

Exploring the Potential and Pitfalls:

State and Transition Modeling for Teaching Fundamental Ecological Processes in Undergraduate Education

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Spoiler alert...



Teaching ecology is hard...**models can help**

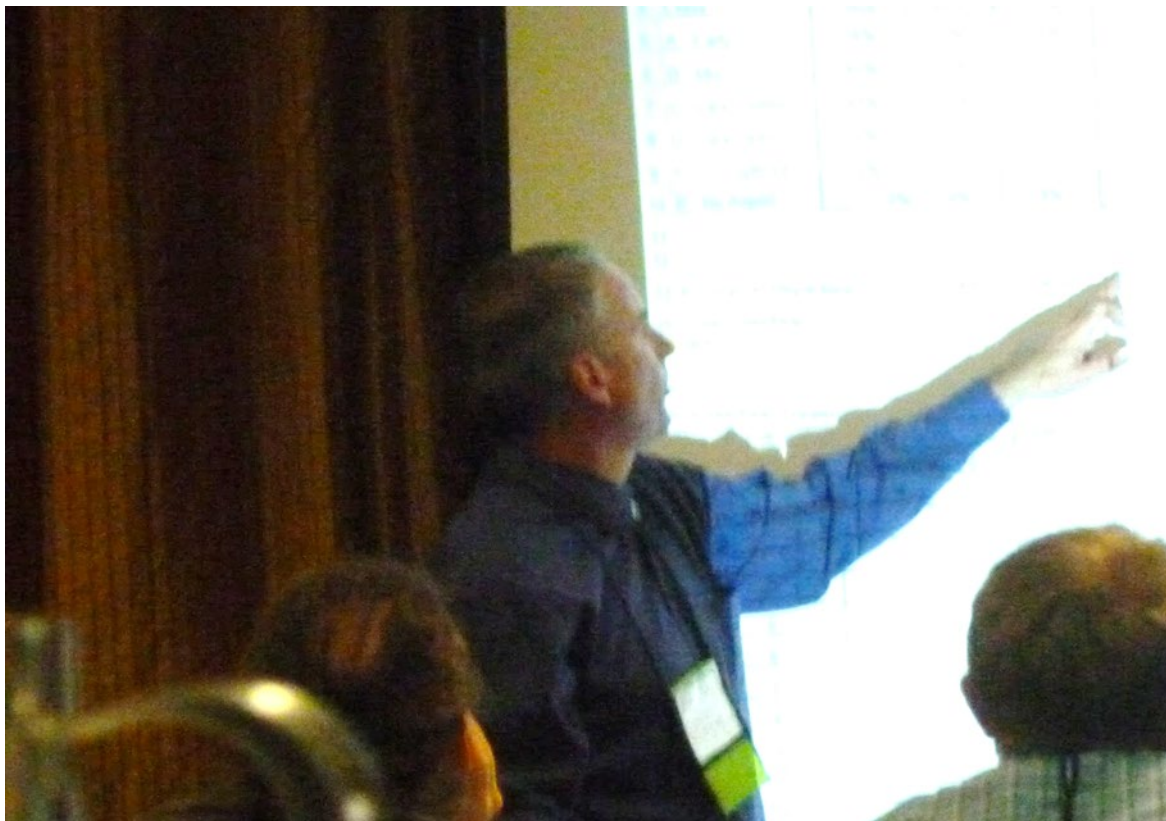


SyncroSim based curricula is promising...**tons of potential**



Key to success = **preparation, testing, patience**

Favor...



Ecology
is hard...



...models
can help



Introduction and reasoning

ECOLITERACY ECOLITERACY ECOLITERACY

Fostering ecoliteracy through model-based instruction



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Key idea



SyncroSim
based
curricula

Objective:

Increase modeling comfort and ecological understanding

Tools:

SyncroSim and LANDFIRE models

Output:

