



# Compare locations/events with geobubble charts



# Compare locations (or events) with geobubble charts



# Geobubble charts



# Geobubble charts

Earthquake magnitude

Earthquake magnitude	5.00	5.25	5.50	5.75	6.00
Size	Small	Medium	Large	Very Large	Extremely Large





# Geobubble **scales**

In a geobubble chart we use the **size aesthetic** of `geom_point()` to vary the size of our bubbles.

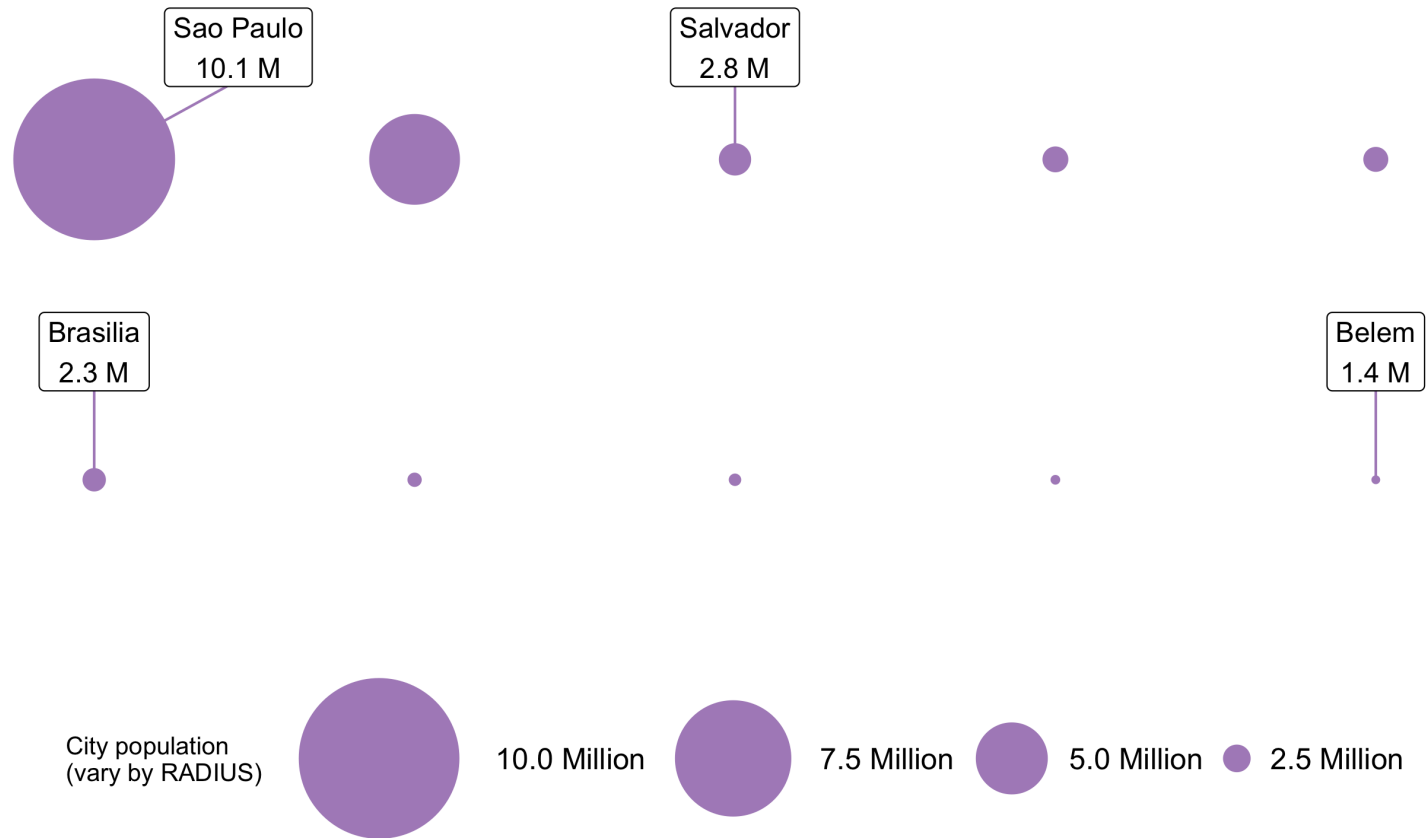
There are **two extremely different scales** that `{ggplot2}` can use to decide how to vary the sizes of the points:

