This study investigates interdecadal variability of summer (JJA) rainfall in Taiwan for the 1950-2008 period. Summer rainfall in Taiwan is partitioned into two components: tropical cyclone (TC) rainfall caused by TC passage and seasonal monsoon rainfall associated with monsoonal southwesterly flows. The first interdecadal mode features an increasing trend plus positive anomalies for TC rainfall and negative anomalies for seasonal monsoon rainfall. Significant warm sea surface temperature (SST) anomalies exist in the tropical central and eastern Pacific and the Indian Ocean. At the low levels, an anomalous large-scale divergent center occurs in the Australian regions, which in turn evokes an anomalous cyclonic circulation in the subtropical North Pacific. Taiwan is on its western edge and affected by anomalous northeasterly flows, in company with weakening in the prevailing monsoonal southwesterly flows and moisture transport from the South China Sea into Taiwan. As such, negative seasonal monsoon rainfall anomalies occur in Taiwan with a decreasing trend. The subtropical anomalous cyclonic circulation also weakens vertical wind shear over the major TC genesis region, i.e., the Philippine Sea. Warm SST anomalies in this region and accompanying anomalous ascending motion provide additional favorable conditions for TC genesis. More TCs are thus formed in the Philippine Sea. The appearance of a weakened Pacific subtropical high tends to retreat eastward and provides southeasterly or southerly flows at its western boundary to guide TCs formed in the Philippine Sea to move northwestward toward Taiwan. TC frequency and TC rainfall thus increase in Taiwan with an increasing trend.