Questions in geometry group theory or complex dynamics lead to problems of quasiconformal geometry on non-smooth or fractal spaces. For example, there is a close relation of this subject to the problem of characterizing fundamental groups of hyperbolic 3-orbifolds or to Thurston’s characterization of rational functions with finite postcritical set. Fractal 2-spheres, Sierpiński carpets, or continuum trees are typical spaces for which a deeper understanding of their quasiconformal geometry is particularly relevant and interesting. In my talk I will give a survey on some recent developments in this area. (Received August 10, 2015)