

**Where's Mark? He's in the EAC with Nemo.  
George Cresswell  
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***1. Introduction***

Late on New Year's Eve 1995 Mark Beveridge's prawn trawler, the *Jay Dee*, was hit by a large ship 16 miles or so out from Southport on the Gold Coast. Mark was the only person on board. His boat sank quickly. He had no food, was dressed in singlet and shorts, and spent the next 40 hours drifting southward with a small life raft and an icebox. He knew that he had to get to shore before he reached Cape Byron or he would be swept out to sea by the East Australian Current (EAC).

The Inspector of Marine Accidents of the Department of Transport and Regional Development conducted an "investigation into the alleged collision between an unidentified trading vessel" and the *Jay Dee*. It can be accessed with

[https://www.atsb.gov.au/media/1509904/mair88\\_001.pdf](https://www.atsb.gov.au/media/1509904/mair88_001.pdf)

and I will refer to it as DTRD (1996).

In 1995, I was working as an oceanographer with CSIRO and I provided a satellite sea surface temperature image in response to a request from the Inspector. At some stage I contacted Mark's wife, Sharon, and she sent me the transcript of Mark's verbal account of the incident, which I have lightly edited and it is below. It's a ripping yarn. Now, a quarter of a century later, I've tried to contact Mark and Sharon, but so far I've been unsuccessful. I follow Mark's account with a discussion that includes aspects of the oceanography of the region. Incidentally, Mark, uses the fishers' terms for the EAC, namely "tide" or "southerly set".



Figure 1. The *Jay Dee*. Photo from DTRD (1996).

## **2. Mark's account**

*On 31 December 1995 I left Southport at approximately 6 pm and commenced work east of approximately 12 miles northeast of Point Danger.*

*I got my nets and otter boards out and shot away to the north and was on the bottom for about twenty/twenty five minutes. Noting that the engine temperature was going up, I knew that I had some sort of obstruction in the nets. On that I winched the gear up, hauled the middle net on board and found a rather large rock in it. I then in turn pulled the outside nets on board, saw what catch was, retied the nets, threw them over the side and proceeded to idle in an easterly direction at about 1000 rpm to keep the power up to my lights. If you only idle your alternator won't keep your charge up. At that stage I had a look round for any traffic and sat on the back deck to do some repairs in the middle net and proceeded in an easterly direction to go a lot wider, perhaps up to four miles if need be, depending on the attention the middle net needed.*

*During that period, I really don't know how long it was 'cause I was working out the back. I did look up from time to time but I did not notice any traffic. I was operating the boat on my own, which I have done in the*

*past, but I don't normally do, for the simple reason that the deckhand was gone to his mother's place for Christmas and New Year.*

*Upon still working on the middle net, there was an almighty crash. Ran up to the wheelhouse. I knew it was a ship: looked up it was a wall, just a bloody wall. Tried to ascertain the damage by first looking down at the fo'c'sle. Could not see what damage was there what with the seawater that was coming in. At that stage I did pull two flares out of the fo'c'sle – flare container. I put the VHF on channel 18. I went to check out the engine room to see if it was taking water. I could not ascertain the extent of the damage, but I knew I was in trouble. My next thought was to alert the vessel that was involved in the collision with a red flare. Standing on the stern of my boat I shot it at his stern and it shot right over his vessel from stern to bow.*

