



CREATOR

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OF TOADS & CLOUDS

Proclaim the power of God...Whose power is in the skies.
Psalm 68:34

Sunday, May 31, at Playful Meadow . . . 2:05 p.m.

Two toads sat at the edge of a pond.

"Croak!"

"Croak!"

"Croak!"

Another-worldly feeling suddenly enveloped the mountain valley. It caused the toads living there to do something they had never done before—talk!

Tommy cleared his throat. "Ah-hmm! Hey, Buford, what are you looking at?"

Buford was a common toad like Tommy.* As he stared up at the sky, he remarked, "You know, I've never noticed those white, cottony things before. I guess I'm always too busy looking for worms."

"White, cottony things?" questioned Tommy.

"I think they're called *clouds*," answered Buford.

Tommy glanced up. "Yeah, those are *cumulus* clouds."

"I've been watching them for a while now—they seem to appear from nowhere, Tommy."



* Tommy & Buford are fictional characters.
The scientific name for all true toads is *Bufo*.

"That's true, Buford. As air cools, *invisible* water vapor turns into cloud droplets which we can see—like 'sweat' forming on the outside of a cold glass of water. Jesus covered seventy percent of the world with oceans, and using the sun's heat, He causes water from the sea to evaporate into the air. Sometimes air contains a lot of water, in which case its *humidity* is said to be high. At other times, humidity is low—meaning that the air has much less moisture—like in a desert. A cloud appears to come from nowhere when the amount of water held in the air, or humidity, increases as the air temperature decreases. Cold air can't hold as much water vapor as warm air, so if moist air cools down,* tiny droplets will form, creating clouds."

"It must be 80° F. in this meadow, Tommy! How does the air cool down enough to form those cumulus clouds?"

"Well, Buford, cumulus clouds are almost a mile high in the atmosphere. Up there, the air is much cooler than down here. If you travel up through the troposphere, the air temperature gets colder and colder.**"

"How do you know so much, Tommy?" questioned Buford.

There was a long pause as Tommy thought. "I'm not sure, but I just sense there's something different about the meadow this afternoon!"

"Do you think that Jesus, the Master of all toads, has something to do with it, Tommy?"

"Maybe; what do you think?" Tommy replied.

"He is our Creator," exclaimed Buford, "and He forms the clouds. I know that because they're so beautiful, like Him!"

* The temperature at which a cloud forms is called the **dew point**.

** Air temperature decreases almost 30° F. as one goes up one mile in altitude, or 10° C. for every kilometer. See **CREATOR Vol 7 Num 1**.

Tommy continued. "As the sun heats the earth, cumulus clouds are formed when huge bubbles of warm, moist air rise up, cooling as they go. Now, water vapor needs something to grab onto in order to form the trillions of droplets that make up a cloud. Dust particles in the atmosphere seem to do the trick. It's similar to dew forming on grass in the morning, Buford—think of tiny dust in the air as blades of grass.

"A small cumulus cloud may contain 500 tons of moisture! Despite this much water, the cloud may survive only 15 minutes before it disappears! This is because it starts to evaporate as soon as it's created."

"I don't know, those clouds up there aren't going away," protested Buford. "In fact, they seem to be getting bigger and bigger!"



Both toads peered at the thunderhead beginning to form.

"That's called a *cumuloniimbus* cloud or thunderhead, Buford," Tommy explained. "Under special circumstances, when enough heat and moisture are coming off the ground, cumulus clouds join to make a much bigger cloud."

"Why is it called cumulonimbus?" questioned Buford.

"*Cumulo-*' means '*puffed up*'; '*nimbus*' means that the cloud produces *rain*."

"So, is it going to rain?" Buford probed further.

"Most likely. If that dark cloud continues to grow, rain is not the only thing it's going to do! A large cumulonimbus cloud can generate thunder and lightning, maybe even hail and tornadoes. The more massive the cloud gets, the more violent and stormy its insides become."

"Like when people eat spicy Mexican food, Tommy!?" Buford remarked with a toady grin.

