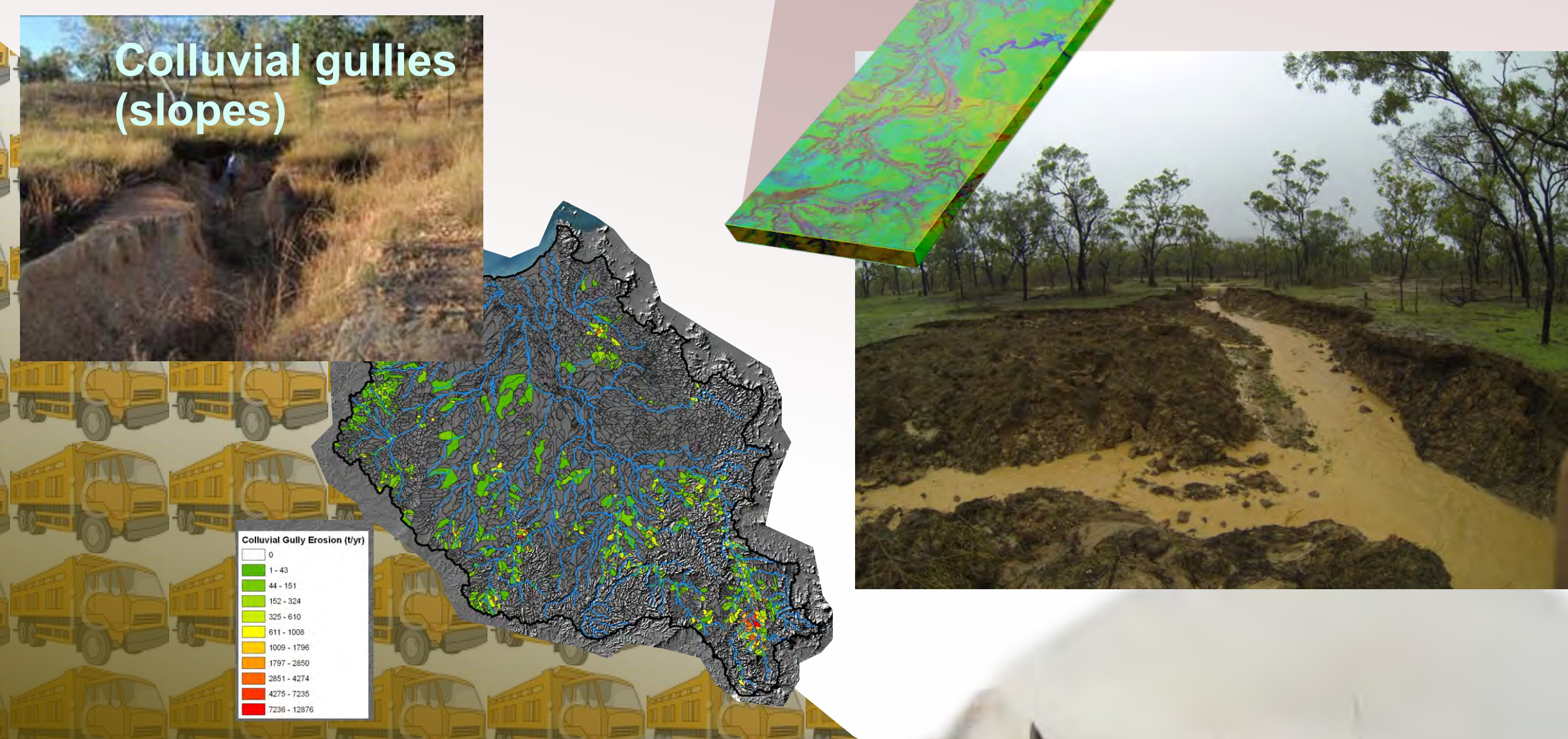
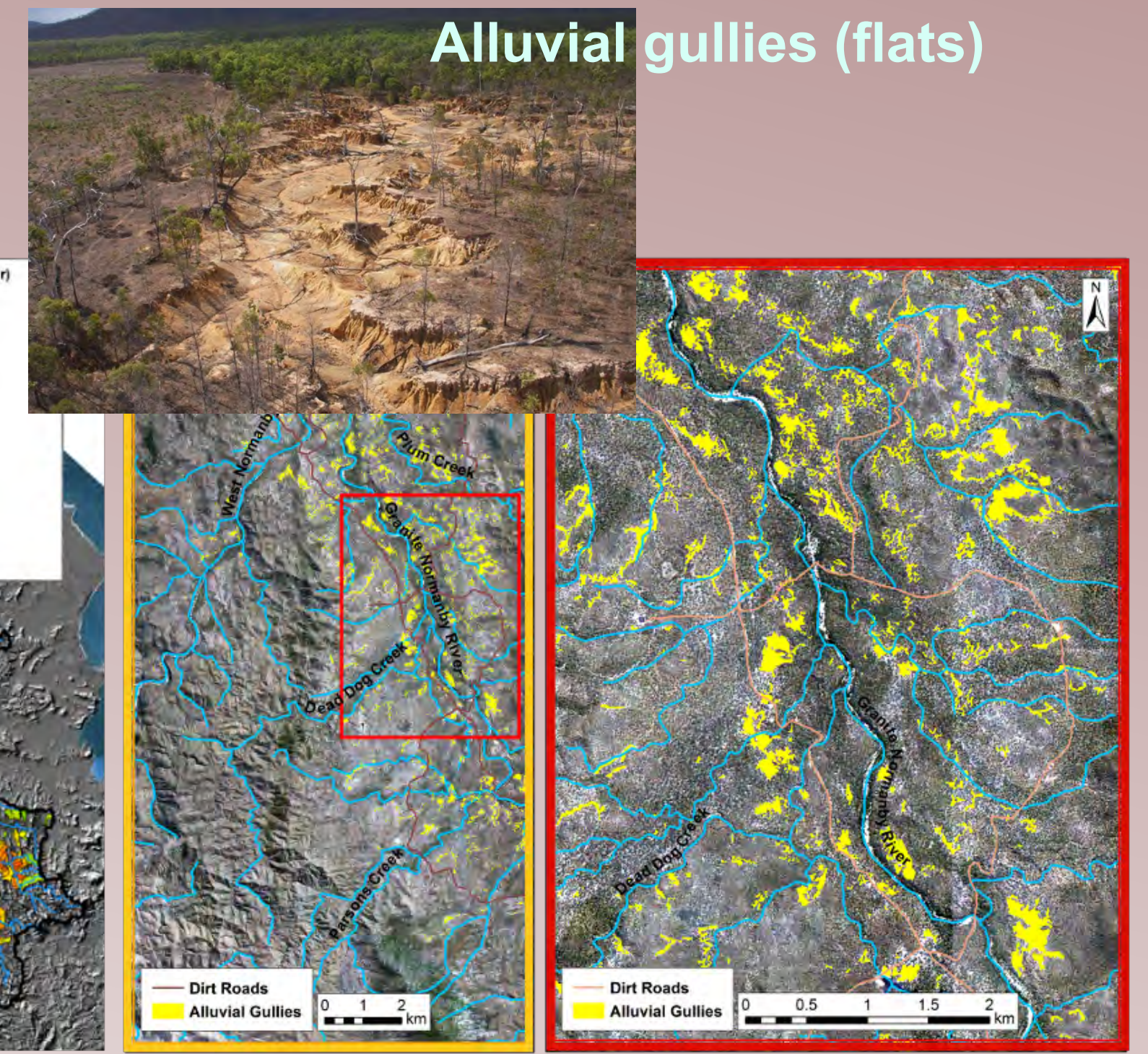


