

## The Multidisciplinary Rediscovery and Tracking of "The Great Newfoundland and Saint-Pierre et Miquelon Hurricane of September 1775"

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*June - too soon;*  
*July — stand by;*  
*August — look out you must;*  
*September — remember;*  
*October — all over.*

Mariner's poem cited in R. Inwards, *Weather Lore* (London, 1898), 86.

Canadians tend not to dwell upon their disasters, real or potential. While it is perhaps a measure of modesty that the country's textbook writers have all but forgotten the 1917 explosion in Halifax harbour, the 1914 loss in the St. Lawrence of the *Empress of Ireland*, the 1929 earthquake and tsunami south of Newfoundland, and the 1949 fire on the *Noronic* in Toronto harbour, each was a tragedy.<sup>1</sup> The 1917 Halifax blast that killed close to 2000 persons was one of the world's worst accidental explosions. The loss of the *Empress of Ireland* with 1078 deaths was by far Canada's most serious single-vessel marine disaster, yet it is the November 1975 loss of the American *Edmund Fitzgerald* in Lake Superior that we commemorate, or the loss of the relatively few rich and famous Americans on the *Titanic* that our poets honour. The twenty-eight Newfoundlanders lost in the 1929 earthquake and tsunami represent Canada's most tragic known earthquake, yet it is the 1906 San Francisco disaster that still captures a disproportionate amount of attention by popular writers. The *Noronic* fire killed 118, yet cruise ship aficionados remain transfixed by the 1942 fire and capsizing of the French liner *Normandie* in New York harbour, which cost the life of only one person.<sup>2</sup>

It may, however, be a sign of maturity not to celebrate accidents. But what about natural calamities? I believe that there are good reasons to try to understand the full range of natural catastrophes that beset a nation from time to time, for it is through these extreme events that we can seek guidance in building defenses against future occurrences. By knowing the highest storm surge, strongest winds, thickest ice or highest wave height, we are better able to design societal barriers and emergency responses. For historians, these kinds of studies are also useful. Maritime historians, for instance, can better comprehend the fears of mariners and the environmental impact upon oceanic trade if they

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grasp major weather-related tragedies in the past, such as the event identified in this paper as the "Great Newfoundland and Saint-Pierre et Miquelon Hurricane of September 1775."

The effects of this hurricane on Newfoundland have received only minor scholarly attention. For example, in 1983 Olaf Janzen noted that:

On 11 and 12 September, 1775, a violent southeaster slammed into the Avalon Peninsula of Newfoundland, causing widespread destruction. Hundreds of fishermen lost their lives and many boats and vessels were sunk or damaged, including two navy schooners. Shore facilities suffered extensively, too, from the wind and high water. At Placentia, which stood directly in the path of the storm, many survived only by scrambling into the rafters of their homes as the wind drove floodwaters three and four feet deep through the town.<sup>3</sup>

Twenty years earlier, David M. Ludlum dubbed the storm the "Independence Hurricane of 1775" because it struck North Carolina on 2 September, "just as the opening maneuvers of the War of Independence were in progress." He noted that it exacted a death toll "higher than any previous American mainland hurricane" and that it had raged "from North Carolina to Newfoundland." Both James D. Stevenson and Dorothy Jean Chapman have mentioned that the hurricane struck the southern US.<sup>4</sup>

Yet it is not at all clear whether we are dealing with one or more storms, since the Newfoundland reports came six to eight days after the cyclone was recorded inland over the Carolinas. Ludlum concedes that while "the Newfoundland storm could have been the same...it is also quite logical to believe that it was a second storm which swarmed northward in the congenial atmosphere left by the earlier disturbance." Edward Rappaport listed only one storm in his "preliminary" tabulation in 1994, but a year later he and José Fernández-Partagás split it into two. Their 114th deadliest tropical cyclone, with more than 163 deaths, occurred between 2 and 6 September 1775 in North Carolina and Virginia, while seventh on the overall list, at 4000 deaths, was a 9-12 September 1775 hurricane on the "Newfoundland Banks."<sup>5</sup>

