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Comparison of Climatic Features of Wet and Dry Areas

Saeid Eslamian[1], Kaveh Ostad-Ali-Askari[2]*, Shahide Dehghan[3], Vijay P. Singh[4], Nicolas R. Dalezios[5], Mohsen Ghane[6]

[1]*Department of Water Engineering, Isfahan University of Technology, Isfahan, Iran.*

[2]**Department of Civil Engineering, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran.*

[3]*Department of Geography, Najafabad Branch, Islamic Azad University, Najafabad, Iran*

[4]*Department of Biological and Agronomical Engineering & Zachry Department of Civil Engineering, Texas A and M University, Scoates Hall, College Station, Texas, U.S.A.*

[5]*Laboratory of Hydrology, Department of Civil Engineering, University of Thessaly, Volos, Greece & Department of Natural Resources Development and Agronomical Engineering, Agronomical University of Athens, Athens, Greece.*

[6]*Civil Engineering Department, South Tehran Branch, Islamic Azad University, Tehran, Iran.*

***Corresponding Author:** Kaveh Ostad-Ali-Askari, Department of Civil Engineering, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan.*

ABSTRACT

In this paper, the processes of precipitation, surface flow characteristics and groundwater table status in arid and desert regions have been investigated and compared with wet areas. Local spatial distribution of rainfall on a local scale is significantly affected by the reaction of atmospheric processes. From the qualitative point of view, these processes are similar in arid regions with wet areas, but certain aspects such as the frequency of occurrence and time and spatial variability are often characteristic of most arid regions. Considering that the surface flow in the watersheds consists of two different types of groundwater flow and drainage flow. Investigating the spatial distribution of flood in different directions of the basin is not the priority of hydrologic studies and only provides for flood decomposition maps. From the point of view of the flood discharges, it is studied. The flood water is in the dry and desert regions of the sharp tip, with a steep and sloping branch with a steep slope. The variation coefficient of maximum annual flood discharge in arid areas is higher than that for wet areas. Channels are mostly seasonal or flooded in arid areas, and the flow of zero in a number of months makes flood analysis of monthly data difficult. That is why it can be found in arid and semi-arid regions that make up a large part of Iran. The annual maximum flow rate of flooding is used only for analyzing sustained floods. In low humidity regions, low flow analyzes will result in a minimum flow rate with expected return periods and minimize the problems encountered in hydroelectricity, aquatic ecosystems and water supply. Due to the abundance of zero currents in arid regions, flow analysis is not common. Undue harvesting of groundwater in arid areas causes landslip, land leakage, and, consequently, desertification. In addition, the annual rainfall is low. The rainfall intensity is extremely high and the low soil permeability is mainly due to lack of vegetation and high evapotranspiration, which causes the aquifers to be fed niggling. In the upper reaches of the watershed, due to the slope of the land, the subject becomes acuter and, in addition to erosion of the soil, causes a lot of financial and human damage to the bottom of the basin. For the retrospective climate simulation, consequences were contrasted to a perceived gridded climatology of temperature and precipitation, and gridded hydrologic variables resulting from forcing the hydrologic model with observations. Tree-ring data donate to a better comprehension of the nature of past climatic alternations. For most of these zones, rainfall peculiarities tend to be related with departures in the large-scale atmospheric and oceanic fields that correlate with the template alters in the annual alternation of dry and rainy seasons. The interannual mutability of climate and excursion thus become visible mainly as increment and decrement of the annual cycle. The model assessment leads to some assurance in the trustworthiness of the modeled climate. The wide-scale dispensation of territorial ecosystem complexes is defined in large part by climate and can be varied by climatic alter due to natural causes or due to human processes such as those leading to increasing atmospheric CO2 close attention. systematizations that identify the affiliation of natural vegetation on climate prepare one means of constructing maps to show the effect of climatic change on the geography of major vegetation areas. The drying attitudes are qualitatively stable with other analyses and model prognosis, which propose more severe drying in the coming decades. Strategic-scale evaluations of climate alter efffects are often assumed using the change factor methodology whereby future varies in climate projected by General Circulation Models are used to a baseline climatology. One of the main concerns with a possible vary in climate is that an enhance in utmost events will happen. Model output has been examined that displays alternations in great events for future climates, such as enhances in maximum high temperatures, reduces in extreme low temperatures, and enhances in severe precipitation events. as well as, the societal substructure is becoming more responsive to weather and climate extremes, which would be deteriorated by climate change. In wild plants and animals, climate-induced extinctions, distributional and phenological alters, and species' range shifts are being recorded at an enhancing rate. Several evidently gradual biological alters are linked to answers to extreme weather and climate incidents.

