The following supplement accompanies the article

Record-breaking climate anomalies lead to severe drought and environmental disruption in western Patagonia in 2016

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Figure S1. The extreme summer of 2016 as shown by time series of selected variables from the NCEP-NCAR reanalysis (JFM averaged). (a) 850 hPa zonal wind over Patagonia (45°S, 72.5°W). (b) Surface meridional wind off Chiloe Island (42.5°S, 75°W). Red circles indicate summer 2016 values.
Figure S2. Topographic map of Patagonia. Coloured circles indicate the accumulated rainfall anomaly (percentage relative to climatology, scale at bottom) during (a) winter 2015, (b) spring 2015, (c) summer 2016 and (d) fall 2016. Rainfall data from the National Weather Service (DMC-Chile) and General Water Directorate (DGA-Chile).

Figure S3. Meteorological and oceanographic conditions around Chiloe during 2015-2016. The dashed red box indicates Harmful Algae Bloom (HAB) period in this area. The gridded datasets were interpolated to a coastal point (42.5°S, 74.3°W) and an offshore point (42.5°S, 75.3°W), about 30 and 150 km from the coastline, respectively (see small map). The black lines are 7-day running means of daily values. The thick brown line are long-term mean. (a) Coastal surface meridional wind, approximately parallel to the coast with southerly winds ($v>0$) promoting upwelling. (b) Coastal SST. (c) SST difference between offshore and coastal points. Source: Wind NCEP-NCAR Reanalysis. SST: NOAA High-resolution blended analysis of SST.
Figure S4. Anomalies of 200 hPa height (contoured every 30 m; positive in red, negative in blue; the zero line is omitted) and outgoing longwave radiation (colors) for January and February 2016.

Figure S5. Large scale context during austral fall (AMJ) 2016. (a) Observed (NCEP-NCAR Reanalysis) sea level pressure (SLP) anomalies. (b) Observed (ERA-Interim) SLP anomalies. (c) Ensemble mean SLP anomalies from a 30 member ensemble ECHAM5.4 AMIP simulation.