Like many tropical cyclones, this one may have had its genesis in the Atlantic east of the Lesser Antilles. Andrés Poëy recorded a storm that struck Martinique on 25 August 1775 and Santo Domingo two days later. The *Boston-Gazette, and County Journal* cited reports "from St. Croix, that a hurricane had happened in the West Indies, which occasioned many vessels from that, and the neighbouring ports, to put to sea." Whether this was the same storm that "brushed the coast of South Carolina, then raced across eastern North Carolina on 2 September," is unknown. Nor can we yet tell with certainty whether this was the tempest that struck Newfoundland.<sup>6</sup>

Regardless, we do know that Newfoundland was hit by a serious storm in September 1775, six to eight days after the track of the "Independence Hurricane" was lost over eastern Pennsylvania. Rev. Lewis Anspach reported on the storm in his 1819 *History of the Island of Newfoundland*:

On the 12th of September, in the Year 1775, this coast was visited by a most terrible gale of wind. In Harbour-Grace and Carbonier [*sic*] all the

vessels in the harbours were driven from their anchors; but the inhabitants of the north shore suffered with still greater severity. They even now, with evident signs of dread and horror, show a cove where upwards of two hundred fishing boats perished, with all their crews.

Rev. Philip Tocque also briefly mentioned that "in 1775 Newfoundland was visited by a dreadful storm. The sea rose twenty feet above the usual height, which threw on shore hundreds of craft, both large and small; and it is calculated about three hundred persons perished." Judge D.W. Prowse, perhaps drawing on Anspach and Tocque, also noted the storm although he implied that it occurred in 1774:

The year before the outbreak of the American War was remarkable for a terrific storm at sea, which destroyed a vast amount of fishing property. The water rose suddenly twenty feet above its usual level; this great tidal wave caused immense destruction, both by land and sea, and three hundred persons along our coast lost their lives. It is known in Newfoundland annals as the "Year of the Great Storm."

Since Prowse, like Anspach and Tocque before him, provided no sources for his information, this incorrect date would dog this storm for almost a century.<sup>7</sup>

The above citations notwithstanding, very little attention was paid to the 1775 storm in Newfoundland literature until 1929, when an earthquake measuring 7.2 on the Richter scale occurred south of Newfoundland beneath the Laurentian Slope. The resultant tsunami caused death and devastation, especially on the Burin Peninsula, where the long narrow, south-facing bays focused the tsunami's energy on the isolated fishing communities. This became known as the "South Coast Disaster" or simply (but incorrectly) as the "Tidal Wave." It was an experience quite unfamiliar to Newfoundlanders, who sought analogies from the past. One such mistaken example was, after Prowse, the supposed "tidal wave" in 1774 and which was also assumed, incorrectly, to have been seismic in origin.<sup>8</sup>

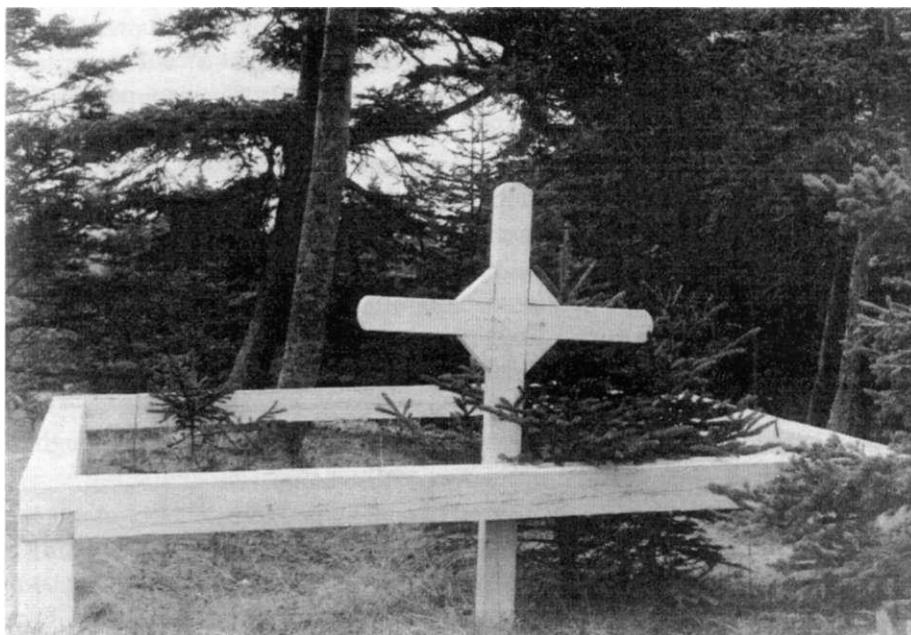
The misinterpretation was apparently not challenged at the time, although William Munn in 1935 made it clear that the event was really a storm-related surge in 1775:

1775 — A terrific storm occurred on September 12th. The sea suddenly rose twenty feet, causing much damage to premises and shipping in Conception Bay. Over three hundred lives were lost at Northern Bay [an outpost about thirty kilometres north of Harbour Grace]. Henry Knight, carrying on the whale fishery, saved his vessel anchored right under Harbour Rock Hill, Carbonear.

So, too, did Leo E.F. English. In "The Storm of 1775," the men of Northern Bay (see figure 1) were caught offshore squid jigging after a prolonged period of calm weather and small catches:

The squid came that late summer afternoon, and so abundant and omnivorous that the oldest seamen grew terrified...Over the horizon to the southeast there spread an orange hued glow. Then wisps of wind, that slowly gathered strength and increasing...culminated in the fierce violence of hurricane...hatches were battened, boats lashed, and sails double reefed. Ships slipped their chains and strove to escape from the open mouthed anchorage into which the full force of wind and wave hurled the venom of doom. Only one small schooner, whose skipper had foreseen disaster, was able to round Salvage Point to the south and reach Ochre Pit Cove to ride out the storm. The others were driven to death...Over three hundred men perished, and only one apprentice lad lived through the horrors of that awful night. The tide had risen full twenty feet above its normal level, and on the crest of a huge wave the boat with the boy lashed to the helm was carried up the sands and wedged between large trees that grew close to the strand.

Predictably, neither Munn nor English provided references for their information.<sup>9</sup>



*Figure 1:* The Northern Bay 1775 mass gravesite located next to a camping area in Northern Bay Sands Provincial Park. Thomas English, an Irish planter who lived near the long beach, adopted the lone survivor — a young boy. English and other settlers buried the bodies that came ashore "but for years afterward, bones continued to wash ashore."

*Source:* Photo was taken in may 1996 by Edward-Vincent Chafe.

The next to mention the incident was Don Morris, who may have harkened back to the 1929 assumption that the 1775 event was a seismic sea wave. He seems also to have confused the 1755 Lisbon earthquake with the events of 1775, for he identifies that as the year in which "there was an earthquake somewhere on the other side of the Atlantic" after which "the waters of Bonavista Harbour slowly receded." Perhaps Morris had some knowledge of a marked decline of sea level in Bonavista in 1775 but, like so many popular writers, he provides no sources. Bonavista had in fact been subject to a non-destructive tsunami on 1 November 1755 as a result of the major (magnitude 8.75-9.0) Lisbon earthquake. It is therefore entirely possible that, twenty years later, the local population would have interpreted a rapidly-rising surge associated with the September 1775 storm as a seismically-related event.<sup>10</sup>

Notwithstanding the availability of correct information, Canada's second Dominion Seismologist, Ernest A. Hodgson, repeated the misinformation in his 1937 review of eastern Canadian seismicity, citing a 1774 tsunami. He was not the only scientist to do so. Arthur Keith, J.W. Gregory, Ernest Hodgson, and William Berninghausen all did so; Martin Batterson and his associates, have it correctly as a storm but they are out by eight months in their Table 4 date."

