Williams-Linera et al\_supplementary\_BoxS1

**Box S1.** Reference equations to estimate that hailstone size is a good proxy for damage (Eric Williams, pers. comm.).

Hailstone size is a good proxy for damage, recall the definition of kinetic energy:

Where is mass, is velocity and has units of Joules, or .

Assuming a spherical hailstone, its volume will be given by:

Where is the radius and has units of . Recall the relationship between mass and volume, which is given by density:

Where has units of . Therefore:

Where the mass has units of , or . Substituting (2) into (4) and then into (1), we obtain:

Conducting dimensional analysis:

Which is consistent with what was mentioned initially regarding the units for kinetic energy. Thus, if we consider a hailstone as a sphere, its kinetic energy will be proportional to the third power of its radius or diameter.