



THE ATMOSPHERIC RESERVOIR

Examining the Atmosphere and Atmospheric Resource Management

FORENSIC METEOROLOGY

By Mark D. Schneider

Believe it or not, there are actually meteorologists that testify in court cases concerning automobile accidents, property damage, and criminal proceedings. They're called forensic meteorologists and this is a growing branch of meteorology. Actual examples of testimony include meteorologists providing sunrise and sunset data for a specific city to help prove the likelihood that an automobile driver was blinded by sunlight during an accident, examination of radar data to determine whether or not damaging winds could've occurred from a thunderstorm, and viewing lightning data to assist in ruling out arson for a fire.



In the insurance industry, meteorologists help evaluate storm events in reference to 100 or 500-year floods and whether or not events can be defined as “acts of God.” With more precise radar, satellite, and precipitation measuring instrumentation, these determinations are greatly simplified. What used to take days to analyze only a couple decades ago, can now be resolved in minutes or hours.

North Dakota farmers know that crop insurance adjusters are using some of the latest weather products to verify areas effected by flooding, strong winds, and hail. In essence, these adjusters are a type of forensic meteorologist mapping out storm paths by plotting observed storm reports and accumulated precipitation. Before an adjuster even visits a field that has received weather damage, they can analyze storm events and formulate an image in their minds of what they're going to see when they arrive at the damage site.

Perhaps one of the more complicated forensic meteorology cases involved the discovery of human skeletal remains in Rookkund, India back in 1942. This area of the Himalayas contains a small valley at an elevation of 16,000 feet above sea level where more than 200 bodies were found surrounding a lake. For obvious reasons, the lake acquired the name Skeleton Lake (see image). During this part of World War II, the British government sent a team of investigators to the site to determine if the bodies were from Japanese soldiers attempting to sneak through India. That wasn't the case however because the bodies dated back to around 850 AD and it was discovered that all of them had similar short, deep cracks in their skulls. Curiously, the damage to either the skulls or shoulder bones could have only occurred from above. This was the telltale clue to solving the mystery. In 2004, an expedition to the Skeleton Lake site determined that an unusually powerful hailstorm was the cause of all these deaths!

Events that appear to be taken right out of an episode of “CSI” could be the real life analysis of our weather's effect on humans. New technology and instrumentation give us clues for solving these mysteries. Much like any other type of scientist, forensic meteorologists strive to understand the reasons why things happened.

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