Keywords: *Precipitation, Rainfall Intensity, Flood, Discharge.*

INTRODUCTION

The definition used for dry areas is different in terms of land tenure and measuring criteria. Is different. Some of these definitions are based on climatic classifications and some aspects of the ecological and biological conditions. In desertification, the definition of arid areas relies on the definition of dry land (1992). According to this definition, the arid regions of the world are the points where the average annual precipitation to the average of their potential evapotranspiration in a 30-year statistical period (1980-1951) was less than 65%. In this definition, the amount of evapotranspiration potential has been calculated using the White Torrent formula, but in some cases, the Penman standardized equation has also been introduced. According to this definition, dry areas are divided into over-dry, dry, semi-arid, and dry and semi-humid areas. Since then, the terms have been used to describe the concepts of desertification, and the term "desert" was also considered as an "extant" synonym of the true desert or climatic desert. Although, according to the dry area coupons, rainfall is less than twice the average temperature. But the Torrent White method uses a dry area where the soil moisture requirement is more than the moisture that enters the soil through rainfall. Over the course of the rainfall, the cloud must be sufficiently formed, which usually requires cooling of the humid air to the dew point. In most forms of precipitation, this is due to the ascent of the air mass, causing unplanned expansion and cooling. The formation of a suitable cloud for precipitation alone is not enough. The very fine cloud droplets must also be dense enough to drop before reaching the ground. Such clustering takes place with the help of ice crystals that form sublimation hearths or by large massive nuclei such as clay and salt particles. If ice crystals or large nuclei are very reliable. Humped droplets tend to increase in numbers but the decrease in size and in many cases are very small for rainfall. Additional atmospheric mist may also work in this way and help create drought conditions. In some arid regions, the atmosphere is somewhat misty and rain is much less expected. This effect is important.

Soils in Iran's desert areas are affected by severe wind erosion due to lack of vegetation and its specific grains, and the dust is transferred to the atmosphere. This causes the dust to increase as the number of nuclei increases and because the moisture content of the atmosphere is constant, the amount of droplets is reduced and some of these droplets may not be able to descend. In some other arid regions, such as the Rajasthan Desert in India, the atmosphere is somewhat misty and rain is much less than expected. This effect is important.

Highly desponded rainfall in arid and semi-arid areas is often more than the capacity of soil penetration and forms ground currents above the basin. By merging, they form a stream of water or river that can be flooded (temporary) or seasonally (temporary).

Flood flows can be exploited by flood water systems controlled by canals or feeding ponds to penetrate into the soil. This time in arid areas is sometimes required due to low soil permeability. In these areas, the shortage of vegetation, slugging by livestock, the presence of sodium in the soil, high rainfall erosion, runoff pollution, wind erosion, and other factors reduce penetration. Temporary currents in the rivers over several months cause water to penetrate into the soil and increase the level of the groundwater table. In wet areas, basal currents usually feed on groundwater in permanent rivers. Usually, the surface water table is high in these areas, which is mainly due to the abundance of rainfall.

MATERIALS AND METHODS

Meteorological conditions in relation to the ascension of the air provide various precipitation processes. Separating between the resulting groups is often difficult. Because often the various processes in the formation of clouds are a good basis for classifying the processes of precipitation, and the temporal patterns are similar to the results of various processes. In this paper, the temporal-spatial patterns of rainfall in arid and desert areas are investigated with the following proposed classification:

Local Convective precipitation

Local convective precipitation or a thunderstorm occurs in almost all dry areas, especially in summer and autumn. This predominant rainfall is in the lower part of the desert (for example, the south desert) of northern Australia and the centre of Mexico. It also accounts for more than half of the total precipitation in some other desert areas, such as southern Israel and Changchuo Province of China. This type of precipitation is sustained by heavy rainstorms (more than 15 mm / h), which lasts from a few minutes to about an hour in irregular rainy or rainy periods. It is indicated. The intense rain field first covers only 1 or 2 kilometres. But it develops rapidly throughout the shower until the entire central area of the cell usually covers a diameter of 10-5 cubic meters. Hail heavy may be accompanied by rain. But this is not common in the dry area. Hurricane sudden storms are recorded on the edges of the deserts of Southeast Australia, South Africa, West Indies and continental regions of Asia and North America. The onset of local convection operations, in addition to a source of wet air, requires an unstable loosening, which means that the air temperature is rapidly reduced by increasing altitude. Such thermal conditions are common in arid areas in the summer afternoons as a result of surface warming by intense sunlight. Cold oceanic processes prevent the increase in the moisture content of unstable air masses in some coastal desert, which is very rare due to precipitation. Examples of this state are found in the deserts of Peruvian Atacama, South America, Namibia, California and the West African coast.

Precipitation Cycle Fronts

In the middle latitudes, the most important mechanism is the storm and precipitation of the frontline. This is a large-scale turbulence that forms on a distinct front with the wind turbine operating inside the dominant western air stream. A frontal indexing system may cause rainfall over a region of thousands of kilometers within 5 to 10 days. Generally, the main routes of these planets are in wet and semi-humid areas, but may occasionally precipitate in a dry area in the winter. The parts of the dry area that is likely to receive this type of precipitation are the margin on the side of the tropical desert, such as the northern desert, the Eurasian continental oases and North America, and the high latitudes desert such as Patagonia. (Kurt, 1974). The probability of mild rain or snow dispersal in desert areas is more than a continuous storm. Because the air masses lose more of their moisture before they reach these areas. In the northern parts of the continental lands of Urasia and North America, the fluctuating hurricanes during the winter months are accompanied by high-latitudinal polar fluctuations. Such events cause snowstorms and snowstorms in the dry and semi-arid parts of Turkmenistan's zone and the mid-range regions. In most of these areas, the main part of the total annual rainfall is winter snow cover and the average snowfall is more than three months.

Non-Floating Precipitation

There are three types of planetary systems that occasionally produce rainfall in the dry area with time-spatial patterns similar to those of their front wheel systems. But each in terms of the structure of the meteorology is completely different. These systems include high-velocity booster ducts, low-pressure cuttings, continental low pressure and tidal planes.

An example of what might happen in such locations throughout a wheel. The 900-millimetre precipitation recorded in Wim Creek, West Australia, in 1989. This very heavy rain fell uniformly over a period of 34 hours, and its value was about three times the average long-term total annual (Wright, 1971).

Mountainous Precipitation and General Convergence

Mountainous precipitation is the result of forced climbing of wet air currents when passing above high elevations. This mechanism, in humid mid-latitudes, causes a steady, long-lasting rain or mild rain on most days. But such wet weather extends in the dry area, which does not have a permanent moisture stream. Very rare. On low-lying beaches, hot-air currents are mild and unstable, with a rather moderate breeze rising from the sea to the surface, with increasing turbidity on the ground, and a large amount of mountainous precipitation. This effect in precipitation is usually high during the narrow margin of the coast in both wet and dry areas (Cole, 1970)

Mountainous impacts are evident in some arid and semi-arid areas where most rainfall is continuously recorded at high altitudes. The typical example is the Central MacDonald Pasture. The average annual precipitation is about 50 mm and its general height is about 700 meters above the surface of the plain. Other notable examples are the Steppe Islands in the highlands of Aghgar and Tibestes, surrounded by the driest parts of the desert and the desert.

Precipitation with or Without Climbs

Drought levels receive relatively small amounts of moisture under certain meteorological conditions that require a low climb or no climb. This category includes gentle rain, fine rain, snow, mist particles, dew and thunder. These forms of rainfall and conditions in wet areas are often insignificant. But their discipline and seasonality may give them important physiological roles in adapting living organisms to a dry environment. Long periods of mild snowfall may be a good result of the formation of a deep superfluid, with a small amount of vertical displacement under thermal conditions. Such a trip is seen mostly in mid-latitudes and high altitudes. This type of precipitation occurs in some parts of the dry area, especially in Asia and North America in the winter months. Latent fogs in parts of the Atacama and Peruvian deserts are the main source of moisture for the lava vegetation. Other parts of the dry area are affected by the high fog of arid areas near the Persian Gulf and the Red Sea, part of California, Mexico and the coastal areas of Namibia (Amiran, 1973).

