

"God is the One Who sends forth the winds which raised up the clouds. We drive them to a dead land. Therewith We revive the ground after its death. So will be the Resurrection." (The Holy Qur'an, Chapter 35, Verse 9)

SCIENCE
this Section

7 Scientific Verses in

QUR'AN on CLOUDS



FORMATION OF CLOUDS IN HOLY QUR'AN



Go through the whole scientific procedure and compare it with the Qur'anic verse. Its really amazing.

Scientists have studied cloud types and have realized that rain clouds are formed and shaped according to definite systems and certain steps connected with certain types of wind and clouds.

One kind of rain cloud is the cumulonimbus cloud. Meteorologists have studied how cumulonimbus clouds are formed and how they produce rain, hail, and lightning.

They have found that cumulonimbus clouds go through the following steps to produce rain:

1) The clouds are pushed by the wind:

Cumulonimbus clouds begin to form when wind pushes some small pieces of clouds (cumulus clouds) to an area where these clouds converge (see figures 17 and 18).

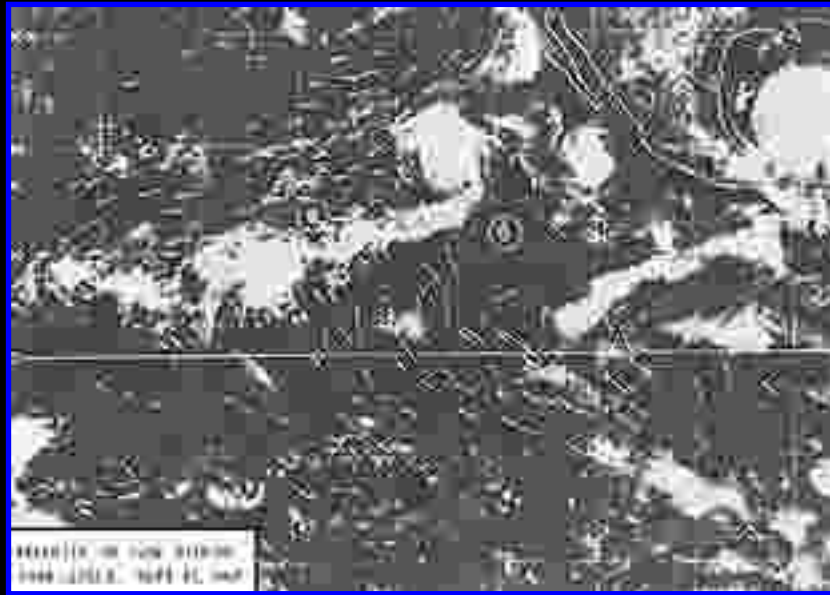


Figure 17: Satellite photo showing the clouds moving towards the convergence areas B, C, & D. The arrows indicate the directions of the wind. (The Use of Satellite Pics in Weather Analysis & Forecasting, Anderson and others, p. 188.)



Figure 18: Small pieces of clouds (cumulus clouds) moving towards a convergence zone near the horizon, where we can see a large cumulonimbus cloud. (Clouds and Storms, Ludlam, plate 7.4.)

2) Joining:

Then the small clouds join together forming a larger cloud (see fig. 18 and 19).

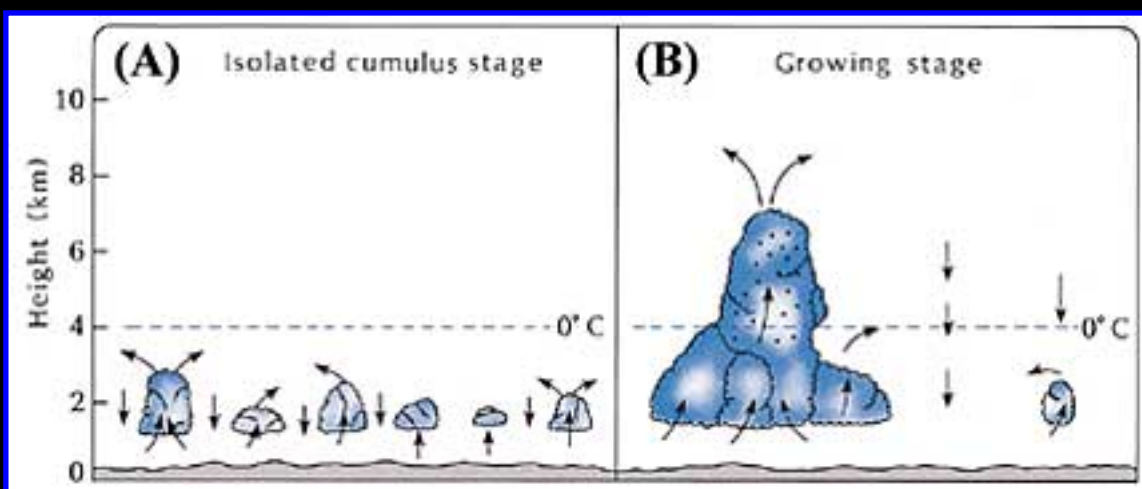


Figure 19: (A) Isolated small pieces of clouds (cumulus clouds). (B) When the small clouds join together, updrafts within the larger cloud increase, so the cloud is stacked up. Water drops are indicated by \cdot . (The Atmosphere, Anthes and others, p. 269.)

