



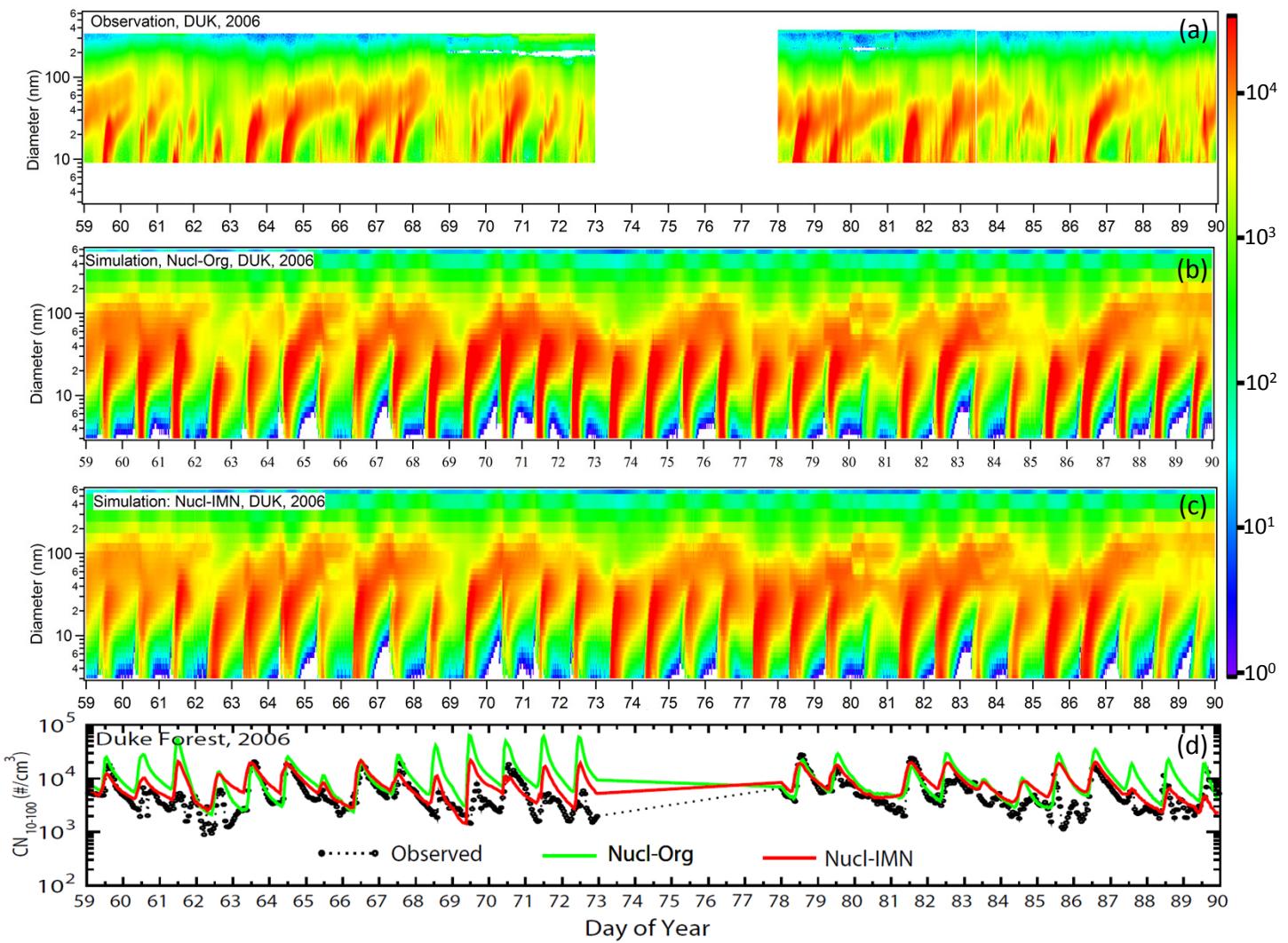
*Supplement of*

## **Spring and summer contrast in new particle formation over nine forest areas in North America**

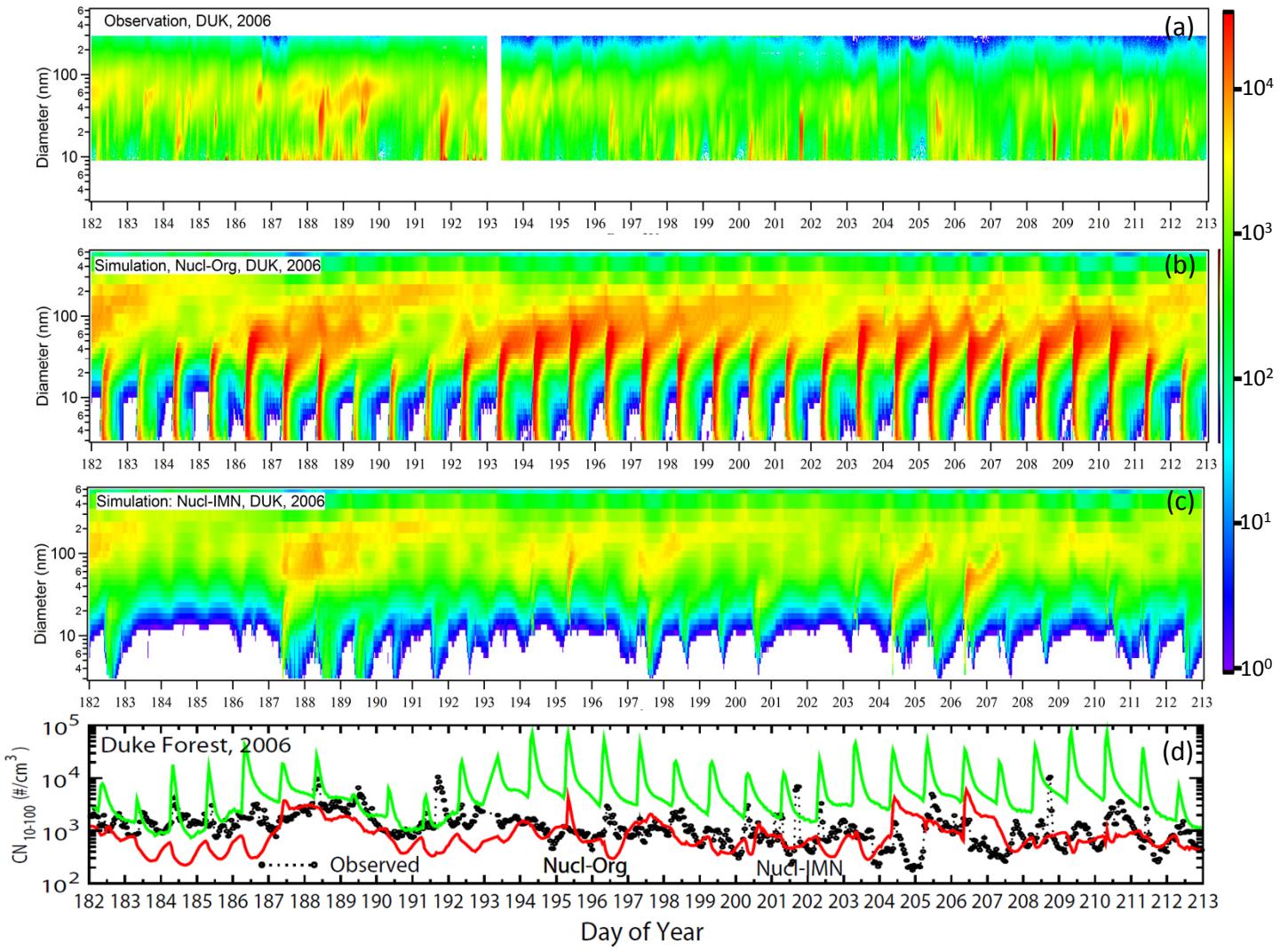
**F. Yu et al.**

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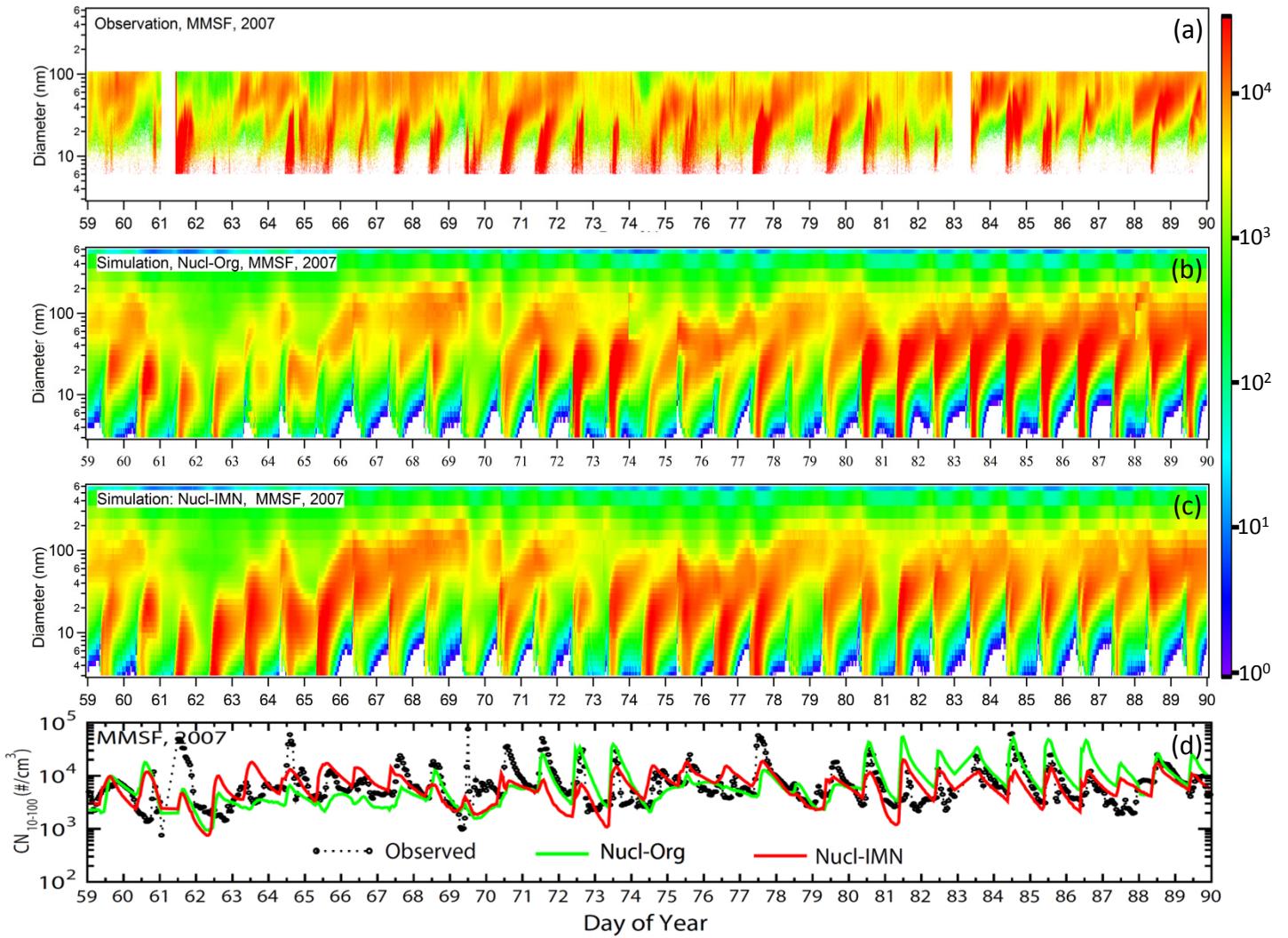
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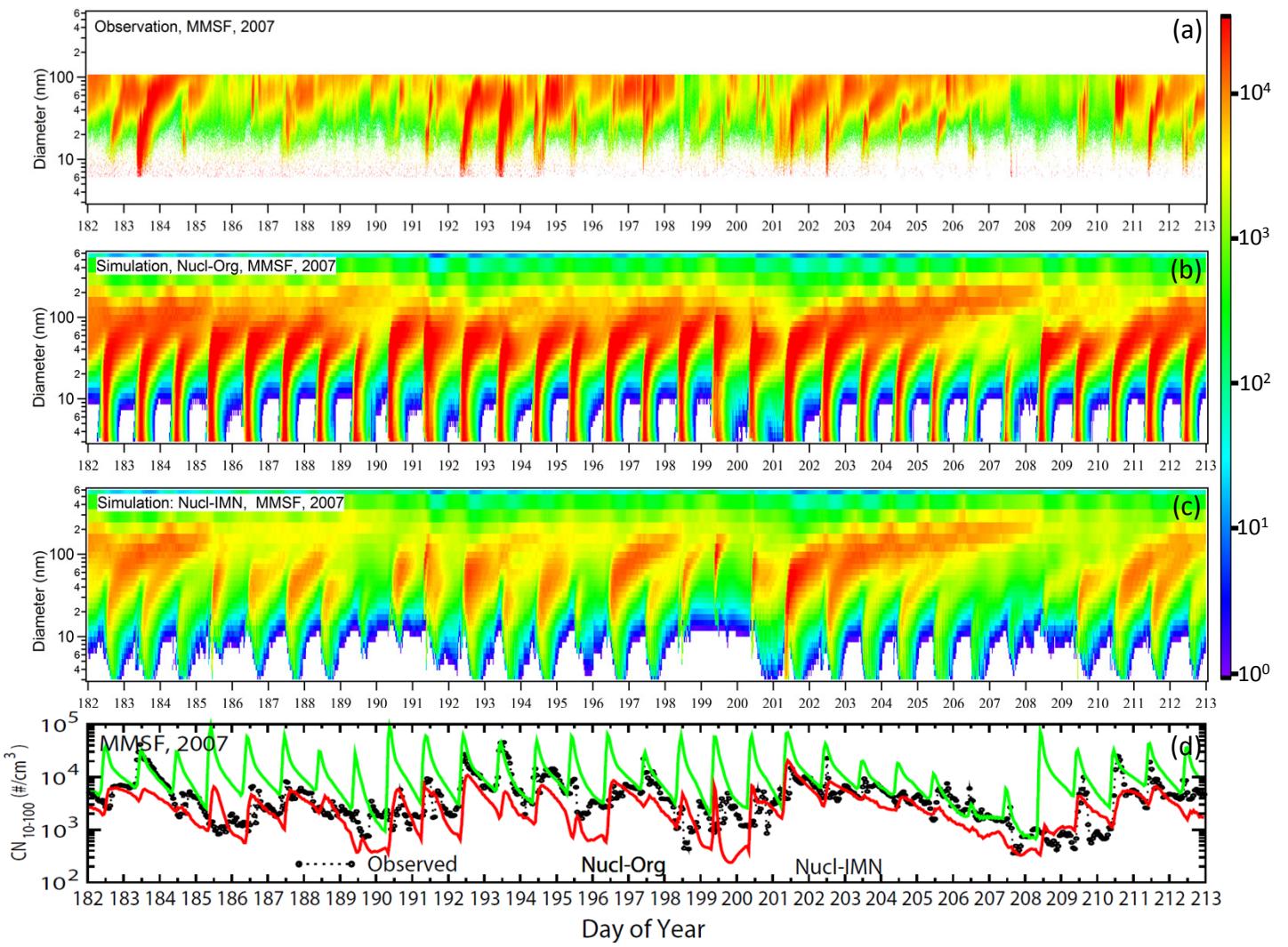
**Figure S1a.** Comparison between observed (a) and simulated particle size distributions (PSDs,  $dN/d\log D_p$ , in  $\#/\text{cm}^3$ ) based on two nucleation schemes: Nucl-Org (b) and Nucl-IMN (c) during one spring month at site 1 -- Duke Forest, along with time series of the concentration of condensation nuclei between 10 and 100 nm ( $\text{CN}_{10-100}$ ) (d).



