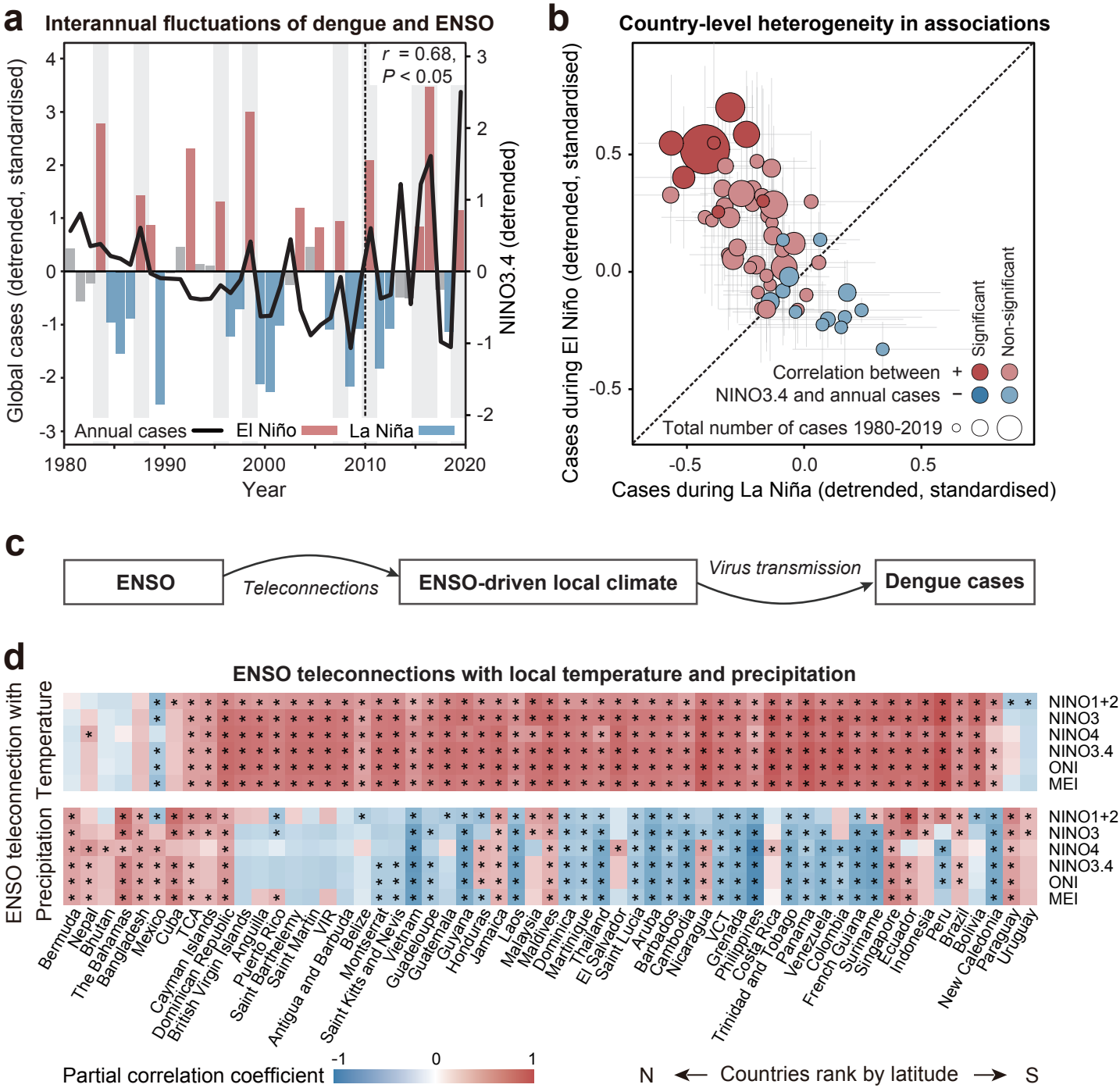
a
Interannual fluctuations of dengue and ENSO
r = 0.68,
P < 0.05
Global cases (detrended, standardised)
NINO3.4 (detrended)
Annual cases
El Niño
La Niña
Year
b
Country-level heterogeneity in associations
Cases during El Niño (detrended, standardised)
Cases during La Niña (detrended, standardised)
Correlation between
NINO3.4 and annual cases
Total number of cases 1980-2019
Significant
Non-significant
c
ENSO
Teleconnections
ENSO-driven local climate
Virus transmission
Dengue cases
d
ENSO teleconnections with local temperature and precipitation
ENSO teleconnection with
Temperature
Precipitation
NINO1+2
NINO3
NINO4
NINO3.4
ONI
MEI
Bermuda
Nepal
Bhutan
The Bahamas
Bangladesh
Mexico
Cuba
TCA
Cayman Islands
Dominican Republic
British Virgin Islands
Anguilla
Puerto Rico
Saint Barthelemy
Saint Martin
VIR
Antigua and Barbuda
Belize
Montserrat
Saint Kitts and Nevis
Vietnam
Guadeloupe
Guatemala
Guyana
Honduras
Jamaica
Laos
Malaysia
Maldives
Dominica
Martinique
Thailand
El Salvador
Saint Lucia
Aruba
Barbados
Cambodia
Nicaragua
VCT
Grenada
Philippines
Costa Rica
Trinidad and Tobago
Panama
Venezuela
Colombia
French Guiana
Suriname
Singapore
Ecuador
Indonesia
Peru
Brazil
Bolivia
New Caledonia
Paraguay
Uruguay
Partial correlation coefficient
N ← Countries rank by latitude → S