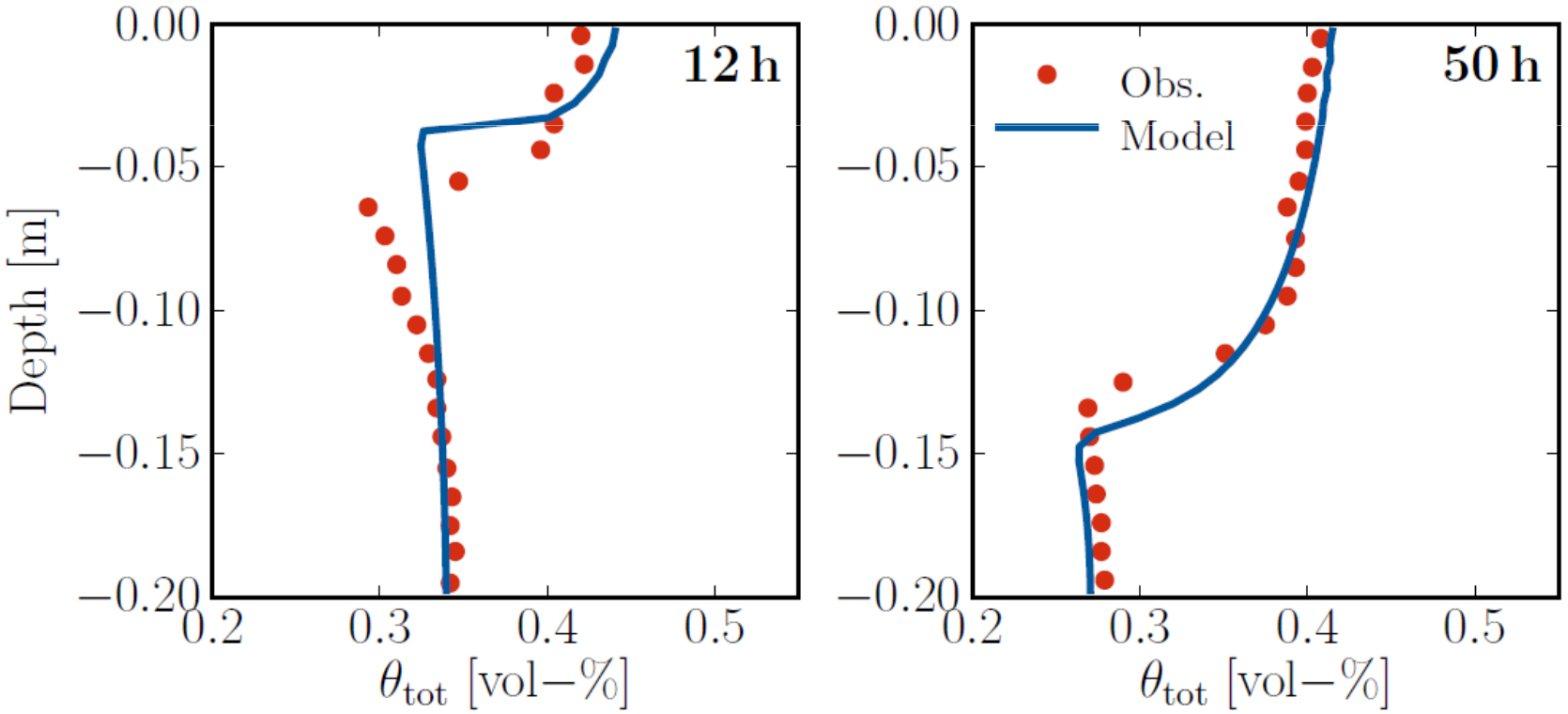
