



Australian Government
**Australian Radiation Protection
and Nuclear Safety Agency**

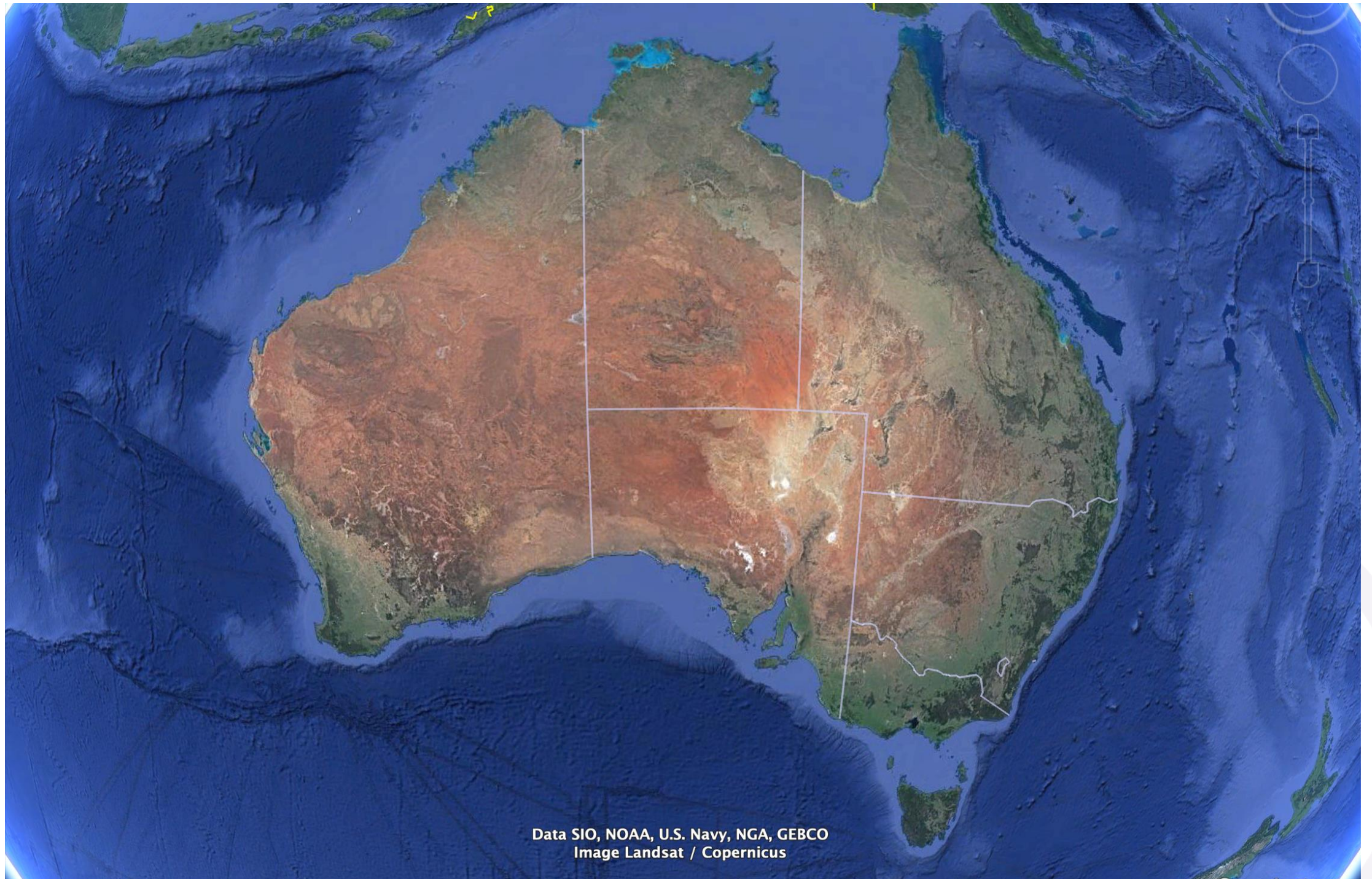


Geological aspects of radon management in Australia

Andrew Yule

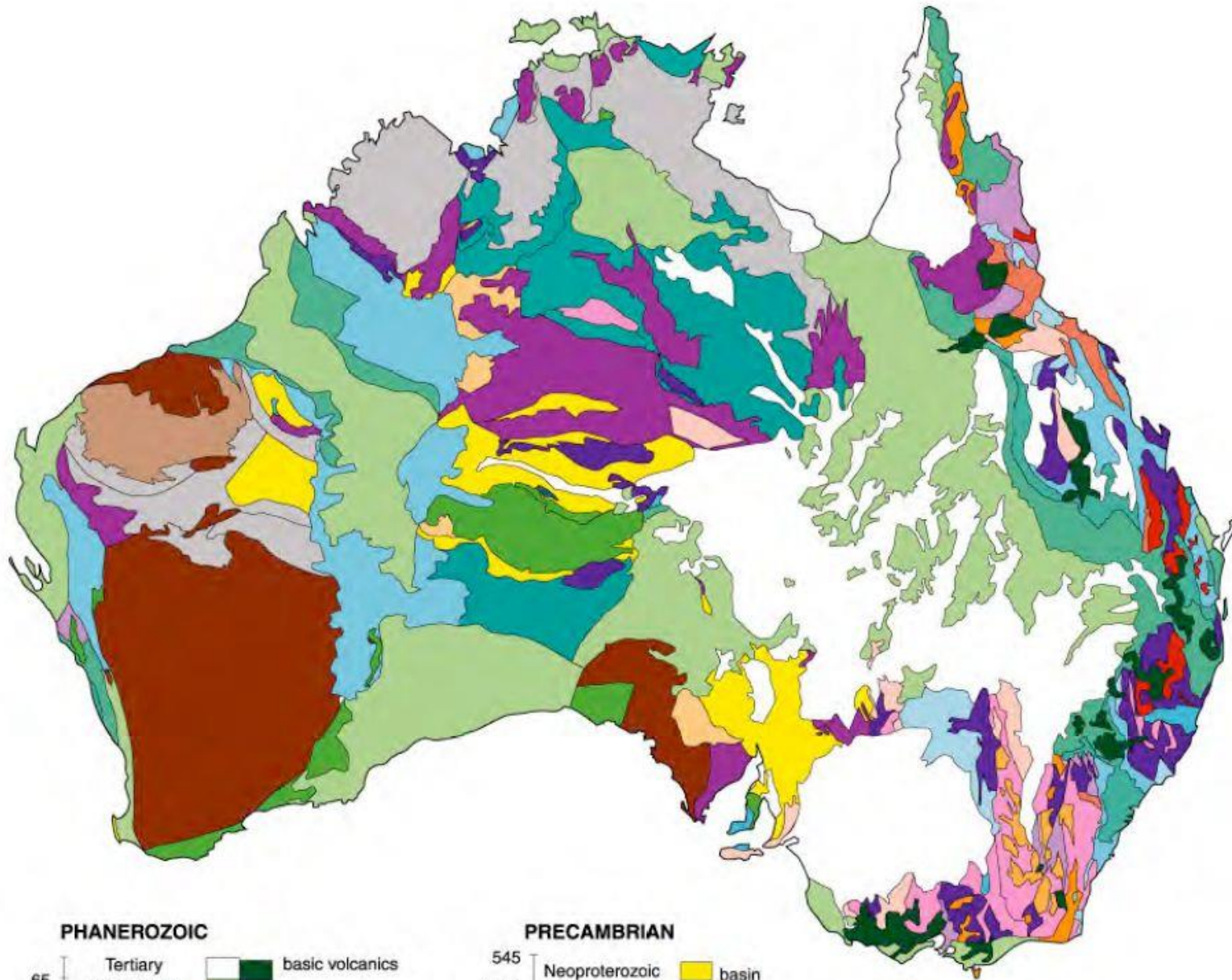




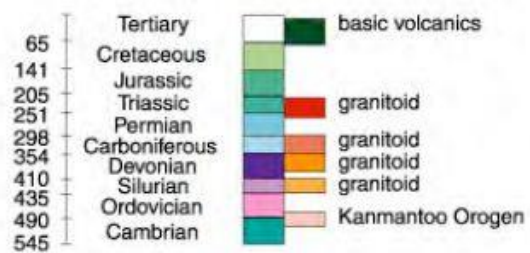


Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus

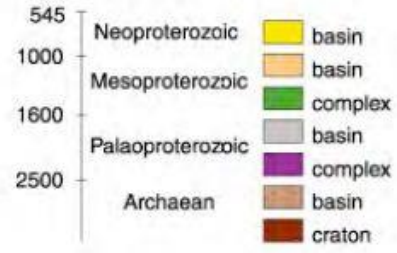




PHANEROZOIC



PRECAMBRIAN





Paralana Hot springs

- Natural hot spring
- Near several uranium mines
- Atmospheric radon concentrations over 10 kBq/m^3
- Very remote