3) Stacking:

When the small clouds join together, updrafts within the larger cloud increase. The updrafts near the center of the cloud are stronger than those near the edges. These updrafts cause the cloud body to grow vertically, so the cloud is stacked up (see figures 19 (B), 20, and 21). This vertical growth causes the cloud body to stretch into cooler regions of the atmosphere, where drops of water and hail formulate and begin

to grow larger and larger. When these drops of water and hail become too heavy for the updrafts to support them, they begin to fall from the cloud as rain, hail, etc.

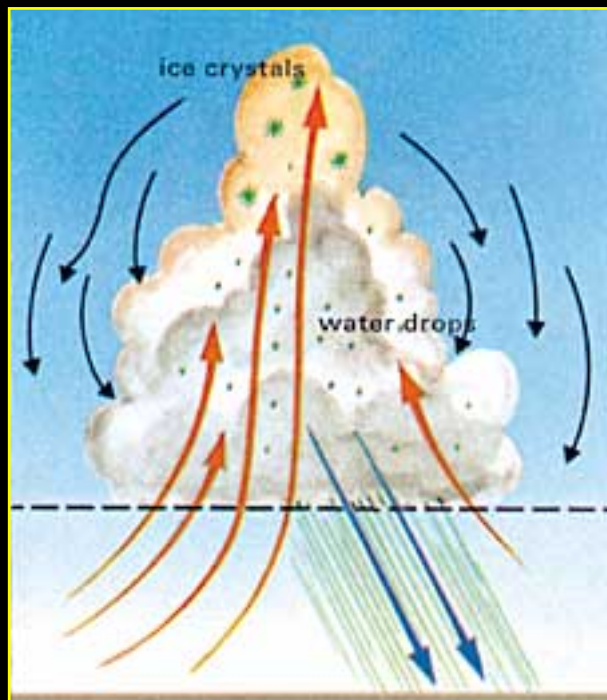




Figure 20: A cumulonimbus cloud. After the cloud is stacked up, rain comes out of it. (Weather and Climate, Bodin, p.123.)



Figure 21: A cumulonimbus cloud. (A Colour Guide to Clouds, Scorer and Wexler, p. 23.)



God has said in the Qur'an:

 *"Have you not seen how God makes the clouds move gently, then joins them together, then makes them into a stack, and then you see the rain come out of it.... "* 

(Qur'an, 24:43)

Meteorologists have only recently come to know these details of cloud formation, structure, and function by using advanced equipment like planes, satellites, computers, balloons, and other equipment, to study wind and its direction, to measure humidity and its variations, and to determine the levels and variations of atmospheric pressure.

The preceding verse, after mentioning clouds and rain, speaks about hail and lightning:

 *"....And He sends down hail from mountains (clouds) in the sky, and He strikes with it whomever He wills, and turns it from whomever He wills. The vivid flash of its lightning nearly blinds the sight. "* 

(Qur'an, 24:43)

Meteorologists have found that these cumulonimbus clouds, that shower hail, reach a height of 25,000 to 30,000 ft (4.7 to 5.7 miles), like mountains, as the Qur'an said,

 *"...And He sends down hail from mountains (clouds) in the sky..."*

 (see figure 21 above).

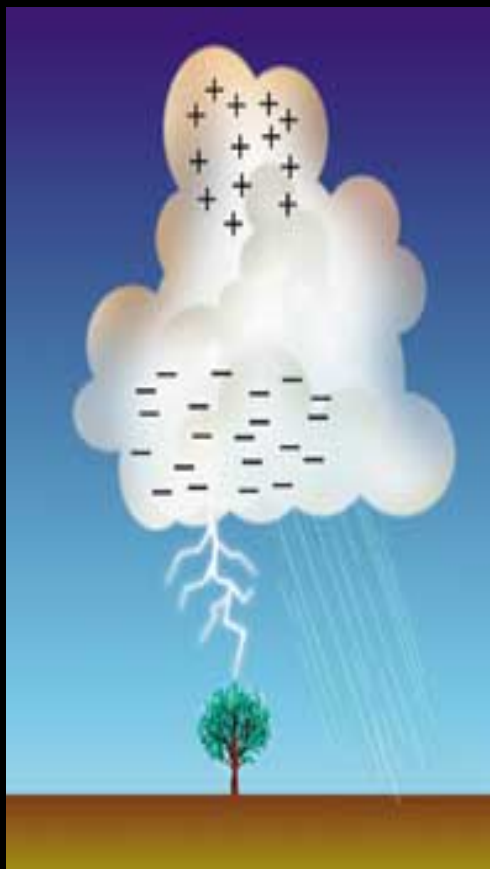
This verse may raise a question. Why does the verse say "its lightning" in a reference to the hail?

Does this mean that hail is the major factor in producing lightning?

Let us see what the book entitled [Meteorology Today](#) says about this.

