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THE GREAT SEA BEASTS

by Charles P. Howerton

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“If you have loosened your seat belts, please tighten them now. We will be docking at the space station in approximately five minutes. If you would like to see what the station looks like from the outside, look out your windows and I will do a slow roll so everyone can see.” The shuttle pilot announced.

Jeanne-Marie Gervaise, a Meteorological Technician Second Class on loan to the International Weather Guard from Météo-France, the French Meteorological Service, pressed her nose against the window just as the station came into view. What a strange shape it has, she thought. It looks like a huge twirling baton that is actually spinning. It has a knob on each end with a long tube between the knobs with a box shape at the midpoint..

As she watched, the spin of the shuttle slowed to match the spin of the baton, and began to slowly approach the box at the midpoint of the tube where she could see four blinking red lights surrounding a round hole. As the shuttle crept closer it became obvious that the pilot was aiming at the hole.

A buzzer sounded and the shuttle pilot said. "Please assist the shuttle cabin attendant to attach the helmet to your space suit. This is a precautionary measure only in the event there should be a problem as you pass through the docking port from the shuttle into the space station."

Jeanne-Marie watched the two passengers in the front row, who were wearing the Uniform of the United Earth Peacekeepers pick up their helmets and put them on effortlessly. Then she felt a tap on her shoulder and looked around to see the cabin attendant holding a helmet. "Here, miss, just like we practiced before we lifted off. Turn the face mask toward the left and put the helmet on like you would a hat."

Jeanne-Marie took the helmet, turned it and lowered it to the collar of her space suit. "That's right, miss, now let me lock it in place." The cabin attendant said as she settled the helmet precisely on the collar ring and twisted it to the right. There was an audible click as the helmet locked onto the space suit, then a hiss as it filled with air. Then the cabin attendant checked Jeanne-Marie's seat belt. "Just a precaution, miss." The cabin attendant assured, "I have ridden with this pilot dozens of times and there has never been so much as a bump when she docks."

"Docking in 30 seconds, crew assume docking stations." The shuttle pilot announced. This was followed shortly by a final ten second countdown. When the countdown reached zero the pilot announced, "docking completed, prepare to disembark." Like the cabin attendant said, there was not even a bump as the shuttle docked.

Jeanne-Marie was the last of the three passengers to disembark. The cabin attendant took her hand and said, "We are weightless here, let me guide you to the air lock." The attendant pulled her towards the airlock in the nose of the shuttle, then gave her a gentle push through the airlock into the space station.

Two people wearing space suits greeted her as she entered the space station dock. "Welcome to ISS-60 West." One, a woman, said. Then a man said as he

looked at the passenger list, "You are for the Weather Station Module, is that correct?"

"Oui, yes," Jeanne-Marie replied correcting herself.

"Okay, you will have to wait a few minutes for the elevator to return, the two soldiers took it to the military module at the opposite end. While you wait, please hang onto one of the handholds to keep from drifting around in here."

"Shuttle departure." The shuttle pilot requested over the radios.

"Airlock sealed, disconnect when ready." The man replied. "If you would like to watch the departure, miss, pull yourself over to that window." He pointed towards a round window alongside the airlock.

"Thanks, see you next time. Disconnecting now." The shuttle pilot said. It was followed by a clunk as the locks released.

Jeanne-Marie watched through the window as the shuttle backed away from the space station until it she could no longer see it.

"The elevator is here, miss. Give me your hand and I will guide you into it." The man said. As he rotated her and gently guided her feet towards one side. "I'm going to activate a magnetic plate in the floor which will hold your feet while you descend to the weather module. When you arrive there, you will be right-side up." Then he pressed a button. Immediately, Jeanne-Marie felt her feet pulled to the floor. "Hold on here," he said pointing to hand holds on either side of the elevator door.

When she had gripped the handholds, he asked, "Ready."

"Oui," she replied. Then the elevator began to move and her feet were pointed in the direction of travel. Slowly, she began to feel as if the plate where her feet were attached was the floor. The feeling grew until the elevator arrived at its destination where she felt able to stand unassisted.

Jeanne-Marie was greeted by another crew member dressed in a blue jump suit who reached into the elevator and switched off the magnetic plate so she could

walk into the reception area. She bounced on her toes a couple of times and said, "This doesn't feel right, what is different?"

