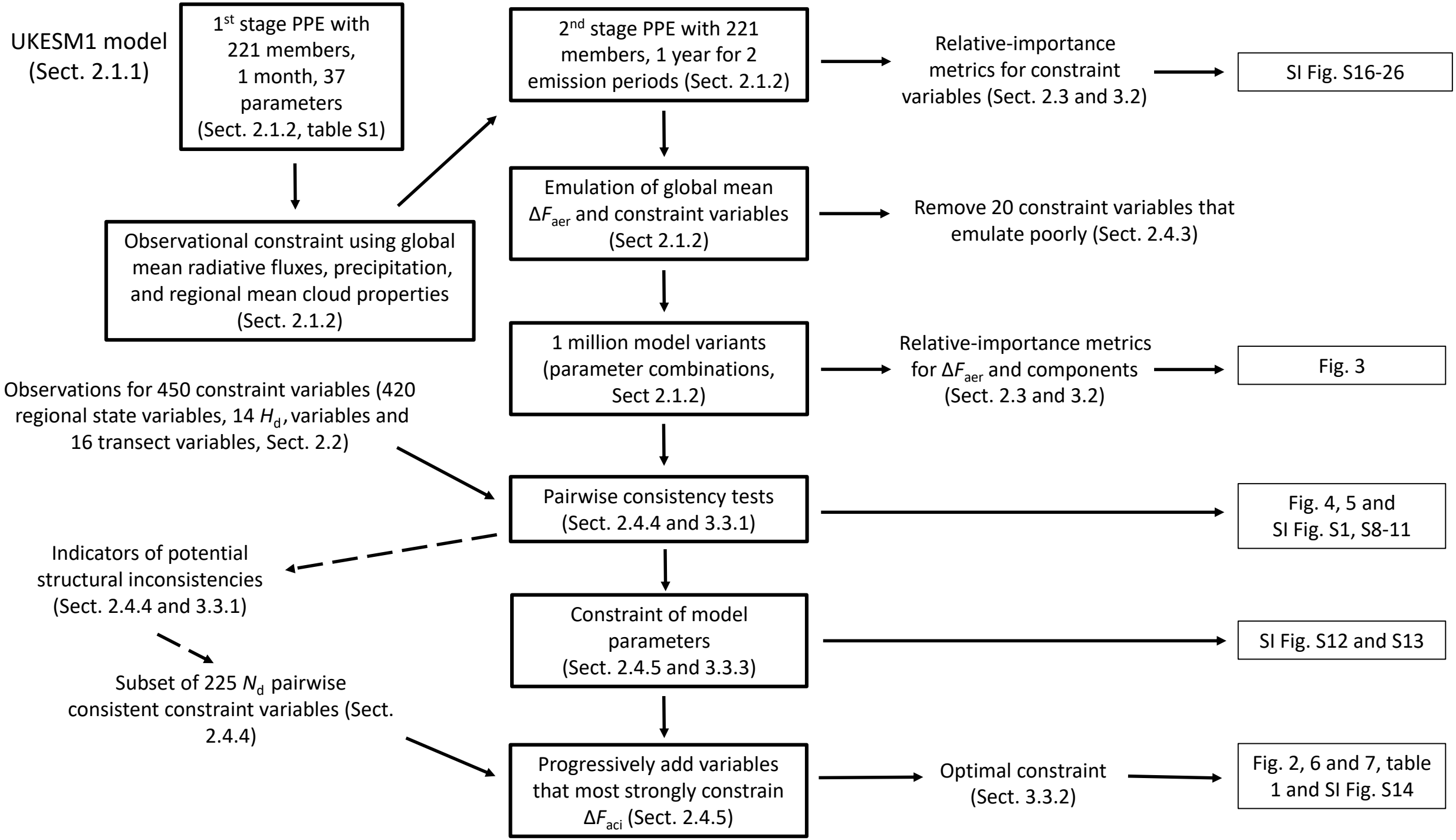
UKESM1 model (Sect. 2.1.1)
1st stage PPE with 221 members, 1 month, 37 parameters (Sect. 2.1.2, table S1)
Observational constraint using global mean radiative fluxes, precipitation, and regional mean cloud properties (Sect. 2.1.2)
2nd stage PPE with 221 members, 1 year for 2 emission periods (Sect. 2.1.2)
Relative-importance metrics for constraint variables (Sect. 2.3 and 3.2)
SI Fig. S16-26
Emulation of global mean ΔF_{aer} and constraint variables (Sect 2.1.2)
Remove 20 constraint variables that emulate poorly (Sect. 2.4.3)
1 million model variants (parameter combinations, Sect 2.1.2)
Relative-importance metrics for ΔF_{aer} and components (Sect. 2.3 and 3.2)
Fig. 3
Observations for 450 constraint variables (420 regional state variables, 14 H_d, variables and 16 transect variables, Sect. 2.2)
Pairwise consistency tests (Sect. 2.4.4 and 3.3.1)
Fig. 4, 5 and SI Fig. S1, S8-11
Indicators of potential structural inconsistencies (Sect. 2.4.4 and 3.3.1)
Constraint of model parameters (Sect. 2.4.5 and 3.3.3)
SI Fig. S12 and S13
Subset of 225 N_d pairwise consistent constraint variables (Sect. 2.4.4)
Progressively add variables that most strongly constrain ΔF_{aci} (Sect. 2.4.5)
Optimal constraint (Sect. 3.3.2)
Fig. 2, 6 and 7, table 1 and SI Fig. S14