- `scale_size()`<sup>1</sup>
- `scale_radius()`

[1] The default chosen by `{ggplot2}`

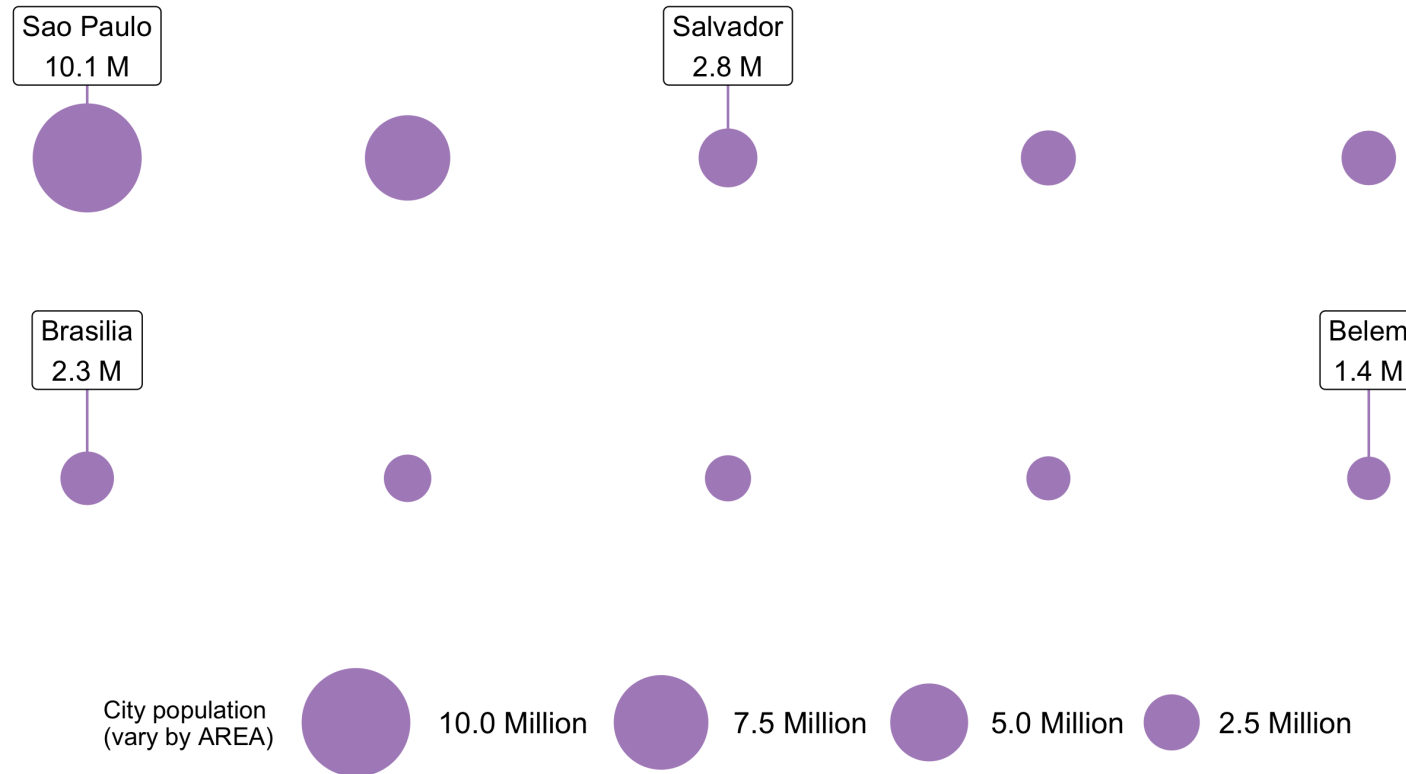


# Don't use `scale_radius()`





# Use `scale_size_area()`

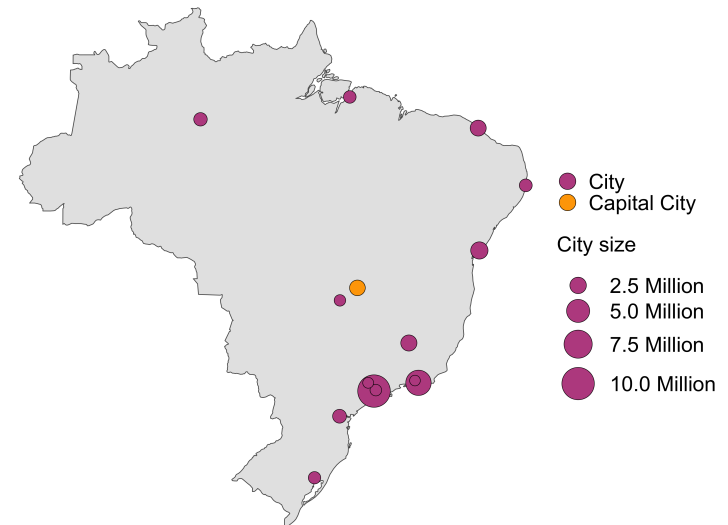




# My turn

I'm going to recreate this geobubble chart.

Cities in Brazil with more than 1 Million residents







# ●▲ geom\_point(pch = ?)

geom\_point() is unique in that it has a `pch`<sup>1</sup> argument - this controls which shape is drawn on your chart.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
hollow	□	○	△	+	×	◇	▽	⊠	✱	⋈	⊕	⊗	⊞	⊠	⊗	⊞									
solid																■	●	▲	◆	●	●				
bordered																						●	■	◆	▲

[1] `pch` stands for "plotting character"



# Your turn

Use the `your-turn.R` script in 02\_04 to create this geobubble chart of the most popular airports in the US.

- Ensure small circles are not overlapped by bigger circles
- Give the circles both a fill color and border color