"First, let's remove your space suit." He said reaching for her helmet. As he helped her remove the space suit, he continued, "Gravity, here is only half Earth normal. We find that it makes for a more comfortable environment. You will be required daily to spend an hour in our exercise facility to maintain muscle tone. Didn't they tell you that before you left Earth?"

"Peut-être, that and a mélange of other things. Excuse me, I mix my French with English sometimes. I am sure they covered the gravity, but I do not remember exactly what they said. No matter, I am fine, thank you. Now where do I go?"

"Come with me, Mademoiselle Gervaise," a new voice said from behind her. She turned to see who spoke and saw a short balding black man with close cut greying hair. He was wearing a United States Air Force jump suit. He was smiling and offering her his hand. "I am Major Frederick Johnson, commander of the Meteorology Observation Team. Welcome to Weather Guard 60 West. If you will come with me, I will help you get settled in. The crew will move your baggage to your accommodations."

Major Johnson led the way down into the ball at the Meteorology end of the station. "As you can see, we actually have to walk down steps to get to our workstation."

She was listening to Major Johnson, who was from Brooklyn, trying to puzzle out his accent which was unlike any she had heard before. The first thing she saw as they entered their workstation was an enormous circular window that faced the Earth. It was as if she was looking at a huge globe. The view showed most of the Atlantic ocean, South America almost to Cape Horn, most of North America, the Gulf of Mexico and the Caribbean Sea, part of the bulge of Africa, and a little of western Europe. She stopped and just stared trying to take it all in.

"It's a view you'll never get tired of Mademoiselle," Major Johnson said,

“and it is all ours to watch over. The reason we see more of the Northern Hemisphere is, the axis of the station is tilted slightly to the south to give us a better view of the Northern Hemisphere.”

“Magnifique, it is truly an amazing sight. Is that Paris over there near the top on the other side of that red line. Why are there two red lines, one on each side of the window?” Jeanne-Marie asked in quick succession.

"From 22,500 miles out in space, we can see almost one whole hemisphere. Our view of the surface actually includes part of the areas watched by the Meteorology Teams in the Prime-Meridian satellite over on the right side as we are standing and ISS-120W on the left side of the window. Those lines are reminder that we are only responsible for what you see between them. You will catch on after a while?" Major Johnson explained.

"Yes, yes, I see what you mean."

“This is our work station,” he said sweeping his hand from one side of the room the other. That desk over there to the south is yours. The other technician will have the one to the north, if we ever get another technician. What happened to him anyway?”

“We were at the shuttle port in the waiting lounge. He arrived just as one of the other shuttles was lifting off. He just looked at it and then seemed to become very anxious. He began to shake and then shouted something profane, turned around and walked away.” Jeanne-Marie replied.

“Damn,” Major Johnson said, “it will take several months to train his replacement and the hurricane season is just about to begin. I am afraid you and I will have to take turns on watch, none of the other Earth Science staff up here have any training or experience in weather management. I'm sorry it has to be this way.”

“No worries, sir. I will do whatever you need me to do until another technician arrives.” If ever, she thought to herself.

“Merci beaucoup, Mademoiselle.” Major Johnson said with a smile.

"Il n'y a pas de quoi, Commandant." She grinned back at him.

"Commandant, Mademoiselle?"

"Oui, sir. The French army does not use the title Major, the proper form of address for the rank above Captain is Commandant. My father was a Commandant."

"Okay, we will have to work on that." Major Johnson said, "In the mean time, in our crew I am normally addressed as , 'Boss' or even 'Fred'. Since I am the only military officer on the team rank does not mean much."

"Okay, Boss!" Jeanne-Marie replied with a smile while throwing him a mock salute.

He returned the salute and took the opportunity to take a good look at Jeanne-Marie. She seemed to be completely at ease in what had to be an overwhelming situation. She was young probably in her early twenties. She was tall, very tall, from his point of view, at least five or six inches taller than he was and she was quite slender. Her blond hair was pulled back into pony tail. She wore very little makeup and she did not need it. Her natural features gave her all the presence that she needed. I'm going to like this girl he thought.

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A few weeks later, a minor seaquake in the Gulf of Guinea off the West coast of Africa triggered an underwater avalanche which stirred the mud on the ocean floor releasing a long buried egg of one of the greatest of the great sea creatures. Once released, the egg rose slowly to the surface of the sea where circulating currents in the Gulf pulled it into a huge eddy that circled slowly.

Warm air that began in the Sahara Desert to the North flowed down the coast to the Gulf helped to quicken the egg. The egg drifted borne by wind, currents and tides for several days until it was swept out of the Gulf by tropical waves generated by the East African jet stream. It drift in ocean currents until it eventually reached the Cape Verde Islands. There it hatched.