SOUTH AUSTRALIA

Paralana Hot Springs

NEW SOUTH WALES

VICTORIA

ACT

Adelaide

Melbourne

Canberra

Sydney

Gold Coast

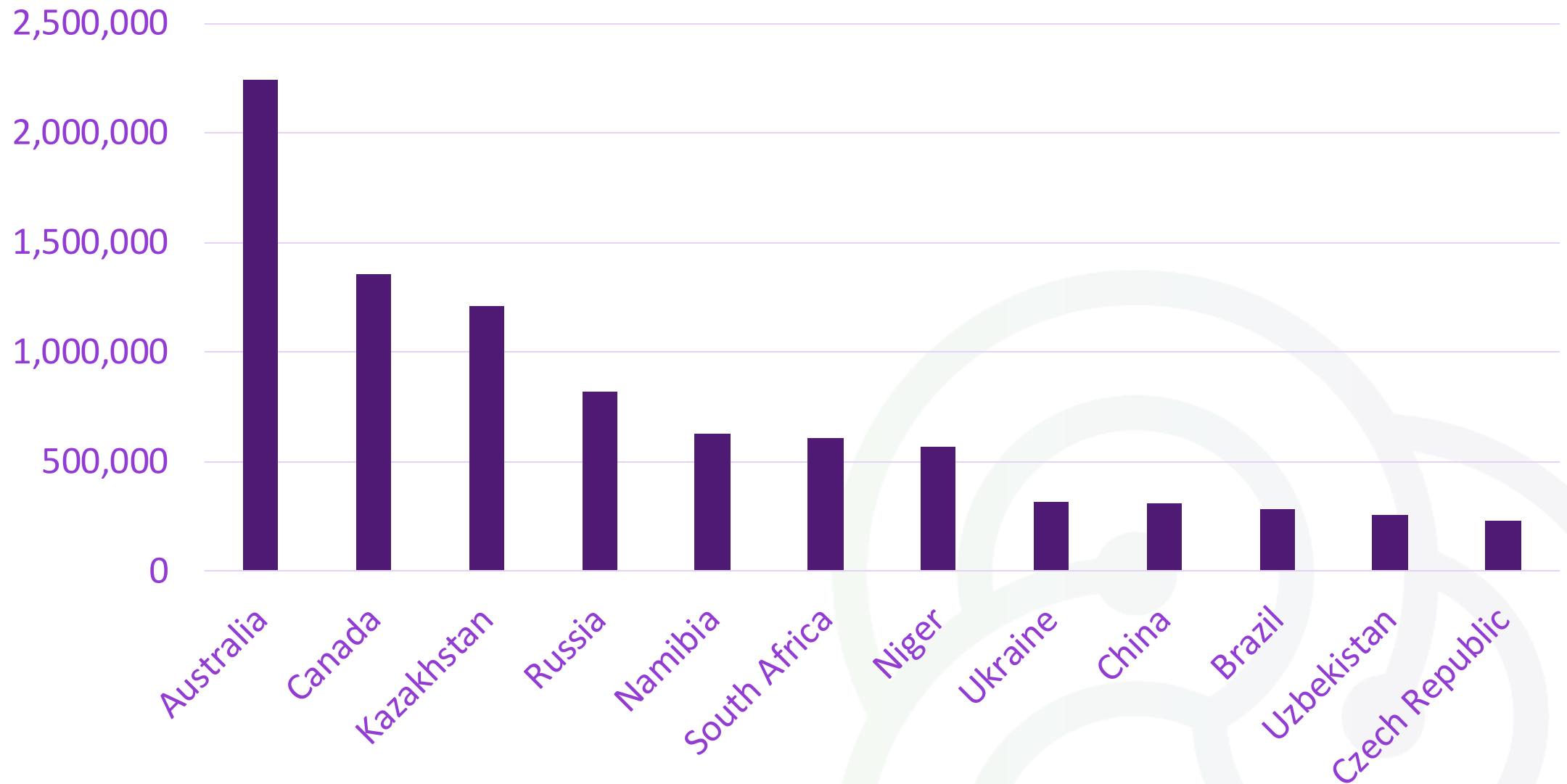
