Geophysical Research Abstracts Vol. 18, EGU2016-2713, 2016 EGU General Assembly 2016 © Author(s) 2016. CC Attribution 3.0 License.



Soil erosion and landscape change by feral pigs: fact or fallacy? A 5 year assessment for the monsoonal tropics

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Pigs (Sus scrofa) have been introduced in many areas of the world. They are considered to have many significant environmental impacts. Here the effect of feral pigs are quantified in an undisturbed catchment in the monsoonal tropics of northern Australia. Over a five-year period, field data showed that the areal extent of pig disturbance ranged from 0.3-3.3 % of the survey area. The mass of material exhumed through these activities ranged from 4.3 t ha-1 yr-1 to 36.0 t ha-1 yr-1. The findings demonstrate that feral pigs are disturbing large areas as well as exhuming considerable volumes of soil. We have found that the excavations produce surface roughness which act as sediment traps and there was no evidence to suggest that pigs produce any rill or gully erosion. We found that there was a direct relationship between annual rainfall amount and number of disturbances (i.e. more disturbances occurred with higher rainfall). The location of any disturbance appears to be random and had no relationship with topography or geomorphic attributes such as slope, upslope contributing area or wetness indices. While disturbing relatively large volumes of soil any biogeographical change may be occurring slowly and may only be observable over the long-term.