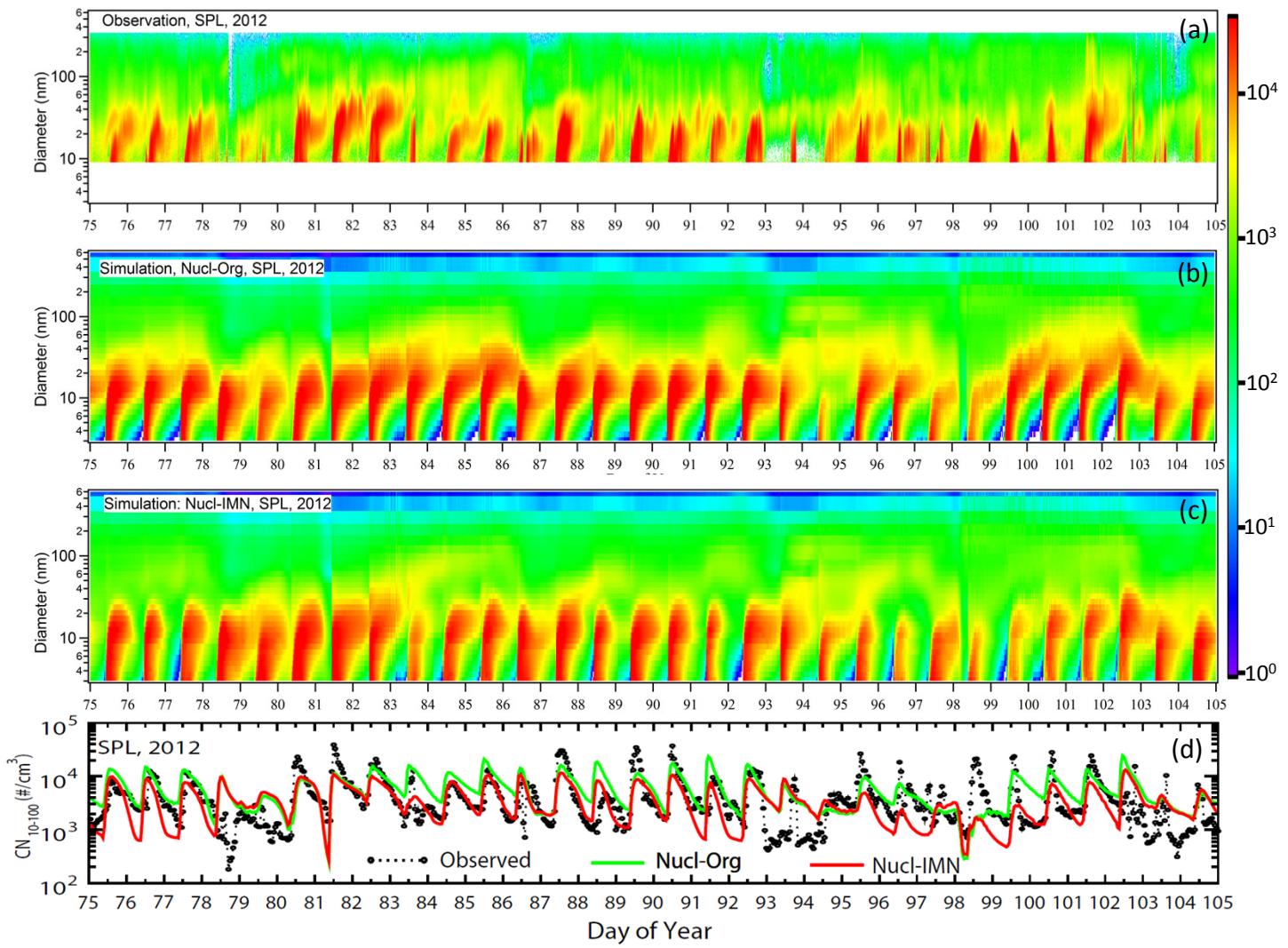
**Figure S1b.** Same as Figure S1a except for one summer month.



