## Supplementary video material to "Climate change will cause non-analogue vegetation states in Africa and commit vegetation to long-term change"

This archive contains time series maps in form of MP4 videos that show decadal maps on the following topics: 1) Biomes, 2) same decade partners (SDPs), 3) closest decade partners (CDPs), 4) single variables.

Biome maps are plotted to illustrate biome change over time, and to allow side-by-side comparison of different scenarios.

Files are named according to the following scheme for biome change: "Biomeshifts\_", then the number indicating the RCP scenario, in combination with "e" for equilibrium or "t" for transient scenarios, and "wifi" (with fire) or "nofi" (no fire). "Biomeshifts\_" video sequences contain four types of maps: a) indicates the number of different biome types that were found in a location up to the given decade; b) indicates the number of biome changes a given location has experienced up to a given decade. The number of biome changes can exceed the number of biome types found at a given location, if a location switched back and forth between specific biome types more than once. This ratio between biome changes and biome types found at a given location is depicted in panel d), and higher ratio indicates biomes teetering on the edge of their defining limits. Panel c) identifies the biome type at a given location and time.

Scenario comparisons are named according to the following scheme: "Biomes\_", followed by the RCP scenario identifier and "e" for equilibrium or "t" for transient "scenarios, and an indication of the fire scenario ("nofi" for scenarios without fire, "wifi" for scenarios with fire, and "wifinofi" for video sequences that compare fire with no-fire scenarios). "TE" refers to video sequences that compare transient and equilibrium scenarios, and combinations of "RCP8.5" and "RCP4.5" in file names indicate a comparison of both RCP scenarios. Panels a) and b) show the biome type at a given location and time for the two scenarios that are compared against each other. Panels c) and d) focus specifically on those areas where the two scenarios shown in a) and b) differ from one another, showing biome type only for areas of disagreement while areas of agreement were masked.

Video sequences on SDPs focus on Euclidean distance between SDPs ("Edist\_"), dominant variable defining the Euclidean distance ("DomVars"), and the percent deviance from the full Euclidean distance caused by the dominant variable ("PDomVars"). "DomVars" and "PDomVars" show the maps for the four transient-equilibrium scenario pairings (2 RCPs x 2 fire scenarios). "Edist\_" sequences either focus on comparison of RCP scenarios ("(8.5\_4.5") or fire against no-fire scenarios ("wifinofi"). Panels a) and b) show the Euclidean distance for the two scenarios in comparison, panel c) shows the difference between both scenarios (panel a) minus panel b)).

Video sequences for CDPs follow the same structure as video sequences on SDPs, but additionally also show lag times and their development over time in comparison between RCPs ("8.5\_4.5") and between fire and no-fire scenarios ("wifinofi").

Single variable sequences for the 9 state variables and an additional sequence showing the fraction of total tree cover made up by forest trees (Forest tree fraction) have been plotted to allow comparison between scenarios with and without fire ("wifinofi" in file name), transient and equilibrium scenario combinations ("TE" in filename), and between RCP8.5 and RCP4.5 either combining transient ("RCP8.5t\_4.5t" in filename) or equilibrium ("RCP8.5e\_4.5e" in filename) scenarios. Panels a) and b) show the respective variable's values for the two scenarios, panel c) shows the absolute difference between a) and b).