**Table 3: Summary of catchment attributes. Climate indices and hydrological signatures were computed for the period 01/01/1990-31/12/2010. Index i refers to the precipitation product (i = 1, 2, 3, 4 for precip$_{cr2met}$, precip$_{tmpa}$, precip$_{chirps}$ and precip$_{mswep}$, respectively).**

| Attribute class | Attribute name | Description | Unit | Data source | Reference |
|---|---|---|---|---|---|
| Location and topography | gauge_id | catchment identifier (corresponds to the station code provided by DGA) | - | Gauges information collected from http://explorador.cr2.cl | |
| | gauge_name | gauge name (based on DGA records) | - | | |
| | gauge_lat | gauge latitude (based on DGA records) | ° South | | |
| | gauge_lon | gauge longitude (based on DGA records) | ° West | | |
| | gauge_record_start | start date of streamflow records | - | | |
| | gauge_period_end | end date of streamflow records | - | | |
| | gauge_n_obs | number of days with valid streamflow records | day | | |
| | area | catchment area | km$^2$ | ASTER GDEM 30 m raster data (Tachikawa et al., 2011) | Section 3.1 |
| | elev_gauge | gauge elevation (catchment outlet) obtained from the 30 m ASTER GDEM elevation data and the location provided by DGA | m a.s.l. | | |
| | elev_mean | catchment mean elevation | m a.s.l. | | |
| | elev_med | catchment median elevation | m a.s.l. | | |
| | elev_max | catchment maximum elevation | m a.s.l. | | |
| | elev_min | catchment minimum elevation | m a.s.l. | | |
| | slope_mean | catchment mean slope | m km$^{-1}$ | | |
| | nested_inner | number of inner catchments contained within gauge_id catchment (the gauge_id for the inner catchments can be obtained from the hierarchy matrix described in Sect. 3.1.1) | - | - | |
| | nested_outer | number of catchments containing gauge_id catchment (the gauge_id for the outer catchments can be obtained from the hierarchy matrix described in Sect. 3.1.1) | - | | |
| | location_type | classification in "coastal (or low elevation)", "foothill" and "altiplano" catchments, based on gauge elevations (gauge_elev) below 50 m a.s.l., between 1000 and 1200 m a.s.l., and above 3,500 m a.s.l., respectively. | - | - | Section 3.2 |
| Geological characteristics | geol_class_1st | most common geologic class in the catchment | - | Global Lithological Map database (GLiM) (Hartmann and Moosdorf, 2012) | Table 6 in A17 |
| | geol_class_1st_frac | fraction of the catchment area associated with its most common geologic class | - | | |
| | geol_class_2nd | second most common geologic class in the catchment | - | | |
| | geol_class_2nd_frac | fraction of the catchment area associated with its second most common geologic class | - | | |
| | carb_rocks_frac | fraction of the catchment area characterised as "carbonate sedimentary rocks" | - | | |
| Land cover characteristics | crop_frac | percentage of the catchment covered by croplands, level 1. Includes five types of level 2 classes: rice fields; greenhouse farming; other croplands; orchards; and bare croplands | % | 30 m resolution land cover map provided by Zhao et al. (2016) | Sections 3.1.3 and 3.2.3 |
| | nf_frac | percentage of the catchment covered by forest (level 1) classified as natural broadleaf (level 2) or natural conifer (level 2). | % | | |
| | fp_frac | percentage of the catchment covered by forest (level 1) classified as broadleaf plantations (level 2) or conifer plantations (level 2). | % | | |
| | grass_frac | percentage of the catchment covered by grasslands, level 1. Includes three types of level 2 classes: pastures; other grasslands; and withered grasslands. | % | | |
| | shrub_frac | percentage of the catchment covered by shrublands, level 1. Includes five types of level 2 classes: shrublands; shrubs and sparse trees mosaic; succulents; shrub plantations; and withered shrublands. | % | | |
| | wet_frac | percentage of the catchment covered by wetlands and water bodies (level 1). Includes six types of level 2 classes: marshlands; mudflats; other wetlands; lakes; reservoirs/ponds; rivers; and ocean. | % | | |
| | imp_frac | percentage of the catchment covered by impervious surfaces (level 1). Urbanised areas are usually contained in this class. | % | | |
| | barren_frac | percentage of the catchment covered by barren lands (level 1). Includes three types of level 2 classes: dry salt flats; sandy areas; and bare exposed rocks | % | | |
| | snow_frac | percentage of the catchment covered by snow and ice, level 1. Includes two types of level 2 classes: snow and ice. | % | | |
| | fp_nf_index | forest plantation index: calculated as the ratio between fp_frac and the total forested area (fp_frac+nf_frac). | - | | |
| | forest_frac | fraction of the catchment covered by forests, including native forest and forest plantation (fp_frac+nf_frac). | % | | |

| | | | | | |
|---|---|---|---|---|---|
| | dom_land_cover | dominant land cover class | - | | |
| | dom_land_cover_frac | fraction of the basin associated with dominant land cover class | % | | |
