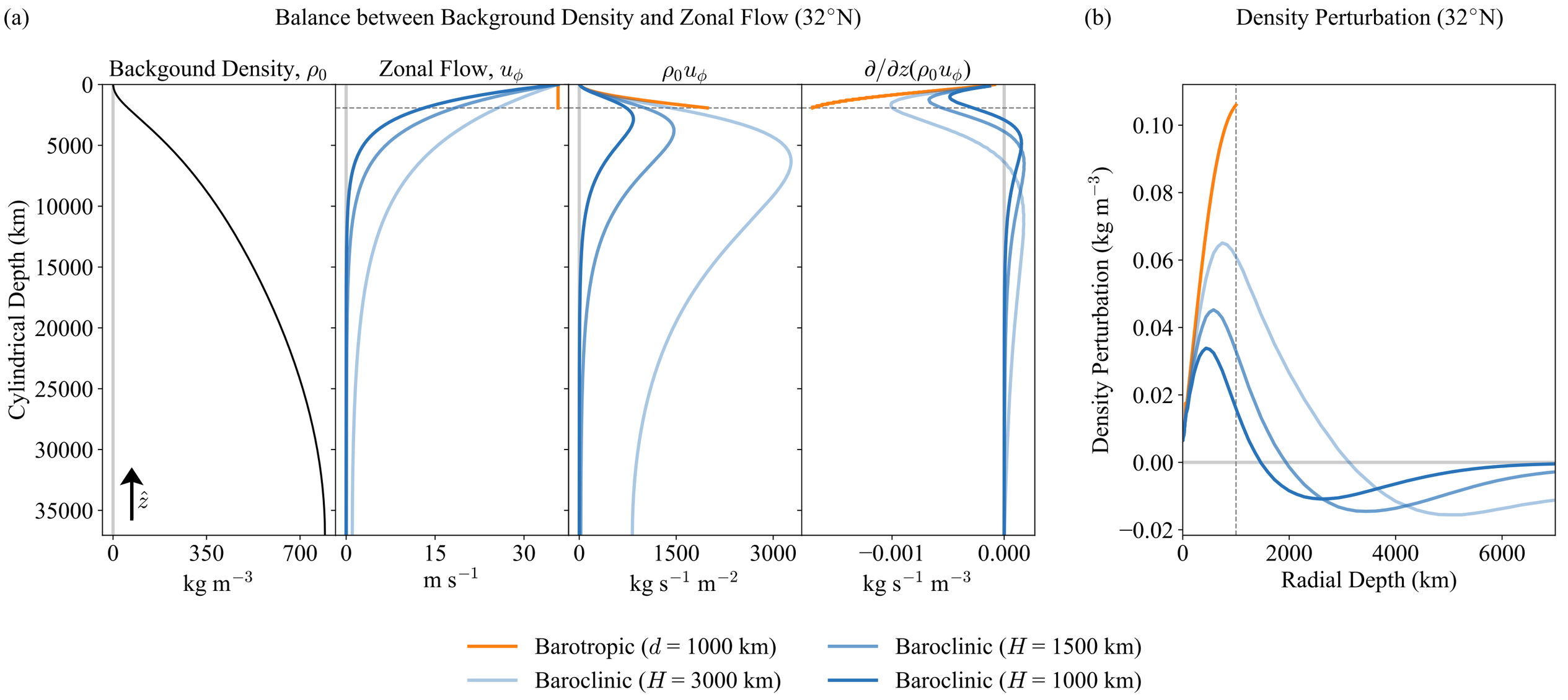
(a)
Balance between Background Density and Zonal Flow (32°N)
(b)
Density Perturbation (32°N)
Backgound Density, ρ_0
Zonal Flow, u_ϕ
$\rho_0 u_\phi$
$\partial/\partial z(\rho_0 u_\phi)$
Cylindrical Depth (km)
0
5000
10000
15000
20000
25000
30000
35000
$\hat{z}$
0
350
700
kg m^{-3}
0
15
30
m s^{-1}
0
1500
3000
kg s^{-1} m^{-2}
−0.001
0.000
kg s^{-1} m^{-3}
Density Perturbation (kg m^{-3})
0.10
0.08
0.06
0.04
0.02
0.00
−0.02
0
2000
4000
6000
Radial Depth (km)
Barotropic (d = 1000 km)
Baroclinic (H = 1500 km)
Baroclinic (H = 3000 km)
Baroclinic (H = 1000 km)