The beast was born on a hot August afternoon in the ancient birthing grounds of her kind. For the first few days she appeared as just a small swirl in the clouds. Unlike the rest of the great creatures of the sea whose births go unnoticed, her birth was observed and recorded.

#

Twenty-two thousand five hundred miles above the Equator in geosynchronous orbit directly over the Prime Meridian, a computer in the International Space Station known as ISS-PM Weather Guard detected and recorded her beginnings along with hundreds of other weather events large and small.

The computer saw a minor cyclonic disturbance in the upper atmosphere gathering nearby clouds into a circular swirl and beginning to form a tropical storm which would become the cell of the beast. The newly hatched egg within would provide the nucleus for the cell. The incident was so minimal in the grand scheme of things that it was noticed, then ignored by the meteorology team in the ISS-PM. However, all such events are automatically recorded by the computer for future reference so they could be tracked should they evolve into a threat requiring increased attention or intervention.

For the first few days after her birth she gathered strength from sun and wind, and grew slowly into a larger more mature beast. When she reached the size where her upper winds and clouds could be affected by the West African jet-stream she began to move Westward and slightly South along a line from the Cape Verde Islands toward Belém on the Northeast coast of Brazil. Initially, her progress was slow as she moved across the Atlantic Ocean toward the East coast of South America. But, as she moved, warm, moist air rising from the equatorial waters contributed to an increase in her strength and size. In less than a week, she evolved into a tropical disturbance and moved out of the area covered by ISS-PM Weather Guard into the area covered by ISS-60W Weather Guard which maintained station

above the 60th meridian and oversaw the area from the thirtieth to the ninetieth meridians. The Weather Guard computer in ISS-PM automatically sent an alert to the Weather Guard computer in ISS-60W where it was recorded, assigned a low priority and placed in the alert box of the duty meteorologist.

Jeanne-Marie who was on duty at that time recorded the alert in the logbook. When she was relieved by Major Johnson she reported, "we have a minor alert, Commandant. A small tropical disturbance is crossing the Atlantic in our direction. Headquarters has tentitively assigned the name 'Bertie' to it. I logged it."

"Duly noted, Jeanne-Marie. Anything else I should know about?"

"No sir, nothing of any importance."

"Good, you are relieved Mademoiselle, have a nice nap."

"Thank you, sir, and it is your move." She said pointing towards the chessboard on the plotting table.

#

'Bertie' is of a species that rarely has more than a few individuals in existence at any one time. Many of her kind were born, lived, and died without ever encountering another or reproducing. So fragile was their existence that most rarely lived for more than a day or two before some natural event caused them to cease to be. The hardiest of Bertie's kind seldom lived beyond their normal life span of a month, just long enough to reproduce. This season, most had expired out at sea in less than a week leaving no time to perpetuate the species.

All of Bertie's species were hermaphroditic, capable of reproducing by simple cell division without the need of a mate if necessary. Unfortunately, when this happened the offspring were smaller than the original cell and lacked vitality. Such reproductive division diluted the life force resulting in offspring that were progressively weaker and limited in their ability. The life force became weaker with each generation if the genetic material was not reinforced through cross-

fertilization by another preferably stronger individual. The spawn from such a mating formed one or more eggs, each a chrysalis much like that of a butterfly and went into hibernation until circumstances encouraged emergence. With good fortune the chrysalis would be carried by the ocean currents back to the Cape Verde area or the Gulf of Guinea to wait for the proper conditions to emerge and become an adult to repeat the cycle.

Eggs, on the other hand, to mature and ripen properly must be laid in the spawning grounds off the East Coast of North America in the warm waters of the Gulf Stream. The eggs would drift in the flow of the Gulf Stream until they came full circle back to the depths of the Gulf of Guinea and settled to the ocean floor to absorb the rich nutrients necessary for life. There they could slowly mature until some abyssal event like a seaquake or a sea slide or a shift in the sea floor would release them to rise to the surface for the next round in their cycle of life.

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The egg from which Bertie came was an older one that had drifted for many years before it came to rest in the abyss where it sat for millennia covered by silt and the detritus that drifted down from the surface or was washed into the Gulf by rivers. Bertie's egg was the product of the mating of two strong parents in their prime, giving Bertie a strong and vital life force. The racial memories of countless generations reaching back thousands of years were coded in her genes. She was a perfect example of her kind who, given the proper opportunity, could help to insure the survival of her species even if she had no choice but to mate with a weaker mate or to divide by mitosis into two sister cells.