Brisbane

Australian Bight

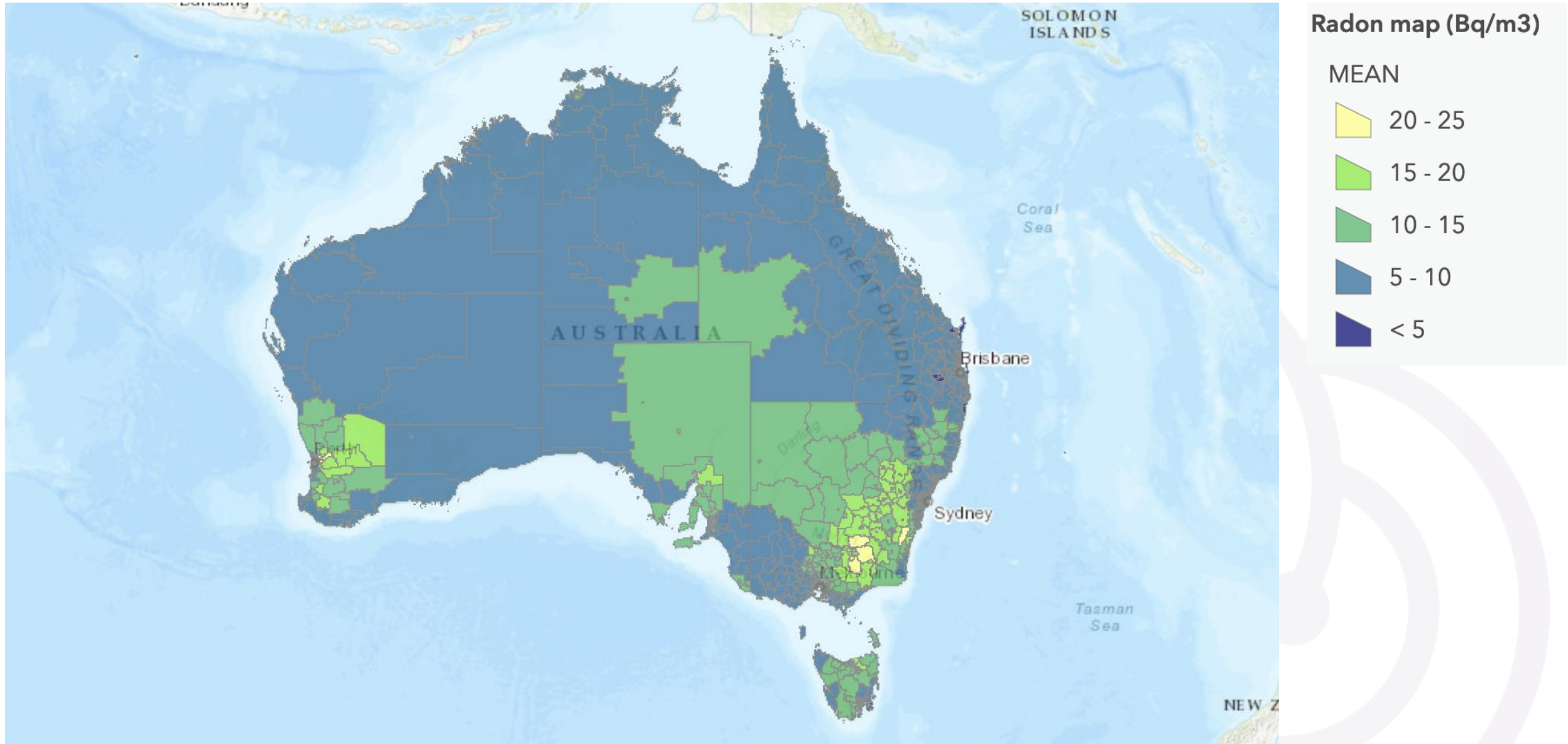




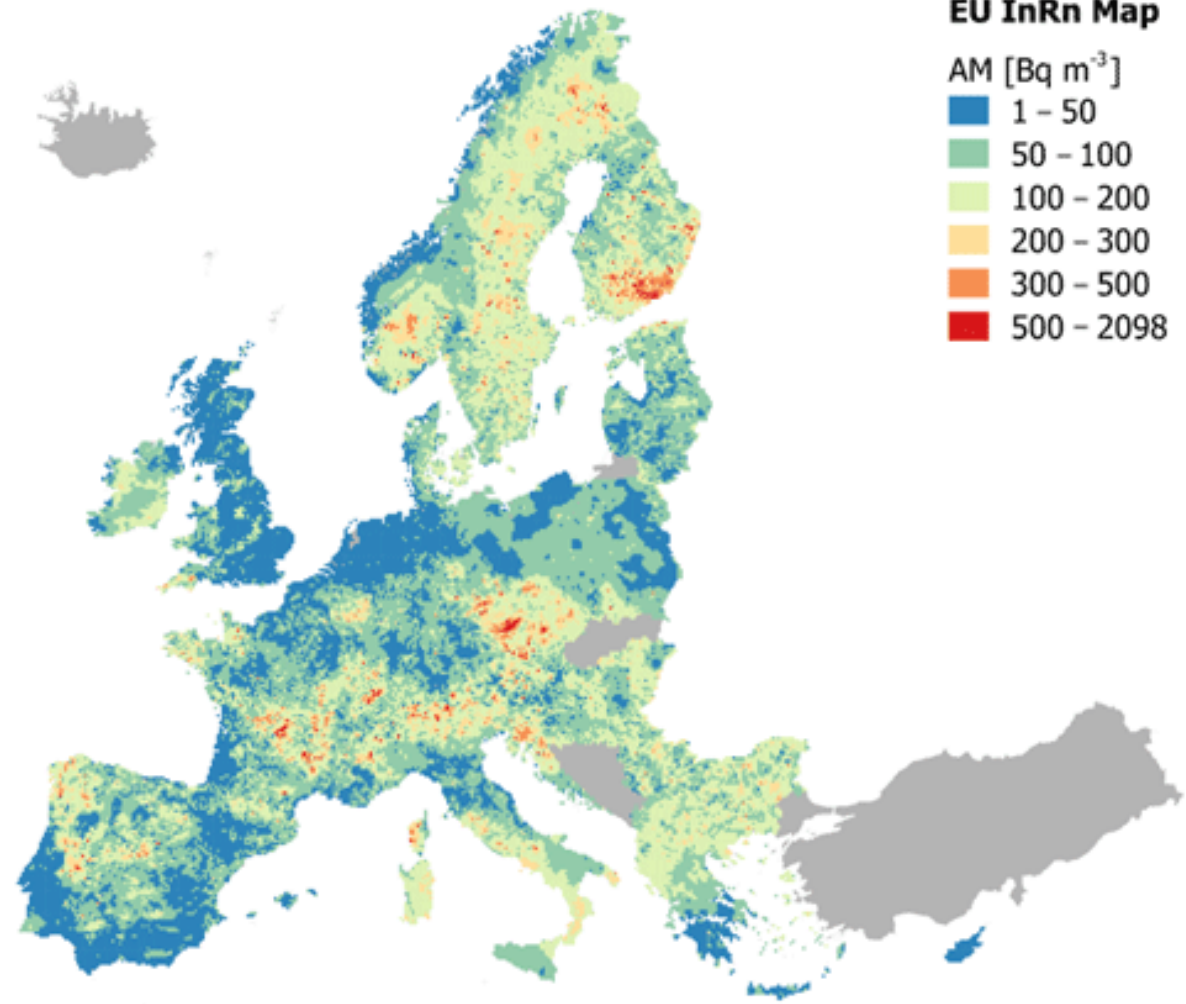
Combined uranium production and reserves (tonnes)