How big a problem is Gully Erosion in the Normanby?

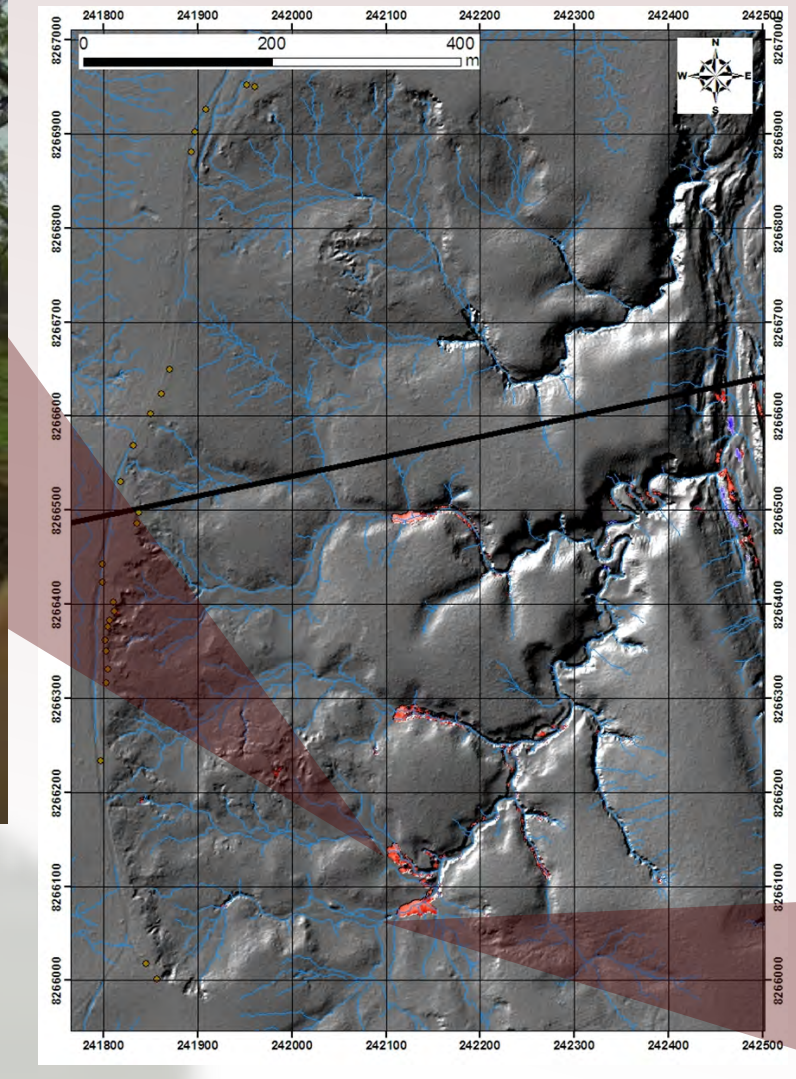
We surveyed and measured gullies across the whole catchment. Our research combines airphotos, high resolution airborne surveys (LiDAR), and GoogleEarth imagery. By carefully comparing all this data we have been able to determine the extent and rates of gully erosion much more accurately than in the past.



