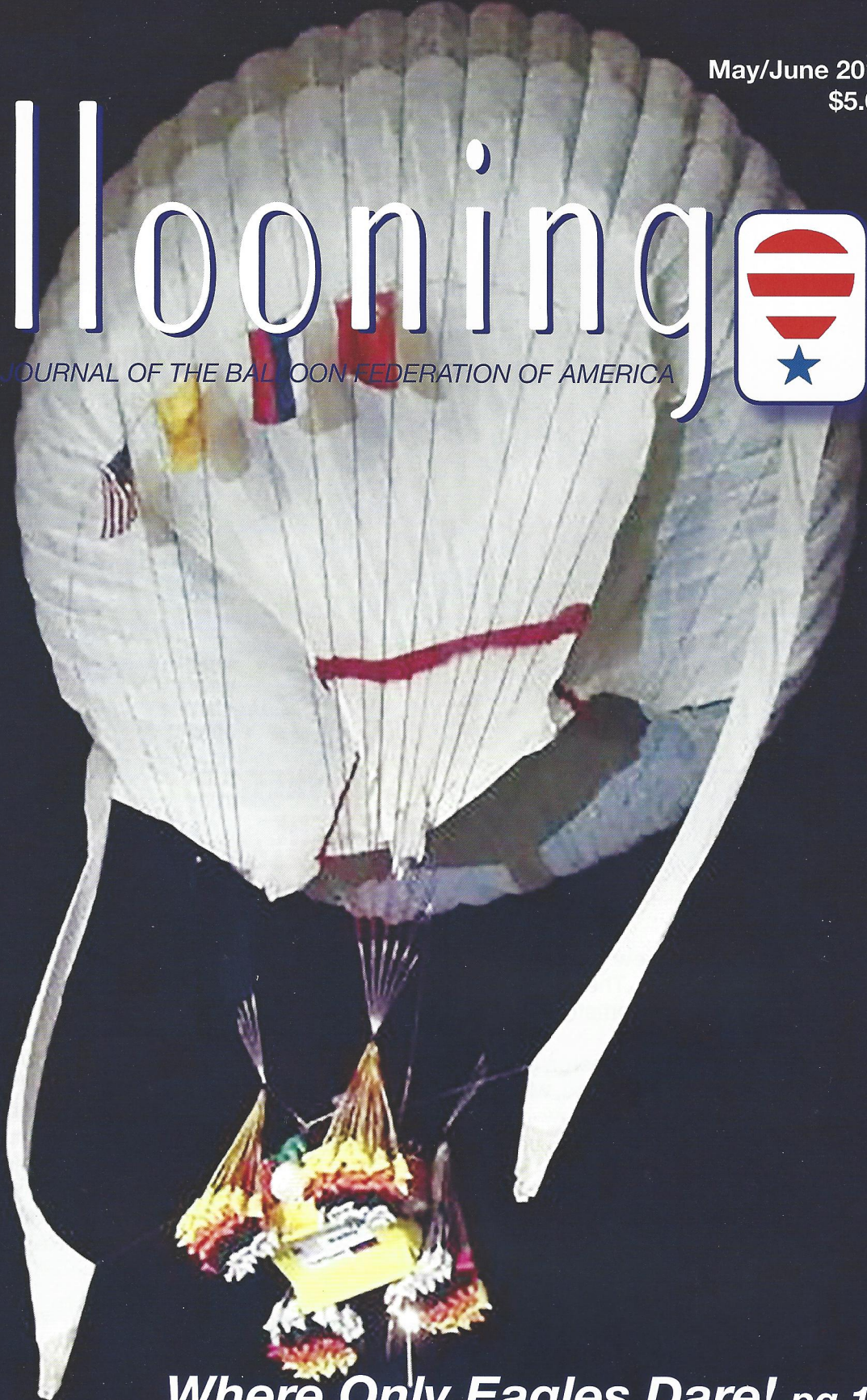


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Where Only Eagles Dare!

Across the Pacific by Balloon

by Troy Bradley

*Photos courtesy Two Eagles Balloon Team**

Tsuyoshi Ogushi/Two Eagles Balloon Team

During most of human history, geographic barriers were more of a nuisance rather than a thing of beauty or an interesting challenge to scale or cross. There had to be something to gain financially or for sheer survival to traverse mountains or to sail difficult routes. Adventure for the sake of adventure is a relatively new phenomenon in the grand scheme of human existence. In this day and age, once our basic needs are met, we live in a time that allows us to dream and embark on adventures purely for intrinsic satisfaction.

By the late 20th century, air travel was commonplace and a matter of convenience. For all practical purposes, if you wanted to get from the United States to Europe by air you simply purchased an airline ticket. Yet a handful of intrepid pilots were attempting to make the Atlantic crossing in a very nonsensical fashion - by balloon! These were very bright men and women, all of who could afford an airline ticket for the journey. Their goal was to be first to cross the Atlantic by balloon. Unlike Lindbergh's first solo crossing by airplane there was no financial prize to be gained. Although the risk was very high and several died in attempts, the yearning to cross the ocean in this simplistic aerial vehicle lived on.