"No, more explosive than that! It's thought that some thunderheads have winds blowing straight up their centers in excess of 100 miles per hour (160 kilometers per hour)! This turbulent air allows water inside the cumulonimbus to freeze, forming snow and hailstones. You see, Buford, the flat bottom of a thunderhead, which is one-half mile off the ground, is much warmer than its top, reaching ten miles into the atmosphere. As strong vertical wind blows water up through the thunderhead, it encounters temperatures far below freezing, causing the water in the air to turn to ice."

Tommy and Buford sat at the pond's edge for another 45 minutes, discussing the internal physics of cumulus clouds. During that time, the meadow's gentle afternoon breeze steadily changed into a strong gale, but they did not notice. It was only when the giant cottonwood trees began to sway and howl that the toads became concerned. The growing thunderstorm soon filled the sky, blocking out the sun, and turning the pleasant afternoon ominous and dark. Instinct got the better of our anurans,* so they hopped away in search of underground shelter. Just as Buford was entering the safety of his terrestrial home, one last glance skyward revealed a brilliant flash of white lightning silhouetted against a neery green cloud. And there was something else Buford had never seen before—a funnel-shaped cloud coming down from above. Within their burrows Tommy and Buford felt the ground quake. Many horrifying minutes went by and it seemed that the earth was being torn apart. For the first time in their short lives, the toads realized the awesome power of their Creator, witnessed in the clouds.

Monday, June 1 . . . 10:30 a.m.

"Say, Buford, did you hear about Clyde?" (Clyde was another toad who lived in the meadow.)

"No, what happened to him?" asked Buford with a surprised look on his face.

"Got swept away by a tornado that hit the northern part of the valley yesterday," explained Tommy. "Ended up in Lockfield County, 30 miles to the east! Townspeople said it rained fish and frogs there."

"Can that REALLY happen, Tommy?"

"Yep, tornadoes can suck fish right out of the water."

"Poor Clyde!" exclaimed Buford.

² Orogenesis is Greek for "mountain formation" (oros + genesis).

"Well, I've heard he's doing OK," reassured Tommy. "Clyde always wanted to see the world—I guess he got his wish."

Tuesday, June 2 . . . 12:16 p.m.

Tommy waited outside Buford's burrow. Two sleepy amphibian eyes pierced the darkness of his home. "Did you get a good sleep, Buford?" Tommy asked gently.

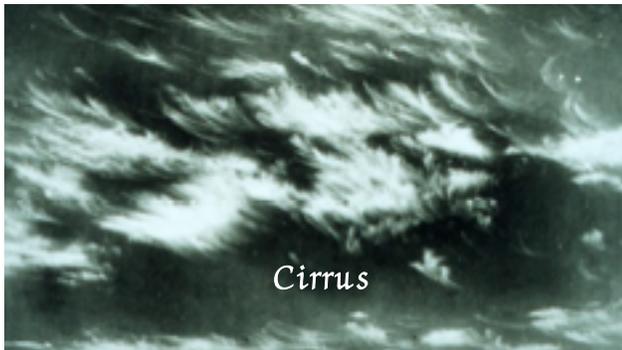
"Yeah, 'cept after the storm died down I was up pretty late singing with the gang," Buford explained. "So what's happening in the sky today?"

Delicate white clouds filled the wild blue yonder as the toads looked up to ponder their appearance.

"Wow, you can see all three types of high clouds!"

"High clouds?" asked Buford.

