Plots of Volume of a Sphere vs. Surface Area

The first plot shows the relationship between the volume and surface area of spheres on a linear scale. The second plot displays this relationship on a log-log scale, revealing a linear increase in log(surface area) with respect to log(volume). The third plot further visualizes this linear trend on a linear-log scale.
From McMahon 1975

FIG. 2. Length vs. midshaft diameter of artiodactyl humerus bones. Least mean squares fit shows \( l = 24.09 \ d^{0.66} \) with \( l \) and \( d \) in mm. Figures represent elastically similar schematic quadrupeds different in height by a factor of 2 and weight by a factor of 16.

tree height vs diameter