



## Exposure to external terrestrial gamma radiation



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	<b>Average individual annual dose, mSv y<sup>-1</sup></b>	<b>Annual collective, dose to UK population, man Sv y<sup>-1</sup></b>
Annual dose from terrestrial gamma radiation in the UK	0.35	23,500

External irradiation, from gamma emitting radionuclides present in all geologies, including soils and rocks, occurs continuously. The most significant radionuclides are potassium-40 (<sup>40</sup>K) and radionuclides from the uranium and thorium radioactive decay chains.

Measurements of the external dose rate from terrestrial gamma emitting radionuclides have been made across the UK (Green et al, 1989; Wrixon et al, 1988). The mean annual dose from terrestrial gamma radiation was estimated from these measurements, accounting for time spent inside and outside buildings. Updated results from a survey of gamma radiation levels are expected in the late 2020s.

## References

- Green BMR, Lomas PR, Bradley EJ and Wrixon AD (1989). *Gamma-radiation Levels Outdoors in Great Britain*. National Radiological Protection Board, Chilton (UK), NRPB-R191.
- Wrixon AD, Green BMR, Lomas PR, Miles JCH, Cliff KD, Francis EA, Driscoll CMH, James AC and O'Riordan MC (1988). *Natural radiation exposure in UK dwellings*. Chilton (UK), NRPB-R190.