Students that model, understand disturbances, succession

SyncroSim
based learning



...we've
done it

12+ classes taught
200+ students impacted

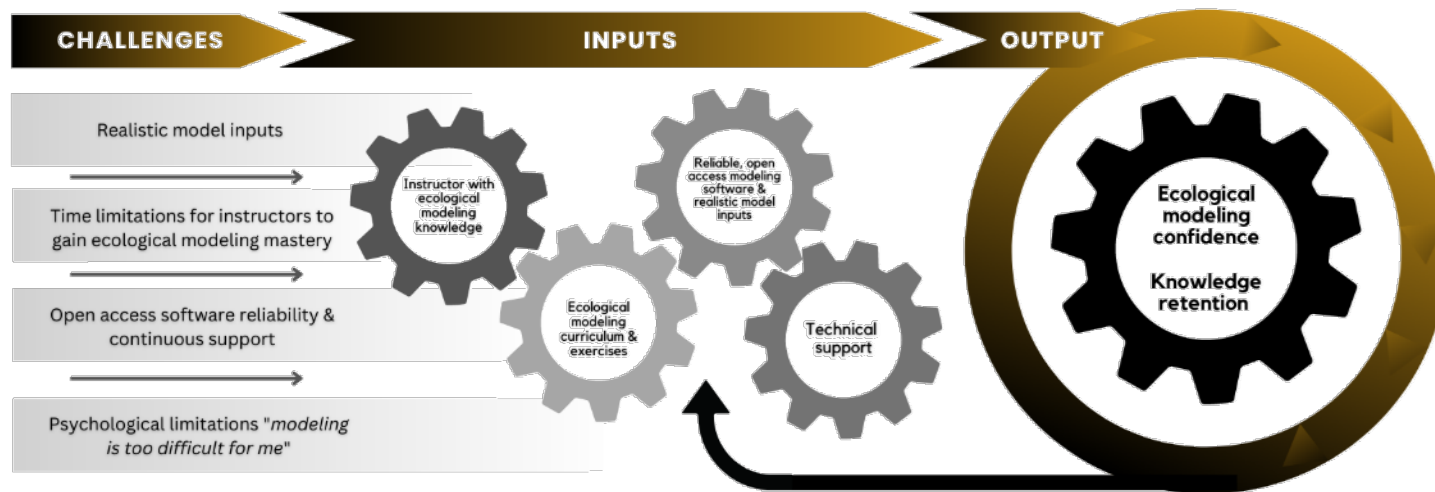
SyncroSim based learning | ...brief methods

