

Supplementary

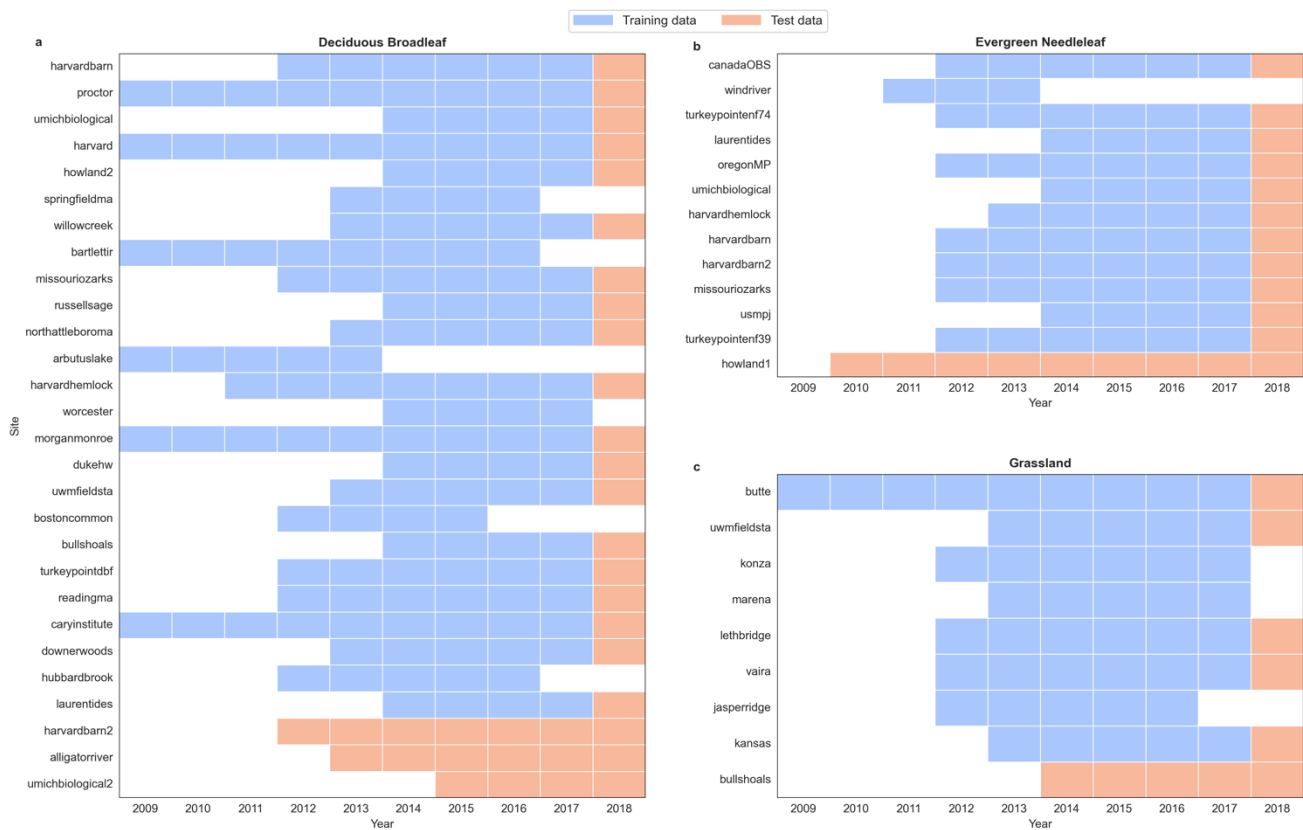
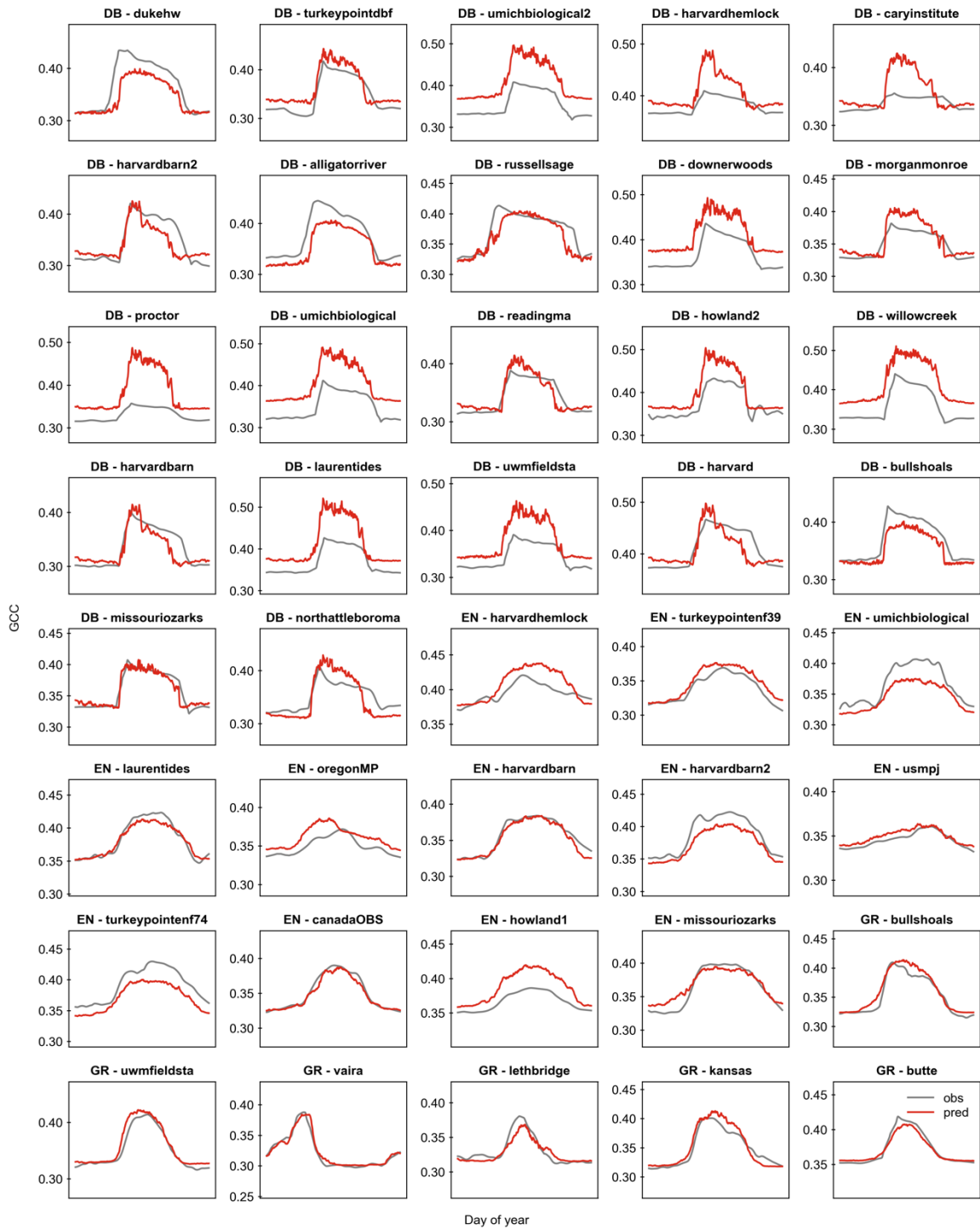