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Bertie was aware that she was one of the very few of her kind with perfect genes. For many years newborns had no opportunity to grow to maturity before they expired from lack of drive or were destroyed in some way. The products of progressive hermaphroditic mitosis with their weaker life force often did not have

the vigor they needed to survive. Of the few that did survive, for one reason or another, most did not survive long enough to complete the trek across the Atlantic to the spawning grounds.

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During the first few days of her life, Bertie deliberately delayed her physical growth in favor of enhancing her ability to reason and communicate. All of the collected wisdom of her species coded in her genes made it possible for her to govern her progress during the early days of her life. She drew on powers that had been evolving for a thousand times a thousand years to help her insure her survival to maturity.

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A few days after Bertie began her journey following the southern trade winds across the Atlantic she faintly sensed the emergence of another. The new one was a male, the product of generations of matings of weaker individuals. He would become known as “Cedral”.

Members of Bertie’s species had evolved the ability to communicate with each other by a form of telepathy propagated in the form of very low frequency electro-magnetic waves capable of spanning immense distances. Bertie used her power to reach out and make contact with Cedral. Being female and the stronger of the two, she wanted to encourage him to grow and follow her to the spawning grounds. Cedral’s reply was weak and bespoke his declining heritage. Nevertheless, Bertie knew that if she could meld her genes with Cedral’s, a new and stronger line could emerge that would help to revitalize the species. This was what she was being driven to do.

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As Bertie progressed in her trip across the Atlantic she grew stronger each day. The sunlight that is abundant in the tropic latitudes provided the energy that

gave her strength to grow and mature. Day by day as she grew in size and power, she sensed Cedral growing also and striving to catch up with her. Bertie wanted to slow and delay her progress so she could wait for him but the instincts of untold generations forced her to continue on. For a few days as she moved near the equator she was able to slow down her progress as she absorbed more power from the sun and continued to grow. Meanwhile, Cedral endeavored to catch up with her.

As Bertie crossed the 30th meridian the computer in ISS-PM handed her over to the ISS-60W. Major Johnson was on duty at the time and noted the event in the log book. When Jeanne-Marie came on duty several hours later he advised her of the hand-off.

"Jeanne-Marie, according to the International Weather Service we are now officially responsible for Bertie. She was handed off to us about two hours ago. I logged it." He explained.

"Bonne, has anything else happened yet with the second storm?" She asked.

"Nope, it is still diddling around near the Cape Verde Islands."

"Diddling, sir?" She asked.

"Oh yeah, diddling is a pseudo technical term that means nothing interesting is happening." Then seeing her confusion he continued. "I'm teasing you, Jeanne-Marie, it is American slang and it literally means it is doing nothing or nothing interesting is happening, like I said."

"Ah, 'diddling', a new word to add to my vocabulary. I like it, I will remember it for future use, Commandant." She said looking serious.

"Huh," Major Johnson started to respond.

"Teasing you back," Jeanne-Marie said with a giggle.

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At the end of Bertie's journey across the Atlantic she touched land in

Northern Brazil. There she swerved to the Northwest and followed the coast. Eventually she neared the islands off the coast of Venezuela. She was now very near her peak of health and vigor. Her winds were continually increasing and lightening coursed through her structure sending encouragement to Cedral. She used the drag of the land to slow and turn northward toward the spawning grounds near the Bahamas. Her intention was to stay on the ocean side of the Eastern Caribbean islands. At this point, Cedral was just three days behind and slowly gaining.

"Commandant, please come to the observation station." Jeanne-Marie's voice sounded from the intercom.

"On my way," He replied.

When Major Johnson arrived in the observation station he could see the concern on Jeanne-Marie's face. "What's up, Jeanne-Marie?"

"I thought you would like to know that Bertie has veered to the north after touching land off the coast of Venezuela, and there is a second tropical disturbance following in her wake. The second storm has been assigned the name 'Cedral' by headquarters."

"Cedral?" Major Johnson asked, surprised. "What kind of name is that?"

"You know how headquarters likes to use names from different sources to be more egalitarian." Jeanne-Marie replied. "I looked up Cedral on the computer, sir. According to Wiki Disambiguation, there is a city in Brazil named Cedral and another one in Mexico."