In 1978, an adventurous trio of pilots (Ben Abruzzo, Maxie Anderson, and Larry Newman) launched from Presque Isle, Maine, in a helium balloon named the Double Eagle II. After nearly 6 days aloft they landed in France marking the first crossing of any ocean by manned balloon. They accomplished what many felt was impossible, and the story captured the attention of the world. It appeared the goal was met, but for these gentlemen the Atlantic was just a stepping stone to more ballooning adventures. A few short years later, in 1981, the team of the Double Eagle V crossed the Pacific establishing a new absolute ballooning distance record of 5,208 miles. These pioneering balloon crossings of the Atlantic and Pacific ushered in the era of long-distance balloon flights. The amazing results that these aeronauts achieved for time aloft and distance traveled by gas balloon would stand for many years to come.

We all have an imagination! The process of imagining usually ends in contemplation or daydreaming, but when it becomes the driving force anything is possible. The epic flights of the Double Eagle II and the Double Eagle V sparked my imagination as a child and have driven me as an adult. Coincidentally, my 14th birthday occurred while the Double Eagle II was airborne, which meant I was now old enough for a Student Pilot Certificate. Coming from a ballooning family, I closely followed those flights and believed that someday I could follow in Ben and Maxie's footsteps. What intrigued me the most was how to fly longer and farther. For years, my imagination allowed me to believe that those records were beatable!

In 1992, along with my co-pilot, Richard Abruzzo, we did beat the absolute duration record by flying 6 days from Maine to Morocco. Although we set a new absolute duration record, it wasn't comparing apples to apples. For records or competition, balloons are divided into subclasses. Our transatlantic aircraft was a Cameron R-77, a Rozier balloon that fell under the AM subclass. This type of balloon has superior duration capabilities and would eventually be the type used to circumnavigate the globe. In a balloon filled with a lighter-than-air gas if you can control either the pressure or the temperature of the gas you can greatly increase the balloon's duration capabilities. A Rozier's benefit is that by controlling the temperature of the gas, the pilot has a tremendous amount of altitude control without a great penalty to the overall duration. The Rozier's overall performance makes it the obvious choice for long distance flying. However, my goal was to replicate and improve upon the records of the great flights of the Double Eagle II and Double Eagle V, and those fell under the AA subclass. The AA subclass is for straight gas balloons that have no way to artificially heat or pressurize the gas. At the time they set the absolute records



The successful crossing of the Atlantic by Ben Abruzzo, Maxie Anderson, and Larry Newman in Double Eagle II captured the imagination of the world as this was adventure for adventure's sake!

Photo ©Randy G. Taylor

for all subclasses, only to be bettered by the more sophisticated Rozier systems. For the AA subclass, the duration record of 137 hours 6 minutes and the distance record of 5,208 miles remained unbroken. There was the challenge, and the Pacific Ocean provided the perfect arena to attempt both records.

After years of calculating and contemplating, in 2005, Earl Miller and I commissioned a 350,000 ft³ gas balloon to attempt the records I had sought since childhood. Earl, a true southern gentleman, has stuck by the project throughout but decided to step aside from a role in piloting. With Earl's absence from piloting, my new flying partner became Peter Cuneo. The project, which at times seemed to be getting derailed, was back on track. The balloon was shipped to Saga, Japan, in 2007 for an attempt in January or February, 2008. Mother Nature was uncooperative and our meteorologists, Don Day and Lou

Billones, were never able to find a suitable and safe weather pattern for a flight opportunity during those months. As we waited in Japan, balloon pilot Michio Kanda launched near Tokyo in his bid to cross by hot air balloon. Sadly, his flight ended tragically less than 24 hours later as he entered an area of strong convective activity. This sobering episode reconfirmed the very real dangers of long distance ballooning and the consequences of launching into the wrong weather window. With no favorable weather, we packed and secured our equipment for storage in Japan, and vowed to return for another attempt. It is one thing to dream, however, the logistics, financing, and patience required for a flight of this magnitude is quite daunting. We realized that if we shipped the balloon back to the US we would lose momentum and the project may never happen. Adhering to the belief that we would launch this balloon from Japan, my wife Tami and I chose to continue to rent a warehouse for storage owned by Koga Electric year after year.

Every March, Delegates representing dozens of countries from around the globe convene for the Fédération Aéronautique Internationale Ballooning Commission's annual meeting. It

was during the 2014 meeting that I was updating my friend and fellow balloon pilot, Leonid Tiukhtyaev (two-kh-TIE-yev), on the status of my transpacific record attempt project. I stated, "After seven years, I am still storing my balloon in Japan and would love for you to join me on the flight." As a seasoned gas balloon pilot and President of the Russian Ballooning Federation, Leonid understood the formidable challenge of piloting such a large balloon and the great distance I was proposing. Taking another sip of wine and contemplating for about 30 seconds, he said, "I'll think about it, I may need something to do after the Gordon Bennett." That simple conversation at a cocktail party in Switzerland breathed new life into my project. Leonid and I developed an amazing partnership culminating in the adventure of a lifetime and an historic record breaking flight!

