Managing living marine resources in a dynamic environment: The role of seasonal to decadal climate forecasts

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Data Assimilation System
Initialization to present observed conditions

Global Climate Observing System
  e.g. satellites, Argo, meteorological stations

Pre-Industrial Control Run
  1860 repeated continuously

Historical Run
  1860 - Present

SEASONAL PREDICTION
  1 - 12 months forecast

DECADAL PREDICTION
  1 - 30 years forecast

CLIMATE PROJECTION
  100+ years projection

Initial Value Problem

Boundary Value Problem

Historical Forcings
  e.g. GHG, Aerosols, Ozone, Solar

Future Forcings
  Forcing Scenarios Present - 2100+