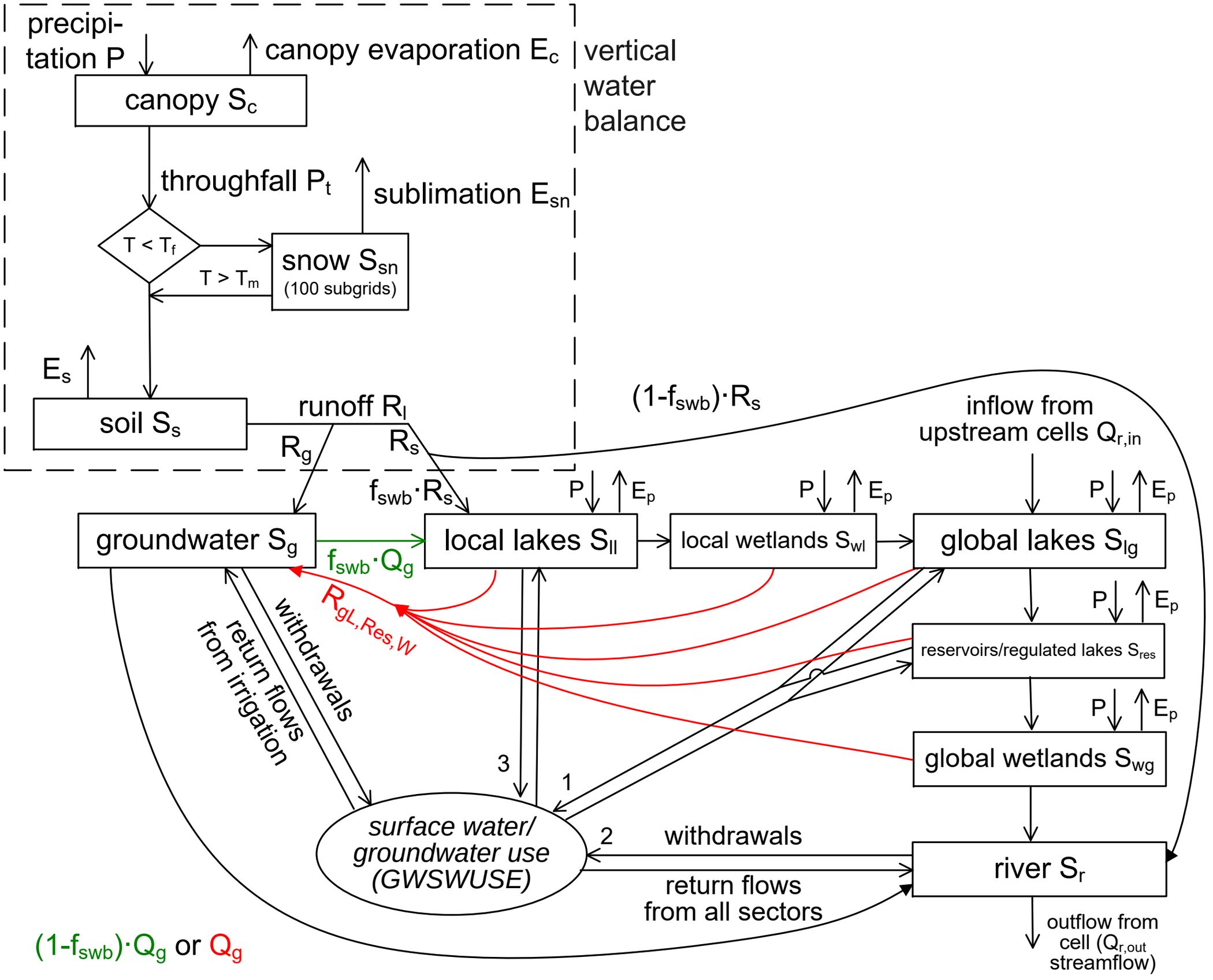
precipi-
tation P
canopy evaporation E_c
vertical
water
balance
canopy S_c
throughfall P_t
sublimation E_{sn}
$T < T_f$
$T > T_m$
snow S_{sn}
(100 subgrids)
E_s
soil S_s
runoff R_l
R_g
R_s
$(1-f_{swb})\cdot R_s$
inflow from
upstream cells $Q_{r,in}$
$f_{swb}\cdot R_s$
P
E_p
groundwater S_g
local lakes S_{ll}
local wetlands S_{wl}
global lakes S_{lg}
$f_{swb}\cdot Q_g$
$R_{gL,Res,W}$
withdrawals
return flows
from irrigation
reservoirs/regulated lakes S_{res}
global wetlands S_{wg}
3
1
2
surface water/
groundwater use
(GWSWUSE)
withdrawals
return flows
from all sectors
river S_r
outflow from
cell ($Q_{r,out}$
streamflow)
$(1-f_{swb})\cdot Q_g$ or Q_g