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## Cross-survey tools and simulations

The tightest constraints on cosmological parameters will be obtained from the combination of different cosmological probes such as galaxy clustering, weak lensing, and CMB. The combination of data from surveys such as LSST, Euclid, Roman, and CMB S4 hold the promise to test the foundations of our cosmological model. These joint analyses will require significant cross-survey collaboration and common analysis tools. As an example, sets of correlated simulations will be essential for pipeline validation as well as novel analysis methods based on forward-modeling. We would therefore like to advocate for significant support of cross-survey efforts to homogenize analysis tools, as well as the development of joint simulation frameworks in order to facilitate these joint analyses.

In addition, the analysis of data from upcoming experiments will significantly benefit from continued access to and expertise on data from current surveys. We therefore advocate that relevant data bases as well as expertise be kept in place, even after precursor surveys end their nominal lifetime.

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