"Amazing, they managed to include two languages and two countries with one shot. They speak Portuguese in Brazil and Spanish in Mexico. Oh well, what's in a name." Major Johnson mused. "I assume you recorded it?"

"Oui, yes, I did. But, aren't two big storms so close together considered dangerous?"

"Not necessarily. However, ever since 2017 when the United States was hit

by the four hurricanes, Harvey, Irma, Jose and Maria, in the same month we have been concerned when more than one is active at a time. It depends on how long the second storm survives and what path it follows. Does the computer provide a possible path for Cedral?"

"No, sir, not yet."

"How about Bertie?"

"Because of where she is, and all the possible paths in and around the Windward and Leeward Islands, the predicted paths are so dispersèrent, uh," Jeanne-Marie held her arms out wide apart.

"Spread out, you mean?"

"Oui, spread out. She could go between the Windward Islands and the Lesser Antilles into the Carribbean Sea or stay on the Ocean side of the Windward Islands and go almost anywhere."

"Very succinctly put, Jeanne-Marie," Major Johnson said, "Very succinctly put. I guess we will have to wait and see, won't we? Anyway, I'm awake now so why don't you go take a nap for a while and I will keep an eye on things. If anything interesting happens, which I doubt, I'll call you."

"Merci, uh, thank you, sir." Jeanne-Marie said as she left the observation station and headed towards her quarters.

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Bertie's size, momentum, and the drag of the and made it impossible for her to make the turn toward the Northeast to follow the Atlantic side of the Windward Island chain. Thus, she passed over the islands of Trinidad and Tobago and then to the south of Grenada and entered the Caribbean Sea.

Bertie and Cedral exchanged messages from time to time. She continued to encourage him and he replied in kind. What the observers above saw was a regularity and synchronicity in their lightening flashes, but nothing more.

She stayed on the eastern side of the Caribbean and followed the arc of the

Windward and then the Leeward Islands using them to keep her in the Caribbean Sea as long as possible. The drag from her passage over and through the islands would further slow her progress would serve to further slow her progress. As she neared the Northern end of the Leeward Islands, she intended to cross back through the island chains through the Mona Passage between Puerto Rico and the Dominican Republic and re-enter the Atlantic Ocean. She knew this would allow Cedral to finally catch up with her if he stayed in the Atlantic Ocean. She began to feel confident of their eventual meeting and mating and that the survival of the species would be insured.

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Twenty-two thousand five hundred miles above Major Frederick Johnson, USAF Meteorologist, shift supervisor, and intervention team chief was leaning back in his chair with his feet on his desk snoring softly.

On the other side of the workspace, Jeanne-Marie Gervaise, was reading the electronic edition of Elle, her favorite French Fashion magazine on her tablet when the ISS-60W Weather Guard computer determined there might be a problem with Bertie and Cedral. A “bee-deep” from the speaker on her work station brought her to attention. She looked quickly through the data on the screen and the projected weather image on the wall display. .

“Commandant, boss!” Jeanne-Marie called to get her supervisor’s attention.

Major Johnson woke up suddenly alert and replied, “Yes, Jeanne-Marie what’s up?”

“Sir, the computer indicates our two weather systems, Bertie and Cedral should be upgraded to Tropical Storms.”

Major Johnson rolled his chair across to Jeanne-Marie’s work station. Looking over her shoulder at the images of the storms on the computer screen he said, “Designate them appropriately, and notify The International Weather Service that we have changed the designation. Then give 120 West an

alert in case they head West. The first one actually looks more like a Tropical Depression than a Tropical Storm and the second one seems to be developing into a Tropical Depression as well. The wind speeds are picking up in both, so go ahead and tell the IWS they are officially Tropical Depressions and initiate close tracking procedures. Good work, Jeanne-Marie.”

“Yes, sir, thank you sir” she replied and did as directed. This new alert was the most exciting thing that had happened since she arrived on ISS-60W.

Major Johnson ,looked through some messages on his desk and then asked, “have you heard anything more about when we might expect to receive the other two techs?”

“No sir, I have heard nothing. I emailed my friend Lucille at Météo-France yesterday and she said that there were no more volunteers for satellite duty there.” Jeanne-Marie replied. “There might be some interested candidates somewhere else, though.”

“Damn! It wouldn’t make much difference now anyway. We’d better plan on going watch on watch, four hours on duty on and four off while we continue to track and handle the two storm systems. Weather seldom changes so fast that a four hour lapse is anything to worry about.”