| | land_cover_missing | percentage of the basin not covered by the land cover map | % | | |
| | glaciers_area | glacierised area within the catchment | km$^2$ | Randolph Glacier Inventory v. 6.0 (RGI Consortium, 2017) | Sections 3.1.4 and 3.2.3 |
| | glaciers_frac | percentage of the catchment covered by glaciers. | % | | |
| Climatic indices (computed for 1 April 1990 to 31 March 2010) | p_mean_i | mean daily precipitation of product $i$ | mm day$^{-1}$ | Precipitation, temperature and potential evapotranspiration products introduced in Sect. 3.1.6, 3.1.7 and 3.1.8, respectively. | Table 2 in A17 |
| | p_mean_spread | coefficient of variation of basin-averaged mean annual precipitation from different products (standard deviation of p_mean_i from the four precipitation products, normalised by multi-product mean) | - | | |
| | pet_mean | mean daily PET of pet$_{har}$ product | mm day$^{-1}$ | | |
| | aridity_i | aridity, calculated as the ratio of mean daily PET (pet_mean) to mean daily precipitation (p_mean_i) | - | | |
| | p_seasonality_i | seasonality and timing of precipitation (product $i$) estimated using sine curves to represent the annual temperature and precipitation cycles; positive (negative) values indicate that precipitation peaks in summer (winter); values close to 0 indicate uniform precipitation throughout the year) | - | | |
| | frac_snow_i | fraction of precipitation (product $i$) falling as snow (i.e., on days colder than 0 °C) | - | | |
| | high_prec_freq_i | frequency of high precipitation days ($\geq$ 5 times mean daily precipitation) for product $i$ | days yr$^{-1}$ | | |
| | high_prec_dur_i | average duration of high precipitation events (number of consecutive days $\geq$ 5 times mean daily precipitation), for product $i$ | days | | |
| | high_prec_timing_i | season during which most high precipitation days ($\geq$ 5 times mean daily precipitation) occur | season | | |
| | low_prec_freq_i | frequency of dry days (< 1 mmday$^{-1}$), for product $i$ | days yr$^{-1}$ | | |
| | low_prec_dur_i | average duration of dry periods (number of consecutive days <1 mmday$^{-1}$), for product $i$ | days | | |
| | low_prec_timing_i | season during which most dry days (< 1 mmday$^{-1}$) occur, for product $i$ | season | | |
| Hydrological signatures (computed for 1 April 1990 to 31 March 2010) | q_mean | mean daily discharge | mm day$^{-1}$ | Streamflow records collected from http://explorador.cr2.cl | Table 3 in A17 |
| | runoff_ratio_i | runoff ratio (ratio of mean daily discharge to mean daily precipitation), for product $i$ | - | | |
| | stream_elas_i | streamflow precipitation elasticity (sensitivity of streamflow to changes in precipitation at the annual timescale, using the mean daily discharge as reference and precipitation product $i$) | - | | |
| | slope_fdc | slope of the flow duration curve, FDC (between the log- transformed 33rd and 66th streamflow percentiles) | - | | |
| | baseflow_index | baseflow index (ratio of mean daily baseflow to mean daily discharge, hydrograph separation performed using the Ladson et al. (2013) digital filter with α set to 0.925) | - | | |
| | hdf_mean | mean half-flow date (date on which the cumulative discharge since 1 April reaches half of the annual discharge) | day of the year | | |
| | Q5 | 5 % flow quantile (low flows) | mm day$^{-1}$ | | |
| | Q95 | 95 % flow quantile (high flows) | mm day$^{-1}$ | | |
| | high_q_freq | frequency of high-flow days (> 9 times the median daily flow) | days yr$^{-1}$ | | |
| | high_q_dur | average duration of high-flow events (number of consecutive days >9 times the median daily flow) | days | | |
| | low_q_freq | frequency of low-flow days (< 0.2 times the mean daily flow) | days yr$^{-1}$ | | |
| | low_q_dur | average duration of low-flow events (number of consecutive days <0.2 times the mean daily flow) | days | | |
| | zero_q_freq | percentage of days with Q=0 | % | | |
| | swe_ratio | ratio of peak of snow water equivalent to mean annual discharge | - | SWE product developed by Cortés and Margulis (2017) | |
| Intervention | sur_rights_n | total number of granted surface rights within the catchment | - | Water Atlas developed by the DGA (DGA, 2016a) | Sections 3.1.10 and 3.2.6 |
| | sur_rights_flow | annual flow calculated for consumptive permanent continuous surface water rights | m$^3$ s$^{-1}$ | | |
| | interv_degree | intervention degree defined as the annual flow of surface water rights (consumptive permanent continuous), normalised by mean annual streamflow. | - | | |
| | gw_rights_n | total number of granted groundwater rights within the catchment | - | | |
| | gw_rights_flow | annual flow calculated for consumptive permanent continuous groundwater water rights | m$^3$ s$^{-1}$ | | |
| | large_dam | 0 if there is no dam within the catchment, 1 if there is at least one dam classified as "large" | - | http://www.ide.cl/descarga/capas/item/embalses-2016.html | |