It remained for Michael Staveley, a geographer at Memorial University, to remove the confusion and to remove the idea of a 1775 (or 1774) earthquake and tsunami from the historical and seismic record. In the mid-1980s the Geological Survey of Canada funded a number of modest efforts to expand the known historical seismicity of the Atlantic Provinces. Staveley took on Newfoundland. In his report, Staveley cited a despatch by Rear Admiral Robert Duff, Governor of Newfoundland to the Earl of Dartmouth, then Secretary of State for the American Department, written upon Duff's return to England after a rapid nineteen-day passage from Newfoundland. "I am sorry to inform your Lordship," Duff wrote on 14 November 1775,

that these Fisheries, as well as the Trade of the Island of Newfoundland, in the Month of September last, received a very severe stroke from the violence of a Storm of Wind, which almost swept every thing before it; a considerable number of Boats, with their crews, have been totally lost, several vessels wrecked on the Shores, and a number of those lying in the Harbours were forced from their Anchors and sustained much damage. The Fishing works in those places mostly exposed, were in a great measure defaced, and the Waters, which then rose to a height scarcely ever known before, committed great Devastation. Two of His Majesty's armed Schooners belonging to the Squadron under my Command, one of which was stationed at that time on the Banks, and the other on the North East Coast of Newfoundland, were unfortunately wrecked, but happily by this accident, only two persons belonging to the Crews of these Vessels have been lost. I cannot give your Lordship a very correct estimate of the Damages sustained by this Storm; but should imagine from the different accounts given me, that the Amount of it in Shipping, Boats, Fishing Works etc. cannot be less than Thirty Thousand pounds, and the number of people which perished not under Three Hundred.

A later report by Staveley's team suggested that "the 'tidal wave' effect was in fact the phenomenon of storm-driven waves, possibly in conjunction with normal high water (or springs)." Anne Stevens, a seismologist, wrote this up for a journal in 1991 to expunge formally from the record the mistake of a 1775 (or 1774) earthquake and tsunami and to replace it with a 12 September 1775 storm in eastern Newfoundland, which they called "The Great Newfoundland Storm of 12 September 1775."<sup>12</sup>

This report generated a comment from Ruffman and a reply by Stevens, both of which added more detail and expanded the time frame of the storm to 11-12 September. Ruffman cited two contemporary reports that added more details. The *Annual Register* for 1775 cast a particularly gruesome light on the storm and included a suggestion that the winds began to rise on the 11th:

[September] 11th. At St. John's, and other places, in Newfoundland, there arose a tempest of a most particular kind — the sea rose on a sudden 30 feet; above seven hundred boats, with all the people belonging thereto, were lost, as also eleven ships with most of their crews. Even on shore they severely felt its effect, by the destruction of numbers of people; and for some days after, in drawing the nets ashore, they often found twenty or thirty dead bodies in them; a most shocking spectacle! At Harbour Grace, no fewer than three hundred boats were lost.

The "effect" felt "even on shore" likely refer not to a great loss of people on land but rather to the residual effects of the loss of friends and family members caught at sea in small dories by the tempest. The *Annual Register* for 1776 again discussed the storm in the context of the Newfoundland fishery and the restrictive measures taken by the Americans to thwart it:

Those who were averse to the American measures, considered the calamities which fell on the British fishery as a sort of judgement from heaven, against those who made laws to deprive mankind of the benefits of nature. To the same cause they were ready to attribute a dreadful tempest, the fury of which was chiefly discharged on the shores of Newfoundland. This awful wreck of nature, was as singular in its circumstances, as fatal in its effect. The sea is said to have risen thirty feet almost instantaneously. Above seven hundred boats with their people perished, and several ships with their crews. Nor was the mischief much less on the land, the waves overpassing all mounds, and sweeping every thing before them. The shores presented a shocking spectacle for some time after, and the fishing nets were hauled up loaded with human bodies.<sup>13</sup>

