Generalizations of convex cocompactness

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A Kleinian group is convex cocompact if it acts cocompactly on the convex hull of its limit set, or if its orbit is quasi-isometrically embedded, or if its orbit is quasi-convex. This idea has been generalized to hyperbolic groups, relatively hyperbolic groups, cubulated groups, mapping class groups, Out F_n, and acylindrically hyperbolic groups. In these settings, convex cocompactness is closely related to quasi-isometric embedding, (strong relative) quasi-convexity and stability. In this talk, we will explore these relations and discuss implications of convex cocompactness in different contexts.