There are a lot of gullies, and they are growing. Detailed mapping shows there are thousands of individual gullies in the Normanby. Some types of gullies form on the slopes (colluvial), and other types form on the flats (alluvial). Gullies are damaging the land, reducing productivity, and putting stress on the habitats in the rivers and Princess Charlotte Bay.

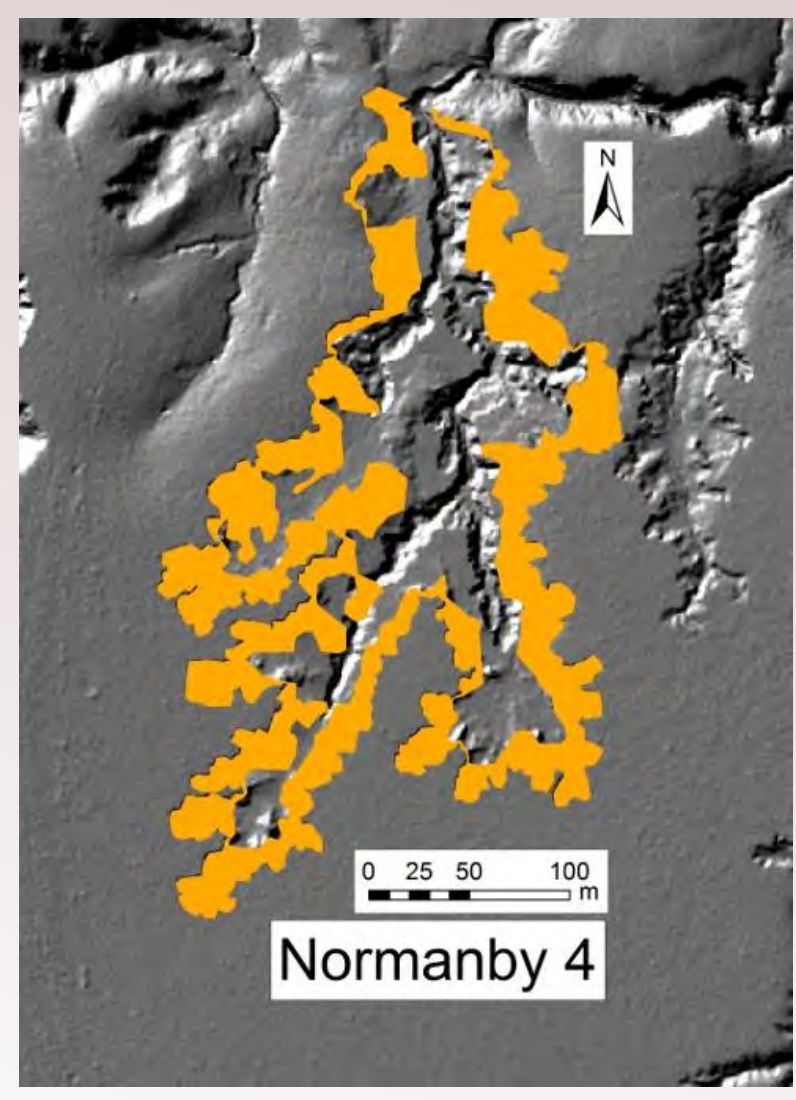


At current rates, gullies are dumping 1.15Mt/yr of silt and clay into the stream network. By carefully comparing gully areas over time, we are able to calculate a real rate of erosion.



Example of change in gully extent detected by LiDAR over 2 years. These gullies show 40-50m of expansion over 2 yrs.

Orange colour shows the change in gully area between 1952 and 2009. Note 100m scale.



Grazing, agriculture, and land use is a big impact. Researchers dug sample sites across the catchment. They compared soil deposits from recent and ancient times. In this example the rate of deposition is more than 10 times faster than before European settlement.



How much is 1,150,000 tonnes/yr?
Fill up a 10 tonne truck. Now get another one, and another. Line them up end to end and you can have a solid row of trucks stretching from Lakeland to Cooktown...12 times!!
That's how much silt and clay is eroded from growing gullies every year. (on average)



Sediment Sources, Sinks & Drivers on the Cape York Savannah

Gully erosion in the Normanby: how big is the problem? More info: Dr Andrew Brooks, Australian Rivers Institute [andrew.brooks@griffith.edu.au]