Tommy explained. "There are two ways of identifying the *ten basic kinds of clouds*: by *how high* they are in the atmosphere, and by their *shape*. Back in 1803, Luke Howard, an English naturalist, discovered that God places common clouds at roughly three different heights, or altitudes, above the ground. *High clouds*, like the ones we're seeing this afternoon, are generally four miles (six kilometers) above the earth or greater. *Middle clouds* form one and one-half to four miles



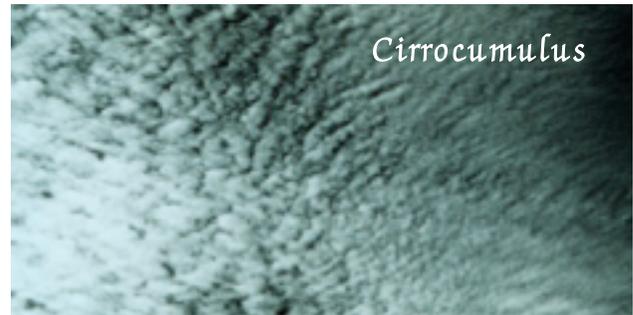
(two to six kilometers), and *low clouds* form below one and one-half miles (two kilometers)."

"Oh," muttered Buford, as he yawned.

"The clouds we're seeing now are really high in the sky—maybe four, five, six miles over us! There are, in turn, three types of high clouds: *cirrus* (SEAR - us), *cirrocumulus* (SEAR - oh - KYOOM - you - luss), and *cirrostratus* (SEAR - oh - STRAH - tuss). Do you see those wispy, thin and white clouds, Buford?"

"Yeah!" Buford responded with more eagerness.

"Well, those are *cirrus* clouds. They're composed



entirely of ice crystals. They may not appear to be

moving, yet they're constantly falling back toward earth. Cirrus clouds are kept aloft by very strong winds."

Tommy turned his head slightly to the right. "Those clouds that look somewhat lumpy and rippled are *cirrocumulus*. And if you look toward the south, Buford, you'll see a whitish, streaky appearance to the sky."

"I see it, Tommy, I see it!" Buford said with great enthusiasm.

"Those thin sheets of clouds are the *cirrostratus*. They sometimes cover the entire sky with a milky haziness."

"Hey, Tommy, it looks like the sun has a halo around it; how come?"

"Buford, that halo is caused by ice crystals. The ice crystals act like tiny prisms that bend the sunlight passing through the clouds. Therefore, a *halo* around the sun or the moon is one way of identifying a *cirrostratus* cloud.

"All high clouds allow sunshine and moonlight to pass through them, and, as a result, high clouds cast no shadows on the ground. At night, you should be able to see bright stars shining through the clouds as well.

"The temperature where these clouds exist is usually well below freezing—negative 15° F. (negative 26° C.) or colder! So, they're mostly composed of ice crystals, though it's possible to find supercooled water droplets in *cirrostratus* clouds."

"Brrrr!" retorted Buford. "I'll stay here in the meadow where it's warm."

Wednesday, June 3 . . . 10:50 a.m.

"Hey, Buford, ready to learn more about clouds this morning?.... What are you doing?" wondered Tommy.



Buford sat outside his underground home covered in a strange white goo having the distinct odor of dandelions. "You know, actually, Tommy, I was thinking of soaking in this 'wart lotion' today—I'm trying to get rid of them."

"Buford, you're a toad! You'd look positively silly without warts!"

"You really think so, Tommy?"

"Yes, I do, Buford. Trust me!" Tommy tried not to chuckle.

Buford hopped over to the pond to wash off. He was back within minutes. "So what's happening 'up above' this morning?" questioned Buford.

"A great sky—both types of *middle clouds* are



out today. We can see *altocumulus* and *altostratus*, plus some cirrus clouds, to boot."

"I'm confused," said Buford. "We've seen *cumulus* clouds less than two miles up, *cirrocumulus* clouds five miles high, and now we have *altocumulus* clouds!"

"Don't feel bad, Buford, but let me explain. Remember yesterday when I said that there are *ten basic types of clouds*, and that we can identify them by *height* and by *shape*?"

"Yeah," said Buford with some hesitation, "I think so."

"Well, the word 'cumulus' does not describe a cloud's height, but its shape. 'Alto', on the other hand, indicates a *middle cloud*, which forms one and one-half to four miles (two to six kilometers) above the earth. 'Cirro' describes a *high cloud*.

