PROJECT FACTSHEET

College of the Desert

Sherwood Design Engineers supported the development of the College of the Desert Master plan by developing sustainability and infrastructure benchmarks and goals to guide architecture and landscape design efforts for a future community college campus in Palm Springs, California.

The College of the Desert was an innovative design proposal for a new community college campus located in Palm Springs, California, developed by Sherwood, a civil engineering firm committed to the integration of infrastructure, design and the environment. The primary scope of the project was the development of sustainable water infrastructure, but there was also a great opportunity for urban microclimate modeling due to the extreme summer temperatures, which average 107°F (42°C) during the peak of the summer and hit 124°F (51°C) during a recent historic heatwave in the summer of 2020.

A microclimate analysis was conducted for the proposed campus, under average summer conditions, in order to quantify the site performance. This was helpful in highlighting priority areas that would need additional design considerations to promote pedestrian comfort during the summer.

Proposed design features that were included in the evaluation of site performance included:
• Photovoltaic shade structures
• Architectural shade structures
• Tree canopy cover
• High albedo surfaces

The ENVI-met model revealed that the southernmost parking lot and transit station had significantly higher mean radiant temperature values than other portions of the campus, due to the wide adjacent roadway, expansive parking lot immediately across the street, and limited amount of tree canopy coverage in the area. This location, and a few others throughout the campus, were labeled as priority areas for the application of additional thermal mitigation strategies.

FACTS

Client
Desert Community College District

Implementation period
03/2020-ongoing

Used Features
ENVI-met holistic microclimate model; Spaces, Leonardo, Forcing Manager, Database Manager, Convert EDX to NetCDF