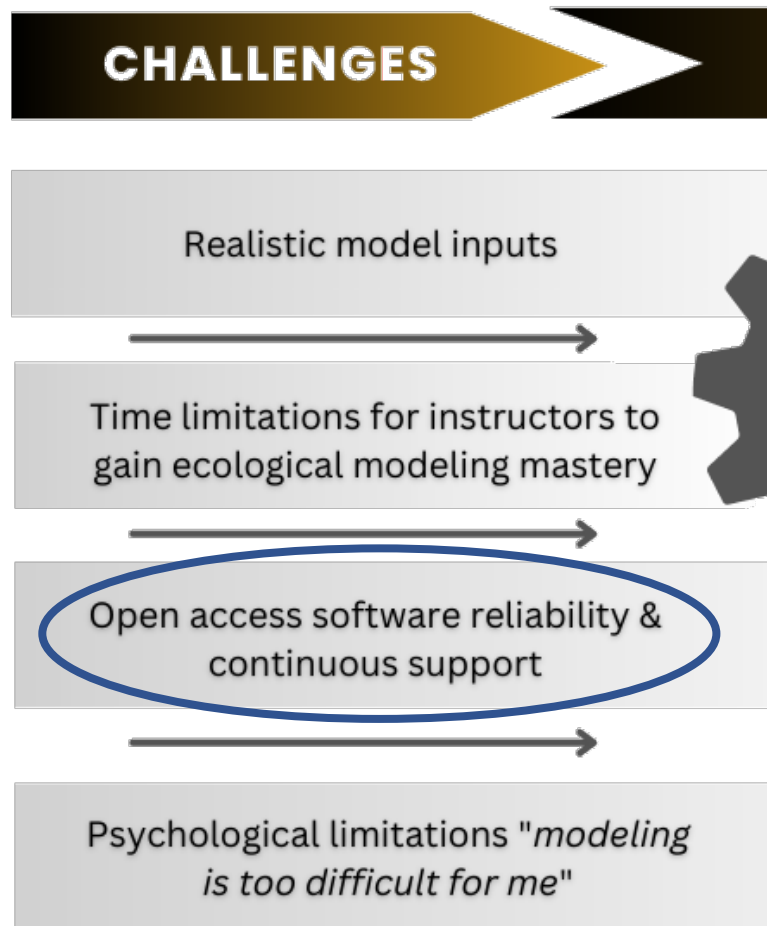
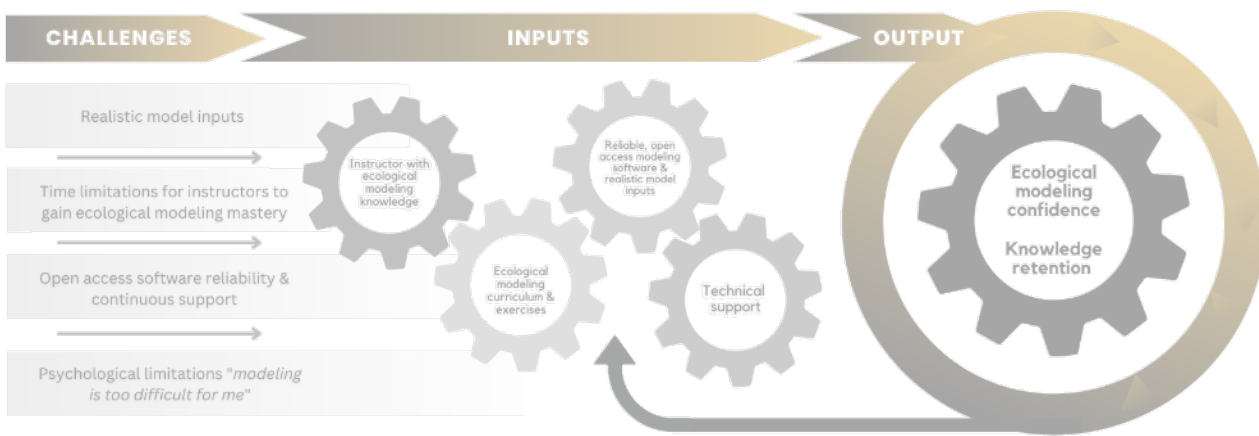
- Developed detailed instructions
- Students model
- Students document results