Indoor radon in Australia

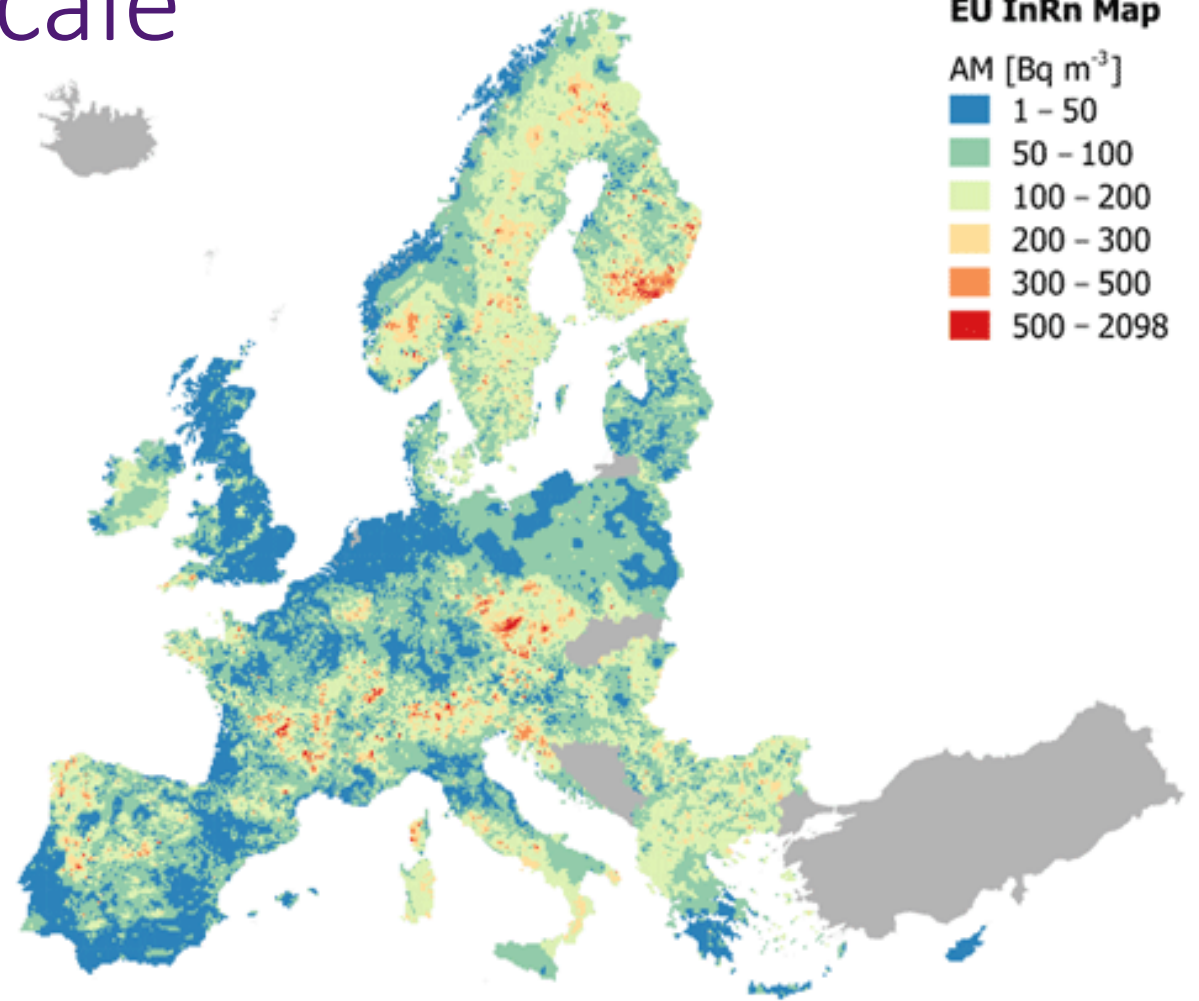


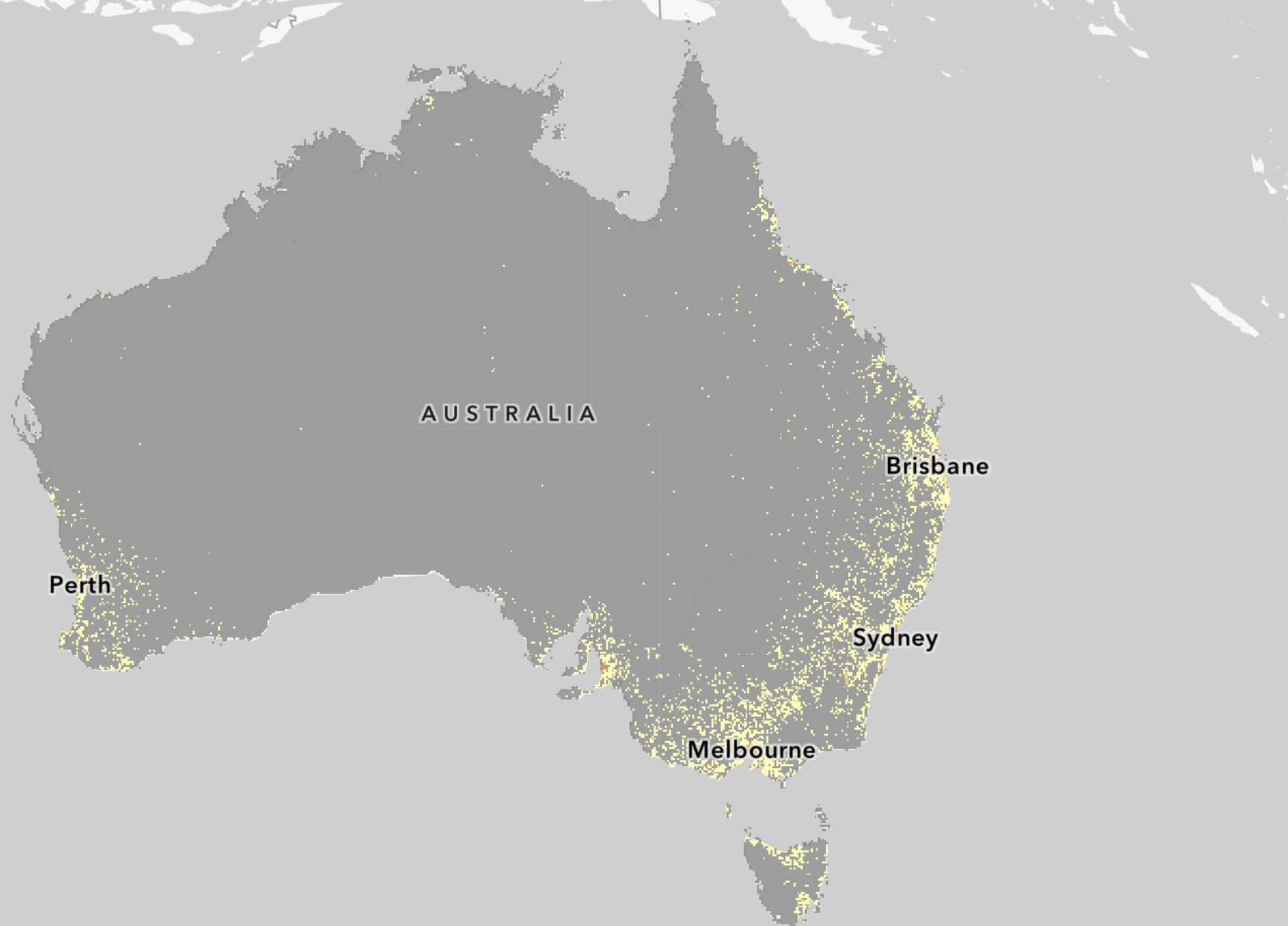
Indoor radon in Europe



Map from
<https://doi.org/10.5194/nhess-19-2451-2019>

