A. Model-data agreement B. Seasonal basic reproduction number Agadez Agadez Maradi Maradi 8 - $R^2 = 0.54$ $R^2 = 0.89$ 30 30 · 6 20 20 10 10 Expected log(cases + Feb Apr Jun Aug Oct Dec Feb Apr Jun Aug Oct Dec $_{0}^{R}$ Niamey **Niamey** Zinder Zinder $R^2 = 0.86$ $R^2 = 0.87$ 30 30 -20 20 10 10 Feb Apr Jun Aug Oct Dec Feb Apr Jun Aug Oct Dec Observed log(cases + 1) Time of year