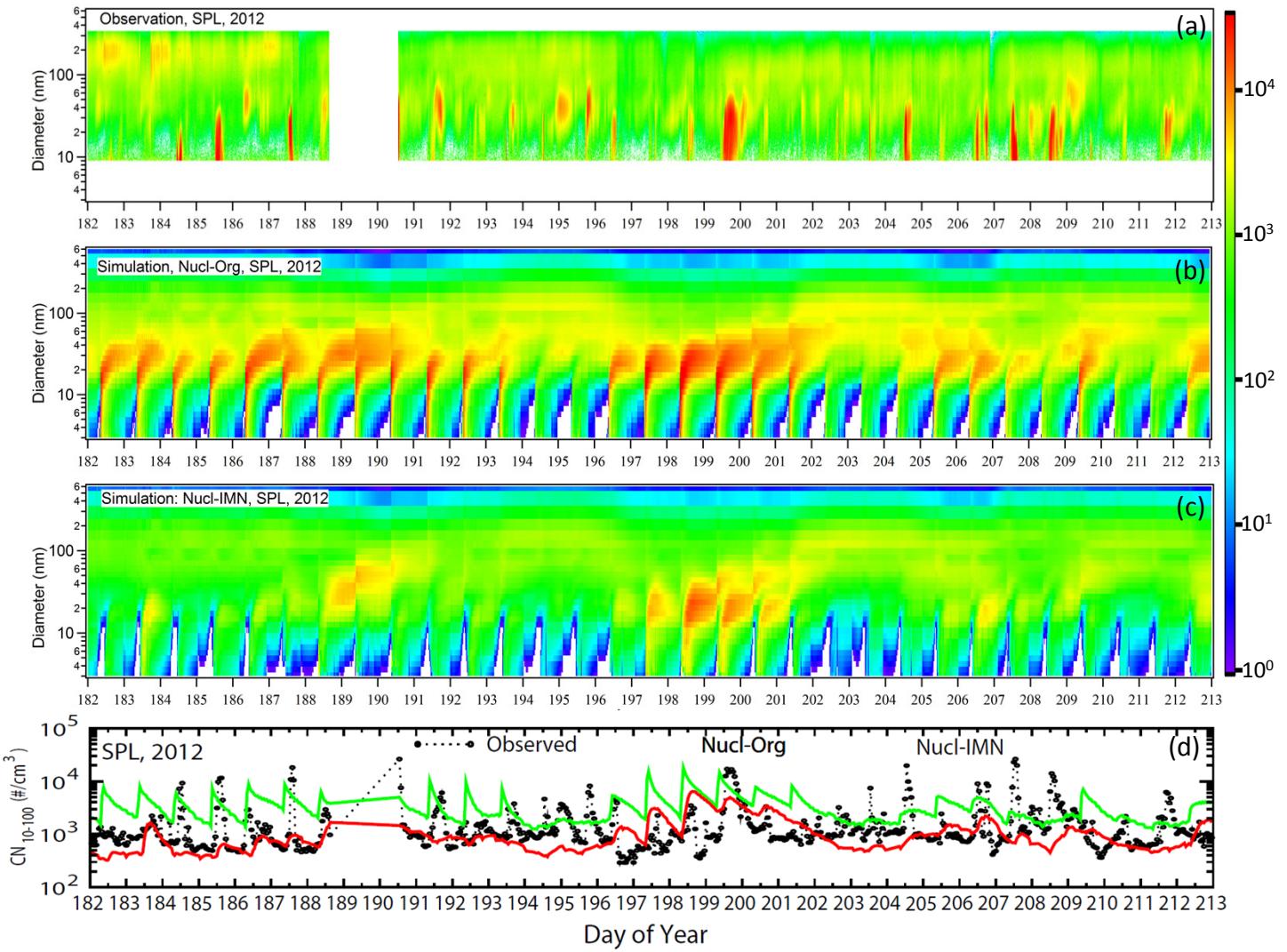
**Figure S2a.** Same as Figure S1a except for site 2 -- Morgan-Monroe State Forest (MMSF).



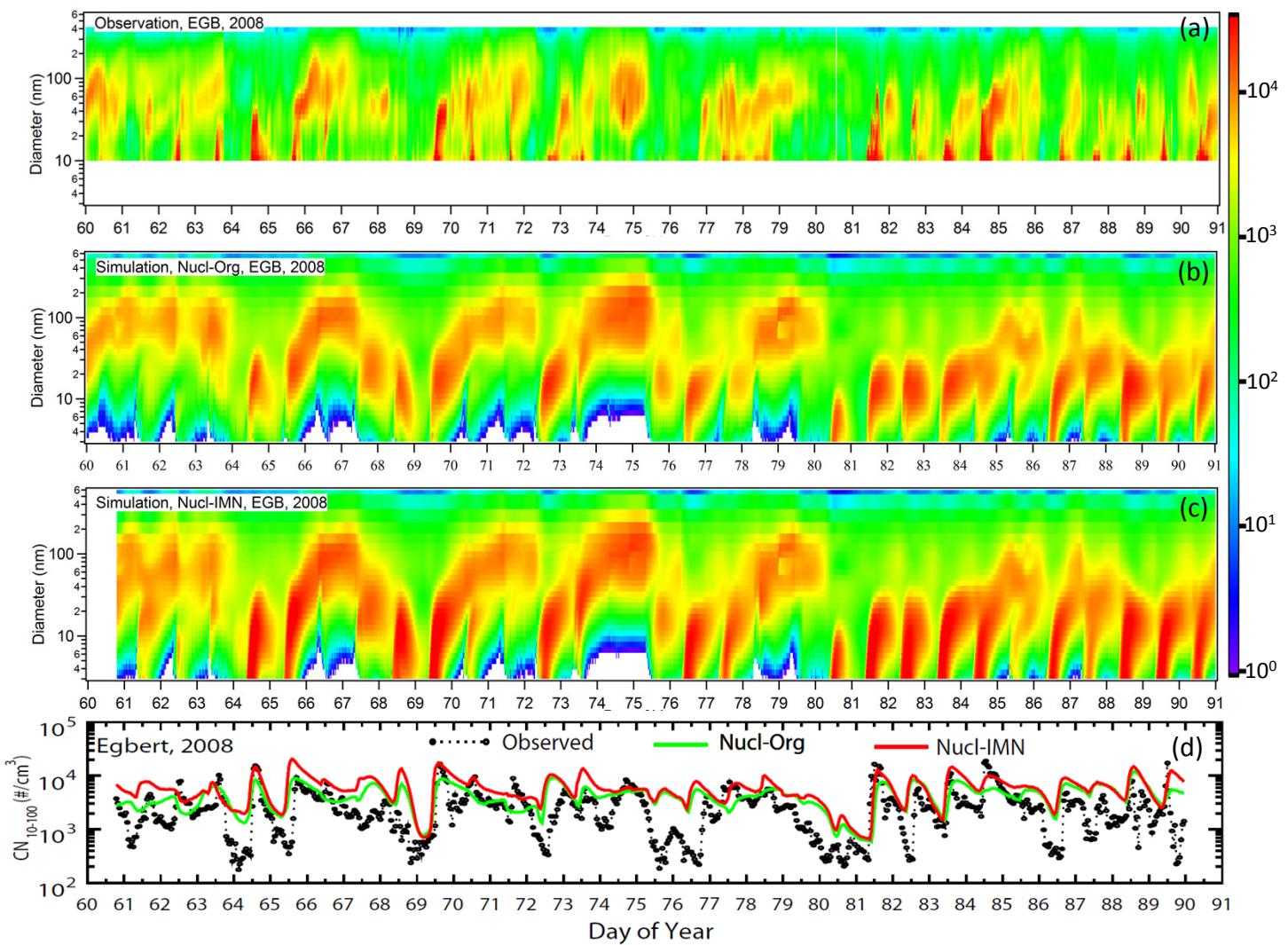
**Figure S2b.** Same as Figure S2a except for one summer month.