Australia on the same scale





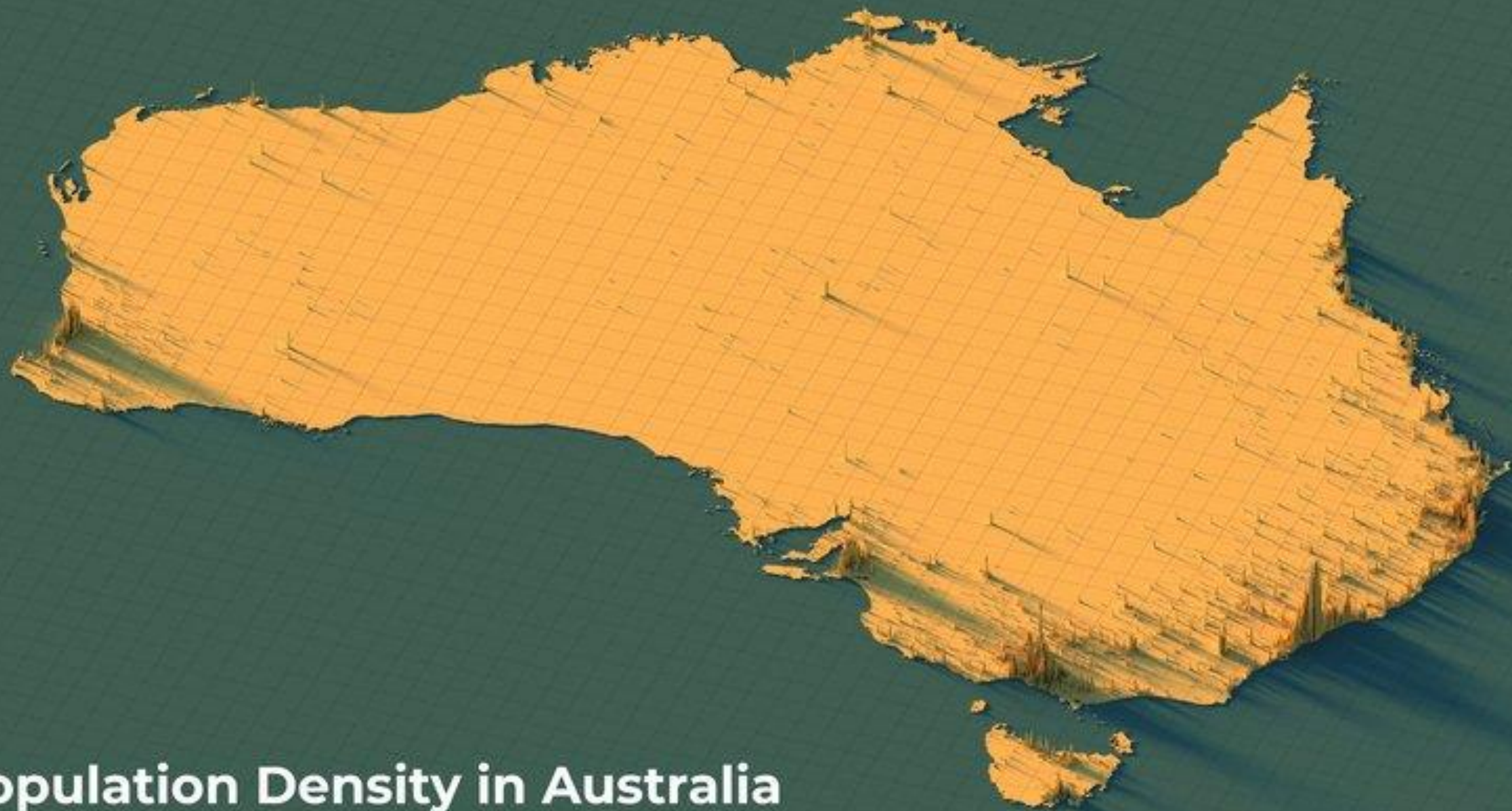
AUSTRALIA

Brisbane

Perth

Sydney

Melbourne

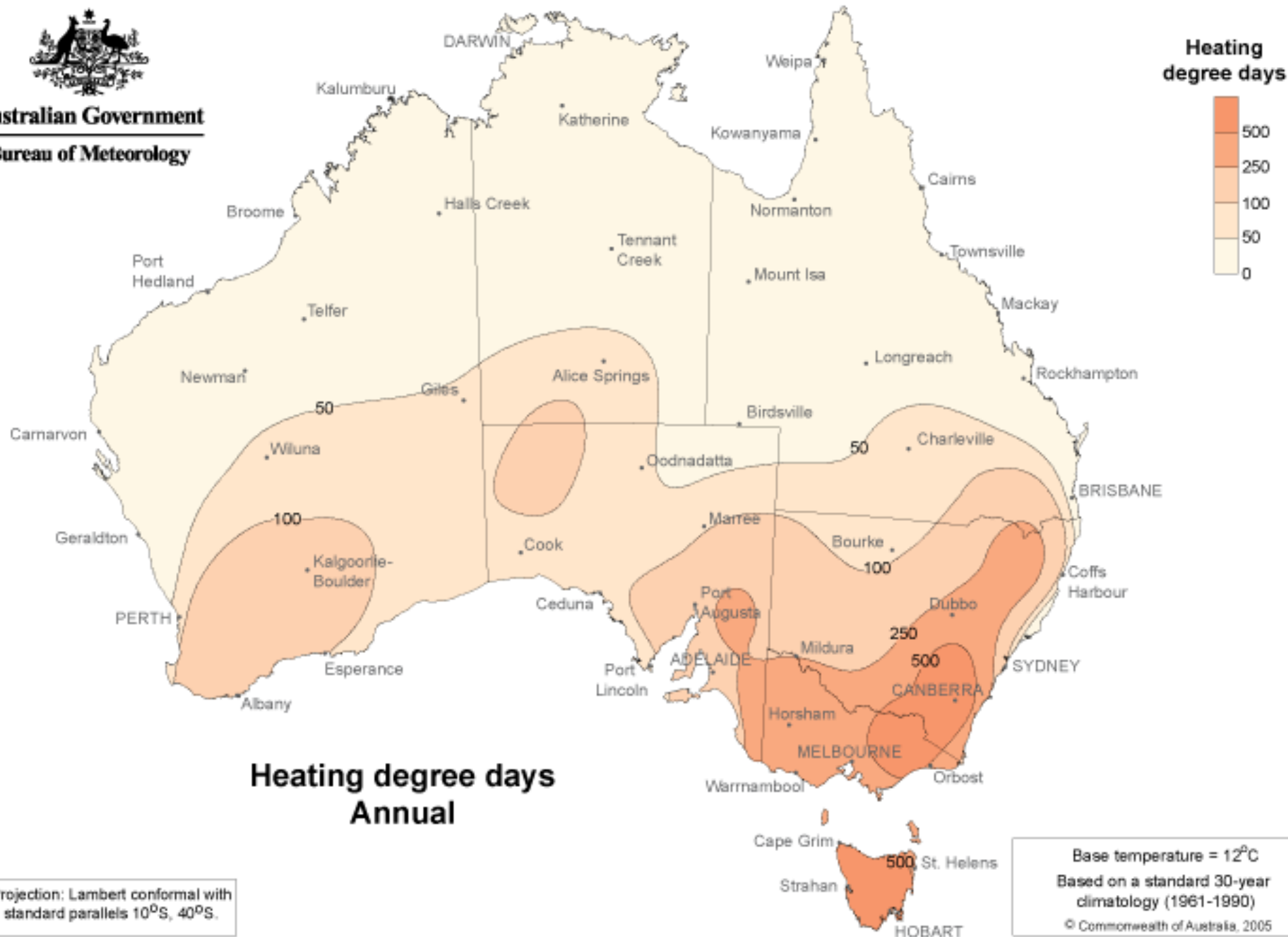


Population Density in Australia