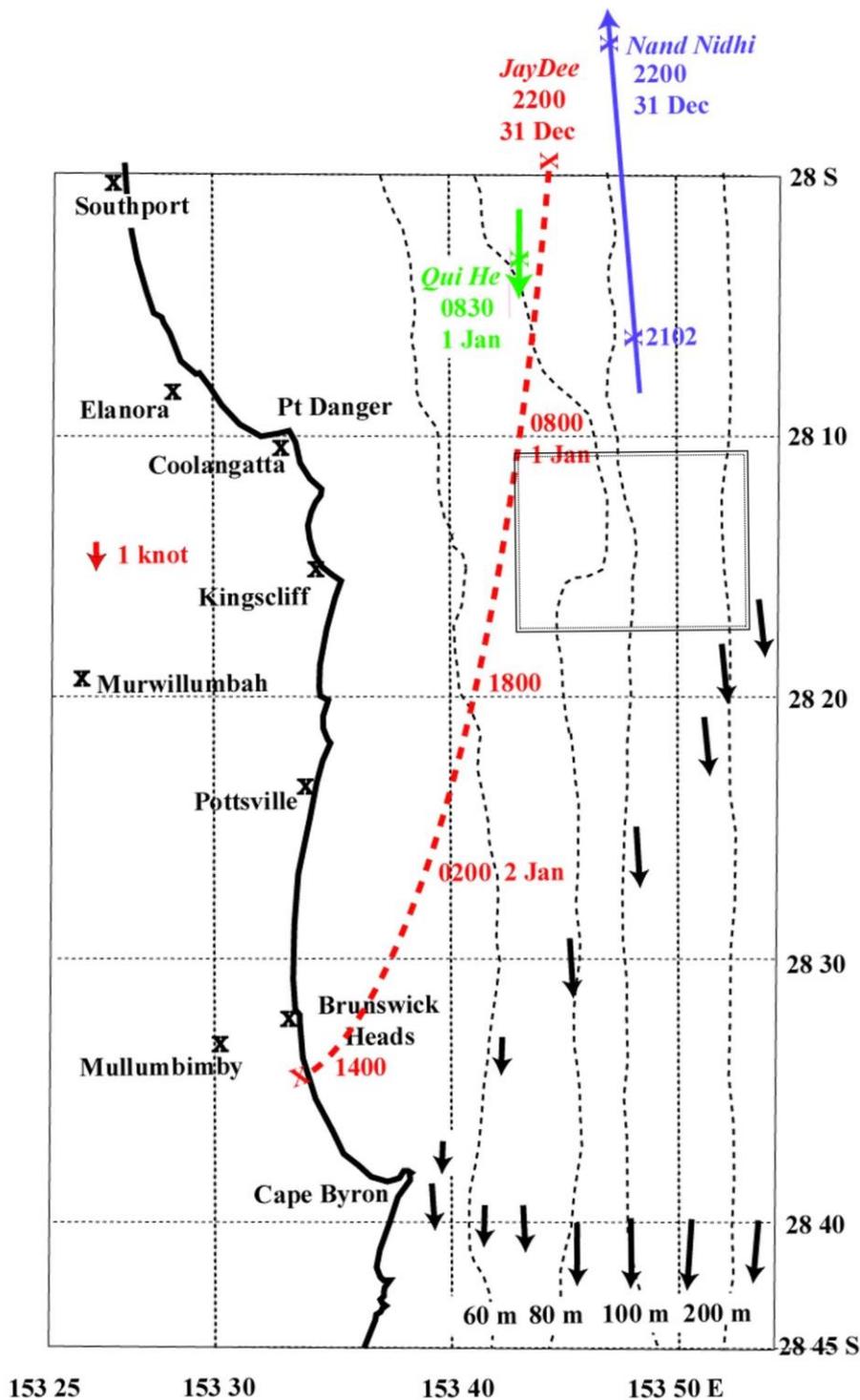


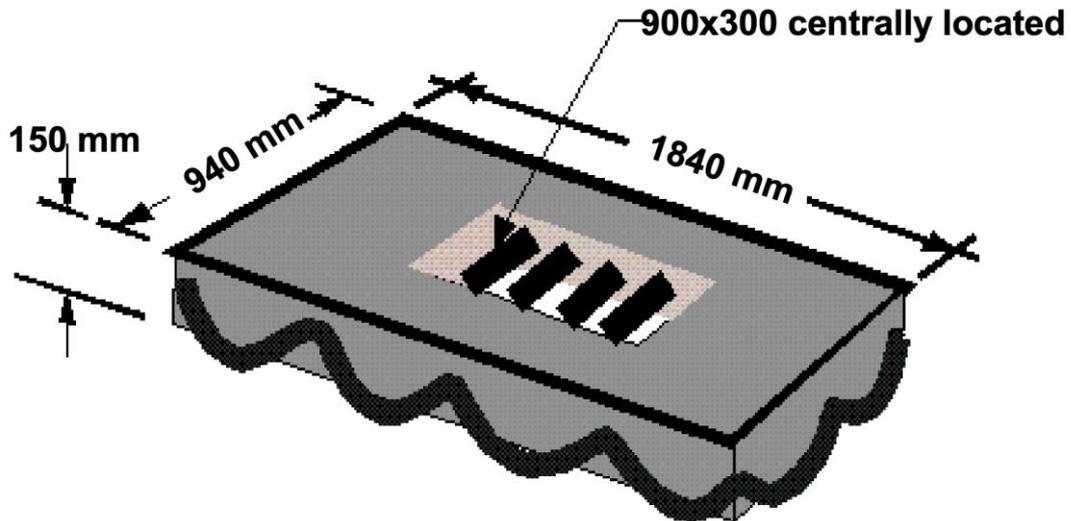
Figure 2. A chart adapted from DTRD (1996) showing my speculative path of Mark Beveridge's drift (red dashed line). Some depth contours (isobaths) are marked. At 2000 on 31 December 1995 Mark set his nets and trawled northward just shoreward of 80 m at about 28 S. The blue line marks the northward path of the *Nand Nidhi* that came closest to the *Jay Dee* at 2200. The green X and