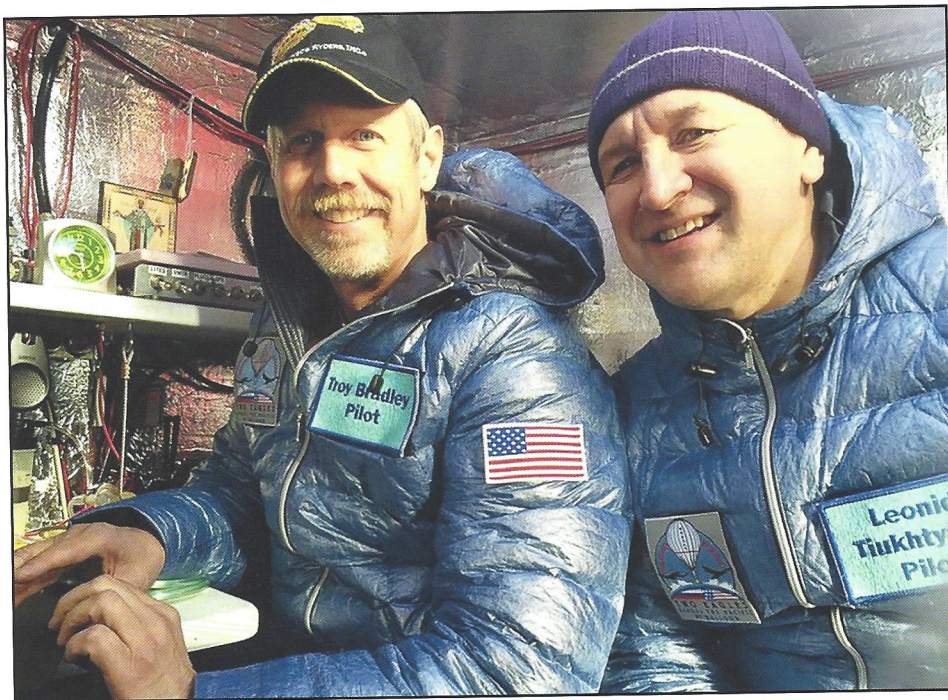
Our project was renamed Two Eagles to honor and pay homage to those amazing flights that we respected greatly and hoped to emulate with some degree of success. Leonid and I have very similar risk tolerances and thought processes so our partnership worked flawlessly from the beginning. The massive numbers of volunteers and support team had remained relatively unchanged

over the course of the project. After such a long hiatus, everyone was excited to be once again moving forward.

Having the equipment already on site was helpful, but there were still a lot of wheels to put into motion for another attempt. The first call was to our Japanese Liaison, Sabu Ichiyoshi, to ensure we could acquire helium for the attempt and to reopen airspace discussions with the Japan Civil Aviation Bureau (JCAB). Without Sabu's support and guidance over the years the Two Eagles flight would have never happened. Next we contacted our friends with the Fly One Balloon Team in Saga. Since the launch site was in their home town, they have been our contact for organizing the launch crew (all volunteers) and helping with overall logistics for our team while in Japan. Famous for hosting one of the world's premier balloon events annually, Saga is home to an incredible number of balloon pilots, crew members, and enthusiasts. The three primary Saga contacts we depended on were Kaoru Kawasoe, Yukiko Shigematsu, and Takero Sakai. Their expertise in all aspects of event organization was very apparent throughout our aborted attempts and eventual launch.

On the US side, our crew was spread across the country, so meeting face to face wasn't very practical. In order to prepare stateside logistics, Dr. Steven Shope, our Mission Control Manager, organized weekly teleconferences to discuss everything: equipment lists, communications, tracking, electrical needs, Mission Control staffing, duties, etc. We also had a series of meetings with FAA personnel to make sure we would be within compliance of Oceanic and North American airspace operations, aircraft paperwork, and all applicable FARs. The incalculable number of man hours spent and all of the connections made in advance paid off in flight.

The final key to any long distance balloon flight is the meteorologist. The meteorological team from our 2008 attempt was unavailable for the 2015 season. Fortunately, before his schedule would be monopolized by the Solar Impulse record flights, Luc Trullemans said he would be able to provide meteorological support for our flight. His record is unparalleled in guiding balloons through complex weather patterns to a



*The Two Eagles - Troy Bradley and Leonid Tiukhtyaev
Tamara Bradley/Two Eagles Balloon Team*



The Two Eagles gondola ready for launch. The colored ballast bags and ropes helped the pilots keep a running total of ballast expended and remaining.

successful conclusion. Months before our flight window opened, Luc graciously spent several days with us in Belgium discussing weather strategies and expected patterns for our time frame. Don Day, who originally worked with us on this project, was unable to commit to this year's attempt. However, as a friend, he continued to provide another set of trained eyes and acted as a sounding board for helping us to better understand the weather models.