Height represents population. In 1km x 1km cells - the big squares are 50km x 50km



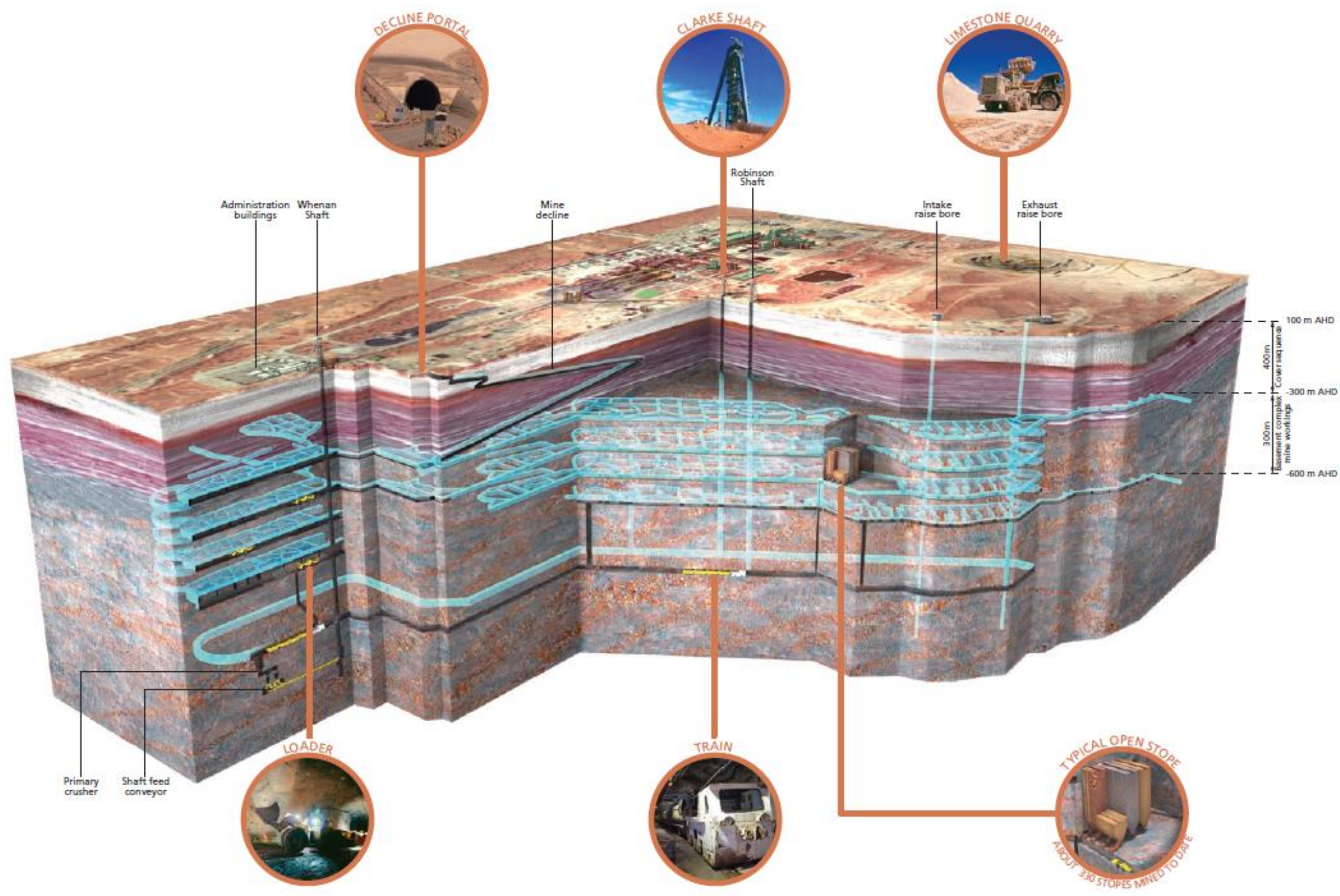
Australian Government
Bureau of Meteorology