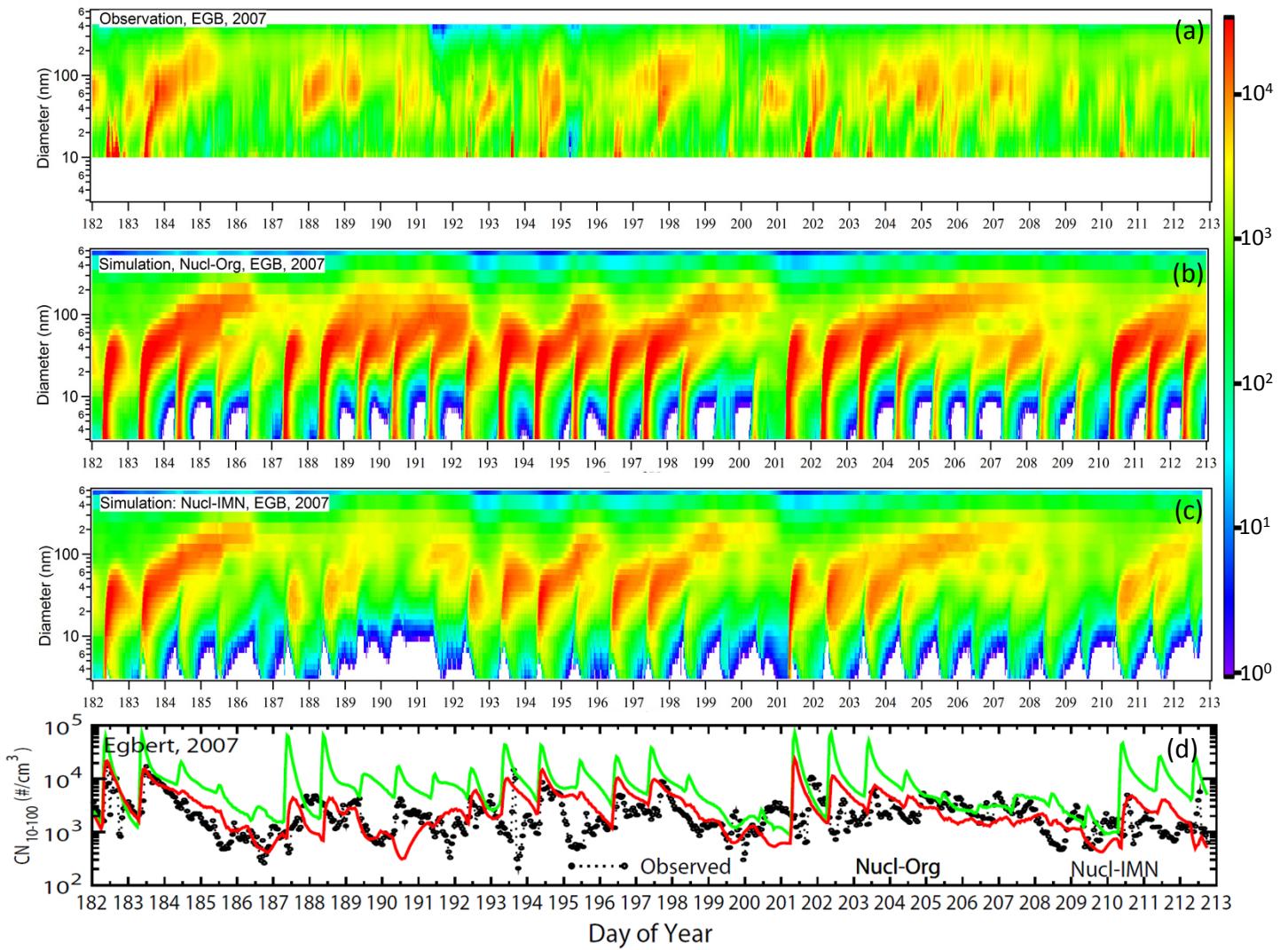
**Figure S3a.** Same as Figure S1a except for site 3 -- Storm Peak Laboratory (SPL).