"Just as there are three different altitudes at which clouds are found, there are three general shapes to clouds: *cumulus*, *stratus*, and *cirrus*. If you recall, '*cumulus*' literally means 'puffed up.' Any

cloud that has a patchy or lumpy look to it is a *cumulus*-type cloud, no matter what height it's at."

"Hey! WE'RE LUMPY!" remarked Buford.

"True, but you can't fly," retorted Tommy. "Notice the many white, puffy clouds lined up in rows?"

"Yeah," said Buford.

"Those are *altocumulus*," explained Tommy.

"*Stratus* clouds are those that form layers, and are thus known as '*layered clouds*.' The word '*cirrus*' is Latin for '*feathery*'; a good description for high clouds! Unlike cirrus clouds, *altocumulus* do cast a shadow on the ground. They also can produce rain known as *virga*."

"Why is it called virga, Tommy?" asked Buford.

"I don't know, but whenever rain falls from a cloud and fails to hit the ground, it's known as virga. Now, those thin, gray, layered clouds just to the east are *altostratus*. They also produce virga. The temperature of *altocumulus* and *altostratus* is usually well below freezing, but both types of clouds are composed of water droplets, not ice! By the way, the sun and the moon are seen as a bright spot through *altostratus* clouds, but we don't see a halo as we do with *cirrostratus*... Say Buford, are you up for some breakfast?"

"Oh, am I!" exclaimed Buford. "Have you seen any slugs around?"

Thursday, June 4 . . . 1:30 p.m.

"Boy, do I love to eat," said Buford.

"I know, Buford," responded Tommy. "Say, I don't want to embarrass you, but there's a worm hanging out of your mouth! Do you think you could



be a little less messy?"

"Oh, sorry!" Buford looked sheepish. He quickly swallowed the worm.

"I think we might get rain today," commented



Tommy.

Buford's eyes got bigger than normal. "Are we going to have another tornado, Tommy?"

"No, no, Buford," reassured Tommy. "The clouds we're seeing now are *stratocumulus* and *stratus*—they're harmless *low clouds*."

"Low clouds," responded Buford. "They're the ones below two miles (three kilometers), right?"

"That's correct, Buford," continued Tommy. "Do you see the part of the sky that's bland and gray?" Tommy pointed north with his webbed toes.

"Yeah," said Buford.

"That low-lying, sheetlike cloud is called *stratus*," explained Tommy. "It has no distinct



shape, just a formless gray cloud cover. When stratus touches the ground it's known as *fog*. A stratus cloud is composed of tiny water droplets, and sometimes it produces intermittent drizzle."

"Hey, Tommy, did you know it takes one million cloud droplets coming together to make one raindrop?" asked Buford.

"That's right, Buford! And low-level stratus are different from cirrostratus and altostratus because the sun and moon can't shine through them—stratus clouds give us gray and sunless, drizzly days."

As the afternoon wore on, the sky became completely covered with thick, dark-gray clouds, and it started to rain. Tommy and Buford retreated to Tommy's burrow.

Buford poked his warty little face out the front hole. "Say, Tommy, it's really raining hard. I thought you said stratus clouds produce drizzle?"

"They do, but what you're seeing now aren't stratus, but *nimbostratus* clouds," explained Tommy. "And, if you recall, when we add the word '*nimbus*' or '*nimbo*' to a cloud's name, it's usually a



heavy rain maker! It can also produce snow. Nimbostratus looks like stratus—it has no distinct shape, just formless sheets of gray—'cept nimbostratus is much darker gray than stratus because it holds a lot more water. We're fortunate, Buford, because today we've seen all three kinds of *low clouds*—*stratus*, *stratocumulus*, and *nimbostratus*."

"Looks like it might rain for hours, Tommy. Why don't we take a nap?"

"That's fine with me, Buford, but please don't snore."

"I don't snore," said Buford.

"Oh, yes, you do!" protested Tommy. "Every time you eat worms you snore...."

Friday, June 5, at Playful Meadow . . . around 2:00 p.m.

The sun shone brightly, and the sky over the valley was dotted with friendly cumulus clouds.

