A framework to characterize and communicate uncertainty
ERL (2024) 19:123003 – DOI 10.1088/1748-9326/ad8be0

Motivation
- Uncertainty is not monolithic across or within disciplines
- In CMS, we all characterize it, **but we mean different things**
- The Uncertainty Working Group argued for several years to develop *a framework to partition and communicate uncertainty*

Approach
- Posit a generic workflow that applies to all of our projects
  - Predictors, Models, Observations
- Find overarching language interpretable across disciplines
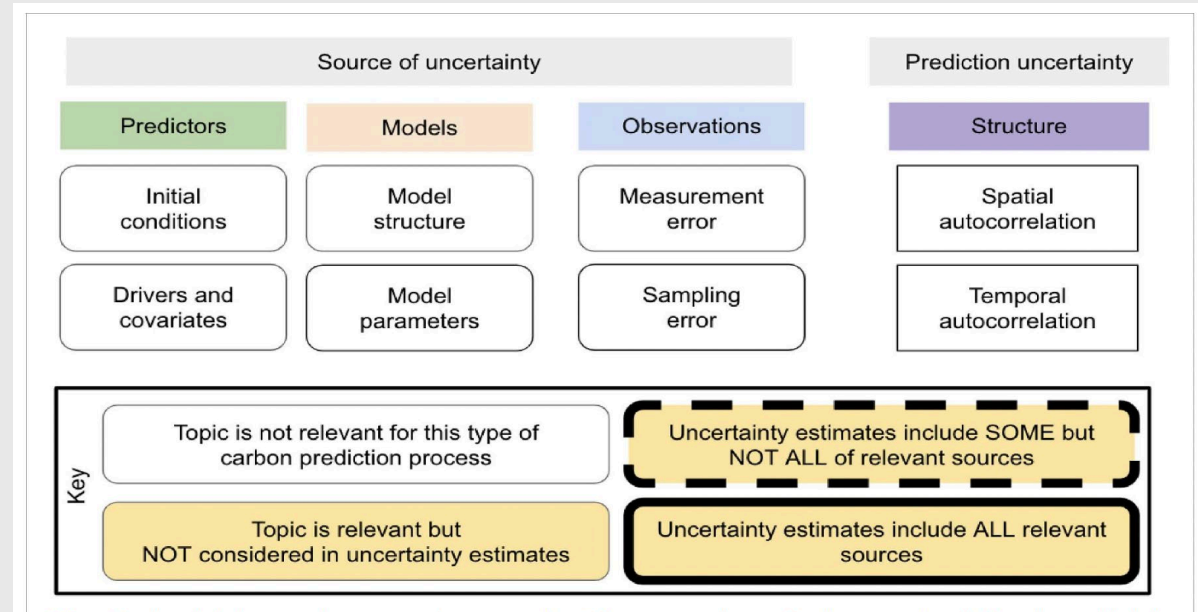- Consider both spatial and temporal autocorrelation

Result
- Heuristic framework with graphical (symbolic) component →
- ….. and an associated narrative describing rationale

Significance
- Read it and see what you think. Can we consider using this framework to accompany CMS-associated datasets?

Uncertainty heuristic: For any product where we produce spatially explicit predictions of uncertainty, we use the symbolism to indicate which sources of uncertainty are considered and – more importantly – which sources are relevant but not considered. This provides a means of managing expectations for users and to introspect on which factors we might want to better characterize in the future.