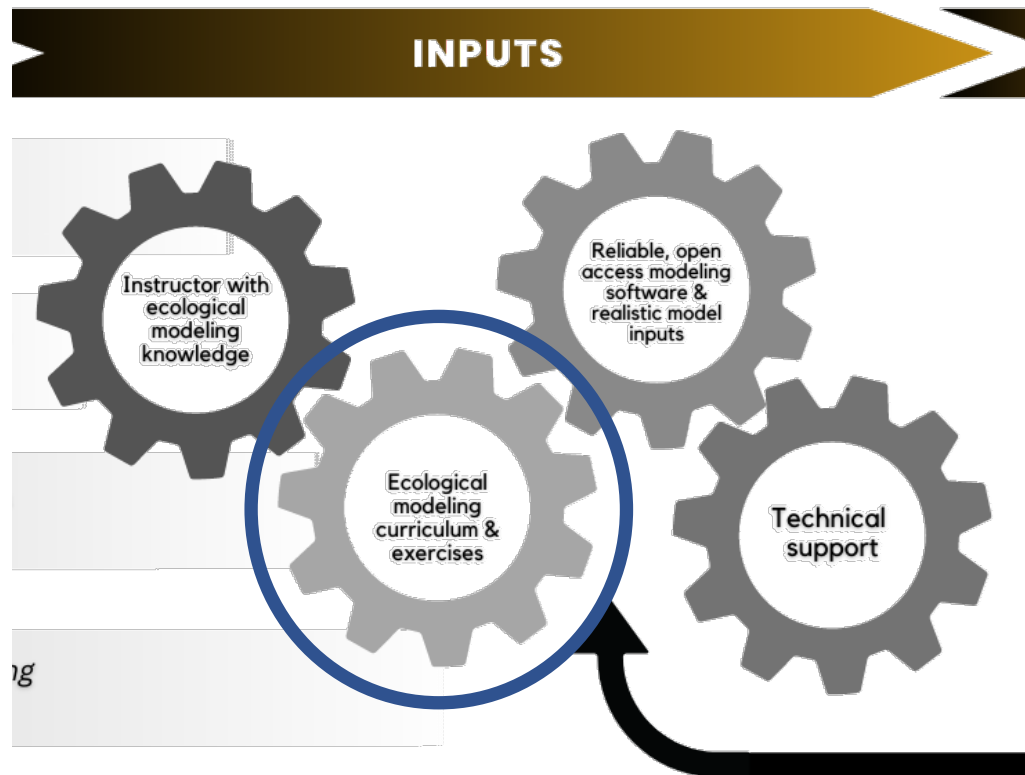
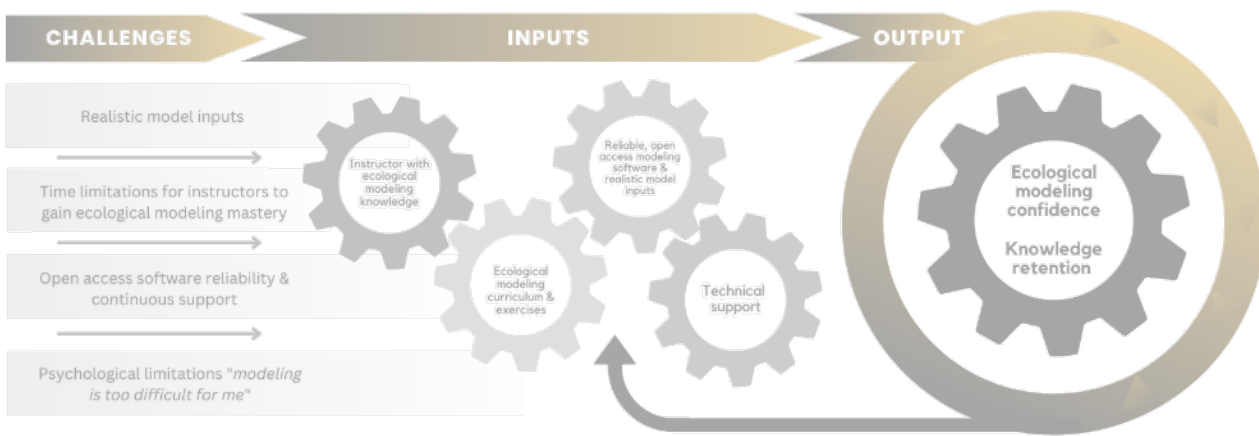
SyncroSim based learning

