



# Spatial D in the Goo

By Ltjg. Geoff Anderson

**F**resh from the fleet-replacement squadron (FRS), I had arrived at HC-5, now HSC-25.

I was eager to throw myself into a mix that included multiple USNS vertrep detachments, Gator SAR, and humanitarian-aid disaster-relief assets (HADR) in the tsunami-hit region of Banda Aceh, Indonesia. I was assigned to Det 4 on USNS *Niagara Falls* (T-AFS-3) only three weeks after checking in and was excited to “cut my teeth” as the only pilot qualified in model (PQM) with five other helicopter-aircraft-commander (HAC) pilots.

Early in our cruise, in support of USS *Kitty Hawk* (CV-63) and USNS *Mercy* (T-AH-19), the Indonesian island of Nias, already in the heart of the tsunami’s affected region, was rocked by a magnitude 8.7 earthquake. Thousands were killed, 85 percent of the buildings were damaged, and the remote island’s infrastructure was destroyed. USNS *Mercy* and USNS *Niagara Falls* were ordered to the scene in what would become Operation Unified Assistance 2.

Once on station off the coast, less than a week after the disaster, we settled into a routine of ferrying medevacs and medical personnel. We logged almost 24 flight hours a

day between two helicopters for almost a month. Each day consisted of multiple runs between *Mercy* and the primary landing zone (LZ) in the town of Gunungsitoli, with runs as required to more remote areas of the island.

We soon found ourselves at odds with the operating procedures of *Mercy*: We had an obvious disconnect between the requirements of the airborne and afloat side of operations. The ship was unable to store more than two days of refuse aboard, which necessitated a transit around the island every other day to a point 12 miles off the coast for dumping. This requirement placed us in a position to have a nearly 50-mile transit, to include crossing the rugged island; it also gave us a greater chance of being affected by the violent and unpredictable tropical weather in the region.

On one of the protracted round trips, I was in the cockpit with our OinC, a seasoned pilot of three operational airframes. Weather progressively was getting worse because of afternoon storms, with ceilings dropping below 500 feet in many places. With no radar coverage in the region, we were forced to remain VMC. We had to pick our way overland to *Mercy*, while hugging the terrain, a stressful task I was glad to conclude

by going feet-wet on the far side. Perhaps I let down my guard with the reduced threat of terrain impact, but I thought we were in the clear once over the water, where we visually could account for the individual storm cells and avoid them.

We now had a sweet lock on father, so I pointed the nose in that general direction and continued to circumnavigate the microbursts that swept across our path. As we closed on *Mercy* and got her numbers, we realized the base-recovery course (BRC) was inline with the general track of the storms. The air boss confirmed the ceiling and visibility was going in and out of minimums, minute by minute. They were sitting in the middle of a tropical-storm cell and moving with it, yet our request was denied to have the ship maneuver to clear air.

My OinC set a bingo back to mother, in case the weather did not open up around the hospital ship, so we waited. After only a few minutes, we got a call from tower, saying their visibility was at least a mile, and the ceiling looked like it might be 500 feet. Although we did not have a visual, we tried to sneak in under the weather from the primary marshal. I had the controls, took us in, and eased us down to 300 feet to keep visibility. The TACAN read two miles when we flew directly into a downpour, which took our forward and lateral visibility down to zero. Our visibility to the water surface, through the chin bubble, continued unobstructed.

I immediately transitioned to a full-instrument scan and called out that I was on the gauges. I soon began to have problems: Every time I came back to my attitude indicator, it would be a couple of degrees nose high, and I would have to trim it back down. I could feel the “giant hand” pulling aft on the cyclic. This cycle continued a couple of times until I told the HAC I had the leans and was having trouble flying. He immediately engaged radalt hold and opted to talk me through it, rather than assume the controls. I finally realized this situation was critical. I executed the NATOPS procedure for an unusual attitude, but, by the time I got myself under control and my inner ear calibrated to my attitude indicator, we had gained almost 500 feet. My airspeed had bled down well below 50 knots, which is a critical airspeed in the MH-60S because the autopilot switches from airspeed-hold to attitude-hold. I simply had overridden the automatic-flight-control system (AFCS), put us high and slow, and now the trim would be of little help getting me back on parameters. At this point, the HAC called visual on *Mercy* through the chin bubble. Seeing the ship down there gave me a mixture of relief and fear, for I now could tell I almost was in an 800-foot hover-out-of-ground-

effect (HOGE) and, therefore, lacked the kind of stability afforded by forward flight.

I stated I was visual and could maintain contact by circling down and keeping the ship on our left side. The HAC agreed, and, less than a minute later, we had set down on deck. That landing was the first and, thus far, only one I felt fortunate to have made—it’s funny what things you take for granted.

We departed for another run and were not surprised to find *Mercy* still parked in the middle of a squall upon our return. Once again, the ship didn’t maneuver and while probing in search of a path of entry, I saw a flash of lightning. I suggested, and received no argument, that we return to mother and shut down, pending an upturn in the weather.

Our RTB was uneventful.

Reflecting on the situation during my waterwash, fold and stuff, I realized that, as good as the Navy’s instrument-training syllabus is, it is not all-encompassing. We train under what normally are ideal conditions to fly IFR, at altitude, and under the control of shore-based facilities. I unknowingly allowed a gap in my preparedness by never considering how I would employ my training in a helicopter’s operational environment: low and close to the water, with ships not equipped to provide ATC. This mindset led me to be caught off guard by two major factors, which resulted in my experiencing spatial disorientation.

First, the majority of my instrument time was garnered in the Jet Ranger, and, while gauges are gauges, the Knighthawk’s cockpit layout is such that when you are heads down, you cannot avoid the chin bubble creeping into your peripheral vision. I never noticed this problem in the TH-57, but, then again, 95 percent of my IFR training was conducted at night, at altitude, so there was very little to see. Second, we all know that depth perception disappears over open water. What appears to be 50 feet may very well be 500 feet. These two factors, when combined with the loss of forward and lateral visibility because of the rain, made me subconsciously apply aft cyclic to climb away from what appeared to be a water surface much closer to my chin bubble than it actually was. Had I expected this phenomenon to occur, I could have prepared myself for it, rather than being caught off guard.

When all was said and done, our CRM definitely pulled us through, and we recovered our aircraft according to NATOPS. If this is the scariest sea story I ever tell, I’ll be grateful. 🦅

Ltjg. Anderson flies with HSC-25.