The meteorological conditions for thickened haze for dew formation are also suitable, and the areas with the above abundant fog have high dew levels. During the winter months, especially when the night temperature is less than 6 ° C and the average daily relative humidity is equal to or more than 50%. In parts of the dry, dew or frosty areas, it can be seen early in the morning. The measure of dew in Palestine represents an annual sum of 30 mm.

If the surface temperature drops to about 2 ° C. The reflexes also form a jumble similar to do. Like dew, the function of a specific location depends on the height of the thrust and the surface factors of the surface. In some ridges, it is much more affected by adjacent ridges. In the central and southern parts of Australia's dryland, the number of days with thrush varies from 5 to more than 100 days a year. And perhaps the attribute of the tidal desert. The larger abundances are in arid areas of high latitudes, for example, Kazakhstan, which has an average of 150 to 180 days of thaw, plus 40 to 70 days of snow.

Water Resources in Arid Areas

Arid areas have potential features that can be understood by specific concepts and methods that are suitable for arid areas. Use them best. Ways of using water for temperate and humid areas. They may not be equally useful for arid, technical, economic or cultural purposes. Hence, the need for innovative and innovative approaches to water technology will be needed. Some of the techniques used to increase water resources in arid areas. These include: rainwater harvesting, saltwater irrigation, water reuse, fertility of clouds, ice mounds, dew drinking, evaporation reduction, leakage reduction, artificial nutrition, reduced evapotranspiration and spillage of surface water plants in areas Not only does dry dry out. It also causes erosion and soil washing, the transfer of surface soils and sedimentation in dams and reservoirs, and irrigation and drainage networks and crops. In addition, surface currents, with a focus and flood, threaten cities and villages, livestock, economic centres, industrial facilities, and communication lines and cause many financial and financial losses.

Amirpour (Amiri Maleki, 1980) reported flood damage to all sub-sectors, production and services in the country totalling 1,000 billion Rails, and compensating people and organizations from the state budget between 150 and 200 billion rails. If the events involved, the damage caused by excessive filling of the volume of tanks behind the dams is added. Disaster dimensions' increase. Irrigation of surface runoff in arid areas is mainly due to the non-standard productivity of watersheds, which can be solved by the proper management of waterlogging, which can solve many of the country's problems in the field of water and soil. Proper management of watersheds requires awareness and proper recognition of all factors and issues related to watersheds and their water resources. In this regard, attention has been paid to climatic factors (a type of fall, intensity and duration of rainfall, spatial and temporal distributions and rainfall regimes) and physiographic factors of the basin (such as slope, congestion density, waterway grading and area coverage). And in surveys and surveys related to surface water weeds should be carefully examined.

Surface currents in arid regions are mainly flood and transient and occur rapidly after rainfall, and in some other areas, currents are seasonal and in watery seasons over the course of several months, the river is full of water. In the case of permeability of the soil, natural nutrition of groundwater undergoes. Surface water penetration, especially in mountainous areas with crustal cover, causes the surface to rise above the surface of the groundwater. Nutrition rates in New Mexico and Suture 20% in the Nevada region are 17% in Australia, 15% in annual rainfall, but the average natural feeding rate for aquifers in arid areas is 5%. (Kia Eryti, 1380)

Water resources for nutrition include extraction of rainfall, storms, floods, winter currents of springs and aqueducts and reuse of waste water. Permanent rivers are predominantly in wet and semi-humid areas and flow in all seasons. In severe droughts, the river can be fed by groundwater. Nutrition of groundwater in arid areas increases the reservoir of aquifers, reduces the financial and financial losses caused by floods, prevents the passage of saline water to freshwater and prevents land from settling and cracking. Ground summit in Kerman province and Magyar plain of Isfahan has been the result of untapped groundwater exploitation. Artificial feeding is justifiable when water shortages justify the need for the program to run and water is available with sufficient volume and good quality to accumulate in the aquifer. The first condition is in dry areas. And only the second condition should be considered. If a high rainfall occurs well, it does not cross the path to make the stored water poor. The second condition is also provided (Reza'i, 1998).

