

# **Summary of Rainfall and Reference Evapotranspiration Anomalies Island of Maui**

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# Climate Data

- International Pacific Research Center (IPRC) climate data
  - Weather Research and Forecasting (WRF) model
  - 1-km resolution for island of Maui
  - Two 20-yr time series of daily rainfall and hourly meteorological data
    - Present: 1990 – 2009
    - Future: 2090 – 2109
- Reference evapotranspiration (ET)
  - Computed by U.S. Geological Survey using Penman-Monteith equation and climate data from IPRC

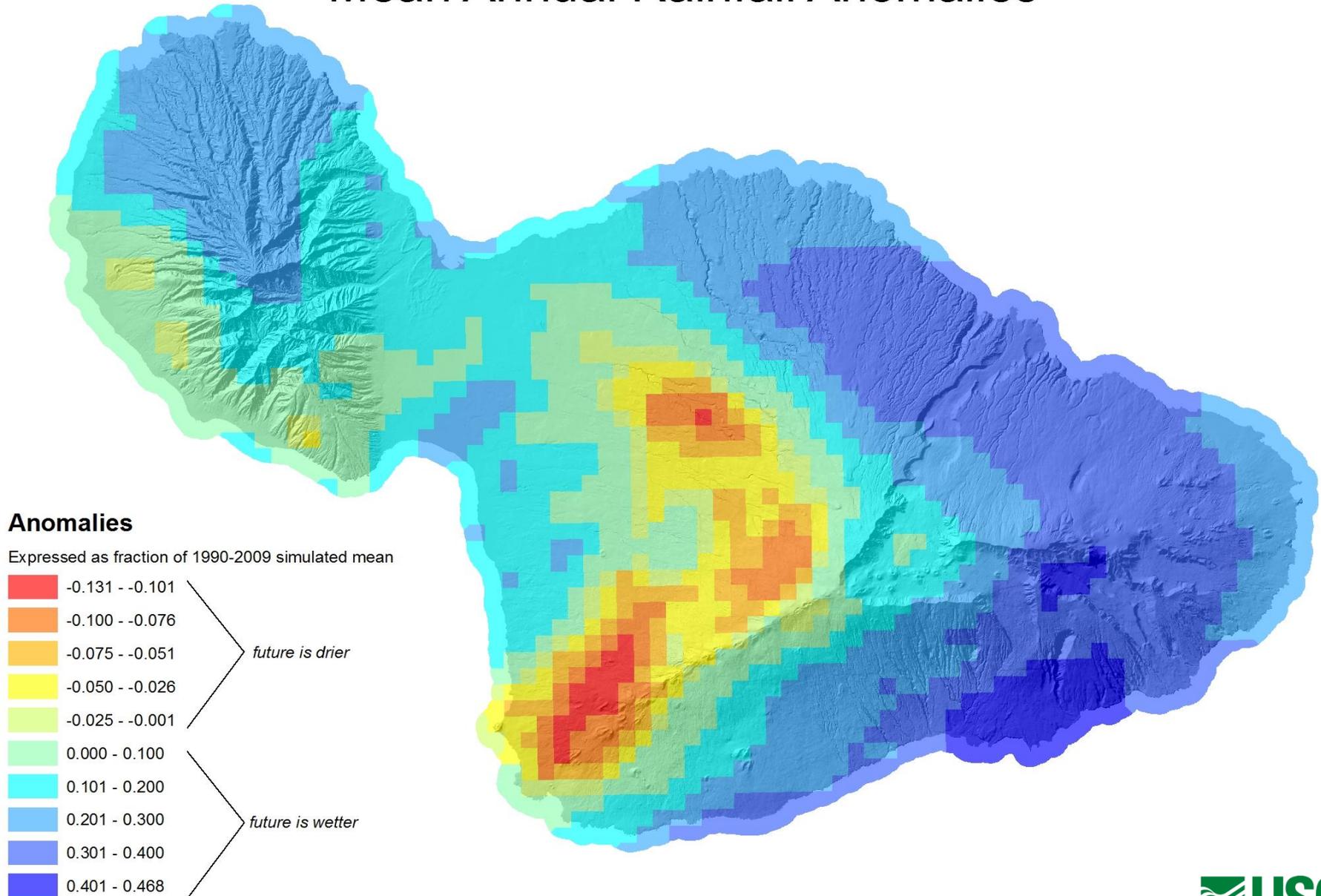
# Computation of Anomalies

- Mean monthly rainfall and reference ET computed at each 1-km grid point for 20-yr present and future time series
- Sum of 12 mean monthly values used to estimate mean annual rainfall and reference ET at each 1-km grid point
- Monthly and annual anomalies computed at each 1-km grid point as fraction of present 20-yr time series mean
- Maps of mean annual anomalies are attached
  - A separate map is added to show rainfall atlas mean annual contours

