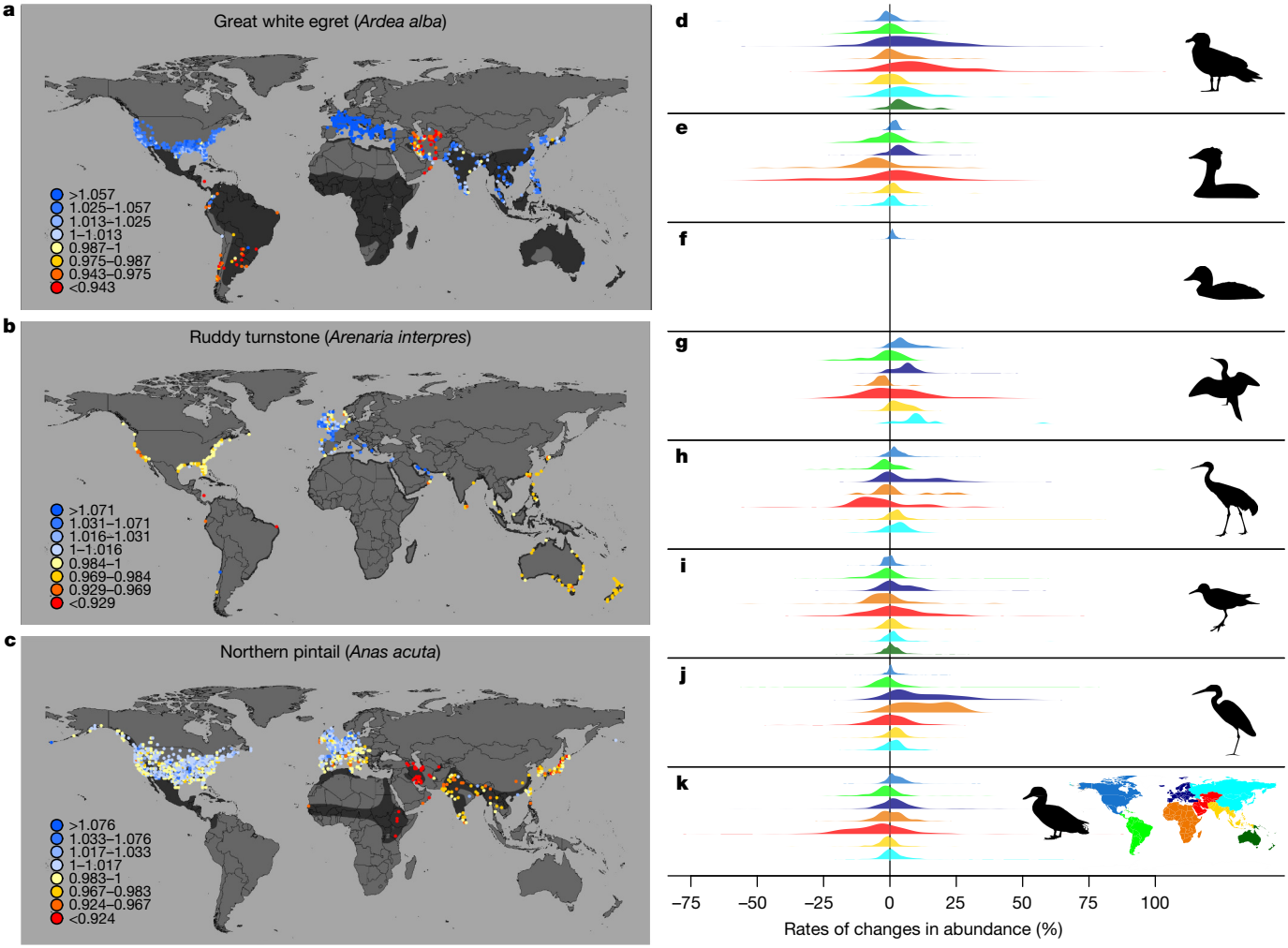

Figure 1 | Population-level changes in waterbird abundance in each 1° × 1° grid cell between 1990 and 2013. a–c, Examples of population-level abundance changes, for *Ardea alba* (**a**), *Arenaria interpres* (**b**) and *Anas acuta* (**c**). Red, declines; blue, increases; dark grey shading, non-breeding geographical range of the species. **d–k**, Histograms of population-level changes for all species in each of the eight taxa, at all grid cells in each region shown in the inserted map (see Methods for the definition of each species group). Silhouettes reproduced from PhyloPic (http://phylopic.org/) under a Creative Commons licence (http://creativecommons.org/licenses/by/3.0/) (**d–g**, **i–k**) or Public Domain Dedication licence (http://creativecommons.org/publicdomain/zero/1.0/) (**h**). **d**, **i**, Rebecca. Groom; **e**, **f**, Doug Backlund (photo) (**e**) or Unknown (photo) (**f**), John E. McCormack, Michael. G. Harvey, Brant. C. Faircloth, Nicholas. G. Crawford, Travis. C. Glenn, Robb. T. Brumfield & T. Michael. Keesay; **g**, **j**, Shyamal/Wikimedia Commons; **k**, Maija. Karala (image flipped horizontally). Map produced from Natural Earth data v.1.4.0 (http://www.naturalearthdata.com/).

governance—defined as how effectively the authorities of a country exercise rules and enforcement mechanisms—was the strongest predictor of community-level abundance changes (Fig. 3a). Waterbird communities experienced the greatest declines in countries with less effective governance (for example, countries in western and central Asia or South America), and increased in countries in which governance was more effective (for example, countries in Europe and North America, Fig. 3b). The effects of governance also interacted with those of protected area coverage (Fig. 3a); it was only in areas with more effective governance that extensive protected area coverage was associated with community-level increases in waterbird abundances (Extended Data Fig. 3a). Community-level declines were also pronounced in areas with

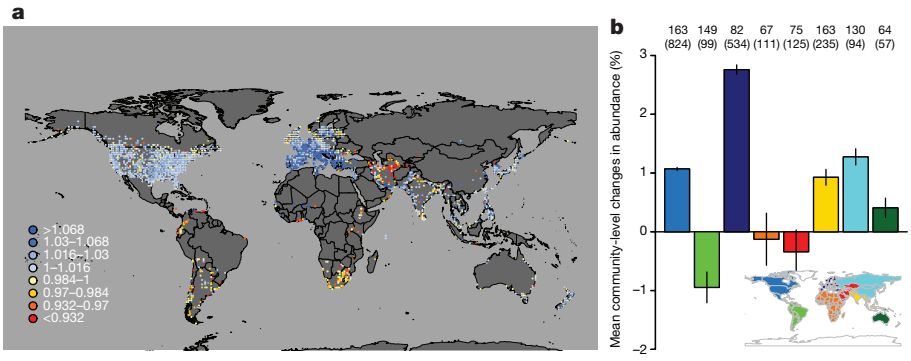

Figure 2 | Mean changes in abundance across 461 waterbird species (community-level changes) between 1990 and 2013. a, **b**, Global distribution (**a**) and mean with 95% confidence intervals (**b**) across all grid cells in each region shown in the inserted map. Numbers above bars, numbers of species observed; numbers of grid cells in parentheses. Map produced from Natural Earth data v.1.4.0 (http://www.naturalearthdata.com/).