

Kay (2022)

Dates: 4 - 9 September 2022

Max Strength: Category 2

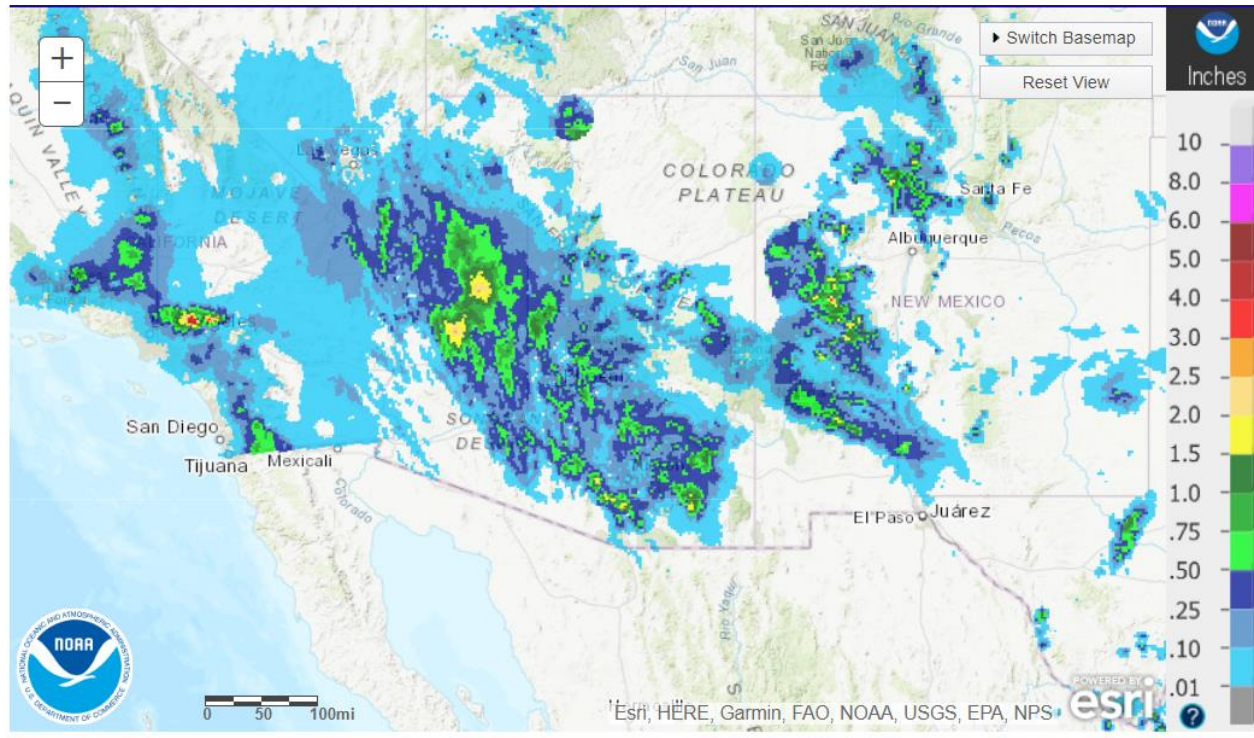
Hurricane Kay seems to have been formed from an upper-level trough that stretched from the Northeastern United States and into the Gulf of Mexico as well as a weak tropical wave from the Western Caribbean and a monsoonal trough. Slowly, it organized and Kay was picked up as a tropical depression on satellites about 195 n mi south-southwest of Acapulco, Mexico. Kay began to intensify into a tropical storm, and then a hurricane on September 5th thanks to warm sea surface temperatures and low vertical wind shear. Hurricane Kay then began to travel towards the Baja peninsula. During this travel, Kay reached peak intensity (Cat 2), but 6 hours later, Kay had weakened back down to Cat 1. As Kay traveled near the coast, it then weakened into a tropical storm before making landfall in San Rafael, Baja California. Then, tropical storm Kay's center went back towards the ocean and went up along the Baja Californian coast. It traveled like this before finally curling back into the Pacific as it lost its organized deep convection.

As Kay moved past Baja and into the Pacific Ocean, remnants of her moisture pushed into Arizona and created extremely favorable conditions for an active day of monsoonal weather. On September 11th, 2021 much of Pima and Pinal counties experienced strong thunderstorm winds, flash flooding, dust storms, and hail. In Pima County, Continental, received hail up to 1 in. in diameter. From this, there was no property damage or crop damage reported. However, damage was reported from thunderstorm winds that affected Oracle, Bon, Lirim, Dock, and Apache Junction in Pinal County, and Anegam in Pima. The strongest of these winds was reported in Anegam with a speed of 70 mph. The wind knocked down 3 power poles and caused around \$8k in damage. Bon also had wind speeds of up to almost 70 mph, but no reported damage. On September 12th, Tucson Ryan Field Airport received hail that was also 1 inch in magnitude.

Storm Track:



Precipitation Totals



References:

https://www.nhc.noaa.gov/data/tcr/EP122022_Kay.pdf

<https://mesonet.agron.iastate.edu/wx/afos/p.php?pil=AFDTWC&e=202209110938>

<https://water.weather.gov/precip/>

<https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=1057456>

<https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=1056470>