“Yes, sir,” Jean-Marie replied. She was looking forward to the first really interesting weather they had seen since she arrived. Except, of course, the big storm system over central Brazil and the severe thunder storms with tornados in the United States. But neither of those were potential hurricanes.

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Cedral was following essentially the same path that Bertie had taken but he was growing slowly and thus progressing more slowly. As he approached the coast of South America he successfully turned far enough to the Northeast to go around the Lesser Antilles. His smaller size enabled him to make the sharper turn and stay on the Atlantic side of the islands and by doing so take the shorter path. He flashed

his success to Bertie and she responded with encouragement.

It was gradually becoming clear to both Bertie and Cedral that they would be able to meet somewhere near the spawning grounds North of the Bahamas Islands. There Bertie would be able to release her eggs, and Cedral would be able to fertilize them. They also knew that after the mating, the two of them would undoubtedly die on the beaches of the east coast of North America.

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The likelihood of the two great sea beasts passing close to each other near the Bahamas soon became obvious to Jeanne-Marie and Major Johnson. As they looked at the computer projections of possible paths, they took special note. Two hurricanes meeting and potentially merging was unheard of and portended possibly grave consequences. Jeanne-Marie was the first to see the possibility.

“Commandant, the computer projections of the courses of these two storms has them almost meeting somewhere near Nassau in about three days.” She hesitated and then continued, “Have we ever seen anything like this before?”

The Major Johnson replied with seeming disinterest, “I don’t know, why?”

“Oh, nothing, sir. I just thought it was interesting that they would come so close to the same point at about the same time.”

“When is either of them projected to hit the east coast?”

“The long term computer projection is predicting the east coast of Florida should begin to have problems in about 72 hours.”

“When is the optimum time to take corrective action?”

“Everything will be in place in 56 hours, sir, just after the first one, Bertie, passes Nassau.”

“Okay, set it up for then,” he ordered.

“Yes, sir.” She said making a note in her orders book. “May I ask you a question, sir?”

“Sure, what’s on your mind?”

“I was wondering why we don’t take action earlier when the storms get near the coast of South America or near the Antilles Islands.”

“Didn’t they tell you about that in your training?” Major Johnson asked. He continued, “No they probably didn’t. The South American Coast and the eastern Caribbean islands depend on the rainfall from these storms to replenish their fresh water supplies. Most of their buildings, et cetera, are built to withstand the storms or to be easy to rebuild after a particularly nasty storm. That’s why we advise them well in advance that storms are coming so they can prepare for them, but otherwise we mostly just let the storms happen.”

“Merci, sir.”

“I think we had better upgrade at least the first one as a Tropical Storm don’t you?”

“Peut-être, oui, yes, sir! The winds, they are picking up speed and the second one is close to Tropical Storm speeds too.” Jeanne-Marie acknowledged. Thinking that things were going to get really interesting in the next few days, she brought out the standard weather guide and began a closer watch of the progress of the storms.

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As she approached the spawning grounds, Bertie began to feel a compelling urge to expel her eggs so that Cedral could fertilize them. Changes began to take place in her structure as she moved her precious eggs to the point where Cedral would cross her path.

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“Commandant, sir, you must see this,” the Jeanne-Marie announced.

“What? What’s going on now?” he replied, slightly irritated at having his nap interrupted again.

“Le tempête grand”, she said, slipping into French, “the big one, you know, the first one, appears to be changing structure. There are many swirls, eh, eddies

forming on the Atlantic side of Bertie. Also, her wind speed is now at Level-1 Hurricane strength.”

He smiled at her lapse, “Is it going to cause any problems for the mission?”

“No, sir,” she replied. “It is just like nothing I have been shown before or seen in my studies. It is almost as if the storm is about to break up into many smaller storms. This might slow it down a little. But, the computer is not predicting any alterations to the projected path because of the changes.”

“Okay, upgrade it to a Hurricane-1 and notify the IWS of the change, Jeanne-Marie. Then take some pictures for the meteorologists to look at and ponder over. Do you think we need to move up the countdown?” Major Johnson liked to delegate authority and decision making to his team. It was the only way they would learn.

Jeanne-Marie, focussed intently on the display and computer projections answered without thinking. “Je ne sais pas, excusez moi, I do not know, sir,” the technician replied honestly. Très intéressant, she thought.

“Then let’s watch a while longer to see what happens, shall we?”

“Yes, sir.”

