The Rain Enhancement Company

Project Jordan

WeatherTec Newsletter

By means of WeatherTec technology the rainfall average in Jordan has been increased in the last two seasons by 26.5 % over an area of 10,000 km^2.

Background

Jordan and the area around suffer from severe water shortages due to the decline of renewable water resources and due to rapid population growth.

This prompted officials and decision-makers in the kingdom to think about using the most advanced scientific methods and technologies to overcome the problem of water scarcity.

WeatherTec technology is one of rain enhancement technologies, which based on using the electric charged particles to induce the natural microphysical processes inside the clouds to enhance the vapor condensation and droplet coalescence.

This technology was first applied in the HKJ on May 2016 by installing four stations in four locations. Those stations are able to emit negative ions along the northern part of the Jordan valley, specifically in the area located between Madaba and Deir Abi Saeed than through Salt city and lastly Kufranjeh, covering the area that is estimated by ten thousand square km.

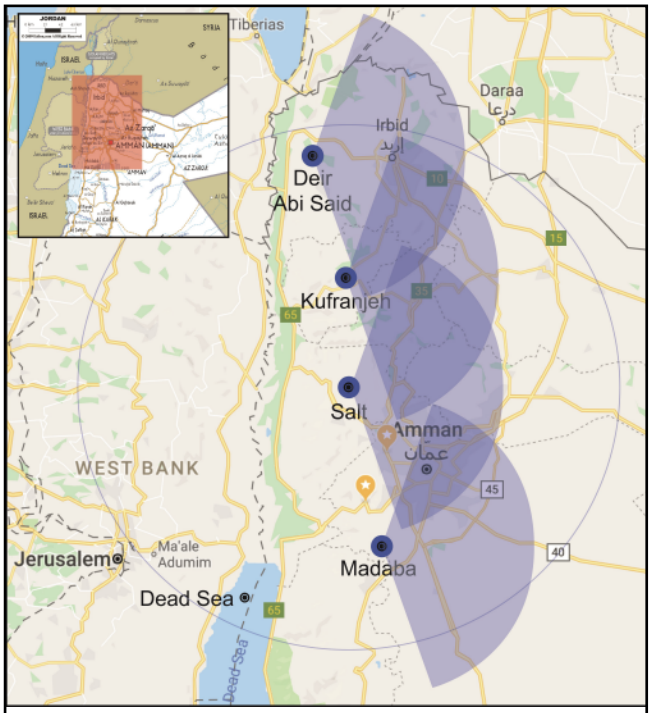

Figure 1: Locations of WeatherTec

Observations

Operations of WeatherTec are monitored and followed by experts of Jordan Meteorological Department during the whole period and its influence on the weather conditions has been evaluated by ophthalmic observations and measurements. The following observations have been recorded:

1. Unusual fast growth of clouds and precipitation cells inside WeatherTec' influenced areas was observed.
2. Clear magnification in drops size in the areas of operation.
3. Long life of the precipitation cells and thus reach deeper areas to the east.
4. Marked increase in the number of days in the target area.
5. Significant improvement in rain season performance compared to neighboring regions and countries.

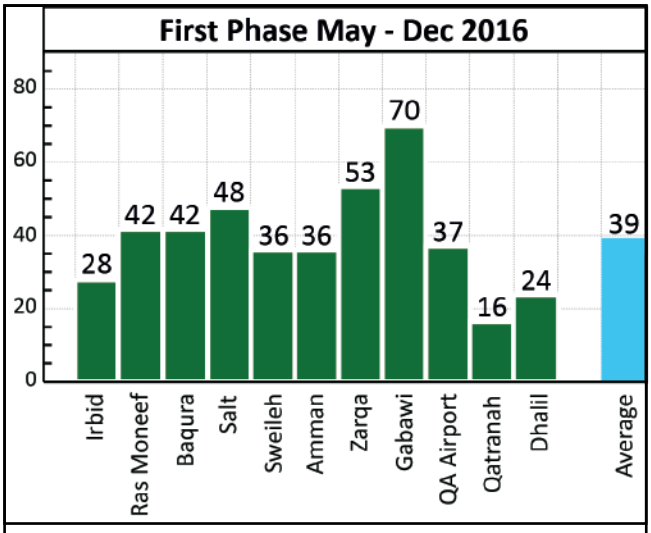

Figure 2: Increase in Precip. compared with the average for the same period for the last 30 years (JMD, 2017).

First Phase: May-December 2016:

Despite the drought conditions prevailed in the region due to the weakness and delay of the rainy season, WeatherTec operations contributed to the increase in rainfall in the operation area, so rainfall exceeded the seasonal averages in most of the northern areas of the Kingdom as shown in the figure.

WeatherTec increased in the first phase May-December 2016 rainfall by +39%, which is rainfall of 1037 Mill m3, out of it usable water 77 Mill m3 with a value of 100 Mill €.

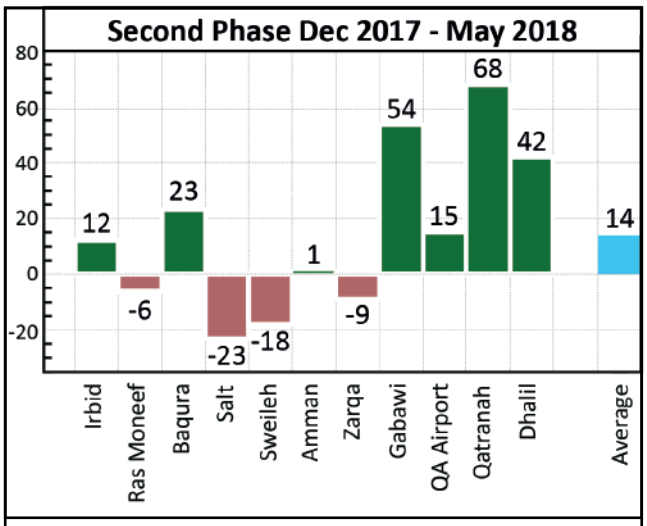

Figure 3: Increase/decrease in Precip. compared with the average for the same period for the last 30 years (JMD, 2018).

Second Phase: December 2017 – May 2018:

WeatherTec operations contributed in the improvement of the season, where rainfall has exceeded its seasonal average in most parts of the Kingdom, especially in the areas of operation WeatherTec increased the rainfall in the second phase by + 14%, which is 370 Mill m3, out of it usable water 28 Mill m3 with value of 37 Mill €.

Conclusion

Based on the above results and on the report submitted by the JMD (JMD Report Nr.MK/427/5/8/) about the progress of work and the performance of the technology, the Steering Committee of the Project, which composed of a number of related ministers, officials of homeland and national security and scientific bodies, recommended adopting the technology within the framework of a national project that will continue for several years and aims to increase the amount of rainfall and to chase away the specter of drought and desertification in Jordan.

The Steering Committee also recommended the expansion of the area of operations to the south and east by installing more WeatherTec stations in this area.