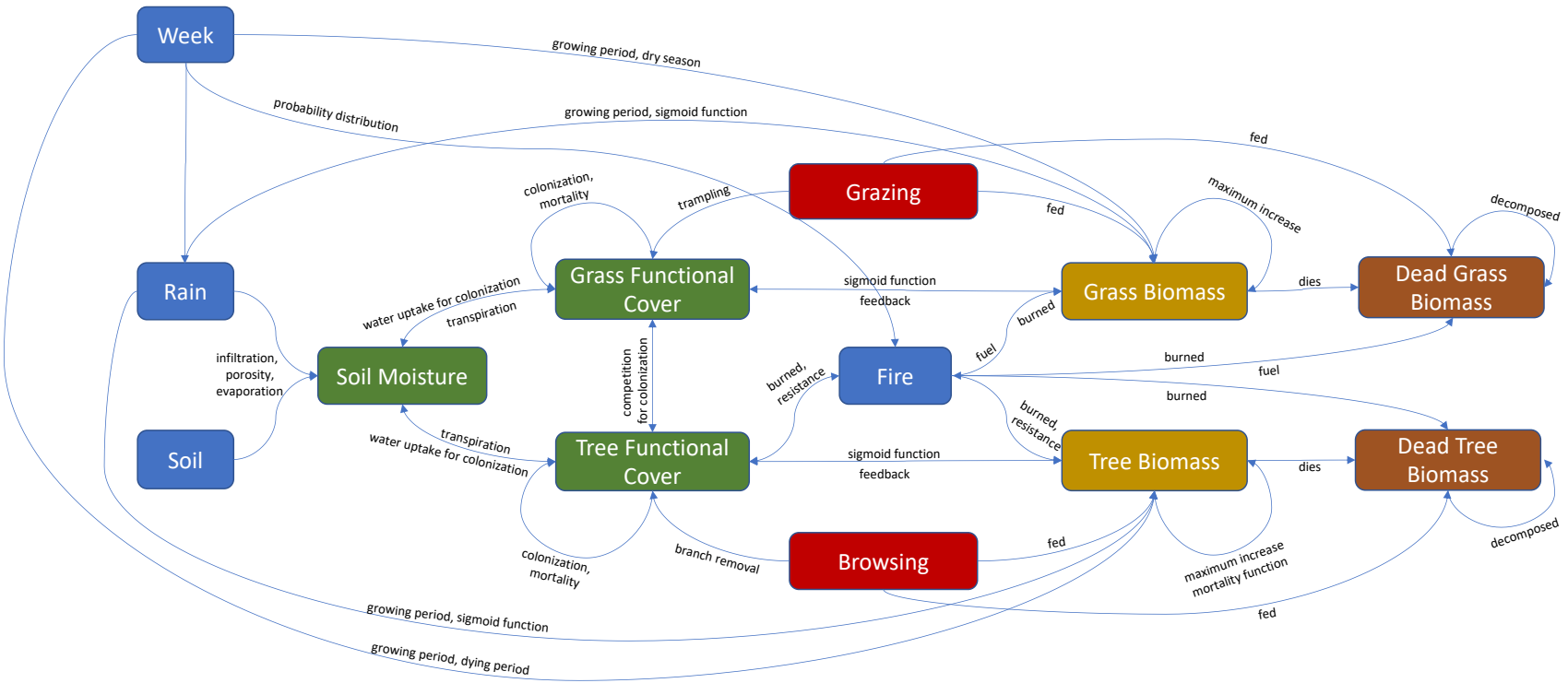
Savanna rangelands in transition: A large-scale savanna vegetation model.

Leonna Szangolies, Florian Jeltsch, Dirk Lohmann

ORYCS

Hypothesis:
A medium amount of Browsers leads to more stability in Tree functional cover, prevents encroachment and also benefits the availability of fodder biomass.

Vegetation model:
- based on ecohydrological differential equation model by Synodinos et al. 2015
- adapted for mopane savanna in northern Namibia
- spatial model time resolution: 1 week, space resolution: 1 ha
- Model processes ->



Synodinos, A. D., Tietjen, B. & Jeltsch, F. (2015). *Facilitation in drylands: Modeling a neglected driver of savanna dynamics*. Ecological Modelling, 304, 11-21.

Savanna rangelands in transition: A large-scale savanna vegetation model.

Leonna Szangolies, Florian Jeltsch, Dirk Lohmann

ORYCS

Results:

- with no Browsers the mean tree functional cover increases over 100 years, with only Browsers it decreases while with 40 % Browsers it is stable
- the red line shows the time when a fodder deficit occurs: only with 40 % Browsers there is enough fodder for 100 years

Conclusion:

Medium Browser densities of about 40 % conserve the tree cover and therefore benefit the long-term productivity and fodder availability for wildlife.