

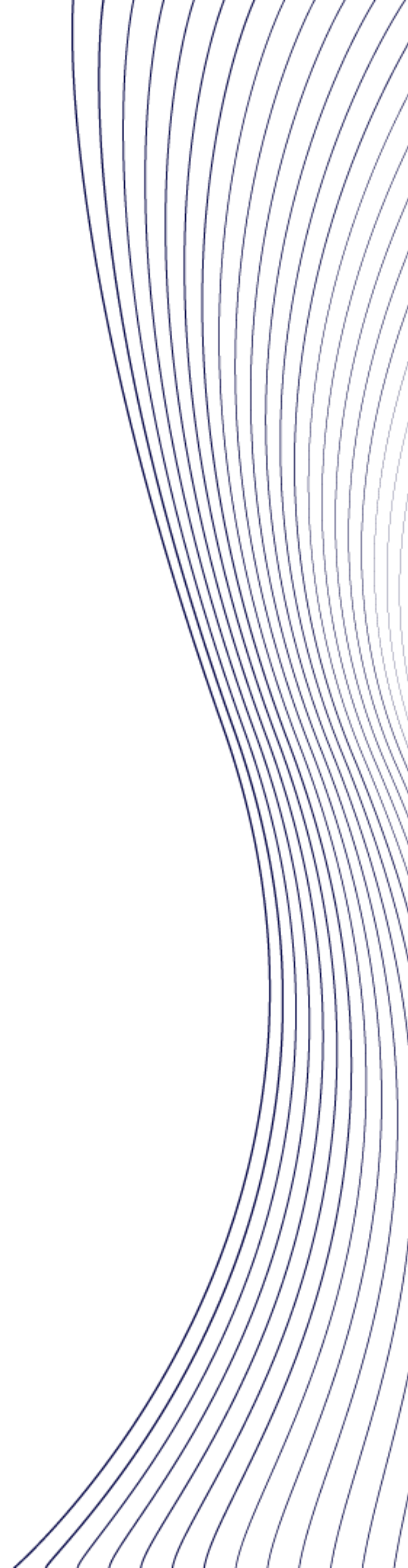


Rapid Evaluation Framework

Session 4: Diagnostics

Diagnostics

- Role of diagnostics
- List of diagnostics for AR7 Fast Track,
- Metrics
- Reference datasets
- Practical applications
- Next steps

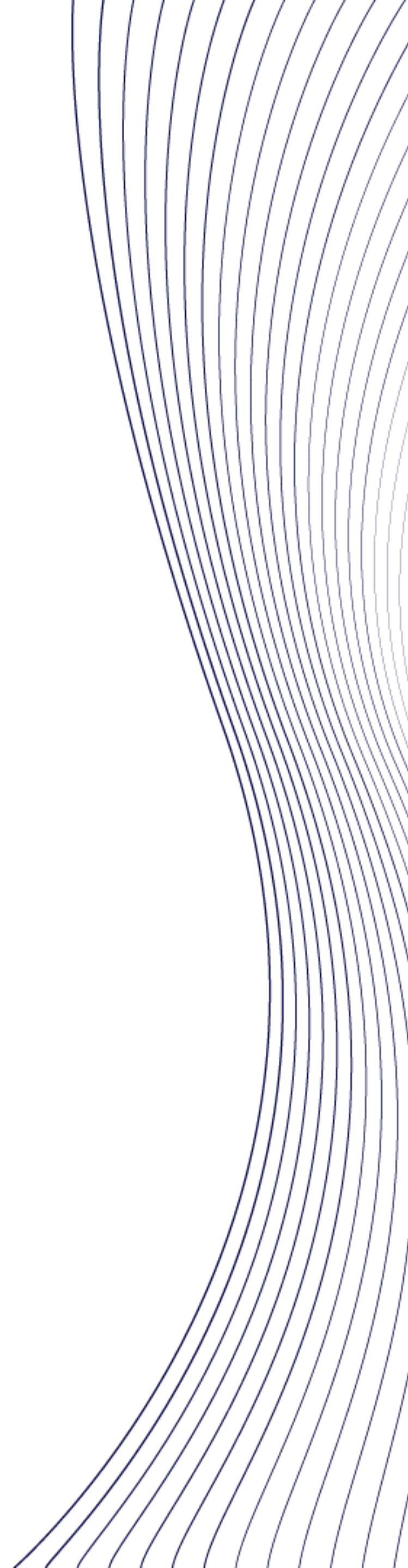


Essential diagnostics for AR7 Fast Track

Land & Land ice	Ocean & Sea ice	Impacts & Adaptation	Earth System	Atmosphere
Gross primary production	Sea surface temperature (SST) bias	Internal Variability or ensemble spread within individual models (focused on precipitation and surface temperature)	Historical Changes in climate variables (time series and trends), e.g. precipitation, temperature	Annual cycle and seasonal mean of multiple variables
Runoff	Sea surface salinity (SSS) bias	Evaluation of key climate variables at Global Warming Levels (e.g. trends, specific regions)	Equilibrium climate sensitivity (ECS)	Radiative and heat fluxes at the surface and TOA
Surface soil moisture	Ocean heat content (OHC)	High Amplitude Rossby Waves	Transient climate response (TCR)	Climate variability modes (e.g., ENSO, MJO, Extratropical modes of variability, monsoon)
Net Ecosystem Exchange	Atlantic Meridional Overturning Circulation	Climate drivers for fire (Fire burnt area, fire weather and fuel continuity)	Transient climate response to cumulative emissions of carbon dioxide (TCRE)	E-P (evaporation – precipitation)
Soil carbon	ENSO diagnostics (lifecycle/ seasonality/ teleconnections)		Zero Emissions Commitment (ZEC)	Double ITCZ
Snow cover	Antarctic/Arctic sea ice area seasonal cycle			Cloud radiative effects
	September rate of Arctic sea ice area loss per degree warming (dSIA/dGMST)			Scatterplots of two cloud-relevant variables (specific regions of the globe; with specific cloud regimes)

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Q&A

Thank You



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