Atmospheric Rivers (ARs) drive many environmental hazards in the Pacific Northwest. They have been linked to flooding, heavy snows, snowpack loss, landslides and other disruptions to critical infrastructure. Accordingly, resource and emergency managers need accurate forecasts of ARs and their precipitation to make effective decisions. In this study we deployed a novel forecast verification technique, NCAR's Method for Object-based Diagnostic Evaluation (MODE), that compares similar geometric objects constructed from numerical forecasts and their matching observations. We will present evaluation of and discuss the forecast skill across a suite of publicly available forecast models run by NOAA and other weather agencies. We will focus on forecast skill in AR location, strength, and associated precipitation, while addressing questions such as: How far in advance of an event should managers trust AR forecasts? Are strong or weak ARs more predictable? Which model of the suite tested is most skillful, and does the most skillful model change with changing AR type or lead time? The MODE object-based verification is well-suited to evaluating model forecast skill for contiguous phenomena such as ARs and precipitation because it intrinsically provides information about the type of forecast error. For example, errors caused by a poor forecast of AR location can be separated from errors caused by a poor forecast of AR strength. We will also discuss the sources of errors in the forecasts considered and what the nature of forecast errors means for future forecast improvements.