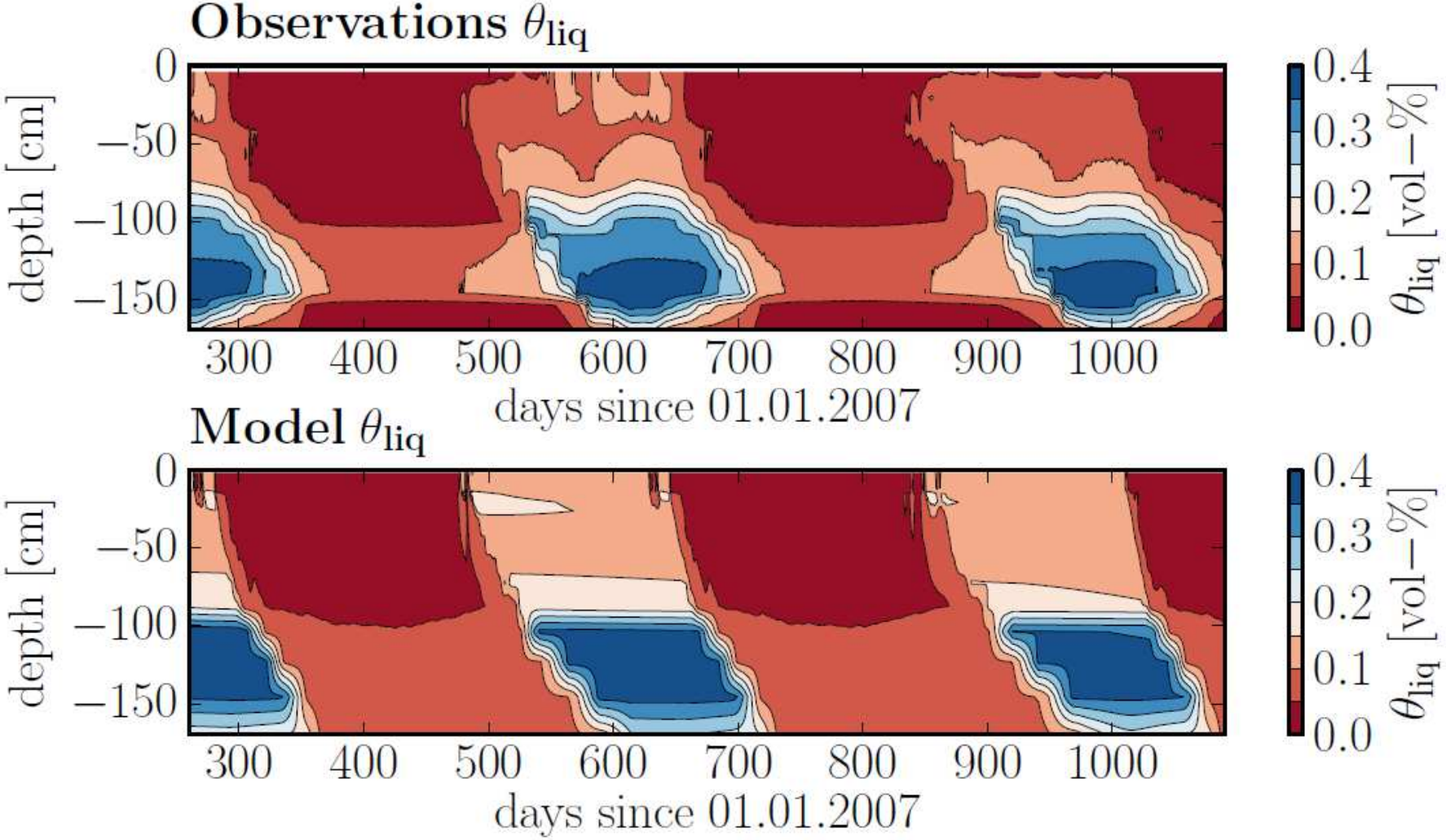
SLI