arrow mark the position and direction of the *Qui He* at 0830 on 1 January 1996. The 1 knot scale is also a 1 nautical mile scale. The black vectors are from a survey by RV *Franklin* in November 1989 and show that currents in the region can be quite strong (up to 2.6 knots in this case).

*I went up to the front of the boat – I could see the bow going down – untied the life raft I had on top of the trawler – then the lights went out – the water had got up to the battery bank. I knew that the starboard side door of the wheelhouse was locked, and I knew my EPIRB and all my other lifesaving apparatus was inside.*

*The boat was starting to list to port – and still going down at the bow. I wanted that EPIRB but I wasn't going to get caught in the wheelhouse and do down with the vessel. I thought about it for a second, but it didn't feel right – you know – the way the vessel was going down – it was going down too quick.*

*I went around to the starboard side of the boat, 'cause the boat is listing to port and still going down at the bow, grabbed a length of thin rope, I dare say it would be 3 to 4 mill and 20 m long, and the boat just went down, it went down really quick – extremely quick. The life raft, in turn as the boat listed to port and going down on the port quarter floated off. I jumped well clear of the boat to avoid suction as it went down. The life raft floated free, then the icebox came off. They were the only things that I could see in the water at that stage – there was a little light from the moon – but er – you've got to appreciate there's a fair bit of panic and shock in the air.*



**Diagram of Carley Float**

Figure 3. Mark Beveridge's liferaft -- from DTRD (1996).

*Swam to the life raft (Figure 3) and in turn pushed it over to the ice box and tied them together. Pulled myself onto the life raft and looked at the vessel that had just collided. To me it seemed that he had pulled up or slowed down. Cause he looked at a different angle. It just appeared to me that way – I am in the water and it's dark. I thought OK I should be right, he'll come back, but as the minutes went by it seemed like hours.*

*I then noticed the vessel started to steam off and at this stage I believed the vessel was going in a southerly direction, but I could be wrong 'cause of disorientation and what was going on. Then I couldn't believe what had happened, knowing I hadn't got a MAYDAY or even a PANPAN out – and no EPIRB – no water – I'm really in it. I decided to stay tied to the icebox at that stage. I knew nobody would know the situation I was in. Only time would tell what would transpire. I stayed with the ice box using it as a sea anchor to slow down my drift in the southerly set.*

*Come what seemed to be a couple of hours after daylight, I would assume about 0600 hours, I saw another freighter, a container ship, coming down on me. I would imagine that I was east-sou'-east, possibly a bit further south of Point Danger at this stage. I ripped a piece of timber off the ice box – off the bottom – took off my singlet and made a flag. The direction of the ship coming down look as though, to me, what the first one missed, the second was going to clean up. That's just the way it looked on water level, you know. I was well aware that direction and size of things are two different things. He was about a kilometer from me and it looked if he was going to hit me, so I decided to untie the liferaft and*

*paddle out of his way. I took a couple of bits of foam out to the ice box – it started to break up at this stage – and made a couple of big paddles for my hands.*