It says that a cloud becomes electrified as hail falls through a region in the cloud of super cooled droplets and ice crystals. As liquid droplets collide with a hailstone, they freeze on contact and release latent heat. This keeps the surface of the hailstone warmer than that of the surrounding ice crystals.

When the hailstone comes in contact with an ice crystal, an important phenomenon occurs: electrons flow from the colder object toward the warmer object. Hence, the hailstone becomes negatively charged. The same effect occurs when super cooled droplets come in contact with a hailstone and tiny splinters of positively charged ice break off. These lighter positively charged particles are then carried to the upper part of the cloud by updrafts. The hail, left with a negative charge, falls towards the bottom of the cloud, thus the lower part of the cloud becomes negatively charged. These negative charges are then discharged as lightning. We conclude from this that hail is the major factor in producing lightning.





[This information on lightning was discovered recently.](#)

Until 1600 AD, Aristotle's ideas on meteorology were dominant. For example, he said that the atmosphere contains two kinds of exhalation, moist and dry. He also said that thunder is the sound of the collision of the dry exhalation with the neighboring clouds, and lightning is the inflaming and burning of the dry exhalation with a thin and faint fire. These are some of the ideas on meteorology that were dominant at the time of the Qur'an's revelation, fourteen centuries ago.

 OTHER VERSES 





There are many verses on clouds and water.. here are few more interesting..

 *" Say: Have ye thought: If (all) your water were to disappear into the earth, who then could bring you gushing water?.. "* 

(Holy Qur'an, Chapter 67, Verse 30)

Thus it would have been easy to imagine that underground water could have come from the infiltration of precipitations in the soil. In ancient times however, this idea, held by Vitruvius Polio Marcus in Rome, 1st century B.C., was cited as an exception. For many centuries therefore (and the Qur'anic Revelation is situated during this period) man held totally inaccurate views on the water cycle.



In the following passages from the Qur'an, there is no trace of the mistaken ideas that were current at the time of Muhammad:

 *"We sent forth the winds that fecundate (fertilize). We cause the water to descend from the sky. We provide you with the water-you (could) not be the guardians of its reserves."* 

(Holy Qur'an, Chapter 15, Verse 22)



There are two possible interpretations of this verse. The fecundating (fertilizing) winds may be taken to be the fertilizers of plants because

they carry pollen. This may, however, be a figurative expression referring by analogy to the role the wind plays in the process whereby a non-rain carrying cloud is turned into one that produces a shower of rain. This role is often referred to, as in the following verses:

 *"God is the One Who sends forth the winds which raised up the clouds. We drive them to a dead land. Therewith We revive the ground after its death. So will be the Resurrection."* 

(Holy Qur'an, Chapter 35, Verse 9)



It should be noted how the style is descriptive in the first part of the verse, then passes without transition to a declaration from God. Such sudden changes in the form of the narration are very frequent in the Qur'an.

 *". . . In the provision that God sends down from the sky and thereby He revives the ground after its death and in the change (of direction) of winds, there are Signs for people who are wise."* 

(Holy Qur'an, Chapter 45, Verse 5)

The provision made in this last verse is in the form of the water sent down from the sky, as the context shows. The accent is on the change of the winds that modify the rain cycle.

God commands the Prophet:

 *"Say. Do you see if your water were to be lost in the ground, who then can supply you with gushing water?"* 

(Holy Qur'an, Chapter 67, Verse 30)



"Have you observed the water you drink? Do you bring it down from the rain clouds? Or do We? If it were Our will, We could make it salty.

Then why are you not thankful?"



(Holy Qur'an, Chapter 56, Verse 68-70)

This reference to the fact that God could have made fresh water salty is a way of expressing divine Omnipotence. Another means of reminding us of the same Omnipotence is the challenge to man to make rain fall from the clouds. In modern times however, technology has surely made it possible to create rain artificially. Can one therefore oppose the statement in the Qur'an to man's ability to produce precipitations?

The answer is no, because it seems clear that one must take account of man's limitations in this field. M.A. Facy, an expert at the French Meteorological Office, wrote the following in the Universalis Encyclopedia (Encyclopedia Universalis) under the heading Precipitations (Precipitations): "It will never be possible to make rain fall from a cloud that does not have the suitable characteristics of a raincloud or one that has not yet reached the appropriate stage of evolution (maturity)". Man can never therefore hasten the precipitation process by technical means when the natural conditions for it are not present. If this were not the case, droughts would never occur in practice-which they obviously do. To have control over rain and fine weather still remains a dream therefore.

Man cannot willfully break the established cycle that maintains the circulation of water in nature. This cycle may be outlined as follows, according to modern ideas on hydrology.

When one compares the modern data of hydrology to what is contained in the numerous verses of the Qur'an quoted in this paragraph, one has to admit that there is a remarkable degree of agreement between them.

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"I find it very interesting that this sort of information is in the ancient scriptures of the Holy Qur'an, and I have no way of knowing where they would come from, but I think it is extremely interesting that they are there and that this work is going on to discover it, the meaning of some of the passages." And when he was asked about the source of the Qur'an, he replied:
"Well, I would think it must be the divine being."



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Unfold**



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