New Year's day 2015, our team began boarding planes bound for Japan. Due to the New Year's celebrations, helium wouldn't be available until January 8th, so we would have a week to make any final on site preparations. This seemed like more than adequate time, since we had already sent a team (Paul Jorgenson, Tim Cole, and Bert Padelt) over in early December to make sure everything was installed and tested

in the capsule. My daughter, Savannah, accompanied me to Japan, while Tami, Bobby, and my mother were ready to come once the weather showed a promising likelihood for launch. A new and welcome addition to our team in Saga was Al Nels. As a fresh set of eyes, he provided a welcome perspective to the project. We also had many people who would head to the Mission Control in Albuquerque, once the weather looked good. Basing travel decisions on weather models so far out is very difficult, and caused a couple of false starts. It amazes me how many people put their "real lives" on hold for the duration of our weather window. The vast majority of our team was made up of volunteers, with only a couple of paid staff. I can't think of a more dedicated group of volunteers on any project I've ever been involved in.

Daily, Luc took an aggressive look

at the weather forecasts for any indications of a potential flight window. Before examining any trajectories, he would do a weather scrub of local conditions to see if inflation and launch conditions were forecast to exist. He had a seven hour period to look at each day, since the JCAB wanted our launch to occur between 2300 local time and 0600 local time (1400 – 2100 UTC). Saga is a good ballooning area that frequently experiences a temperature inversion developing during the nighttime hours. This inversion helps to provide light surface winds, so many winter days present suitable inflation conditions. Once he was satisfied that inflation and launch conditions were likely, he would take that start time and run computer trajectory models at various altitudes to see if there was a possibility of crossing the ocean. Overlaying weather analysis charts with the trajectories would indicate any roadblocks or barriers to a possible flight. Roadblocks could be bad trajectories, icing potential, forecast convection, unacceptable flight altitudes, or too slow of a crossing for our theoretical duration capabilities. With a minimum of 5,000 miles to travel over water, there are a lot of points for obstacles to appear. The key is to mitigate the odds of running into a problem by at least taking off with a good forecast. Of course, weather modeling is melding the science of current conditions with assumptions about movement and intensity that may or may not become reality. The further out the forecast is the greater chance that the reality of the situation won't meet your expectations. Before beginning the inflation of the Two Eagles envelope, with a very expensive load of helium, it was imperative that we had a high degree of confidence in the weather forecast and proposed flight profile.

Almost immediately after our team's arrival in Saga, Luc identified a potential weather window around January 8th. One of the small details that needed our attention was if Leonid and I were departing the country we needed our passports stamped. This is something that will happen and you take for granted at an airport, but we were departing from a dirt field on the outskirts of Saga. Each time that we felt our departure was imminent, Leonid and I would head to the Immigration Office to get our passports stamped

for leaving the country. The problem was that each time we had a false start we would have to void the departure stamp. In all we made five trips to the Immigration Office in January, three times to say we were leaving and twice to say we were staying. That the clerks began to recognize us was a good indicator that we needed to leave the country soon, rather than this trek becoming part of our regular social activities.

On January 8th, as our first opportunity to fly approached, the team prepared the equipment on the field. Just prior to adding helium, Leonid and I decided to cancel the inflation. The projected flight profile and extremely long duration over the sea (9 days without landfall) gave us little, if any, margin for error and made us decide it wasn't prudent to take this slot. There was palpable disappointment in the news from all of the volunteers on both sides of the ocean, and yet an understanding that safety was our number one priority. As the second serious launch opportunity approached, only a week later on January 14th, our whole team was optimistic and ready to go. Another last minute cancellation based on a rapidly changing weather pattern, thwarted this attempt and there was extreme frustration on everyone's part. This frustration was accentuated by the fact that the message of our cancelling the flight wasn't communicated to all of the volunteers in a timely fashion. By the time Leonid and I arrived at the field to help with packing the balloon, we thought everyone knew we were standing down. Although several people on the field knew of this decision long before we arrived, the message hadn't been passed through to the masses of volunteers. The reception of the cancellation news this time was a little more skeptical, and we felt terrible for all of the work everyone had put in getting the system ready for a second time. With the majority of our help being volunteers, I wasn't sure how many more times they would be available for these long days with no end result.

As a new potential window appeared for the 24th, the team mantra became "we are cautiously optimistic." Having the disappointment of two opportunities closing at the last minute, no one wanted to get too excited. Although the enthusiasm was less intense,

the whole team was ready and willing for another shot. Leonid and I made our all too familiar trip to the Immigration Office for our 3rd and final departure stamp. The third time really did prove to be a charm.

Our Mission Control which was housed at the Anderson-Abruzzo Albuquerque International Balloon Museum was reactivated and all of Steve's staff was ready for action. The Mission Control would operate 24 hours a day during the flight and was manned with a talented group of experts in balloon operations, communications, Air Traffic Control, cognitive sciences, search and rescue, and media relations. Luc performed all of the meteorological work from his home in Belgium. As each new set of models would come out and while working with the Command Center personnel, he would continually update our altitude strategies to avoid bad weather while progressing eastward. There were large local time differences with our meteorologist in Europe, Command Center in the US, and our launch site in Japan, so we worked on UTC time for all communications. With a global team working on this attempt, Steve said, "The sun never sets on the Two Eagles team."

