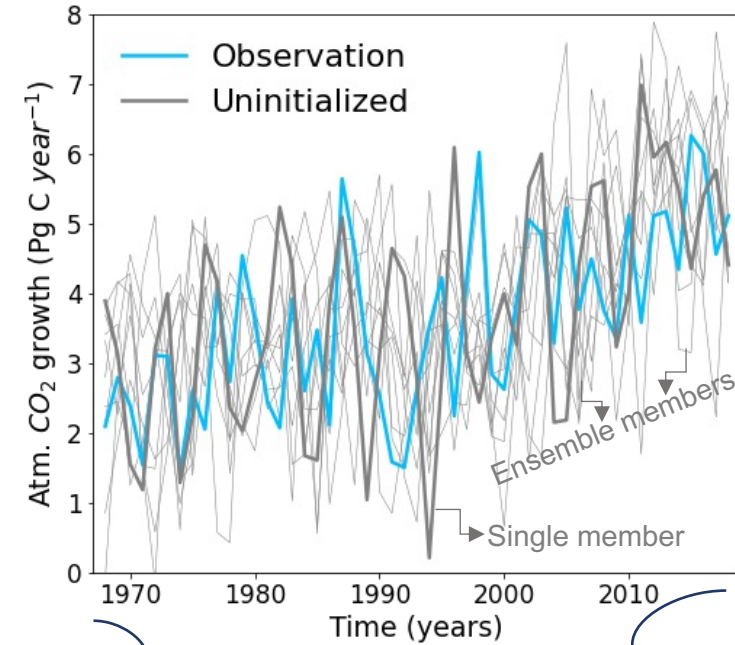


Illustration of decadal prediction system based on an Earth system model

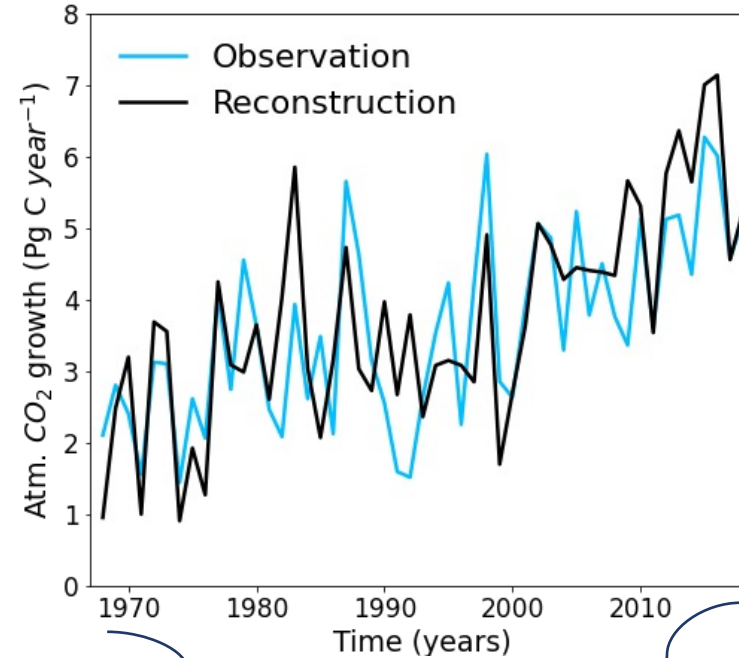
A Uninitialized simulations



Uninitialized “free” simulations capture long-term trends, but not the year-to-year variations.

Observational and reanalysis data products are assimilated.

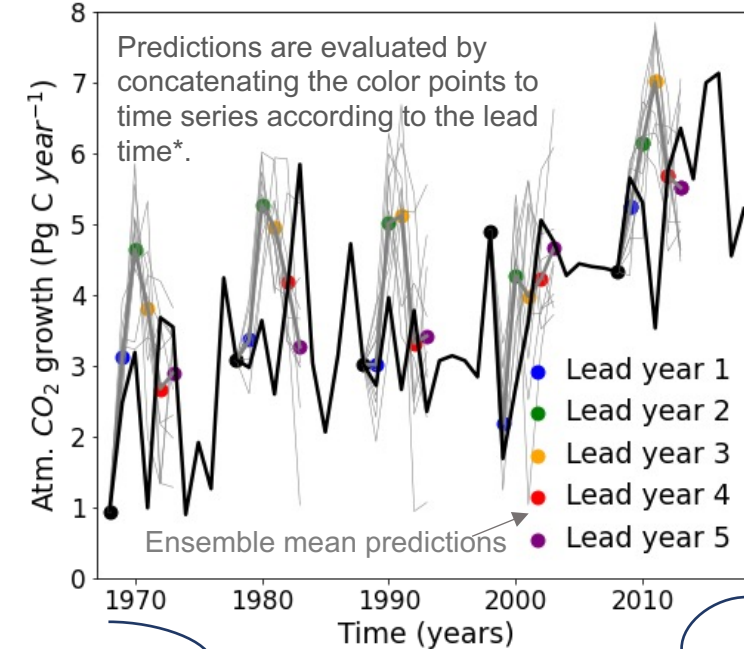
B Assimilation reconstruction



Reconstruction by assimilation captures observed year-to-year variations to a large extent.

Predictions are initialized from reconstruction yearly and run freely for several years.

C Initialized predictions



Initialized predictions follow the evolution of reconstruction, bias due to initialization needs to be corrected.

*Note that not every starting year predictions are shown.