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CrowdMag for personal interaction with Arctic magnetic variation

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The Earth's magnetic field is especially dynamic at high latitudes. The most awesome manifestation of this is certainly the aurora borealis or northern lights – caused by the interaction of the solar wind with the Earth's magnetic field. Aside from the aurora you can't see these magnetic variations. But your phone can. Virtually every modern smartphone is equipped with a 3-component magnetometer to enable the compass pointing capability for navigation. CrowdMag is a popular NOAA/CIRES citizen science app that we developed to tap into your smartphone's magnetometer. It lets you interact with the Earth's magnetic field.

The purpose of this presentation is to highlight the possibilities for using CrowdMag for science outreach and engagement, particularly in Arctic regions where day-to-day magnetic variations can exceed hundreds of nano-Teslas. We will show example projects that were carried out by summer interns as part of the University of Colorado's "Research Experience for Community College Students" (RECCS) program. CrowdMag can be used to carry out various simple experiments for mapping and investigating the Earth's magnetic field. We seek input and collaboration with others interested in Citizen Science and outreach in Arctic regions.