*A couple of splashes in the water, two medium size “bronze whalers” come to the surface to check out the splashing. I didn’t like it by any means. I thought I would go back to the ice box and stick with the original plan. As the ship was coming on me I jumped off the liferaft and onto the ice box which I could stand up on. Started waving at the ship as it was coming down – it was going south – it was a foreign vessel – the last name of the foreign vessel was “HE”. I believe it was HITZU HE, maybe HIRITZU HE or something like that. It had the Chinese writing going from west to east and then the English version directly underneath. It was a container vessel. I started waving before he got to me – it passed me by 100 yards – and I continued waving and eventually waved goodbye to him.*

*No satisfaction there, I am getting to the stage of – er – I am hoping somebody ashore would realize that I am in some sort of trouble; my wholesaler knew I would be in in the morning, I knew he wouldn’t hit the panic button straight away, but the ice box was breaking up and it was time just to let go of the ice box and start drifting with the tide – knowing that it will take me in close to the points, it will take me back out after I get past the points.*

*Probably mid afternoon I spotted some fish trap buoys off Brunswick Heads – I knew in about 40 fathoms – it’s common knowledge to those who work the area. Still drifting with the current, I tried to paddle over to ‘em to attempt to tie on to the buoys, knowing full well that the fishermen from down there will be going out the next morning to retrieve their traps -- and will find something extra. The paddling didn’t do it. The current carried me past the buoys, which were like needles in a haystack on the ocean.*

*Night came upon me. I had a singlet and a pair of shorts. Started to rain – breeze coming from the nor’-east, it wasn’t strong: 10-12 knots, but it suited me at that stage because I was getting blown in a south-westerly direction. I just – um – sort of laid on my back and opened my mouth just to get some moisture into my mouth.*

*I did see a yacht and though he was too far away, I still attempted to yell and scream. I saw traffic pretty well through the night, but it was out a lot wider than me, where I didn’t particularly want to be. So I put in a second long night knowing that I hadn’t got too much in my favour: no food, water or reasonable clothing.*

*I decided that the next day was the day – it was the day or it wasn't going to be any day: I knew that the most eastern point to the south was Cape Byron. When I get past it the coastline turns a little west and the tide is going to move out – sou'easterly direction.*

*I paddled west most of the day, just to get out of the strongest part of the tide. North of Brunswick Heads I attempted to swim, pushing the life raft, but about a mile off the beach I was exhausted and jumped back on the raft; probably had a 15/20 minute rest.*

*After that I just got in the water and tried to keep swimming and pushing. When I did get tired I just got partly on the back of the life raft and kept kicking my legs to keep moving. I didn't get out of the water.*

*It was about lunchtime at that stage, because the sun was above me. I eventually got in about 3 to 4 kilometres south of Brunswick Heads – great difficulty – exhausted. But I'd made it – and if I hadn't there would have been another go – that was it.*

*I went to put my body weight on my legs, which didn't function – just collapsed. Sat down on me bum for a couple or three minutes. There was nobody around. I stood up – I was staggering a bit – pulled the raft ashore, and my next thought was to – or actually my first thought was to find a tap. I had to walk 3 or 4 ks up to the Brunswick Heads Surf Lifesaving Club. No one there. I saw a tap and I made a guts of myself. My next thought was to contact family and friends to let them know of my whereabouts and safety, which I did. And I contacted my wholesaler friend; he in turn contacted the water police, who in turn instructed him to take me Brunswick Police Station.*

*After talking with the police – they weren't aware of the situation at that stage – they made some phone calls to Queensland Police and were requested to go down to the beach to retrieve the raft. By vehicle, we didn't walk this time.*

*On that the Police took a brief statement and notified the ambulance – who in turn assessed me at the police station. Put a drip on me and an ECG looked for vitals and transported me to Mullumbimby Hospital. Where I took couple of bags of fluid. After one bag the sugar was still well down – they gave me another bag – they checked everything – they were really good – they were excellent – I haven't enough praise for them.*

*I was there for about 4-5 hours – and the doctor wanted me to stay overnight – I had friends travel down from Brunswick to pick me up – said to the doctor I do want to get home and start – you know start to get things going. I would have slept but I was still in shock – the doctor*

