

GEMRAMS Scheme

Input data List

NCEP/NCAR Reanalysis
(Kalnay et al. 1996)

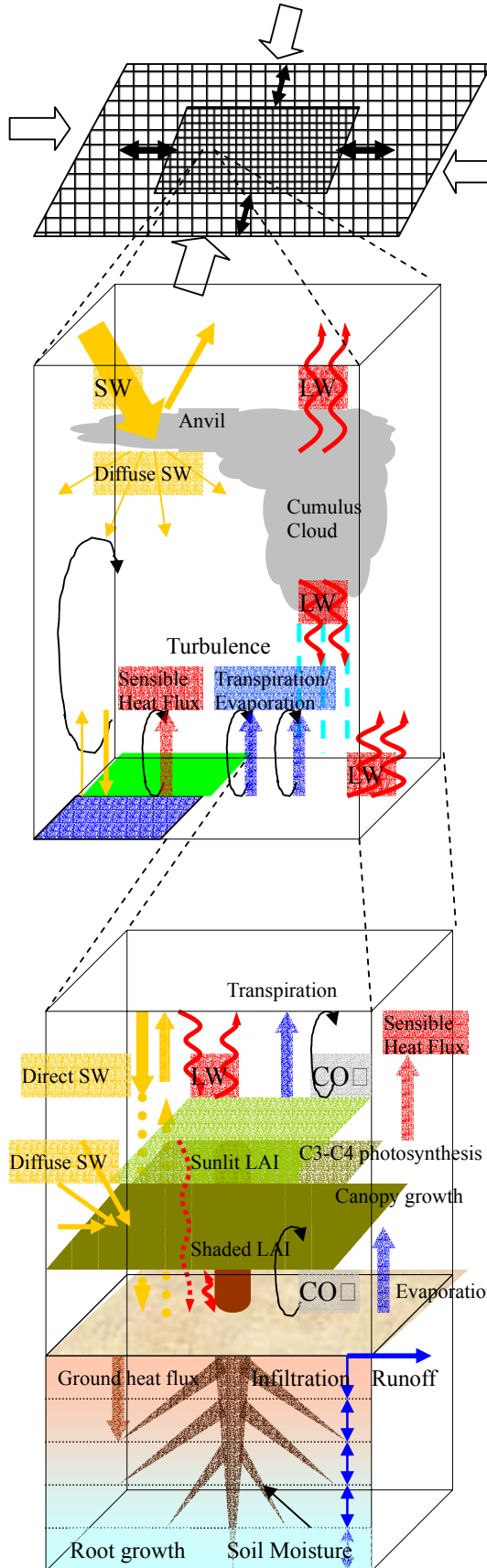
Digital Elevation Model
(USDA)

BATS/LDAS land use land
covers (Dickinson et al. 1986)

AVHRR/MODIS LAI
(Myneni et al. 2002)

FAO global soil texture (Zobler
1986), USDA STATSGO
(Miller and White 1998)

VIC LDAS soil moisture
(Maurer et al. 2002)



Model Scheme List

RAMS

Regional Atmospheric Modeling
System (Pielke et al, 1992, Cotton et
al. 2002)

- Radiative Transfer Scheme
Simple (Mahrer and Pielke 1977)
Two-stream (Chen and Cotton 1987)
New two-stream (Harrington 1997)

- Microphysics Scheme
Dump bucket (Cotton 1995)
Single-moment bulk (Walko et al. 1995)
Two-moment bulk (Meyers et al 1995)
*Spectral bin resolving (Reisin et al.
1996)*

- Convection Scheme
Simplified Kuo (Tremback 1990)
*Modified Kain-Fritsch (Castro et al.
2002)*

- Turbulence Closure Scheme
K-closure (Lilly 1962, Hill 1974)
Eddy viscosity TKE (Deardorff 1980)
*Ensemble-average TKE (Mellor and
Yamada, 1982)*
Sub-grid (Kosovic 1997)

GEMTM & LEAF2

- Subgrid land covers (Avisar and Pielke 1989)
- Multi-canopy Radiative Transfer Model (Goudriaan 1977)
- Sunlit/shaded leaf (Norman 1979)
- Photosynthesis Model: C3 & C4 path (Farquhar et al. 1980 , Chen et al. 1994)
- Evaporation/Transpiration Model (Walko et al. 2000)
- Canopy Air Turbulent Exchange (Lee 1992)
- Temporary Surface Water (Walko et al.1996)
- Soil Respiration (Norman 1992)
- Root Effluence, Uptake and Branching Model (Chen and Lieth 1992, 1993)
- Soil water and energy balance (McCumber and Pielke 1981, Walko et al. 2000)

