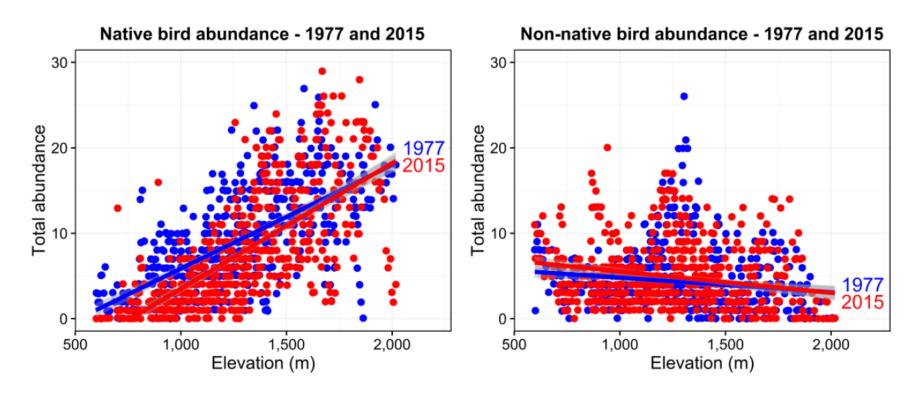
Data for Ecosystems Activity

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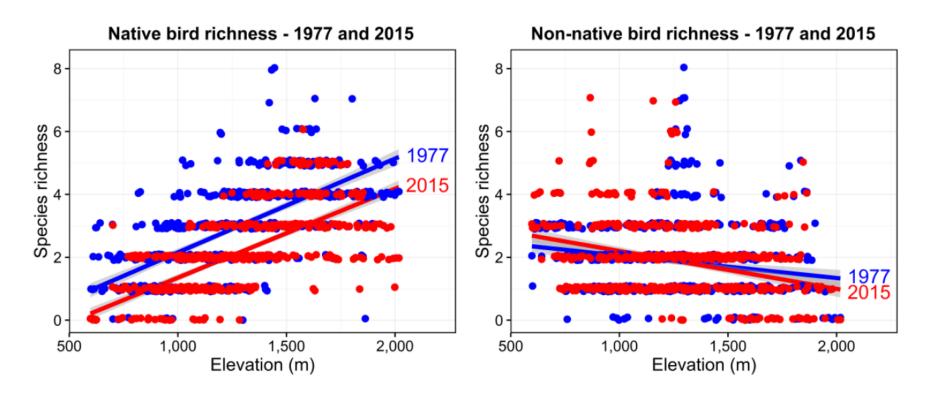
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Native vs. Non-native bird abundance with elevation in 1977 versus 2015



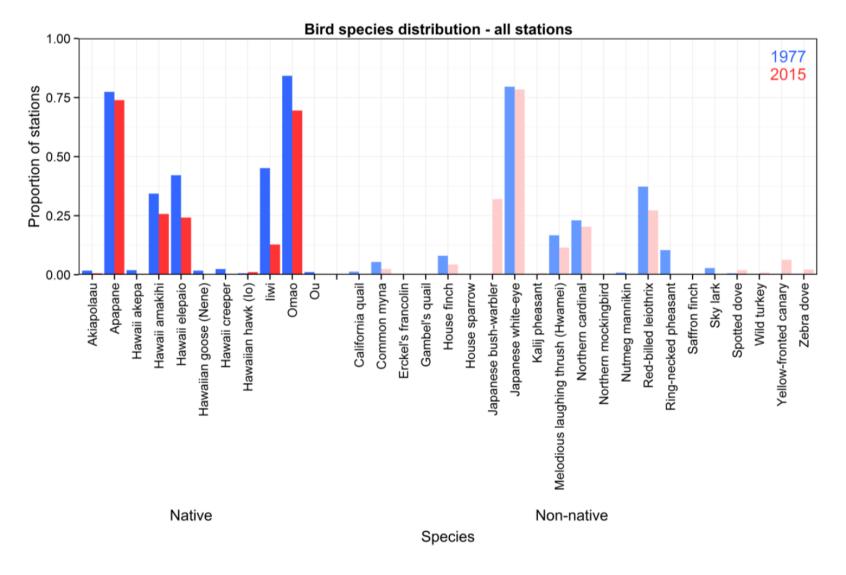
• Figure 1. Native and non-native bird abundance (count per station) as a function of elevation between survey periods.

Native vs. Non-native bird species richness with elevation in 1977 v.s. 2015



• Figure 2. Bird species richness by survey period as a function of species origin (native [endemic] or non-native) and elevation.

Native vs.
Non-native birds in 1977
versus 2015



• Figure 3. Native and non-native bird species distribution in 1977 (blue) and 2015 (red), as a proportion of sampled locations (n = 534 survey stations). Species are presented alphabetically within origin group. Shading used to visually distinguish between origin groups.