In some arid areas where the degree of evaporation is very high, injectable methods of artificially fed groundwater are superior to penetration methods. For example, the use of nutrient pools with the low permeability of the feeding pond will act like an evaporation pond. In dry and semi-arid areas, the most important factor in the occurrence of floods is rainfall with high intensity and low duration. Of course, factors such as low soil permeability, sudden changes in temperature, inappropriate human interference in nature, vegetation shortages, and land slope are exacerbated. The average runoff coefficient for arid areas is less than 0.1, which is one of the major factors of evaporation that reduces surface runoff. The average discharge rate for arid areas is about 1.1 liters per second per square kilometer.

The flood section is not only in the arid regions of the world, such as Australia, Palestine and the United States. It is used in humid areas such as the Netherlands to irrigate greenhouses. In dry areas, flood spreading causes soil texture, degradation of vegetation, reduced permeability and gradual soil salinity.

The flood water in the dry areas is triangular and has a sharp tip. It is difficult to identify the turning point in the downstream branch of the water supply, and, consequently, the measurement of the time of the concentration of the basin (the distance between the turning point of the water source and the completion of the rainfall) leads to error. In arid regions, rainfall is more than soil penetration capacity, type 2 and type 3 (according to Horton's division). In type 2, the descending branch of the triangular water after the end of the rainfall effect is placed along the descending branch of the triangular water. In type 3, due to the river's nutrition by groundwater, the descending branch of the triangular water after the end of the precipitation effect is higher than the preceding branch of the previous water drain. Type 2 is special for rivers in arid regions where there are springing springs (Bronson et al., 1981).

Casualties are another way of other characteristics of the rivers in the arid regions. These casualties are an important factor in assessing the response of temporary waterways to rainfall caused by severe storms or melting of snow. With 3 to 4 months of water in the rivers of seasonal arid regions, we can plant crops.

Important factors in flood production in Iran are spring Mediterranean rains, high slopes of land and high points of coverage. 15.7% of the land is more than 2000 meters and 53.2% of the land is between 1000 and 2000 meters. (Totaling 9/68 more than 1 km high). The coefficient of rainfall variation in arid and semi-arid regions is high. Another indicator that shows the variability of rainfall. R is the index of the limit. Which shows the ratio of annual precipitation to the minimum during the statistical period. The disadvantages of this index are that it depends on the length of the statistical period. For semi-arid Mediterranean regions, this index is between 4 and 5 and for desert areas more than 5 (Mahdavi, 1999).

The number of statistical years required for rainfall analysis in wetlands is 30 years, but for arid and semi-arid areas it is about 50 years. This difference is due to the difference in the coefficient of rainfall variation between the two regions. The number of rain gauge stations is low in arid areas. This number is less for raindrop equipment. Also, the number of hydrometric stations, especially the first hydrometric stations in these areas, is very low. Hence, hydrologists have been using empirical formulas to estimate Dubai and using artificial hydrographic methods and in more severe conditions. Most of the parameters are physiographic characteristics of the basin and rarely use of annual rainfall. One of these formulations developed for the dry areas of the western state of New South Wales, Australia, dates back to October 1, 1994.Dubai raining of rivers in arid areas follows a certain return period. This figure is 2.5 years for Australia (Pilgrim, 1987).

Landfill in desert and desert areas, including landfill methods. In these areas, due to the fact that the annual rainfall is negligible and the groundwater level is low and in the desert due to drought and saline groundwater. Latent problems do not cause much trouble.

It is important to study the characteristics of the low flow of rivers in relation to industrial and urban use, irrigation of agricultural products, discharge of wastewater and creation of a suitable condition for aquatic animals and aquatic plants. Reducing the flow of waterways reduces water quality due to increased temperature, the concentration of insoluble materials and reduced air capacity. Ridge gradient curve is different when the flow rate is increased with a decrease in the flow rate. Which is practically used for the applications of the mean of the two curves. For analyzing the hydrological droughts, we use a 7-day low current with a return period of 10 years, which, unlike the frequency of flood analysis, has a discharge equal to or less than a certain value (Riggs, 1985).