Fig. S1 The training (light blue box) and testing (light orange box) site-year for deciduous broadleaf (a), evergreen needleleaf (b) and grassland (c).



5

Fig. S2 Observed (obs, grey) and predicted (pred, red) daily canopy greenness (GCC) for each site of deciduous broadleaf (DB), evergreen needleleaf (EN) and grassland (GR) in 2018.

10

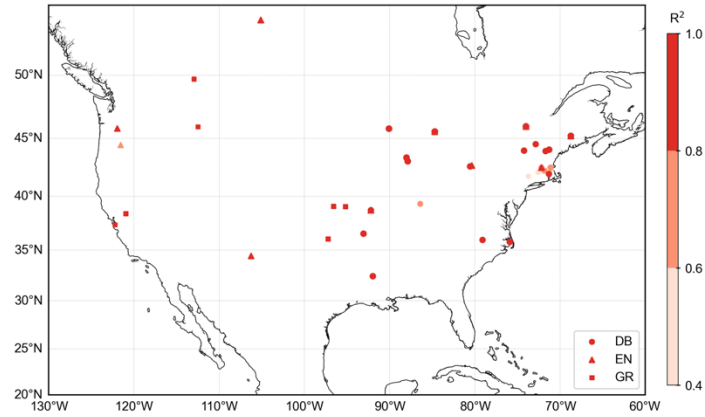
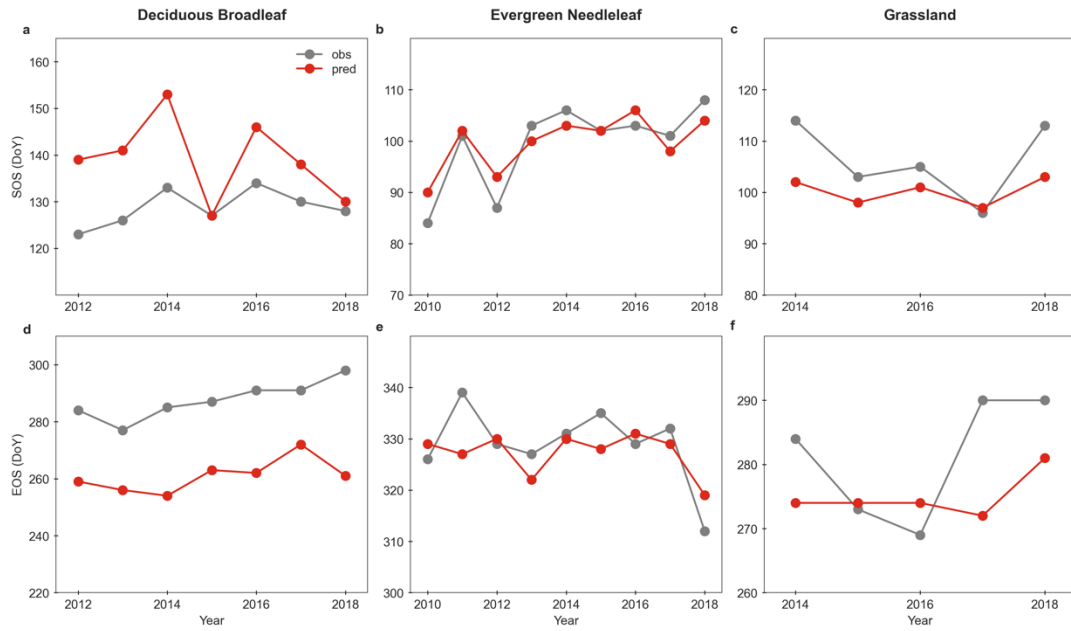


Fig. S3 The spatial distributions of R^2 from M_{full} for deciduous broadleaf (DB, circle), evergreen needleleaf (EN, triangle) and grassland (GR, square).



15

Fig. S4 Observed (obs, grey line) and predicted (pred, red line) the interannual variability in start of season (SOS, **a, b, c**) and end of season (EOS, **d, e, f**) for deciduous broadleaf, evergreen needleleaf and grassland in unseen sites (DB: harvardbarn2, EN: howland1, GR: bullshoals).