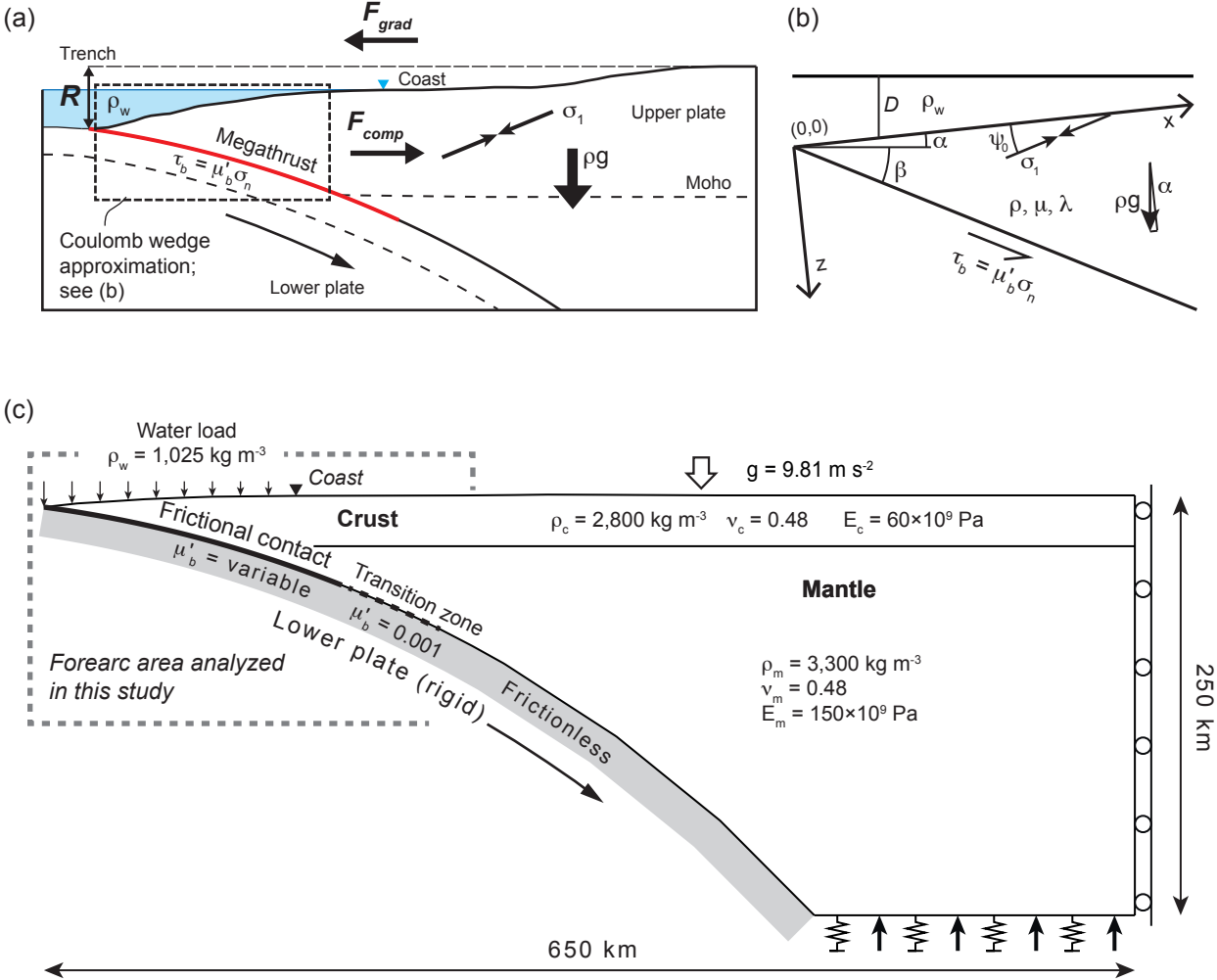
(a)
F grad
Trench
Coast
R
ρw
F comp
σ1
Upper plate
Megathrust
τb = μ'b σn
ρg
Moho
Coulomb wedge approximation; see (b)
Lower plate
(b)
D
ρw
(0,0)
α
ψ0
x
β
σ1
ρ, μ, λ
ρg
α
z
τb = μ'b σn
(c)
Water load
ρw = 1,025 kg m-3
Coast
g = 9.81 m s-2
Crust
ρc = 2,800 kg m-3
νc = 0.48
Ec = 60×10⁹ Pa
Frictional contact
μ'b = variable
Transition zone
μ'b = 0.001
Mantle
Lower plate (rigid)
Frictionless
Forearc area analyzed in this study
ρm = 3,300 kg m-3
νm = 0.48
Em = 150×10⁹ Pa
250 km
650 km