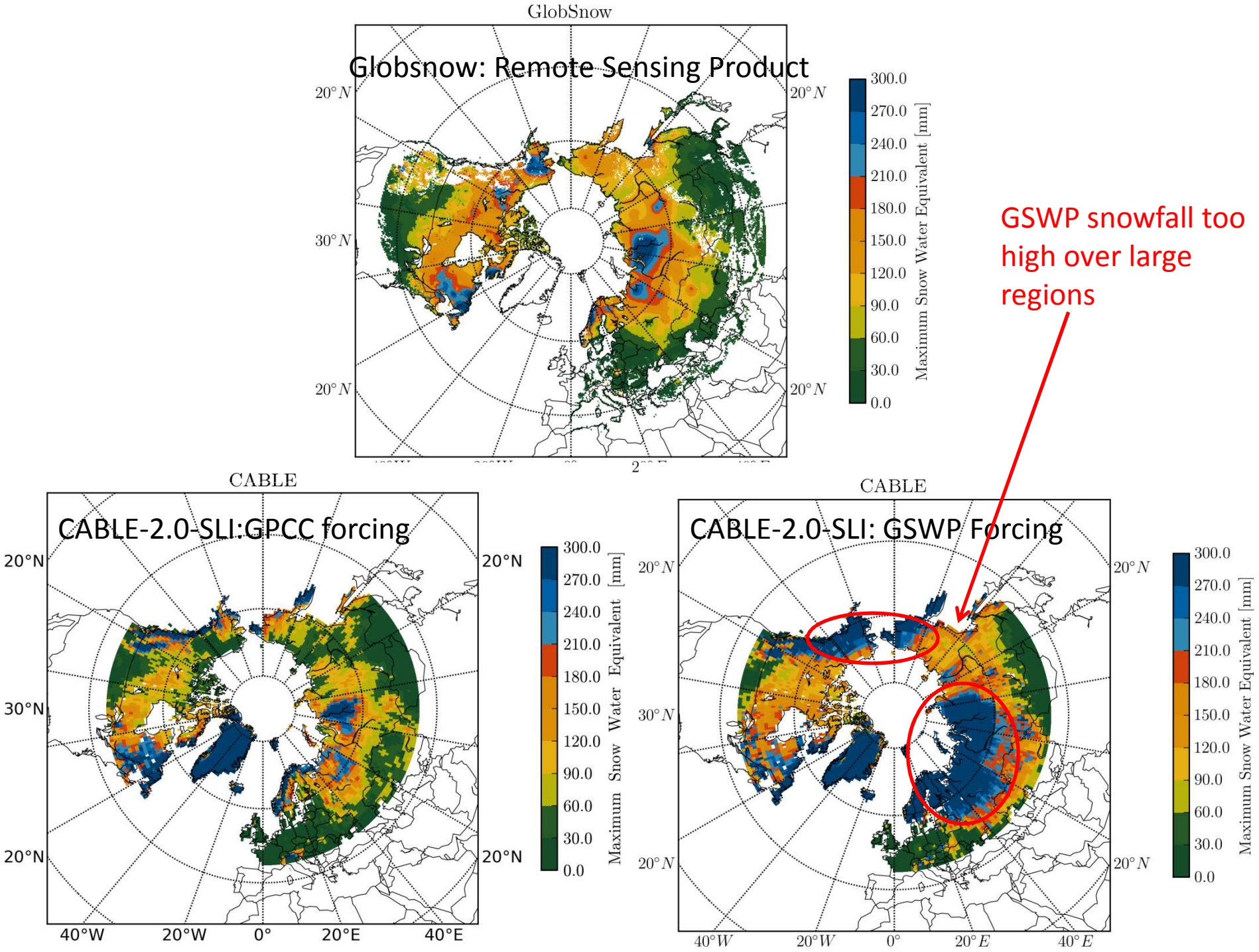
Laboratory experiment – Mizoguchi (1990)



