TEM (Terrestrial Ecosystem Model)

**Description**
The TEM is a process-based ecosystem model that describes carbon and nitrogen dynamics of plants and soils for terrestrial ecosystems of the globe. The TEM uses spatially referenced information on climate, elevation, soils, vegetation, and water availability as well as soil- and vegetation-specific parameters to make monthly estimates of important carbon and nitrogen fluxes and pool sizes of terrestrial ecosystems. The TEM operates on a monthly time step and at a 0.5° latitude/longitude spatial resolution.

**Appropriate Use**
Regional to global simulation of climate effects on ecosystem dynamics.

**Scope**
Regional to global.

**Key Output**
GPP, NPP, evapotranspiration, soil carbon and nitrogen, vegetation carbon and nitrogen.

**Key Input**
Vegetation, soil texture, elevation, solar radiation, precipitation, air temperature.

**Ease of Use**
Expertise in ecosystem science and biogeochemistry.

**Training Required**
Yes.

**Training Available**
See Contacts below.

**Computer Requirements**
High-end workstation.

**Documentation**
http://www.mbl.edu/eco42/.

**Applications**
Examined the time-dependent responses of terrestrial carbon storage and the net carbon exchange with the atmosphere as influenced by historical climate CO₂, land use and soil thermal regime.

**Contacts for Framework, Documentation, Technical Assistance**
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**Cost**
Not specified.

**References**
