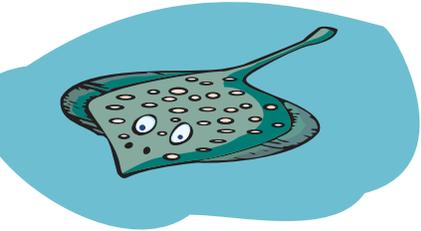




EMERALD KEEPERS

For an Emerald Green, Ocean Blue Coronado



CARTOON CONTEST EXTENDED TO FEB. 7

Celebrate **National Sting Ray Day** (which was Jan. 26) by learning about stingrays. Submit your cartoon about the importance of doing the Sting Ray Shuffle. Send to EmeraldKeepers@gmail.com by Feb. 7. The best cartoons will be posted on Emerald Keepers' website. Prizes for the top five! No age limit.



BANNERS ON ORANGE AVENUE

Become part of the movement to make Coronado ***Emerald Green, Ocean Blue*** by signing Emerald Keepers pledge and thereby becoming a member at EmeraldKeepers.org and making sustainable choices.



BEACH CLEAN-UPS

Check our website for upcoming events.



PHOTO BY STEVEN SU | UNSPLASH

This week, we focus on key impacts of climate change. These impacts are happening now and are the direct result of an increase in global surface temperature — affecting our ecosystems, our infrastructure, and our well-being.

ECOSYSTEM IMPACT & PRECIPITATION EXTREMES

Some readers might remember watching the movie, *Waterworld*, and chuckling at the post-apocalyptic absurdities depicted in it. Today, the world is experiencing the impact of climate change on global water resources with life-threatening consequences. Extreme precipitation patterns brought about by climate variability exacerbate flooding in some regions and drought in others. As an example, Environmental Protection Agency data reveal drought in the southwestern US has increased, trending drier since the 1980s. Such conditions increase the likelihood of wildfires.

SEA LEVEL RISE & INFRASTRUCTURE

The California coast is home to 26.3 million people and a keystone in the state's \$44 billion annual economy. However, both infrastructure and property in state's coastal regions will be negatively affected by sea level rise.

Recognizing the significance of this and other climate change related impacts, just two weeks ago, the San Diego County Board of Supervisors adopted a measure to move toward zero carbon emissions over the next 15 years. One supervisor said, "It is essential that we craft a climate action plan that is effective and innovative — and that can serve as a national model for how we can address the climate crisis."

At the national level, the Department of Defense (DoD) identifies 51 military installations worldwide threatened by sea level rise. Melting polar ice caps—particularly in

the Arctic Ocean—have opened access to routes and resources causing significant economic and national security concerns. The DoD Inspector General's Fiscal Year 2021 Top Management Challenges Report identifies climate change as its "top challenge," citing as one example the flooding threat to the U.S. Naval Academy in Annapolis, Maryland, where the water level is projected to rise an additional 3.6 feet by 2050. Models show North Island and the Amphibious Base are also at risk.

IMPACT ON WELL-BEING

The impact of climate change on human well-being in the most vulnerable regions of the world must not be underestimated. Consequences of climate change — increasingly devastating drought, flooding, and catastrophic storms — are already causing unprecedented human displacement and contributing to migration as families move from regions where they can no longer sustain a livelihood. The consequences are being felt soonest and with the greatest severity in geographic regions where national capacity to mitigate and adapt to these effects is limited. The security, economic, and humanitarian implications of such movement



PHOTO BY MATT HOWARD | UNSPLASH

at local, national, and international levels are staggering. We are witnessing this already with the caravans heading north toward the U.S. southern border.

"Ship of state" is a term often used to describe the governance of a nation. Like a large sea-going vessel, the "ship of state" can be slow to alter direction. To avoid disaster both must take action early. Recognizing the impactful dynamics unfolding on our planet as a result of climate change is critical to sound decision-making at all levels. And the time is now — before the planet and its inhabitants find themselves in an "extremis" situation. Emerald Keepers invites you discuss this science further, share your own stories on adaptation, and dream together about a future that will lessen these challenges

The information presented here was sourced from NASA, NOAA, EPA, Center for Climate and Security. Emerald Keepers is committed to relying on trustworthy, U.S. government and peer-reviewed scientific resources to develop this series. Stay tuned as we continue discussion in this series, addressing the impacts of climate change and efforts to adapt and/or mitigate these effects.

For more information visit EMERALDKEEPERS.ORG