Low flow analysis is mainly used in wet areas. Because the data in the dry regions of the data zero problem calculations. In the analysis of the frequency of flood in arid and semi-arid regions, the hybrid method, one of the regional methods based on the station-year method, is used. This method was originally developed by Jalmarson in 1992 for dry Southwest America and used in Iran by Chavoshi et al. For the central region of Iran (Chavoshi, 1999).

In arid zones, due to the extreme variability of non-current years and the short-term statistical period, it is impossible to estimate the flood rotational relations using conventional methods. Also, due to the high annual peak observed at high peaks, its extrapolation with peak peaks of a rare moment such as 100 years old results in a major error. In the hybrid method, the hydrometric data of the possible stations in the area are combined and a long-term report is prepared that can easily be analyzed.

RESULTS AND DISCUSSION

In this section, the study of rainfall variability and climate variability in arid regions is discussed.

Precipitation variability

Short term precipitation

The actual rainfall data are short-lived rainfall in scarce dry regions. Because it requires rain warning to rarely collect these data, it is rarely found in these areas.

One-hour rainfall with a 2-year return period for the arid regions of the world is depicted in Fig. 1, which, by multiplying the coefficients in Table 1, can be converted into other continuities in the periods of return. The highest value in Figure 1 is seen in the lower edges of the tidal desert. The smallest values for areas of extreme dryness and areas that limit the relatively low convective temperature. Such as South America and Kazakhstan.

Daily precipitation

In general, the ratio of 24-hour rainfall of 2 years to a 1-hour period of 2 years (Table 1) varies depending on the importance of convective storms in arid zones from 2 to 3. In most severely dry areas (annual average rainfall of less than 25 mm), daily rainfall was higher than the annual average. In Australia and the United States, this is sometimes over 300 mm. The longest unclaimed rainfed period of about 12 months in the central Australian and southern African regions varies over more than 2 years in vast areas of other areas. Unpredictable periods such as the Atacama Desert and East of the Sahara have been recorded for more than 5 years without rain. It should be noted that in both the northern and southern sides of the dry area, the average period between wet days in the wet season is only 5 to 8 days and in the dry season is 20 to 50 days.

Annual precipitation

Due to the general dispersion of rainfall data, dry localization is not precisely defined as the driest point in the world, but the site may be located in the South American or Eastern Sahara Desert or the Tarim Region of China. In these three deserts, there are real areas with an average total annual rainfall of less than 10 mm. On the other side of some areas, the lower dry area of the dry area may average up to 500 mm. While the sides of the pole usually have a rainfall between 220 and 280 mm.

Arid climate fluctuations

Despite the lack of climatic data, there is evidence that two major climatic disruptions or reversal processes have occurred since 1870, the first of which was the 1960s-1800s when the tangible trend towards the beginning of the global temperature increase and the second in the 1940s-50s is. That is the end of the rise of temperatures and perhaps the beginning to reduce them. The trends in precipitation appear to be related to these temperature variations and have roughly the same return times. Changes in relation to precipitation regimes in the southern hemisphere appear to be more evident. Several researchers have shown a decline in winter/spring fluctuations in rainfall or an increase in summer-autumn convection precipitation in the vicinity of southern regions of southern Africa and Australia. In general, these changes range from 20% to 30% in the average total long-term season. As the statistics are relatively short and rainfall varies considerably. It is usually possible that any obvious process is entirely attributed to random fluctuations. So, in many cases, what is a certain trend. Which is not statistically significant at the time of the exact test. Under these conditions, long-term precipitation changes in the dry area should usually be interpreted with caution.