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Bertie’s eggs were ripe and in the right place to be released. She let them go and as she turned out to sea she signaled Cedral who was less than 8 hours behind her. Sensing the release of Bertie’s eggs he readied himself to do his part.

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“Mon dieu, sir, it is getting more interesting by the minute!” Jeanne-Marie said.

“What’s going on now?” he asked, finally really interested because of Jeanne-Marie’s obvious enthusiasm about the novel weather conditions that she had no experience with or training for.

“The little eddies on the ocean side of the bigger storm, Bertie, dropped off

and disappeared, and she seems to be headed away from the coast and weakening. I think it can almost be downgraded to a Tropical Depression again soon.”

“What about the other one?” he asked.

“It’s still following the same path as before. But, it is still growing in intensity”

“Do you think we are going to have to take action?”

“Perhaps, Commandant. If it keeps on going as it is, it will encounter the coast of central Florida in 24 to 30 hours.”

“Is the intervention equipment going to be in position?”

“Yes, sir, it will be ready in time. The new window will be open for 16 hours so we will have adequate time if action is needed.” She answered. “Surface control reports that shipping has been alerted and is clearing the area.”

“In your opinion, do you think intervention will be needed?” Major Johnson persisted, he preferred to train his assistants to make reasoned judgements rather than snap decisions.

“I think we can still wait a bit, sir. But, I don’t know. It is my first, well second, hurricane if you count Bertie and she no longer appears to be a threat, sir. So, perhaps it will die down also.”

“Good, keep it up! You called the first one just fine. Take your time with the second one, but keep a careful eye on things. When the time comes, let me know what you think we should do.”

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Having released her eggs, Bertie felt her life force begin to wane as she headed towards the seaward side of her eggs to guard them and keep them from being disbursed before they could be fertilized. Cedral on the other hand was rapidly closing on the point where Bertie had expelled her eggs and he was ready to fertilize them. He was now just 8 hours behind her and was gaining more power and speed from the tropical conditions over the islands. His outermost parts

actually briefly touched those of Bertie, which helped to pull him toward the spot where she had released her eggs.

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“It’s almost time for the mission, isn’t it, Jeanne-Marie?” Major Johnson asked, involving himself more closely in the operation.

“Yes, sir. The power satellite is in perfect position if we should need it.” Jeanne-Marie answered.

“What’s happening with the storms?” He could see the display but wanted her to describe the situation.

“The winds in Bertie have dropped below 30 knots and it is only a tropical depression now, and will probably be just a minor storm in a few hours. It should not cause any great problems. The computer is predicting that it is moving northward, parallel to and up the coast. If it makes landfall at all, it will arrive sometime tomorrow morning.”

“And, the second one?”

“C’est merveilleux, sir.” She exclaimed in french, “Sorry, it is still following the projected path and is very near the eastern side of the Bahamas. It should cross the path of the first storm in a few hours,” she replied, concentrating on speaking correct English.

“What about its status?”

“It is still growing and gaining power. It is definitely a Level-1 Hurricane now, sir.”

“Do you think we should notify the International Weather Service?”

“I followed protocol, sir, and notified them as soon as I detected it become a Level-1.”

“Excellent. Does the computer indicate that we will have to intervene?” He asked, curious for her answer considering her interest in the situation.

“It is hard to know because the computer cannot yet predict accurately what

it will do once it passes the Bahamas. It might turn out to sea like Bertie did, or it might turn towards the Florida coast.”

“Start a countdown for an intervention action in five hours if it keeps up like it is and sooner if it turns toward the Florida coast,” Major Johnson ordered.

“Yes, sir,” she acknowledged and typed the appropriate commands into the computer and recorded it in her order book.

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Cedral was getting more and more aroused as he moved nearer to the Bertie’s eggs. He could feel them in the water. His every sense was focused on his coming meeting with destiny.

#

“It’s time,” Major Johnson observed when the computer terminal emitted a beep indicating the end of the countdown.

“Yes sir, we can start at any time now,” Jeanne-Marie said.

“Okay, begin the sequence,” he ordered.

“Sir, could we wait a little longer? I think the scientists and my professors would very much like to see and record when the second storm crosses the path of the first one.”

“I tend to agree, but will waiting jeopardize the intervention?”

“No, sir, we still have an 8 hour window and the crossing should take place in less than an hour. It has not really turned toward the mainland yet.”

“Okay, but keep a close eye on it. It is now only 90 miles or so from the Florida coast and could do almost anything. But we don’t want to have any trouble.”

