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## Changing Metadata (RCM): a Project to Add FAIR metadata to Existing Standards

Ground based observing networks (e.g. CTBTO/IMS, FDSN) usually have static metadata. Some observing systems have rapidly changing metadata (e.g., moving stations) difficult to include in existing formats. The RCM project enables standardized methods to include rapidly changing metadata, improving FAIRness (Findability, Accessibility, Interoperability, and Reusability) of data. Project RCM's motivation came from the EarthScope-Oceans MERMAID effort that deals with hydrophones floating in ocean currents, recording energy from seismic events. The location of MERMAID platforms can change by thousands of kilometers and is difficult to capture in the standard SEED format. In addition to location, we have identified other metadata elements that may change rapidly, including sensor (e.g., sensor type, calibration), timing (e.g., sample rate, timing corrections), orientation (e.g. sensor azimuth/dip either calculated or measured), and other rapidly changing metadata elements, if needed. The project uses structured GeoCSV files that capture rapidly changing metadata in a self-describing manner using file headers and column headers identifying key information, such as units, variable types, and parameter descriptions for related columns. It makes the data more FAIR by allowing inclusion of attributes that change rapidly in a well-documented and understandable manner. The RCM project scope and status will be discussed in this presentation.

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