CONCLUSION AND RECOMMENDATIONS

Drought is a type of near-permanent weather in an area that is the inadequacy of rainfall to the extent necessary for the growth of living organisms in that area, while the drought is the unexpected decline in rainfall in a given region Not necessarily dry. The rate of this decline is such that it disrupts normal growth in the region. Therefore, drought is not a permanent feature of the area and can occur in any weather regime. 600 mm of rainfall in Anzali port (p = 1000mm) causes the drying of tree species, but for the southern part of the country (p = 200mm), it may be a prolonged period (Kavian et al., 1373). conformity to future intense droughts needs intuition into the drivers of the drought and its effects. These were inspected applying climate, water, economic, and remote sensing data composed with biophysical modeling. This attitude may be caused by environmental or noise- related components which need further research. The decrease in soil moisture happens despite an enhance in precipitation during the wet season, because of nonlinear answers in hydrology associated with the reduce in dry season precipitation, ecosystem dynamics, and an enhance in evaporative demand due to the general warming. In terms of ecosystem replication, higher preservation cost and decreased productivity under warming may also have additional contrary effect. there is a distinguish seasonality and thus rainfall dependency of rural livelihoods, which makes the rural population sensitive to altering rainfall templates. rainfall variation and food security are closely interlaced. due to the mount in water request and looming climate change, recent years have evident much concentrate on worldwide drought scenarios. As a natural peril, drought is best determined by multiple climatological and hydrological parameters. A comprehension of the relationships between these two sets of parameters is essential to expand measures for relieving the effects of droughts. Droughts are recognized as an environmental catastrophe and have attracted the attention of environmentalists, ecologists, hydrologists, meteorologists, geologists, and agricultural scientists. Temperatures; high winds; low relative humidity; and timing and characteristics of rains, containing repartition of rainy days during crop growing seasons, intensity, and duration of rain, and onset and termination, play a considerable role in the incidence of droughts. In contrast to aridity, which is a constant particular of climate and is confined to low rainfall areas, a drought is a temporary anomaly. Often, there is bewilderment between a heat wave and a drought, and the recognition is striated between heat wave and drought, noting that a typical time scale affiliate with a heat wave is on the order of a week, while a drought may insist for months or even years. The composition of a heat wave and a drought has serious socio-economic outcomes. Drought peril is a product of a region's offer to the natural peril and its vulnerability to extended periods of water deficiency. If peoples and zones are to make advance in decreasing the serious results of drought, they must better their understanding of the peril and the factors that influence vulnerability. It is exigent for drought-prone zones to better perceive their drought climatology (i.e., the probability of drought at different levels of intensity and duration) and establish universal and integrated drought data system that combines climate, soil, and water supply factors such as precipitation, temperature, soil moisture, snow pack, reservoir and lake levels, ground water levels, and stream flow. All drought-prone nations should expand national drought diplomacy and readiness plans that place importance on risk management rather than following the traditional method of crisis management, where the emphasis is on reactive, emergency response measures. Crisis management reduces self-dependence and increases affiliation on government and donors.

For the province of Isfahan, an 80 mm rainfall can create a drought, but the same level for the Yazd-Ardakan dry area may have a mild period. It is worth mentioning, however, that low or high rainfall for one year can not necessarily lead to periods of drought or mildness in a region. The repetition of such an event over the course of a few years will definitely lead to the occurrence of these courses. That is why in an analysis of the precipitation situation a region uses moving curves. These curves reduce annual precipitation fluctuations and help to explain dry and wet periods. Usually, you use a 5-year moving curve for drought analysis. In arid regions, where the statistical period of rainfall is short, a 3-year moving curve can be used to compensate for this hypothesis. The use of a 7-year moving curve in long-term stations, especially in wet areas, makes it possible to better explain the dry and wet periods. Thus, about 60-70 mm in 4 months at the beginning of the Blue Years 2001-2003 in Isfahan may not be able to Move the area to the wet period. In addition, a large amount of precipitation will be fed to the groundwater table. Also, low rainfall in the previous year and overdosing from the reservoir of the Zayandeh Rood River Dam damaged the dam by 2.5 times. Therefore, it is necessary for the provincial governor to continue to save their politics. Dangers from the drought phenomenon are much more drought than land because their vital systems adapt to their normal status. When the rainfall is much lower than the average. Moisture does not provide for the needs of living creatures, and these creatures gradually disappear and new vital systems develop in accordance with the dry conditions. Therefore, due to the repetition of dry years or, in other words, the prolongation of the drought period of the region becomes dry and the advance of desert areas is faster. For the Isfahan area that is adjacent to the desert. This is a danger alarm for the authorities and natural resources experts and desertification.

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