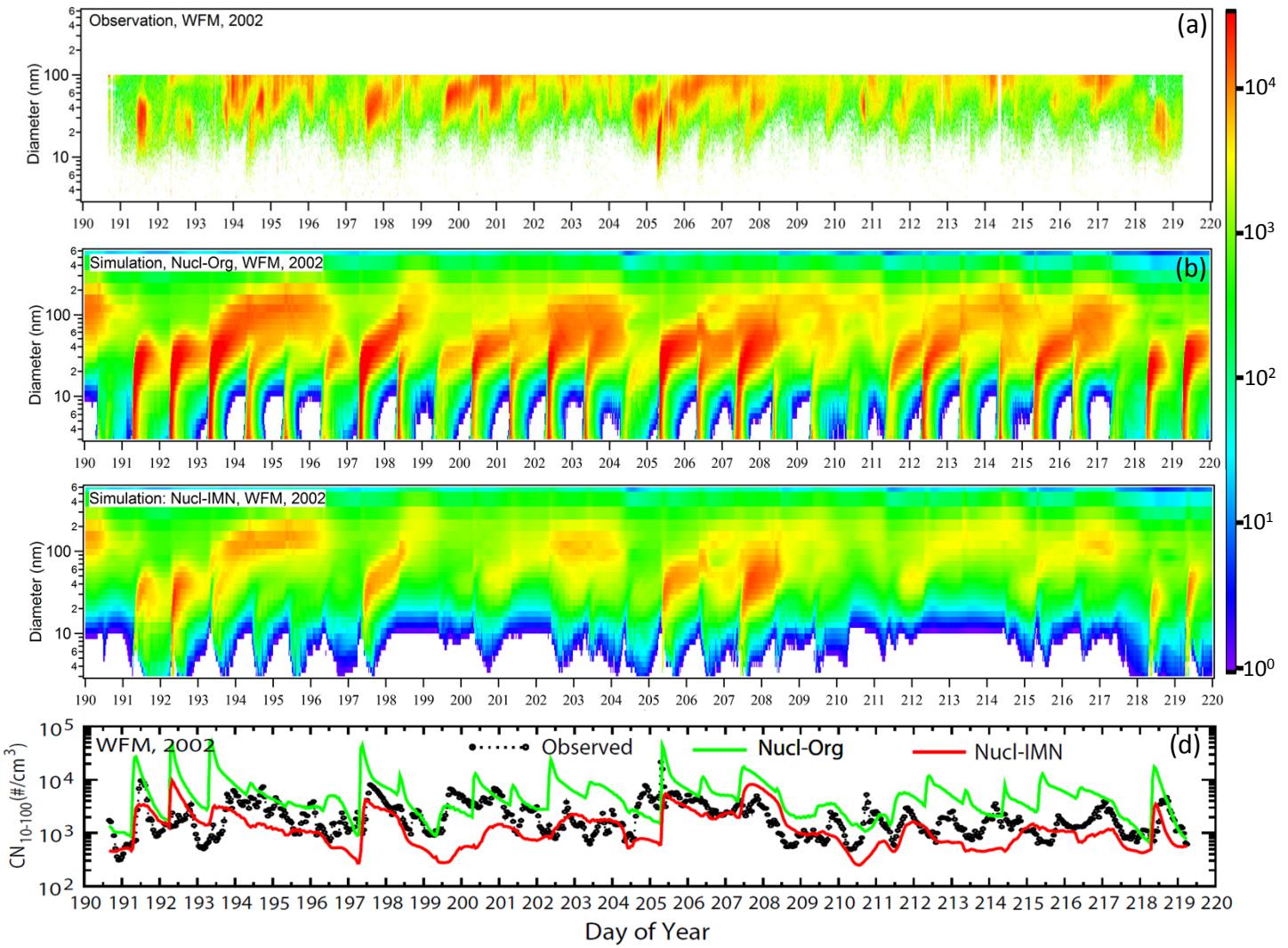
**Figure S3b.** Same as Figure S3a except for one summer month.



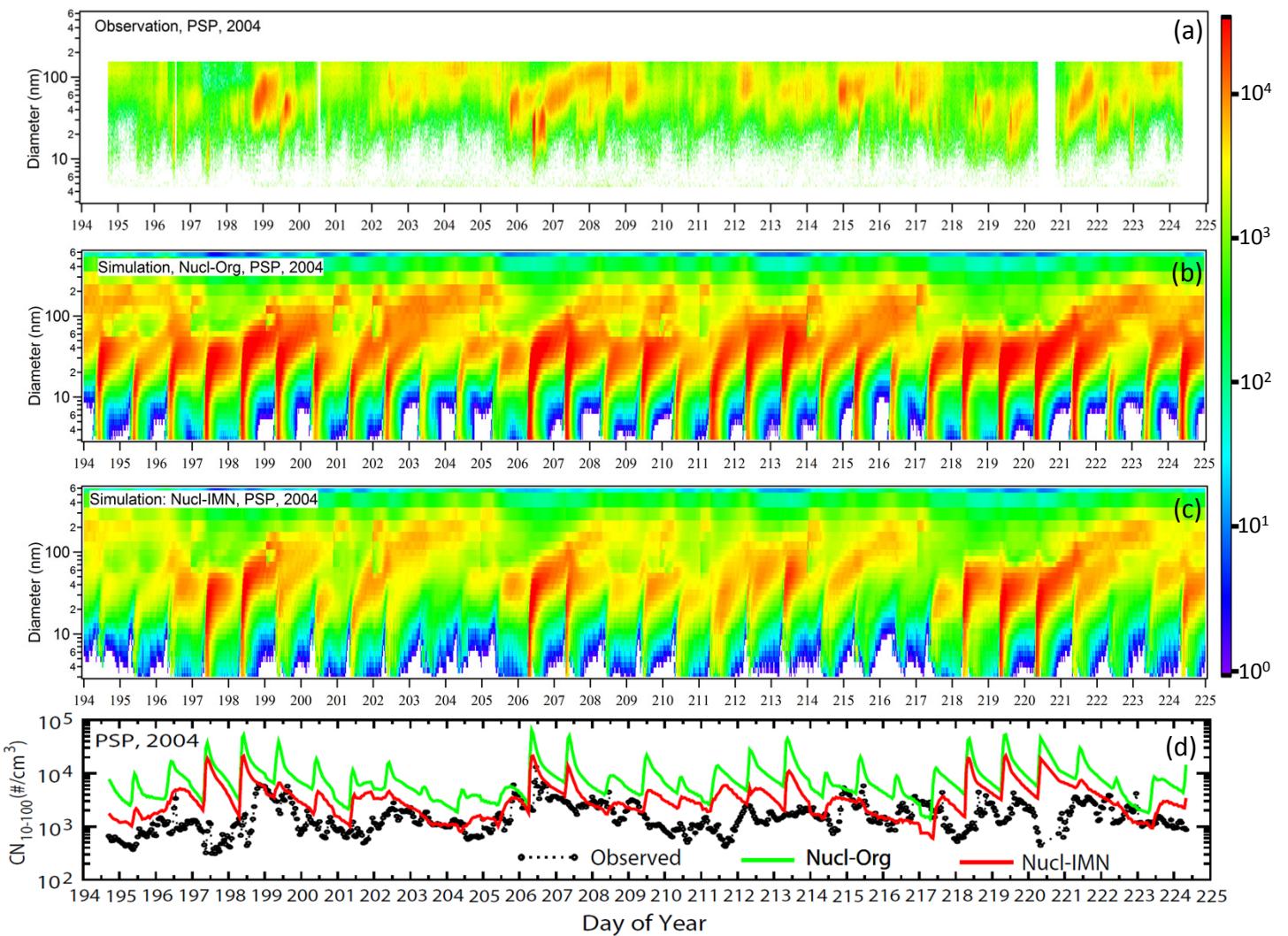
**Figure S4a.** Same as Figure S1a except for site 4 -- Egbert (EGB), Canada .