"Christ Jesus, our Toadmaster, must be Someone really special to have created all the beautiful and fascinating clouds we've seen this week, Buford!" remarked Tommy.

"I couldn't have said it better myself," exclaimed Buford proudly. "Hey, why don't we sing to Him, Tommy?"

"Great idea, my friend!"

Just as Tommy was getting ready to begin a chorus of "Great Is Thy Faithfulness," the same otherworldly feeling once again visited the mountain valley, as it had exactly five days earlier.

"Croak," sang Tommy.

"Croak," echoed Buford.

And the two toads happily joined others of their kind in singing praises to the Lord their God. They sang through the evening and late into the night!



"I tell you," He replied, "if they keep quiet, the stones will cry out" (Luke 19:40).



COMING ON CLOUDS

*He brings the clouds to punish men,
or to water His earth and show His love.
Job 37: 13*

One look at a field whose crops have been either destroyed by hail or nurtured by rain should convince us that clouds are a witness of *Christ's wrath* and *His love*. The *Lord's power* is seen in the clouds (Psalm 68:34), and the countless clouds of the sky proclaim *His wisdom* (Job 38:37a).

We may not notice, but life-giving moisture is everywhere in our atmosphere. Each day, the Lord Jesus Christ lifts an ocean of water into the sky. With it, He replenishes His beloved creation, and, in so doing, He proclaims Himself the *Sustainer of life*. The clouds declare this truth in a dramatic way. They are like the tips of many icebergs floating in the heavens, for we don't see the invisible water that forms them. God uses many different clouds to bring shade and nourishing rain to His creatures, thus demonstrating His kindness!

The story of the toads is a fictional account, but it reminds us that *God is also mysterious*—we cannot know Him unless He manifests Himself to us. The Heavenly Father cannot be understood through man's religions or philosophies. Thankfully, God has disclosed Himself; otherwise we would be as ignorant as a common toad about the character and plan of our Creator! Read Psalm 19 and you will discover that our Lord has made Himself known through His creation and through the Bible. And, He has revealed Himself in His Son, Jesus Christ (Hebrews 1:2)!

All that we study and comprehend in this world is worthless if it doesn't honor Christ Jesus, our Lord and Savior. A scientist can examine in great detail the water cycle (water evaporates from the ocean and into the atmosphere, forms clouds that bring rain to plants and animals worldwide, and reenters the sea via streams and rivers). But, this knowledge won't save him from the wrath of the Lord Jesus Christ. A day is coming when the Son of Man will judge all people. Jesus will soon return to earth, not as Savior, but as Judge (Revelation 1:7)!

What will be the basis of this judgement? Christ Jesus, Himself, will determine if we have ever sinned against Him. If we have disobeyed Him just once, if we have ever been unkind to a neighbor, or selfish in any way, He will condemn us

to be forever separated from His comfort and peace.

The Bible says that each of us has sinned (Isaiah 53:6), and as a result, *we all deserve hell*. So who can be saved from such a terrible destiny? Those who know Jesus as Lord and Savior in a personal way! We must truly believe that Jesus Christ died on a cross for our sins. Being "good" is not enough. We cannot become God's friend by insisting that the friendship be on our terms—no, it must be on His! This is true surrender which leads to eternal life!

Are you ready to commit all that you are to God? Then you must believe that Jesus Christ died for your sins and that His sacrifice is the only way to be forgiven of those sins. Surrender your will to His, that you might be united with Him forever in paradise.

Dear Father, I recognize that I have lived my life independently of You and You consider this sin. Please forgive me through Your Son, Jesus Christ—through His death on the cross. Jesus, please come into my heart right now. I embrace You as my God and my Savior. I accept Your gift of eternal life. Show me how to live the way You want me to live. In the name of the Lord Jesus Christ, I pray, Amen.

*"At that time the sign of the Son of Man will appear in the sky, and all the nations of the earth will mourn. They will see the Son of Man coming on the clouds of the sky, with power and great glory."
Matthew 24:30*



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