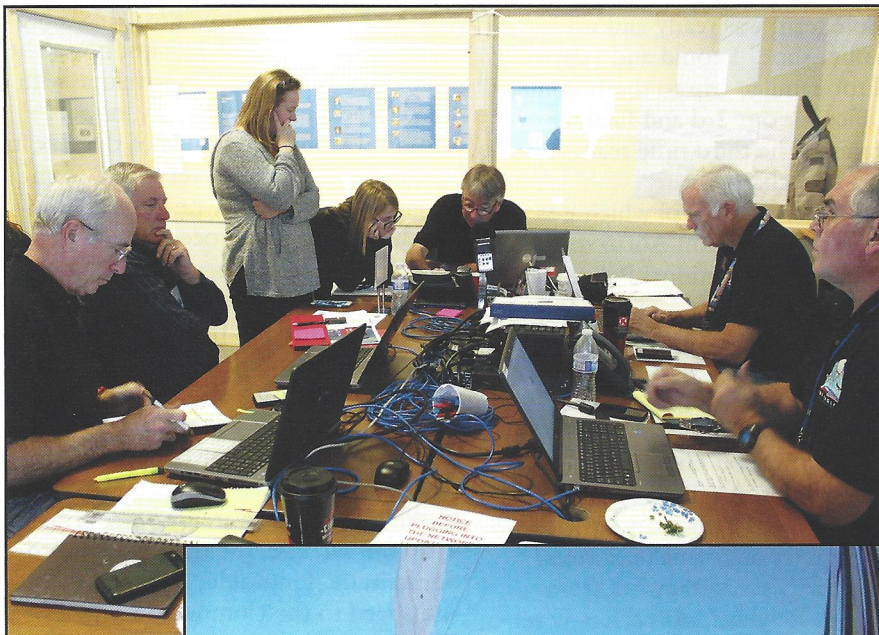
The equipment had been left on site from our previous two attempts, so a great deal of the preparation was done. Still the work of laying out the envelope, installing the valve, attaching ballast bags, and attending to hundreds of little details required the launch crew to spend over 15 hours on site preparing before the helium started to flow. After Luc sent his final weather analysis, Leonid and I discussed the scenario and agreed to call to the field personnel to turn on the helium and begin filling the envelope. It was not a decision that we took lightly, as the volume of helium we were using was a significant cost in dollars, rubles, or yen. However, more importantly than the expense, was our belief in a successful journey. The weather looked good, our team was in place, and we were feeling more than ready to go.

The inflation started before Leonid and I headed to the launch field. As we approached the field with balloon in an upright position, we were in total awe! I have flown many ride balloons of larger volumes than the Two Eagles

envelope, but somehow this looked bigger than all of them. Perhaps, it was the spotlights shining on the envelope with the darkness of the night sky, or perhaps, it was the magnitude of the task in front of us that made everything seem magnified. Online anyone was able to watch the inflation proceed through a live streaming video. It became the start of many sleepless nights for people around the world as they closely followed our progress through our Two Eagles web site and other media outlets. The live streaming was the first technology that allowed anyone to feel a part of our project; the second was live tracking with hardware by SpiderTracks. Through satellite, the tracker provided our latitude, longitude, altitude, track, and speed to the Command Center. Tim Baggett had programmed all of that information to be overlaid on a Pacific map so that people could track our progress in nearly real time.

JCAB had requested that our launch take place between 1400 – 2100 UTC for air traffic flow, and Luc was quite insistent that our launch be by 1900 UTC for weather concerns and our initial flight trajectory. The inflation ran into a couple of snags with one area of fabric constriction in the envelope after it was erect, and a period of some unexpected gustiness. Fortunately, the winds finally subsided, and the local fire department brought out a very impressive ladder truck to get to the elevation required to rectify the problem that was causing the tension on the envelope. These delays would prove costly, since the later we launched in our window the more northerly our initial track was going to be.

As Leonid and I stood atop the capsule, the crew finished topping off the helium and made sure our aircraft position lights and antennas would hang properly. We were given the last filler tube to attach to the load frame, and the time had finally arrived to launch on our grand adventure. There was a group of ballast bags, independent of our flight bags, that when cut free from the capsule would give us our free lift. The line tethering the free lift bags to the capsule was cut at 2123 UTC, and we were free to fly. We were airborne two and half hours past Luc's request and 23 minutes outside of JCAB's requested time, but at least we were finally on our way. The crowd cheered



Top: Mission Control situated at the Anderson-Abruzzo Albuquerque International Balloon Museum was staffed 24/7 for the duration by a team of many volunteers.

Above: One of the indelible images from early in the flight - a fly-by of Mount Fuji!

and snapped pictures as we slowly crept off of the field with over 200 brightly colored bags, carrying nearly 5 tons of ballast, dangling beneath our yellow capsule. It seems that many times the weigh off on large gas balloons err on the side of either too little or too much free lift. Our launch erred on the side of too little. Almost immediately, Leonid and I began ballasting more sand to continue a very slow ascent. The excessive amount of ballasting and painfully slow climb to altitude put a fear in our minds that perhaps the envelope was leaking. Thankfully, that was not the case and after spending the first day aloft, we were confident the balloon was

sound.