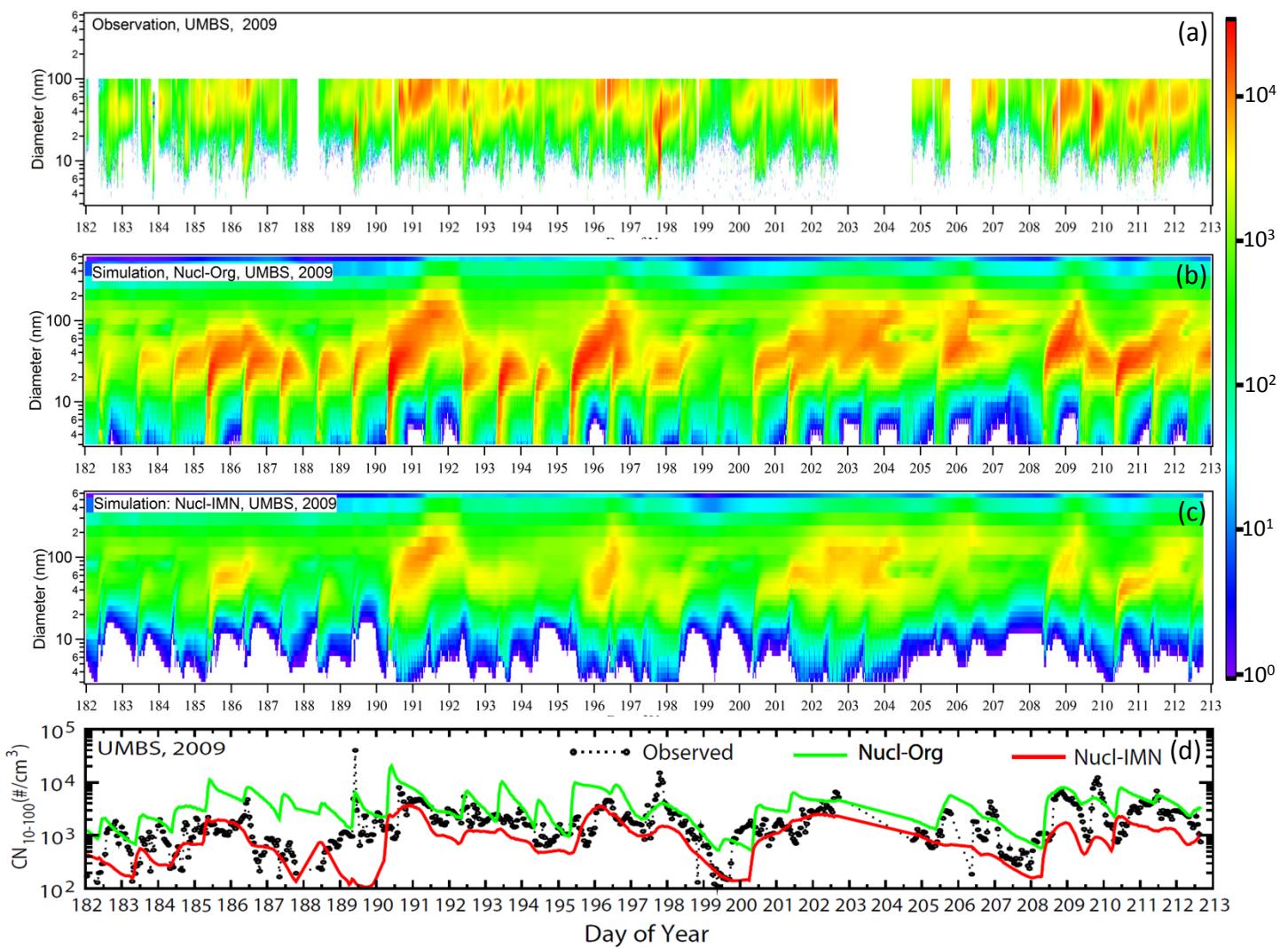
**Figure S4b.** Same as Figure S4a except for one summer month.



