

DECADAL SCALE VARIABILITY AND BAROCLINIC BASIN MODES

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Decadal scale variability is found in several ocean and coupled models,
idealized or not.

Ocean basin modes, based on baroclinic Rossby waves westward propagation
and reemission through fast boundary waves, provide a potential mechanism
with the right timescale,

but baroclinic instability is needed for positive growth rate.

Analytical methods based on multiple timescale expansion, and
numerical methods for linear stability analyses, within several
simplified models (quasigeostrophic, shallow-water), are used to
better understand the instability processes and the rectification
of the modes by the mean flow.

Applications to more realistic setting is underway through generalised
stability analysis in primitive equation models.