TRAVEL AND MEETING REPORTS

NOAA CoastWatch Annual Science Meeting
CISESS researchers Melanie Abecassis, Andy Harris, Emily Smail, Ron Vogel, and Guangming Zheng recently attended the NOAA CoastWatch Annual Science Meeting in Honolulu, Hawaii, where they learned about applications of satellite data to support dynamic commercial fisheries management, marine protected species modeling, and coral reef health monitoring, among other topics. Emily Smail presented on GEO Blue Planet international satellite user feedback and requests, and Ron Vogel co-presented on the topic, Satellite time-series products, tools, and stakeholder engagement to support fisheries and estuarine management. Melanie Abecassis was one of the meeting's organizers. While the focus of the meeting was on oceanographic satellite applications involving stakeholder needs in tropical and Pacific Ocean water, the CISESS researchers also heard from NOAA CoastWatch regional nodes throughout the United States on the ongoing uses of satellite data in marine and coastal environmental decision-making. The meeting was held at the University of Hawaii-Manoa, May 22-25, 2023, and was hosted by the Central Pacific OceanWatch regional node of the NOAA CoastWatch program. (Ron Vogel, CISESS, vogelr@umd.edu; Funding: Ocean Remote Sensing)
Daile Zhang Presented and Chaired at the 2023 Asia-Pacific Lightning (APL) Conference
CISESS scientist Daile Zhang presented four talks and chaired a session at the 2023 Asia-Pacific Lightning Conference in Langkawi, Malaysia during June 12-15, 2023. The four talks were: 1) A Year of Global Lightning Deaths and Injuries; 2) Lightning Casualties and Caterpillar Fungus; 3) Efforts to Reduce Lightning Casualties in the U.S. Through Education and Awareness; and 4) Space-Based Lightning Sensors and Data Applications. The last paper was selected as one of the best papers in the conference. She also chaired a session “Lightning Detection and Warning Systems.” (Daile Zhang, CISESS, dlzhang@umd.edu, Funding: GOES-R AWG, GOES-R PGRR, NOAA ROSES and CISESS Seeds Grant.)

Figure: Daile Zhang presenting at the Asia-Pacific Lightning (APL) conference.

MEDIA INTERACTIONS AND REQUESTS

Multiple TV Interviews by the CISESS Lightning Group on Tracking Lightning in Arizona: First, CISESS scientist Daile Zhang spoke at ABC 15 spoke with Meteorologist Ashlee DeMartino about how Raspberry Pi high-speed cameras can help track monsoon lightning in Arizona and to better understand the lightning strokes that can ignite wildfires. The interview aired on June 12, 2023 and is available at https://www.abc15.com/news/local-news/new-lightning-network-in-arizona-will-collect-data-in-real-time. Second, on June 13th, 2023, Joseph Patton gave an interview with the CBS affiliate in Phoenix, Arizona on the Raspberry Pi camera network that has been set up by researchers at CISESS to record lightning strikes as they occur. This camera network provides a ground truth for observations of lightning which can then be compared to other lightning detection networks, like ground-based antennas and satellite-based imagers. The interview focused mainly on the effects of lightning strikes and wildfire ignition, which aim to improve our understanding of with these observations. A segment of the interview aired on the evening of
June 13\textsuperscript{th} on CBS 5. A news article was also published on their website, which is available here: https://www.azfamily.com/2023/06/14/national-lightning-detection-network-comes-arizona-help-prevent-wildfires/.

Figure: (Left) An interview with Daile Zhang aired on ABC 15 - Arizona about the Raspberry Pi camera network installed in Arizona. (Right) An interview with Joseph Patton aired on CBS 5 in Phoenix, Arizona on using the network to study lightning in Arizona during monsoon season. (Daile Zhang, CISESS, dlzhang@umd.edu; Joseph Patton, CISESS, jpatton4@umd.edu; Funding: GOES-R AWG, GOES-R PGRR, NOAA ROSES and CISESS Seeds Grant.)

PUBLICATIONS

Decadal Changes in Hurricane Activity

Citation: Hibbert, Kenesia; Equisha Glenn, Thomas M. Smith, and Jorge E. González-Cruz, 2023: Changes to sea surface temperatures and vertical wind shear and their influence on tropical cyclone activity in the Caribbean and the main developing region, *Atmosphere*, 14 (6), 999, https://doi.org/10.3390/atmos14060999. Summary: Tom Smith (SCSB) co-authored a paper on decadal changes in Atlantic hurricane frequency and associated changes in sea-surface temperature and wind shear. The lead author is a graduate student at CUNY associated with NOAA-EPP and CESSRST, a CISESS Consortium member. The study found increasing SSTs, decreasing wind shears, and an expanding Atlantic Warm Pool (AWP) and documents increased Atlantic hurricane activity, mostly associated with warming tropical Atlantic SST. As depicted in the Figure below, further examination of the individual months during the late rainfall season showed that monthly average SSTs are cooler at the beginning of the season (August in the main developing region (MDR)) and are much warmer later (September to October in the MDR). Similar overall trends are shown for the Caribbean and surrounding region.
Figure: Monthly regional SST trends from 1982 to 2020 using NOAA OISST product: (A) SST temperatures during the Late Rainfall Season in the main developing region; (B) SST in the LRS during the Caribbean and the surrounding region.

(Thomas M. Smith, SCSB, tom.smith@noaa.gov; Funding: PDRA)