

Introducing VIC-CropSyst

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Purpose:

1. To simulate crop growth dynamics (biomass), irrigation demand for rice (or other crops), management scenarios.

other water balance components:
evapotranspiration, runoff, soil
moisture.

1. **It can be useful for:** (1) long term planning and (2) real-time operation

Model Configuration

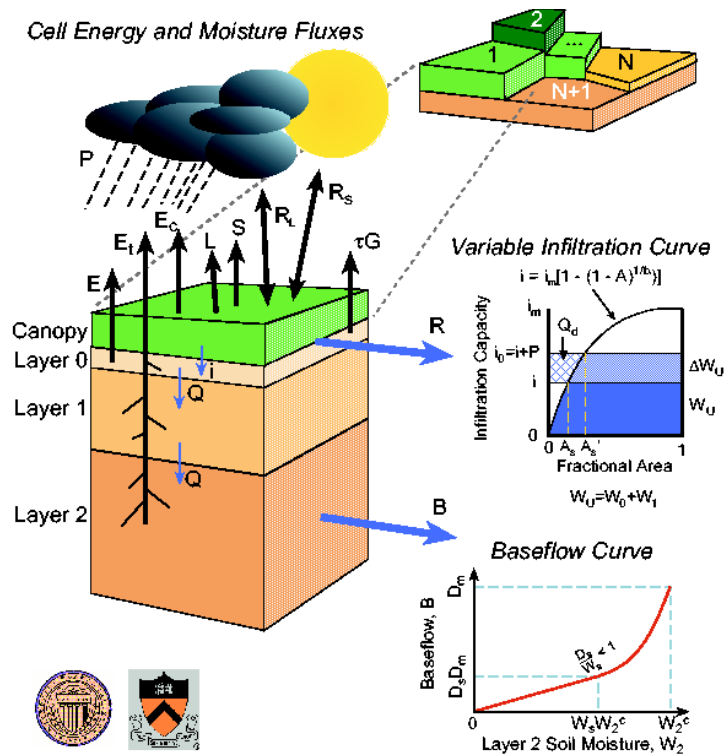


Fig. Standalone VIC

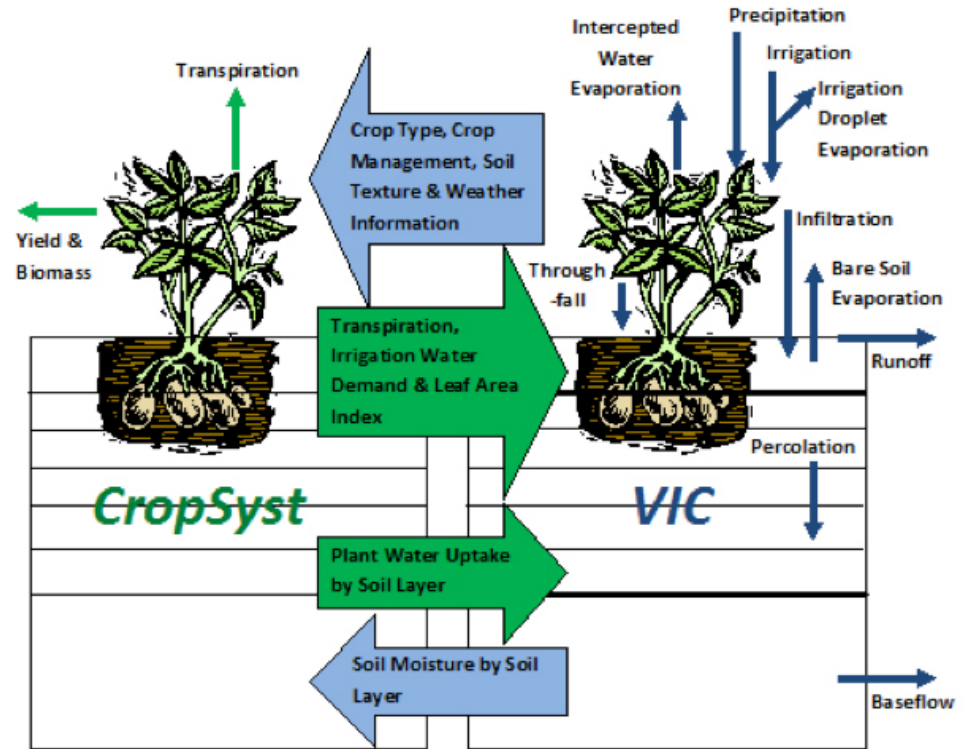


Fig. Coupled VIC-CropSyst

Model characteristics:

1. How can we view this model?

- **Spatially:** One dimension
- **Resolution:** 0.1 degree (~10km at equator)
- **Time period:** Seasonal scale can be important. It can simulate daily biomass growth.

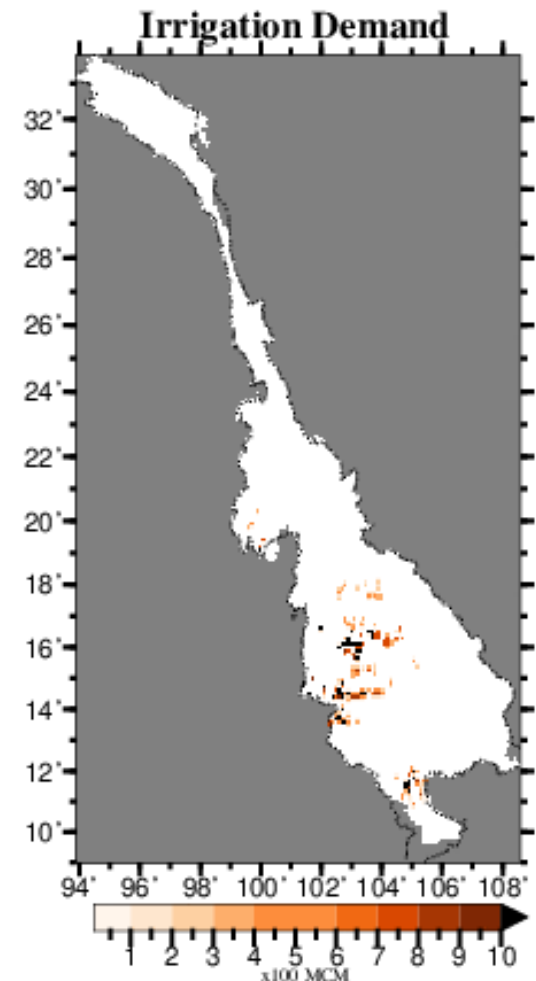
Probable Application in the Mekong:

- To feed (variables like irrigation demand) in optimization tool for different scenarios
- Understand effect of climate variability (like drought)
- Livelihood of farmers, food-trade
- Stakeholders: MRC, Agricultural and water managers from different Mekong-countries.
- Region: Cambodia and Vietnam.

Result and Implications

- Preliminary version of the model is set-up across Lancang-Mekong basin.
- Output of this model can be useful for managing cascade operation, as well as for other studies impact of climate, etc. on rice production and other water balance components.

Fig: Simulated mean annual Irrigation demand in the Lancang-Mekong basin.



Thank you

Acknowledgement

Prof. Van Tri, Can Tho Uni, for providing rice data for districts in Vietnam (Delta) region.

Prof. Hossain, UoW, for sharing data and parameters for the VIC set-up.

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