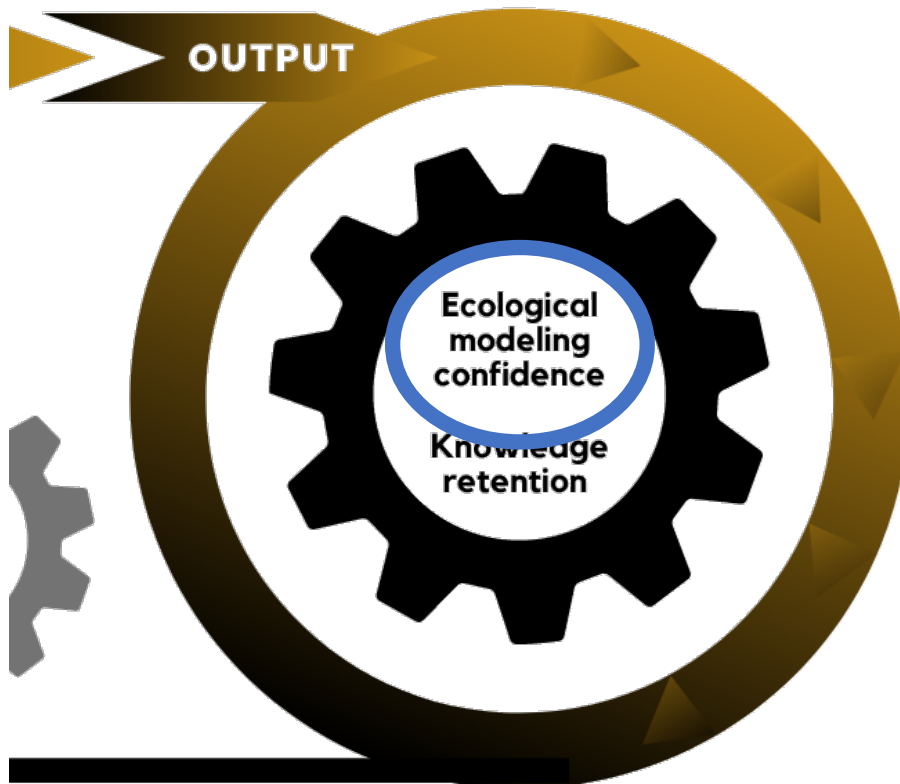
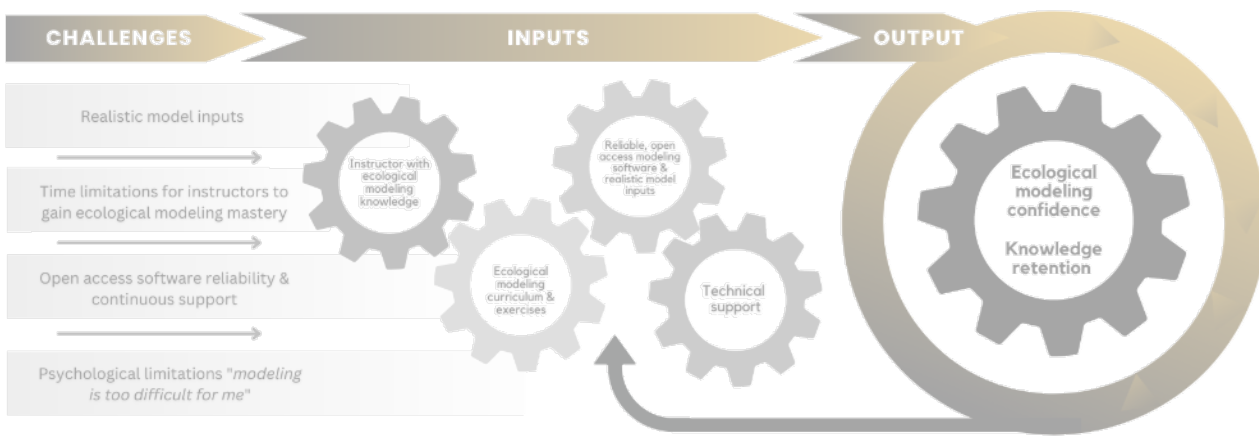
...taken a
step further

Demystifying ecological modeling: a hands-on activity to acquaint students with modeling ecosystem responses to natural and human driven disturbances.