Field observations – Tibetan Plateau



(Weismüller *et al.* 2011)


GlobSnow
Globsnow: Remote Sensing Product
20° N
30° N
20° N
20° N
20° N
300.0
270.0
240.0
210.0
180.0
150.0
120.0
90.0
60.0
30.0
0.0
Maximum Snow Water Equivalent [mm]
GSWP snowfall too high over large regions
CABLE
CABLE-2.0-SLI:GPCC forcing
20°N
30°N
20°N
20°N
20°N
40°W
20°W
0°
20°E
40°E
300.0
270.0
240.0
210.0
180.0
150.0
120.0
90.0
60.0
30.0
0.0
Maximum Snow Water Equivalent [mm]
CABLE
CABLE-2.0-SLI: GSWP Forcing
20° N
30° N
20° N
20° N
20° N
40° W
20° W
0°
20° E
40° E
300.0
270.0
240.0
210.0
180.0
150.0
120.0
90.0
60.0
30.0
0.0
Maximum Snow Water Equivalent [mm]

SLI-Status

Scientific:

Evaluated from Lab to Hemisphere

Technical:

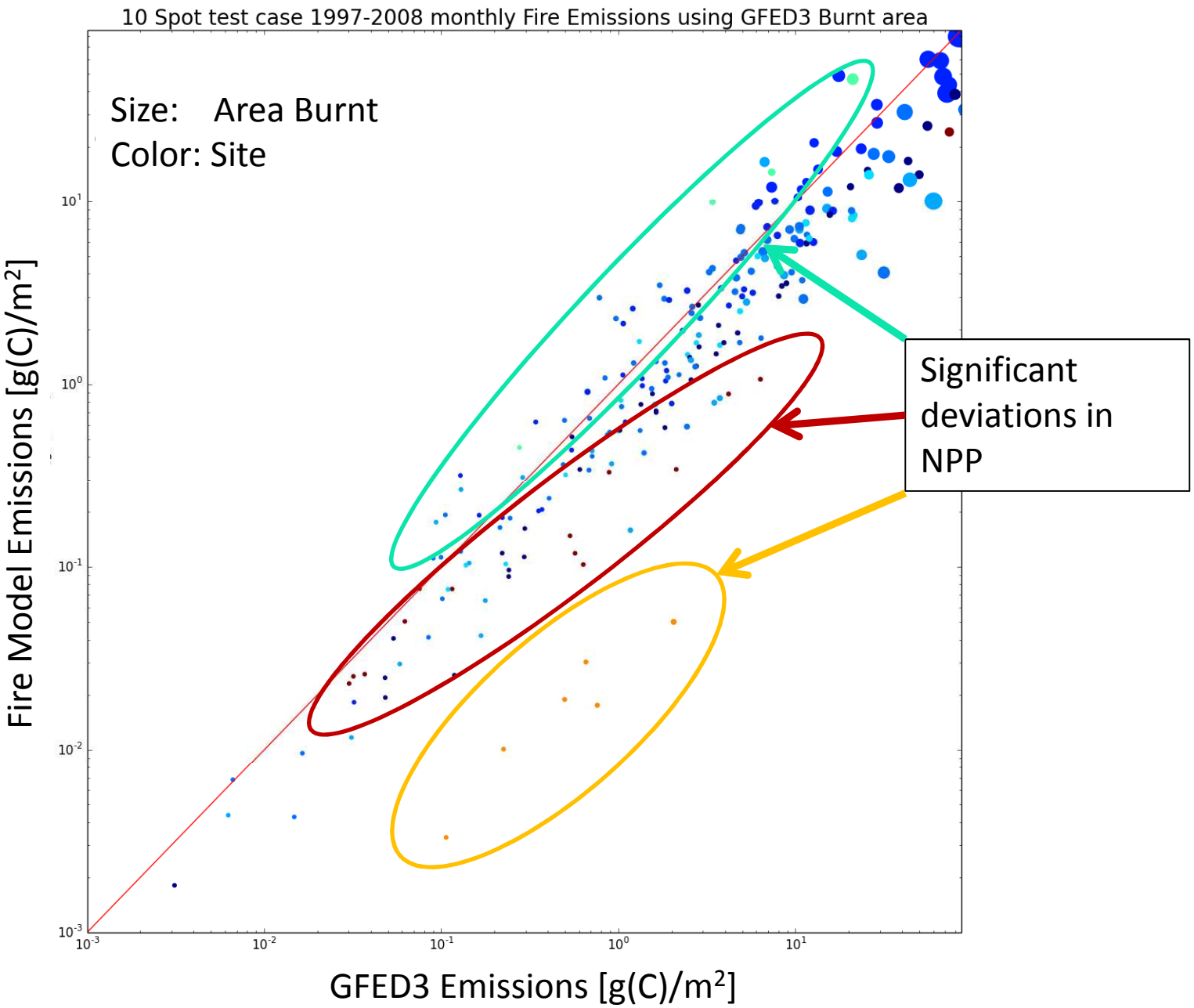
-Ready to use (switch default/SLI)
https://trac.nci.org.au/trac/cable/browser/branches/Users/vxh599/trunk1714_sli

-Computationally more demanding

Fire – model (structure)

Component	Specifications	Δ t	Input
IGNITION	*SIMFIRE* (Knorr 2014) BA [% grid cell]	a	pop. dens., avg. ann. FAPAR, landcover, Nesterov-Index
	Observation based data sets (e.g. *GFED3*) BA [m^{-2}]	d-a	*data set*
FIRE	Compute Fire-Line-Intensity FLI [W/m]	d-a	litter (metb&str), U,T,RH,Precip
COMBUSTION	C-Pool turn-over from *FullCAM* combustion tables	d-a	tabulated $TO_{i,j}$ (FLI)/$g(C)_i$ from pool i -> j
	C-Pool turn-over relative to *POP* fire-mortality (Haverd 2014)	a	as above but acc to *POP* C-TO for life pools

Ignition and combustion can be combined as desired; Δt set accordingly


10 Spot test case 1997-2008 monthly Fire Emissions using GFED3 Burnt area
Size: Area Burnt
Color: Site
Fire Model Emissions [g(C)/m²]
GFED3 Emissions [g(C)/m²]
Significant deviations in NPP