## Supporting Information for "Irrigation impacts on California's climate with the variable-resolution CESM"

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## Introduction

This supporting information includes:

- 1) Figure depicting the irrigated water of IRG run, and the precipitation for both NRG and IRG runs in four seasons averaged over the period 1980-2005.
- 2) Figure depicting the geopotential height at 500 hPa for all the simulations averaged over JJA from 1980-2005.
- 3) Figure depicting the averaged JJA Precipitation, low-level cloud, near-surface specific humidity and convective available potential energy (CAPE) of all the simulations and their differences with t-test results for year 1980-2005 period.



**Figure S1.** Irrigated water of IRG, and precipitation for both NRG and IRG in four seasons averaged over the period 1980-2005.

Figure S2. Geopotential height at 500 hPa for simulations (averaged over JJA from 1980-2005).

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**Figure S3.** Precipitation, low-level cloud, near-surface specific humidity and CAPE of all the simulations and their differences with t-test results (averaged over JJA from 1980-2005).