

Topographic mapping

The accuracy of TOPSAR interferometric data lends itself to generating precision geomorphometric and structural detail in semi-arid and humid-tropical environments. In Figure 6, shaded relief images highlight dip and strike slopes of the bedding sequence within a prominent anticline in the James Ranges, west of Alice Springs (left), and foliation trends within a metamorphic core complex masked by a canopy of tropical vegetation in Papua New Guinea (right). In the latter, it is evident that the top of the vegetation canopy conforms to the underlying topography that, in turn, is controlled by geological features and geomorphic processes. The majority of the short wavelength C-band radar backscatter is from the canopy surface thereby providing a reasonably accurate digital elevation product of the terrain.

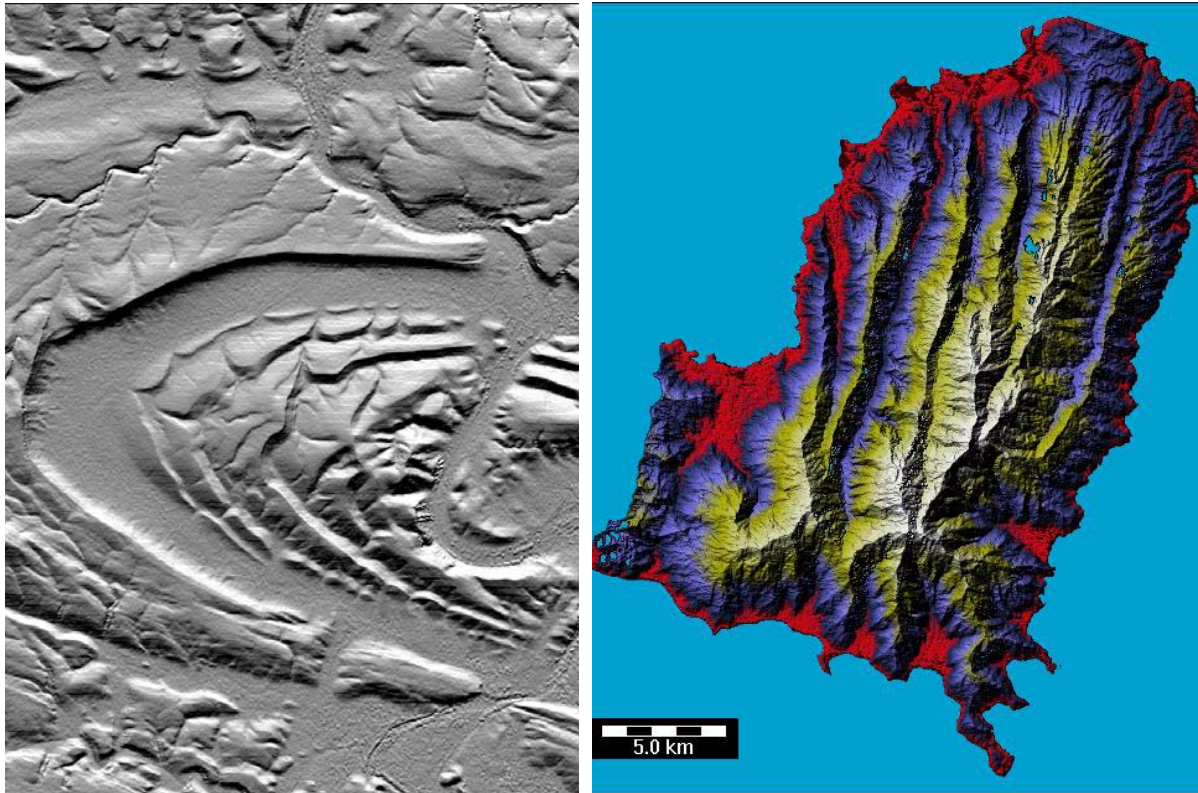


Figure 6: DEMs generated from TOPSAR radar interferometry of two contrasting terrains – semi-arid central Australia (Left) and humid-tropical Papua New Guinea (Right)