The delayed take off and slow climb took our track much further north than we had hoped for in the beginning. It was also further north than JCAB wanted! With the Air Traffic controllers' assistance and permission we were traversing much busier airspace than was originally planned. The first sunset found us heading over the snow-capped mountain peaks west of Tokyo at 50 knots. Simultaneously, we were dealing with the gas in the envelope cooling and the fear of rotors, so we ballasted to climb higher and topped off around 20,000 feet. One of the most indelible images from the flight was the view

we had of Mt. Fuji just south of our position during this time. Our next obstacle of navigating through Tokyo Airspace was an equally daunting task. We maintained the altitudes requested by the controllers, and the reward of being allowed to continue on this track was an unprecedented view of the lights of Tokyo from our 20,000 foot floating platform. The next quickly approaching obstacle was the one we sought to tackle from the beginning - the Pacific.

On board the capsule, there was no celebration as we left the security and coast of Japan. Leonid and I knew the reality of leaving land meant that we were headed into parts of the world where aborting our flight would provide limited opportunities for rescue. Confidence in our abilities, our equipment, and our weather information allowed us to embark on this long transoceanic journey. Our team back in Saga and at the Mission Control in Albuquerque celebrated this early milestone in our flight.

Although we were over the ocean we were still in controlled airspace. The first night was very busy frequently communicating our position and altitudes to JCAB. They would never allow the Mission Control to make the position reports on our behalf or refer to the tracking on the web site. We were in their airspace until we reached a longitude of 165° east, at which point we entered US Oceanic Control. Inside of Mission Control we had Guy Feltman, a retired US Air Traffic Controller, who worked directly with all of the Air Route Traffic Control Centers. Once we passed 165° east, all ATC communications were handled through Mission Control, and for the balance of the flight Leonid and I never had to communicate directly with ATC again. That greatly decreased our workload, and we were very happy for the radio silence.

For such a long expedition, we knew we needed to stay healthy and mentally acute. The keys were staying warm, getting sufficient calories, staying hydrated, getting sleep, and making sure our oxygen saturation levels were maintained at a safe level. The capsule was a well-insulated, tiny space that didn't require much energy to heat. Thanks to a simple, but very effective, cabin heater that Tim Cole built, our temperatures inside the cabin were very

comfortable throughout our flight. The little unit was so efficient that we couldn't run it for long without a fear of getting too warm. We had a large selection of food to choose from and ate very well. We almost always ate meals together, and always had snacks readily available. A typical meal would be cheese, crackers, sausage, a canned milkshake, and an apple. Each of us had 3 one-liter water bottles for each 24 hour period. By drinking the 3 liters daily, at a minimum, we remained well-hydrated. We didn't really set up a routine for sleeping. Typically, the workload could be handled by one pilot at a time, so most of the time that allowed for one of us to sleep when we were tired. This seemed to work better for us than setting up a sleeping regimen. We spent a great deal of time discussing the weather and our altitude strategies, which allowed both of us to rest comfortably knowing you wouldn't wake up to any dramatic changes in the plan. We were flying in a non-pressurized cabin at high altitudes, which meant we needed to be on supplemental oxygen for survival. We had a large liquid oxygen dewar as our primary source of oxygen and two gaseous tanks that would provide approximately 24 hours of emergency backup. Leonid has a great response when people ask, "What is your favorite gas to fly with?" (meaning hydrogen or helium). He replies, "Oxygen, without it you won't fly very long!" We regularly checked ourselves with a pulse oximeter to test the oxygen level in our blood and ensure that we were getting enough supplemental oxygen.

As we continued to head toward our North American goal, we got into a good rhythm with all of our daily chores. One of the busiest times during the day was right after sunrise. As the sun would heat the envelope, the expansion of the gas would require valving if we didn't want to go higher. The amount of valving gas was much more than either of us anticipated before the flight, and provided quite the workout pulling the valve line intermittently for hours. As in any gas balloon flight, the entire time was spent balancing the use of our finite resources of gas and ballast to achieve to optimum altitude for track and speed. Most of the time Luc was giving a band of 1,000 feet in altitude that we needed to maintain. We really had to work hard

at stabilizing the aircraft at the altitudes he identified as optimal, so as to not overtake or be overtaken by unfavorable weather.

Our task of breaking the distance and duration goals at times seemed overwhelming, so on board we celebrated a lot of smaller, incremental successes: crossing the International Date Line (Anti-Meridian), personal bests, beating Joe Kittinger's AA-13 distance record, each 1,000 nm traveled, or each 24 hours aloft. We had established a ritual during the flight that for every ten degrees of longitude we would have a piece of chocolate. As we tacked on more miles and hours, we surpassed what either of us had ever achieved and our bond grew stronger.