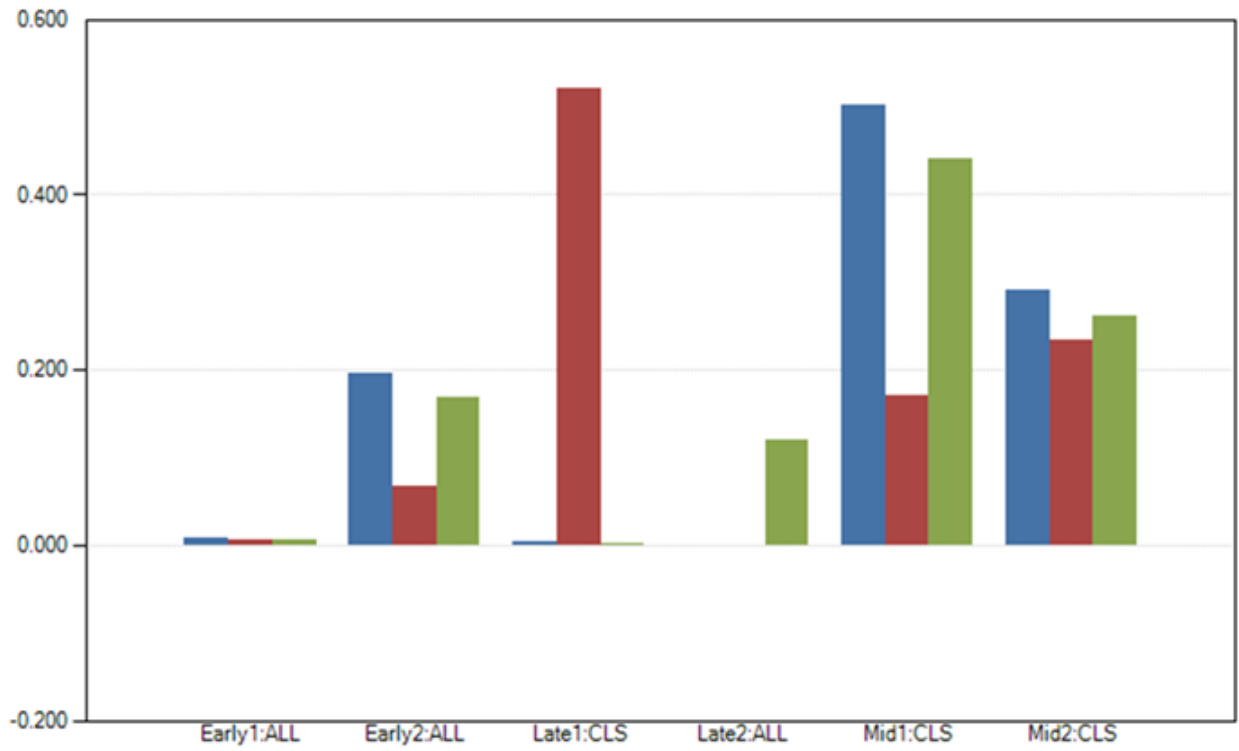


Key to success



Preparation,
testing,
practice

State Classes Proportion: Timestep 1000

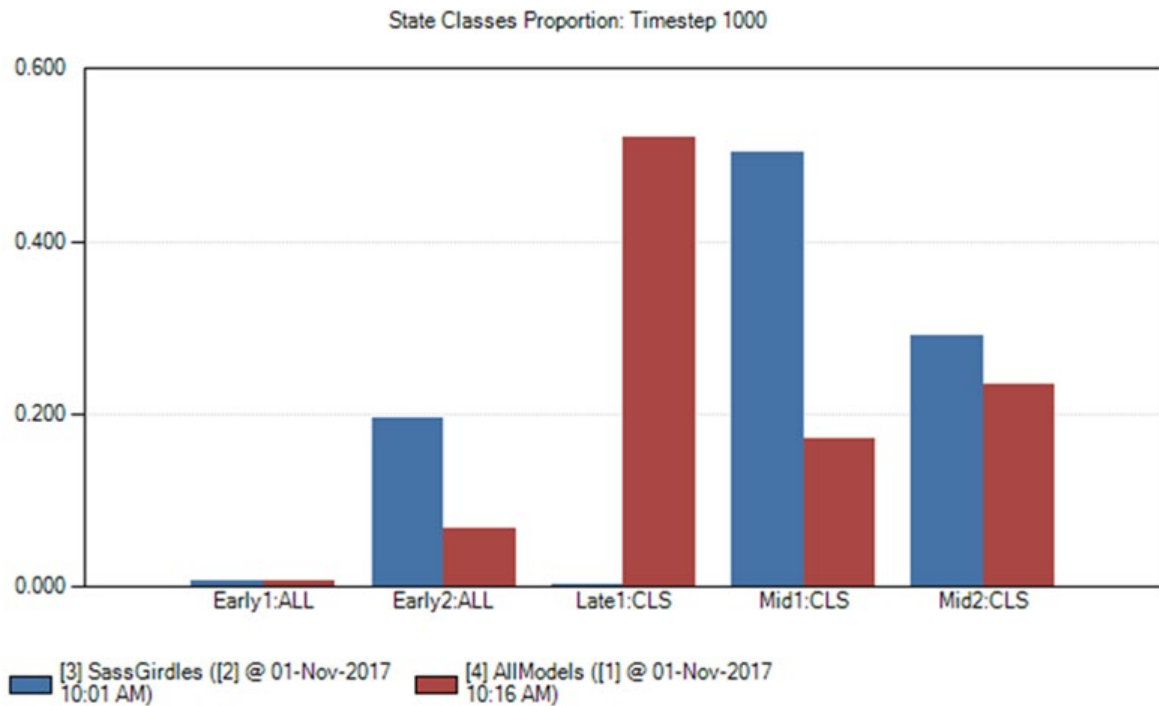


[3] SassGirdles ([2] @ 01-Nov-2017 10:01 AM) [4] AllModels ([1] @ 01-Nov-2017 10:16 AM) [6] SassHatesHemlocks ([5] @ 01-Nov-2017 10:29 AM)