Mosquito prevalence at different elevations (2002)

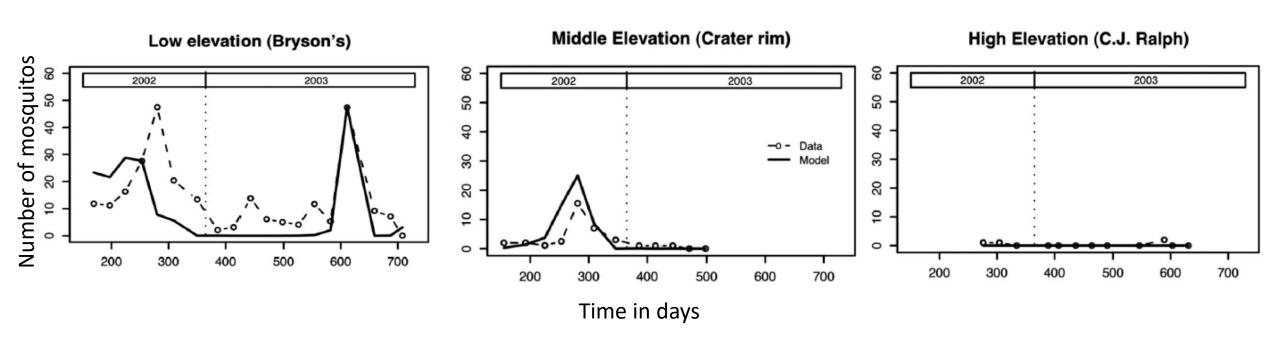
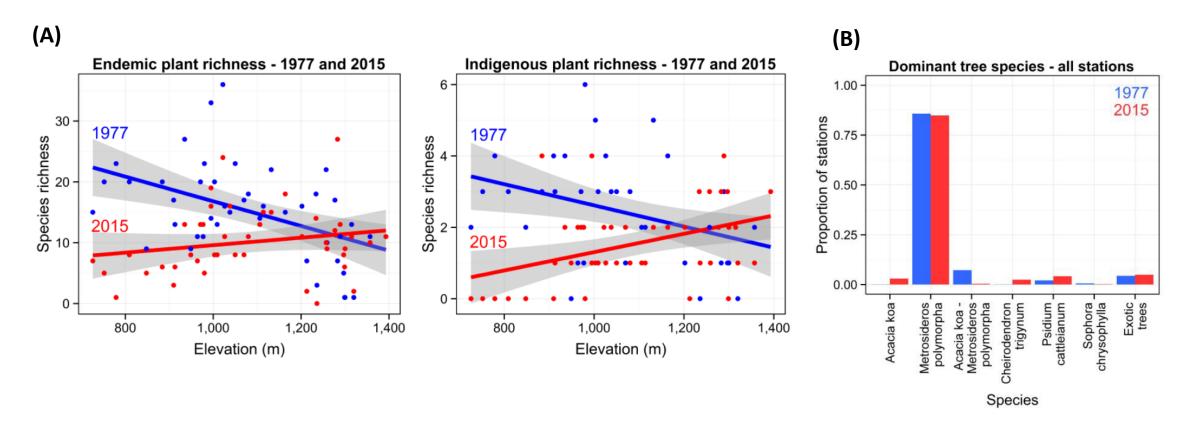


Fig. 4. Comparison of number of adult *Culex quinquefasciatus* per 100 trap nights (open circles and lines) with model fits (solid lines) at each of three different elevations: C.J. Ralph (1,800 m), Crater rim (1,200 m), and Bryson's (280 m). Time is measured as the number of days since 1 January 2002. Dotted vertical line indicates the end of 2002. At the highest elevation, the model predicts no mosquitoes, so no climatic stations were used for the fit.

Vegetation by elevation in 1977 versus 2015



• Figure 5. (A) Plant species richness by survey period as a function of species origin (endemic, indigenous) and elevation. (B) Dominant and co-dominant tree species recorded across the study area in 1977 (blue) and 2015 (red), as a proportion of sampled locations (n=534 survey stations).

Average annual temperature from 1950 to 2014

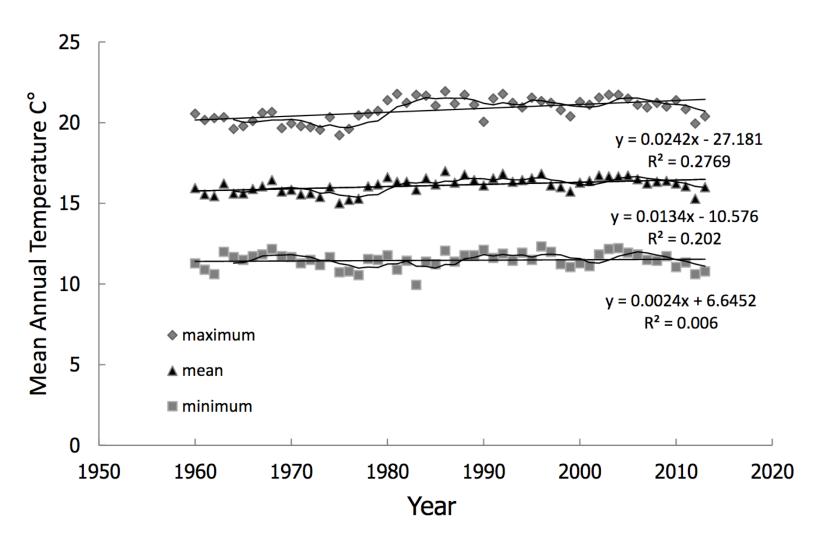


Figure 6. Fifty-three year linear and 5-year moving average trends in the mean annual temperatures recorded at 1,210 m in Hawai'i Volcanoes National Park, Headquarters.

Annual rainfall from 1950 to 2014

 Figure 7. Total annual precipitation time series from 1950-2014 in Hawai'i Volcanoes National Park, Headquarters, at 1,210 meters elevation. Values are departures from mean (i.e. numbers below 100% mean lower rainfall than the mean/average and numbers above 100% are higher rainfall years).