*didn't want me to do it. So he requested I sign a release form covering myself.*

*I went back to Brunswick Police Station, there the officer on duty had a list of questions, which I believe he got from the Queensland water police and I made a statement at Brunswick Heads, which took about 4 hours – which is the sort of stuff to the tune of what I'm telling now. I made that statement there and left the Police station at 10 pm. My friends transported me back to the Gold Coast. I had a shower, and went to bed for about 15 hours.*

### **3. Discussion**

The straight line distance from where *Jay Dee* is thought to have sunk to where Mark came ashore south of Brunswick Heads is 36 nautical miles, which he “travelled” in 40 hours. In other words, at less than 1 knot. He was very lucky that the strongest part of the EAC must have been well offshore.

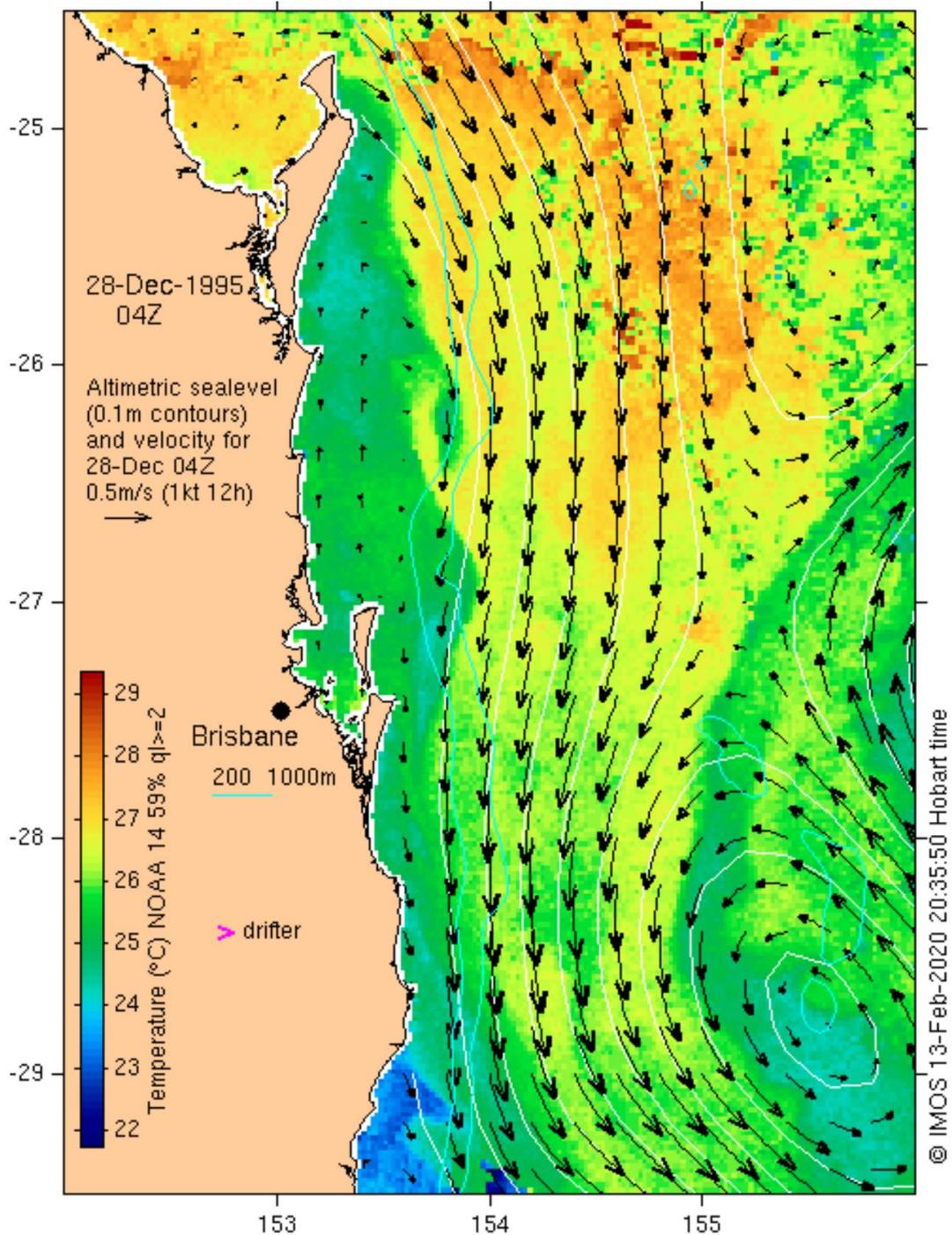


Figure 4. A satellite image for 28 December 1995 (3 days before Mark left port) showing colour-coded surface temperatures and currents inferred from sea surface topography measurements.