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As the time for mating approached, Cedral began to shift his gametes towards the point where his path would cross over the awaiting eggs. He tightened his center to increase the speed of the winds. His whole being was quivering in

anticipation.

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“Mon dieu, this is strange, Commandant. The second storm, Cedral, is starting to make some swirls or eddies also as it gets closer to the point where it will cross the path of the first storm. They are very much like the eddies that the first storm released before it began to die.” Jeanne-Marie exclaimed excitedly.

“Fascinating, I wonder what they could possibly be. Do you think we should we zap it now?” Major Johnson asked, teasing her in reply to her enthusiasm.

“No, sir, could we wait a little longer to see what happens when the paths cross? It will be very soon.”

“Okay, it’s your call,” he responded. It helped to give the team members some responsibility, conditionally. “Just don’t let it get to the point where it would cause any big problems on the mainland.”

“Oui, I am watching it.”

#

Cedral in his reproductive ecstasy began to loose control of his path. The islands to the west slowed down his western side and he began to veer toward the mainland. He still had sufficient control to move his gametes to his northeastern edge as he prepared to eject them towards Bertie’s eggs.

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“Mon dieu!” the Jeanne-Marie announced. “Commandant, the computer is now showing that Cedral has rolled around the northern end of the Bahamas and is altering his path toward the Florida coast. It is moving very slowly and still gaining power. Its outer clouds are coming very close to the coast. The computer prediction is that the center could possibly hit the Florida coast as a full fledged hurricane by tomorrow morning.”

“Have you aimed the power satellite at the storm?” Major Johnson asked.

“Not yet, sir. I have prepared the proper commands.”

“Do it!” he ordered.

“Activating the power satellite, Commandant.” Jeanne-Marie responded, using proper protocol for a direct order.

Far above the weather satellite the power satellite located at the L1 LaGrange point between the Earth and the Moon came to life. Command signals from the ISS-60W Weather Guard computer directed it to focus its mirrors on the storm over one hundred thousand miles below. The aiming mirrors and the mirrors that actually received the power from the Lunar-North power station turned slowly towards their designated positions. The aperture opened sending the tightly focused sunlight towards its target below.

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Cedral felt the intense heat as the focussed beam sliced back and forth across his western flank. As the heat intensified, he could feel it tearing through his structure bit by bit as it worked its way from his western boundary nearest the coast of Florida towards his eastern edge where the gametes were. The terrible heat completely disrupted his structure causing the winds that made up his being to flow away from the focus towards his gametes. Whole new flows of energy coursed through his structure as they destroyed his being. His life was being taken from him. Cedral made one last forceful effort and expelled his gametes towards Bertie’s eggs adrift in the Gulf Stream, announced his success, and died as he was cut to pieces.

Bertie felt Cedral’s pain as he was being torn apart and then felt his surge of triumph as his gametes fertilized her eggs successfully.

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“It is working, sir,” Jeanne-Marie said, satisfied with doing her job, but somehow regretful that it was necessary.

“Good, keep it up until there is nothing left but a strong breeze.”

“Yes sir, I will,” she responded. “Major, those eddies I told you about?”

“Yeah, what about them?”

“They whirled off the northeast side of Cedral and went over the spot where Bertie’s eddies were.” she explained.

“Are they any threat?” he asked.

“No, sir. It looks like they are diminishing and drifting towards the Gulf Stream.”

“In your opinion, do you think that we need to zap them too?”

“Zap, sir? Oh, yes, I see. No, sir, they appear to have stopped and been absorbed by the ocean.”

Jeanne-Marie felt sadness at what had to be done to such incredible things, things that seemed almost alive, just to protect the people of the earth from some bad weather. These storms were very different from the storms that ravished the northwest coast of France and did so much damage there. Those storms came from the North Atlantic, but began over the Gulf Stream as it crossed below Greenland and Iceland and headed south towards the coast of Africa.

“Let them go then, and shutdown the power satellite as soon as the storm is no longer a threat.” he instructed, unnecessarily.

“Yes, sir, I did.” Her final response.

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As Cedral disintegrated from the incredible power being pumped into his structure, he had the satisfaction of knowing that the mating was successful and that Bertie, who was dying herself, had heard him. Dozens of fertilized eggs of new generations of the great sea beasts known to man as hurricanes and tropical storms had been sown in the ancestral spawning ground and would be swept around the ocean to come to rest at the birthing grounds. The species would live on in strength for many cycles to come.

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