No flight of this nature goes without unexpected events occurring, and ours was no exception. One night as Leonid slept, I watched as our variometer began to show an ascent rate. Initially, the ascent rate was slow, but was tending to accelerate every minute. It is not uncommon to have slight variances in altitude through the night. As the balloon experiences these moderate changes in altitude, up and down, it tends to stay within a reasonable range that doesn't require any pilot intervention. Almost as if I were playing a video game, I watched the instruments indicate a continual rise in elevation, but our track and speed remained very constant. After gaining nearly a mile of additional elevation, I received an urgent email from Luc asking why we were choosing to go up. I informed him we did not "choose" this ascent and didn't know what the hell was going on. I also told him that our trajectory and speed hadn't changed, so I preferred not to valve gas if I could help it. He explained that our lift was being caused by nighttime convective lifting, that we should let it subside, and not induce a descent. Beyond the unexpected nature of this episode, this maneuver reminded me of the massive forces of the atmosphere and the vulnerability of the delicate aircraft we were flying.

It is surprising how relatively easy it is to get half way across the Pacific in a balloon! By running trajectory models, it is a common occurrence to distinguish weather patterns that will propel you half way across this colossal ocean at multiple altitudes. Then, more times than not, a blocking high,

convective activity, or being drawn into a low will hinder your forward progress and game over. Since departing Japan, we had the option of two trajectories once we reached the mid-Pacific. By deciding which altitudes to fly at that point we would either head towards the US/Canada border or to the Baja of Mexico. Quite a divergence in tracks! Our plan at take-off was to go for the northern route. The fear of potential convection in the lower latitudes of Mexico was really the driving force behind our decision. The weather models did show this possibility, and Leonid and I agreed that we didn't want to flirt with any thunderstorms.

For over four days, we trekked easterly with a landing in Canada or the northern US being our only consideration. However, our hopes of reaching the land of Labatt's Beer were dashed by a strong blocking high pressure system. There is an irony in being stopped by good weather! After we had spent more than 100 hours moving towards this goal, it appeared any further progress to make landfall in this area would be futile. A dramatic change in our plan was needed, and fortunately by flying around 20,000 feet for a few more days; a track to the land of Corona Beer was still an option! To the world of onlookers tracking us on the web site, this turn was a shock. To us it was the only hope of landfall.

As a result of choosing to take the turn later into our flight, we were now paralleling the US coastline. In the event we had to put down, this track put us in a relatively safe position a few hundred miles from any rescue vessels. All the calculations of speed and remaining ballast indicated that we could make it, but even if the calculations didn't prove out what other options did we have? This is when belief became as important as our piloting skills. Since this was a record-setting flight the southern turn provided the added benefit of many more miles when measuring the great circle distance. Right around 120 hours or 5 days into our flight, we met the first of our stated goals; matching the distance of the Double Eagle V and we were still tacking on miles. With the distance achieved and the duration record less than a day away, our total focus was getting to a safe place for landing.



The view from above the gondola, nothing by sky above (and below) and the blue Pacific Ocean.

Running out of ballast and working to maintain higher elevations, we had to carefully manage our limited resources. We continually took an accounting of our remaining supplies and their associated weights. We still felt confident, but also understood the limits of our aircraft. We went into our last night of flight knowing we were going to get the needed turn towards Mexico as long as we maintained altitude throughout the night. In the darkness, of what seemed to be our longest night, we ballasted anything and everything in order to maintain altitude. Every item that we carried on board served a purpose for our flight, and now each of those items was categorized by its weight. We threw over batteries, oxygen tanks, food, chairs, etc. Nothing was immune from becoming ballast.

Up until our final night, we had experienced relatively good weather

conditions throughout our flight. Our initial flight tracks towards Canada were chosen because of our fear of possible convective activity in the Baja of Mexico. Wanting to believe that a forecast from a week before couldn't possibly be true, I was dismayed to begin seeing the sky light up to the south of our position. The Mission Control personnel, Luc, and my wife all tried to assure me the storm was a non-issue since it was far enough away and not tracking towards us. This reassurance was appreciated, but didn't ease my mind. I always believe if I can even see lightning that I shouldn't be flying. However, Leonid and I knew we needed to continue working our balloon towards land and a daylight landing. We never did encounter any direct contact with this storm, but later found out that it was powerful enough to cause serious damage from Cabo San Lucas to La Paz that night.

As we prepared for our descent into Mexico, Leonid and I readied the capsule and stayed in constant contact with our Mission Control. Our capsule didn't look nearly as glorious as it did launching in Saga. Almost all of our supplies were depleted and the hundreds of ballast bags we once possessed were down to seven. With an extremely light balloon system and less than 300 pounds of ballast remaining, we began our descent. What should have been an easy descent proved to be the most difficult part of our journey. All of the weather models were showing as we went down our track should continue easterly but our speed would incrementally be decreasing. We had clouds below us, so we were basing our approach on instruments rather than a visual of the coast. When we began to valve gas to descend, there was little if any response by the balloon. This was very problematic since we were getting close to sunrise with a



Touchdown at sea off the coast of Baja, Mexico.

very lightly loaded balloon. If the sun were to begin warming the gas causing it to expand, we would be rising to an extreme, and unsafe, high altitude. We started with holding the valve open for 5 -10 seconds at a time. Nothing! 20 – 30 seconds. Nothing! We were rightfully nervous about over-valving and plummeting with little ballast. With the difficulty of the last night, neither Leonid nor I had slept for the past 24 hours, so fatigue and stress were adding to our predicament. From our Mission Control came the voice of reason and calming. Removed from the physical presence of the situation, John Kugler, was able to assure us the balloon would safely come down but we needed to valve like crazy! He said, “I don’t care how tired your arms are getting, you have to keep valving, so tie the damn thing off if you need to.” After what seemed to be an eternity, we did begin to descend. To maintain

a descent required a lot of valving, but we maintained a very controlled, slow return towards earth.