This is suggested by the relatively cloud-free image from 28 December 1995 of satellite inferred sea surface temperatures and currents (Figure 4). <http://oceancurrent.imos.org.au/Brisbane2/1995/1995122804.html> (Images leading up to and at the time of the sinking had some cloud contamination). Mark would have been in waters with temperatures less

than 26 C (coloured green in the image); the currents there, according to the image, were less than 1 knot.

Mark mentions northeasterly winds of 10-12 knots on the night of 1 January 1996. In Figure 5 I have assembled the wind observations from Ballina airport, chosen because it is only a few metres above sea level. Except on 29 December, the winds were commonly from the northeast, tending to strengthen in the afternoons. As Mark commented these could have pushed him in a southwesterly direction. Also, the winds were strong enough to set up a subsurface Langmuir circulation (Weller and Price, 1988) that results in windrows, or convergences, where the downwind current speed is enhanced. It was interesting that on the first night Mark said that he used the ice box as “a sea anchor to slow down my drift in the southerly set”. In fact, it would have near-guaranteed that he would be locked to the southerly set, rather than being slowed down.

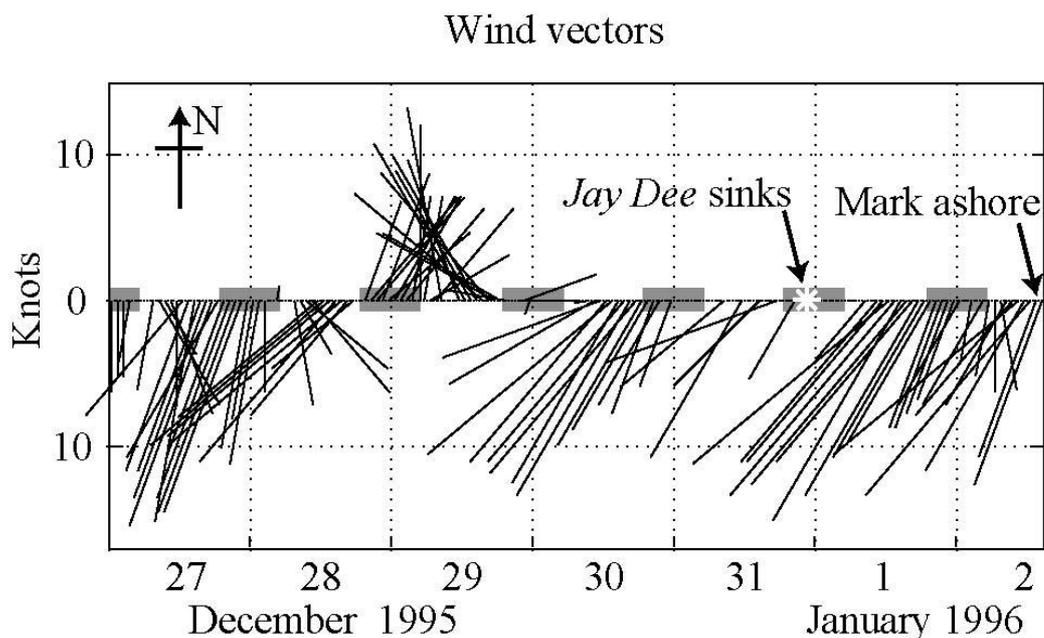


Figure 5. “Stick vectors” of the wind measured at Ballina airport in the several days leading up to the sinking of *Jay Dee* and on to the early afternoon of 2 January 1996 when Mark staggered ashore south of Brunswick Heads. The grey bars mark nighttime. Wind data provided by the Bureau of Meteorology.