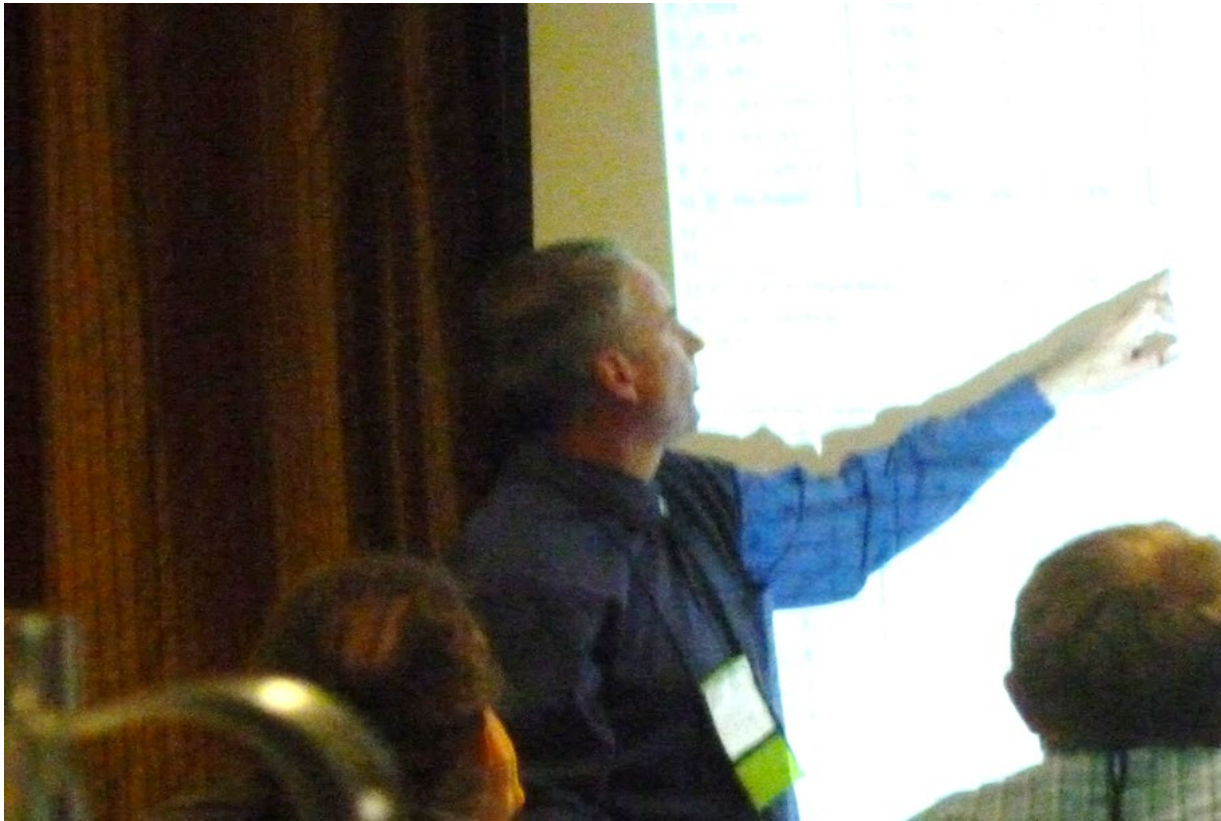
Lessons learned



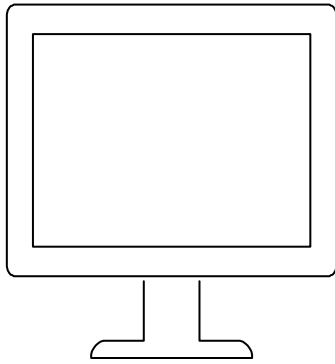
Focus on process, keep things simple



Now for
that favor...



Thank you!



<https://landfire.gov>



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