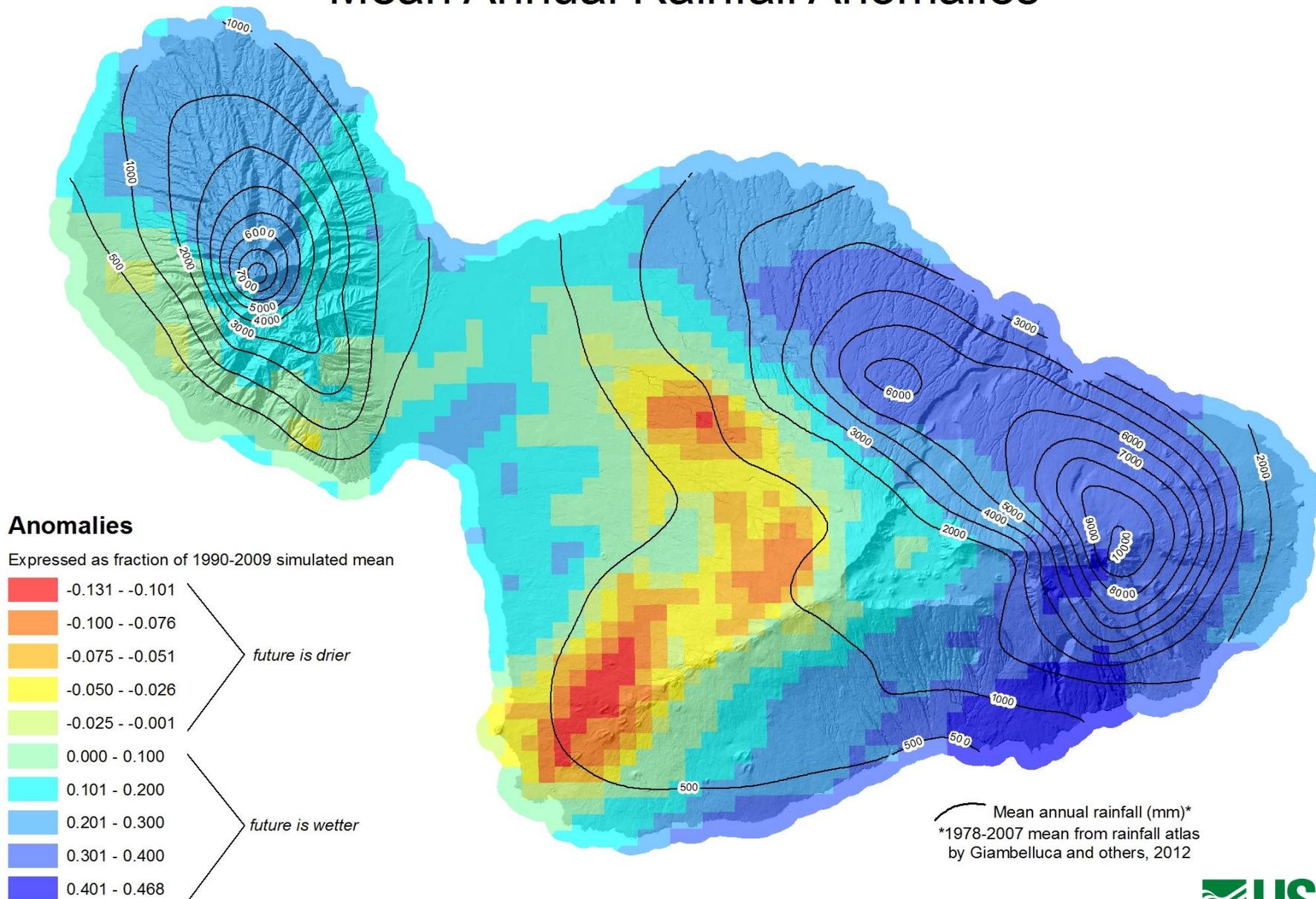
# Next Steps

- Begin estimating groundwater recharge
  - 2010 land cover and future climate scenario
- Estimate recharge for other scenarios as future land-cover maps become available
  - Future scenarios
    - “Green”
    - “Managed growth”
    - “Growth”
- Update on progress in May

# Mean Annual Rainfall Anomalies



# Mean Annual Rainfall Anomalies



# Mean Annual Reference ET Anomalies

