



Historic halo displays as weather indicator: Criteria and examples

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There are numerous celestial signs reported in historic records, many of them refer to atmospheric ("sub-lunar") phenomena, such as ice halos and aurorae. In an interdisciplinary collaboration between astrophysics and cultural astronomy, we noticed that celestial observations including meteorological phenomena are often misinterpreted, mostly due to missing genuine criteria: especially ice crystal halos were recorded frequently in past centuries for religious reasons, but are mistaken nowadays often for other phenomena like aurorae. Ice halo displays yield clear information on humidity and temperature in certain atmospheric layers, and thereby indicate certain weather patterns. Ancient so-called rain makers used halo observations for weather forecast; e.g., a connection between certain halo displays and rain a few day later is statistically significant. Ice halos exist around sun and moon and are reported for both (they can stay for several days): many near, middle, and far eastern records from day- and night-time include such observations with high frequency.

(Partly based on publications on halos by D.L. Neuhäuser & R. Neuhäuser, available at <http://www.astro.uni-jena.de/index.php/terra-astronomy.html>)