My reason for going back in time to 27 December is that had there been a sustained southerly gale then the currents on the inner continental shelf

can be reversed to flow northward after a day or so. This was noted by Halligan (1906, 1911) and was evident in an experiment that I ran in November 1989 (Cresswell, et al., 2016,): The wind stresses associated with the southerlies in that study correspond to wind speeds in excess of 20 knots, so much stronger than the short-lived event on 28/29 December 1995, which means that a current reversal during Mark’s drift is unlikely. Mark noted on mid-afternoon on 1 January “I spotted some fish trap buoys off Brunswick Heads – I knew in about 40 fathoms.” My feeling is that he may have been off Kingscliff: to be off Brunswick Heads he would have had to have drifted at 2 knots – and kept on going at that speed to Cape Byron.

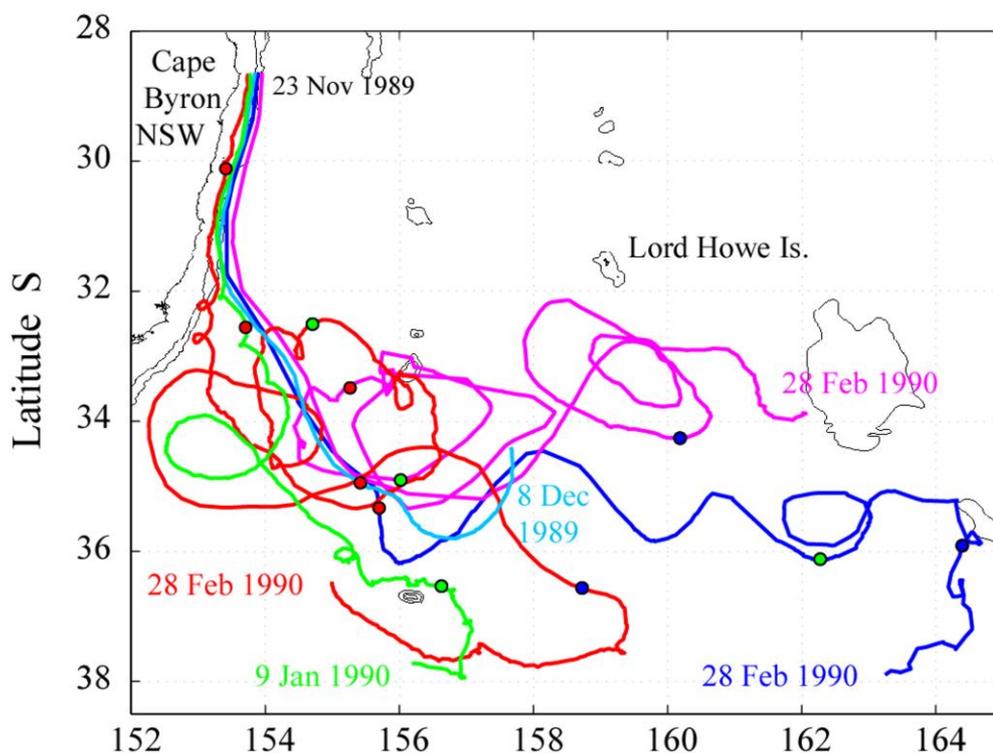


Figure 6. The tracks of five drifters released at intervals of several miles out from Cape Byron on 23 November 1989. The red, green and blue spots mark the first days of December 1995 and January and February 1996.

The worst outcome for Mark, which he successfully fought to avoid, was that he would be carried past Cape Byron and out to sea in the (constantly changing) EAC. Figure 6 shows one example of what can happen: the paths of five of the satellite tracked drifters that I released at several mile intervals out from Cape Byron on 23 November 1989 as part of the study referred to earlier. The drifters had surface floats and sea anchors at 50 m depth. In the first day they drifted between 30 and 60 miles southward, incidentally highlighting the challenges facing searches conducted in the

EAC system. They maintained high speeds for more than 200 miles, eventually going in and out of eddies and meanders, with two moving into the middle of the Tasman Sea.

And, thankfully, that is not what happened to Mark Beveridge.

#### **4. References**

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*George Cresswell, [gcrestwell1@bigpond.com](mailto:gcrestwell1@bigpond.com)*