As we broke through the last layer of clouds, we had the welcome sight of land to the east. We were in a comfortable descent, heading east, and could see the Baja. Our plan was to deploy our trail ropes, keep the balloon inflated, and ride atop the gentle swells of the ocean towards the beach. As the two 150 foot trail ropes hit the water, lightening our load, our descent rate slowed dramatically. As we began to touch the surface of the ocean, the keels on the bottom of our capsule, which were built to take on water, began to fill and increase our weight; helping to keep us down. This moment occurred nearly seven days and more than 6,650 miles after our launch in Japan! We were ecstatic! We did what we set out to do, resoundingly beating the distance and duration records that had stood

for so long. A water landing is fine for record purposes. Unfortunately, as is almost always the case, the winds on the surface are notoriously the most difficult to forecast. We found ourselves sailing to the south, paralleling the coast of Mexico, rather than heading to dry land. Knowing assistance was close, we deflated the envelope on our liquid surface. When we hit the water, everyone in Mission Control (which now included Leonid’s wife, Irina, and daughter, Margarita) looked at one another wondering, “What now? How do we know they are okay?” Tami said, “Don’t worry, Troy will call me.” Less than 60 seconds later, her phone rang and I said, “I hate sailing!” She was happy to receive the report we were down safely and knew I wasn’t joking about the sailing part. Even with the smallest swells rocking the capsule, I was already getting seasick. Since we thought we would make landfall, I didn’t take anything to counter my propensity for seasickness.

Our chase crew, which included the Mayor of Albuquerque Richard J. Berry, was on the Mexican shoreline awaiting our arrival. They did an amazing job of getting close to our landing spot, and had we hit land they probably would have caught us. They were expecting us. The crew of the Mexican fishing vessel that retrieved us however, was not. Four miles from the shore, we diverted them from their job of shrimping, as they kindly came to fish us out of the shark infested waters. As they approached in their boat the Paul I, Leonid deployed our life raft into the water, and we both got in with one bag of gear each. The Captain of the boat, Pancho, threw us a line and pulled us to the boat. We assumed our balloon would be left to eventually sink, but after safely getting us on board, the crew undertook the more difficult task of recovering our capsule and envelope. In the last hours of our flight, we threw over a lot of the equipment and a good deal of what we landed with was destroyed by the salt water, but we were grateful for everything the crew did manage to retrieve from the sea - especially us.

Escandra Salim, Director of the Festival International de Globos, came from Leon, Mexico, to assist us in retrieval of our equipment. She and Phil Bryant orchestrate shipping a lot of

balloons to and from Mexico for their annual event, and their knowledge and contacts were invaluable. A week after our flight ended, Paul Jorgenson, Tami and I went to meet the boat when it docked in Mazatlán. I am sure all of the other fishing vessel crews would agree that the Paul I (named for the owner's grandson) had the most interesting catch to unload. We moved the balloon from the boat to a trailer for the final leg of its trip back to Albuquerque, where it is now proudly housed at the Anderson-Abruzzo Albuquerque International Balloon Museum.

No job is ever finished until the paperwork is done. Our official observer, Ray Bair, has put together the Record Dossier for the NAA and FAI to review. As soon as the records are ratified, we can officially proclaim that we have travelled longer and farther than any manned straight gas balloon in history. These World Records belong to the World Ballooning Community! Leonid and I are humbled and blessed by the support of our families and large number of helpers over the years that made this flight possible. This was truly an international effort with pilots from Russia and the United States, a Belgian Meteorologist, with assistance from Germans, French, and Swiss supporters, launching from Japan, and landing in Mexico. Our success was achieved on the human level not the national level. Our Two Eagles team combined

the skills and resources of multiple nationalities to produce one of the most publicized and well followed flights in recent history. This was not about competition, rather cooperation, and the results were remarkable.

I feel the most rewarding part of our flight was that, through modern technology, we shared this adventure with millions of people and created an excitement for adventure. It isn't about

ballooning - it is about not accepting limits. Just as the flights of the Double Eagle crews sparked my curiosity, I hope our Two Eagles flight sparks the curiosity of today's youth to pursue their dreams in any field or endeavor.



Top: Recovered by an unexpected chase crew!

Above: Gondola and pilots safely aboard!

Left: After a few days rest and celebrations in Albuquerque, NM, Bradley was reunited with the boat crew while making final arrangements to ship the aircraft back to NM and its new home in the Anderson-Abruzzo Albuquerque International Balloon Museum.