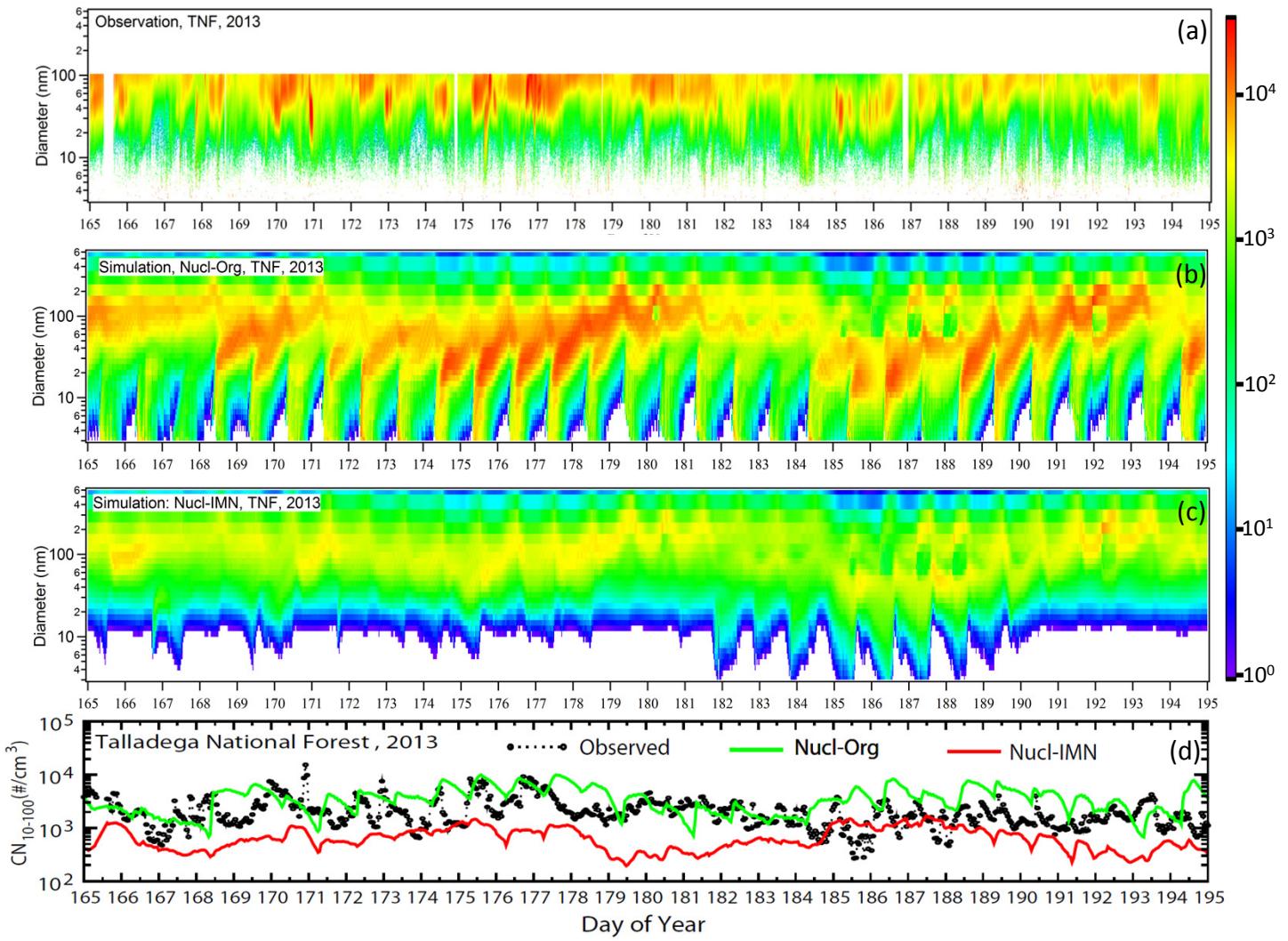
**Figure S5.** Comparison between observed (a) and simulated particle size distributions (PSDs) based on two nucleation schemes: Nucl-Org (b) and Nucl-IMN (c) during one summer month at site 5 -- Whiteface Mountain (WFM), along with time series of the concentration of condensation nuclei between 10 and 100 nm ( $CN_{10-100}$ ) (d).



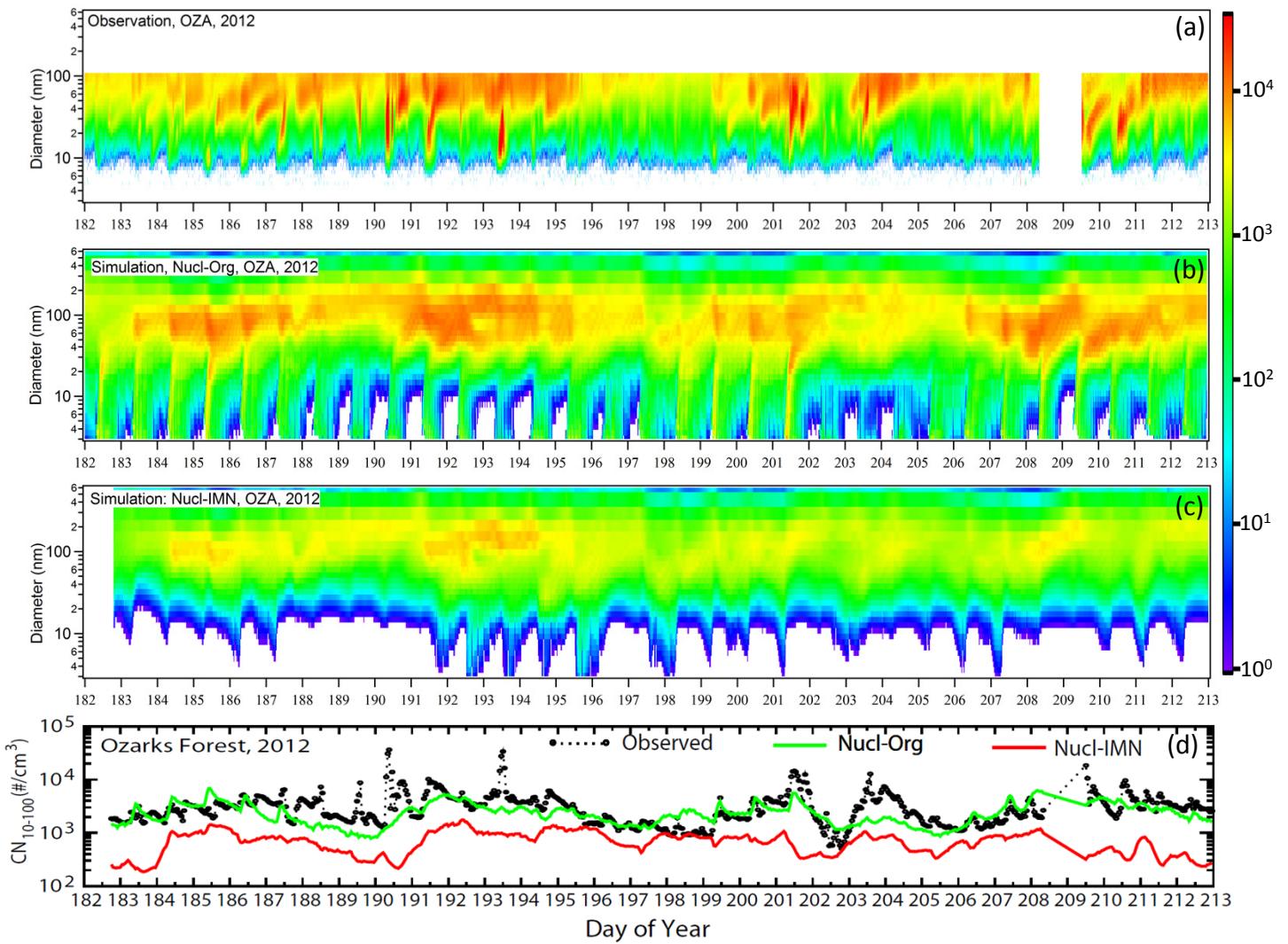
**Figure S6.** Same as Figure S5 except for site 6 -- Pinnacle State Park (PSP).



**Figure S7.** Same as Figure S5 except for site 7 -- University of Michigan Biological Station (UMBS) .



**Figure S8.** Same as Figure S5 except for site 8 -- Talladega National Forest (TNF) .



**Figure S9.** Same as Figure S5 except for site 9 -- Ozarks Forest (OZA) .