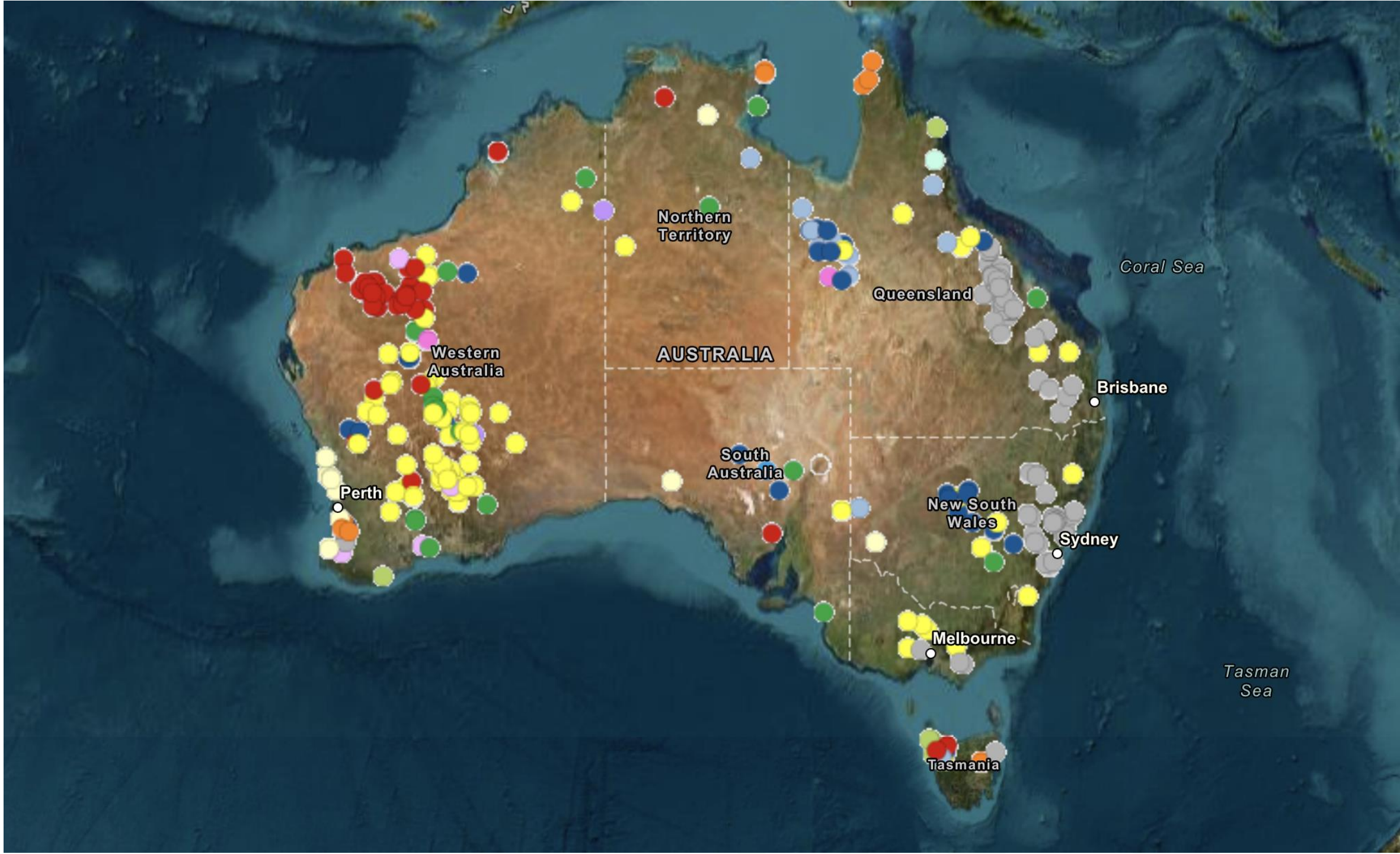
Australian houses





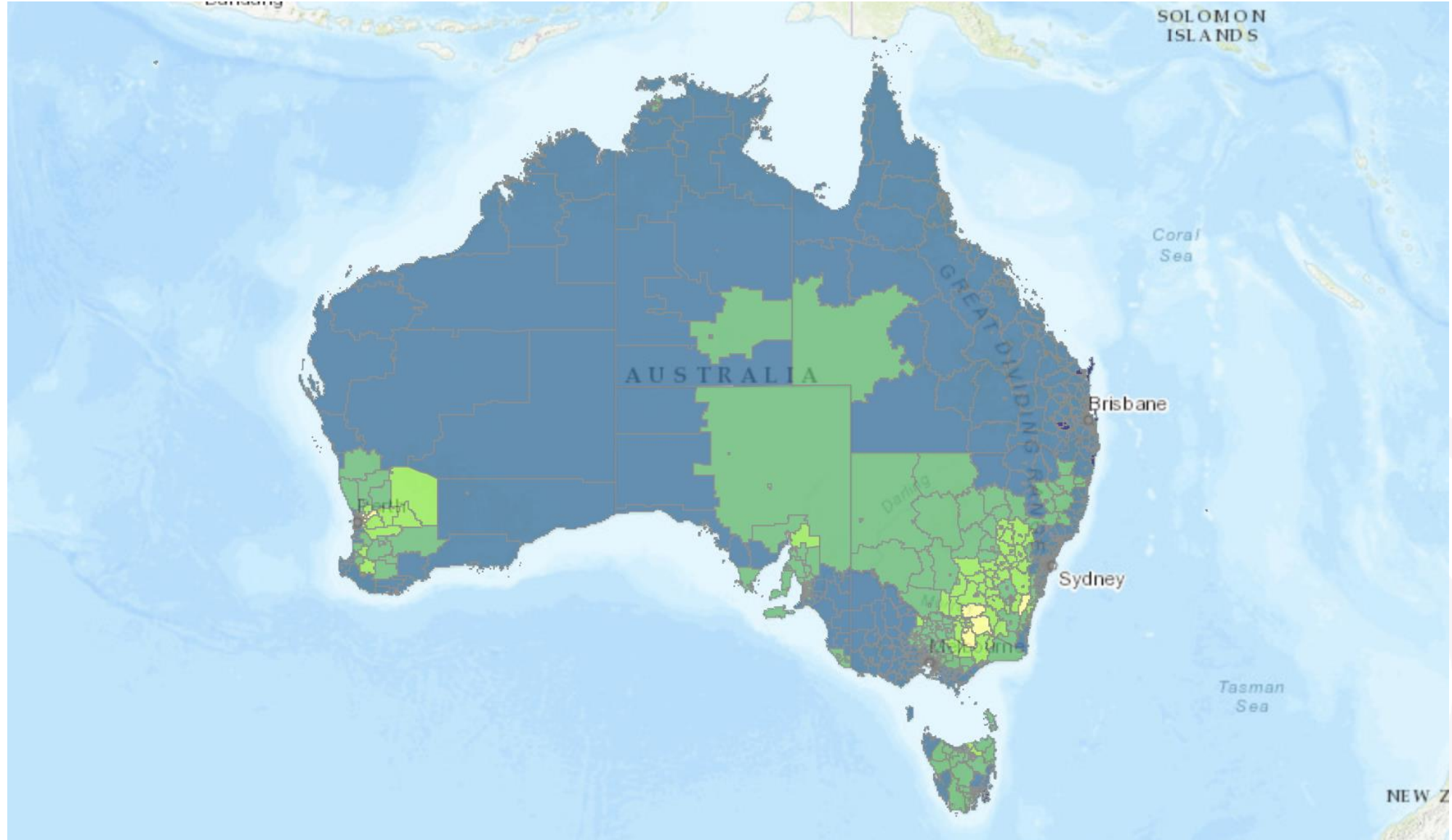








Do any houses exceed the action level?

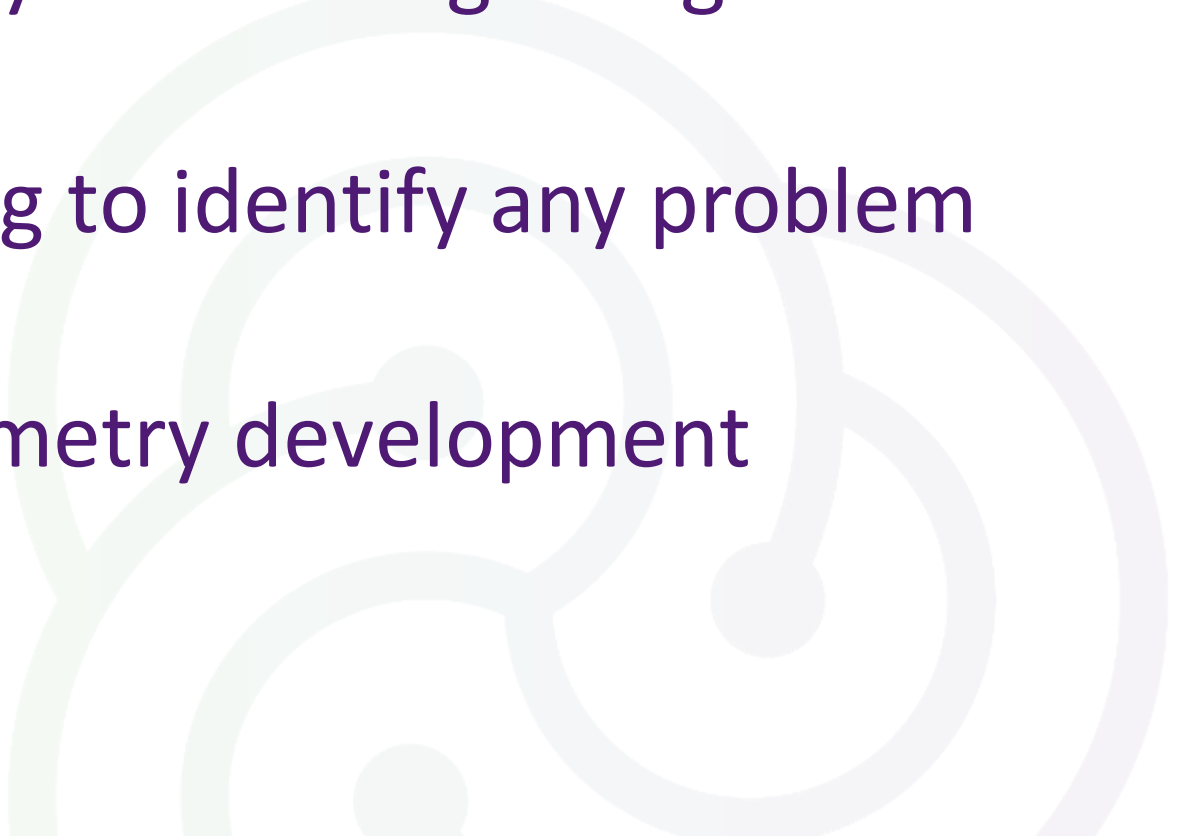


How this impacts our radon program

- Focus on occupational exposure
 - Target high risk work sites
 - Enhance radon progeny measurement
- Maintain capability to manage residential exposure



What next

- Engagement with 100% of cave sites
 - Actively encourage voluntary monitoring in high-risk workplaces
 - Use radon potential mapping to identify any problem areas we've missed
 - Radon progeny size spectrometry development
- 

Questions?





Thank you

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