

New look at how water surface area has changed over the past 30 years

August 31 2016, by Bob Yirka



Clouds over Australia are shown. Credit: NASA

(Phys.org)—A team of researchers with Deltares, Boussinesqweg in The Netherlands has published a commentary in the journal *Nature Climate Change* describing changes to water surface area across the planet over the past 30 years. They describe the technology they used, changes they observed and the new ways that satellite technology may be used in the future.

Recently, a Dutch research group called Deltares unveiled an [online tool](#)

they had developed—it is called the the Deltares Aqua Monitor and offers users a visual way to view changes to [water surface](#) area for any place on Earth. Information on the maps is made available through merging of data between Google Earth Engine and NASA's Landsat satellites. Imagery available on the site goes back to 1985 and has a resolution of approximately 30 meters. The authors used the tool to learn more about changes to surface water over the past 30 years.

The researchers discovered some undocumented water surface changes, such as the construction of a dam in North Korea and large scale increases in water [surface area](#) in Myanmar. Another was the dramatic changes to some coastlines such as island creation off the coast of Dubai, coastal construction off the coast of China and reclamation efforts in Singapore. They also noted the dramatic reduction in size of the Aral Sea, once the fourth-largest freshwater body on the planet, giving it the title of the largest decrease in water surface area. Going the opposite way, the group found that the proliferation of small lakes created by melting glaciers in the Tibetan Plateau represented the largest increase in water surface area. Also notable was the shrinkage of Lake Mead in Nevada, an ominous sign for people living in the Los Angeles area—it has been draining faster than it can be replenished from the Colorado River.

Overall, the researchers found that the world has gained 115,000 km² of water surface area over the past 30 years and 173,000 km² of land. Interestingly, they also found that the world's coasts actually grew over the same time period, extending by 33,700 km², despite rising sea levels. The gain, they point out, was due to humans extending coastal regions for various purposes. They conclude by noting that the new tool offers unprecedented access to water resource information, which means it is likely to be used by a very wide variety of people and groups.

More information: Earth's surface water change over the past 30

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