This academic activity had not as yet, however, opened up any really new insights on the storm, nor had it shed any light on its possible southern origins. This was left for Ruffman's discovery of the compilation by the hurricane specialists Edward Rappaport and José Fernández-Partagás. In turn, Rappaport and Ruffman agreed to mount a joint

effort to track the 1775 tropical cyclone further — an effort which is ongoing. The kinds of detail needed by a meteorologist to track a major storm dovetail nicely with the sorts of primary sources that interest the historian. Journals and ships' logs are ideal, especially where they contain a close record of the weather. David Ludlum had previously found several of these important sources for the southern part of the storm on 1-3 September, but more are needed if the storm track is to be understood completely. We have therefore set out to supplement the record with other primary sources, including newspaper reports. Unfortunately, there are few newspapers for Nova Scotia and none for Newfoundland in September 1775. However, one week after the storm a Halifax newspaper did print an extract of a letter from St. John's that described "a severe gale of wind in which some thousands of lives have been lost." A later report in a Pennsylvania paper gave even more details:

A person lately from Halifax to Cape Cod, reports, that he saw at Halifax, a particular account of the loss of several harbours of Newfoundland, in a violent storm on the 9th of September, amounting in the whole to more than four thousand men. It was said at Halifax to be computed that the loss in ships, fish, oil, and merchandize of various kinds, amounted to 140,000 l. sterling...An account received from Boston confirms the foregoing, and mentions, — That nearly all the shallows employed in that fishery, as well other vessels, were wholly lost; and those that rode out the gale, were chiefly dismasted, and otherwise much damaged, that many houses, &c. were blown down, and that it would take the chief part of the spring to repair the flakes, they having received almost incredible damage.<sup>14</sup>

Fortunately, there are a variety of Newfoundland manuscript sources that mention the storm and can add to our knowledge. The correspondence of William Baker and Jervais Grossard provides evidence that the storm also struck Placentia, causing severe flooding. Additional sources eventually expanded the area known to have been affected by the storm to include Bonavista and Trinity Bays, Fogo, "Lassie" (La Scie), Conception Bay (including Northern Bay, Harbour Grace, Carbonear and Port de Grave), Placentia Bay, "Amelyne" (Lamaline), St. John's and all the Avalon Peninsula.<sup>15</sup>

The tiny French islands of Saint-Pierre et Miquelon, off the tip of Newfoundland's Burin Peninsula, also suffered severely in the hurricane. Indeed, the loss of life as a proportion of the total population may have been greater than in Newfoundland, given the degree to which the French government had encouraged permanent settlement there. According to the Baron de l'Espérance, the islands' governor,

De 40 goélettes françaises qui étaient alors en pêche sur le Grand Banc, 22 furent perdues, presque toutes appartenant aux habitants des îles, sans compter la perte de 50 chaloupes, la destruction de nombreux échafauds et la mort de 400 hommes. Aux îles mêmes, 18 goélettes, 21 chaloupes et 3 échafauds avaient été brisés ou submergés.

Ce sinistre plongea une nouvelle fois les habitants dans la misère et les mit dans l'impossibilité de se libérer des avances qui leur avaient été faites.

But their suffering earned the hard-pressed inhabitants of the French islands little sympathy from the French Minister of Marine and Colonies:

J'ai reçu avec votre lettre du 22 novembre de l'année dernière,...l'état des sommes que les habitants doivent au Roy montant à 155 978 livres. Vous faites le détail des malheurs qu'ils ont éprouvés par le coup de vent du mois de septembre et vous demandez qu'il soit accordé à toute la colonie trois mois de ration. En sollicitant ce secours, vous n'avez suivi que votre sentiment de bienveillance, mais vous n'avez pas calculé qu'une faveur de cette nature seroit fort à charge au Roy. Vous verrez par une autre de mes dépêches que j'ai procuré à ces habitants une avance de 8 000 livres tant en argent qu'en bordage et c'est tout ce que la situation des finances de mon département a pu me permettre de proposer à S.M. [Sa Majesté].

...L'intention du Roy est que vous fassiez le recouvrement des sommes dues par les particuliers solvables en leur donnant des facilités...<sup>16</sup>

In addition to these manuscript sources, new daily weather journals have been unearthed, including two from Boston and one from Portland, Maine. Captain John Tollemache's ship log details the ordeal of HMS *Scorpion* as it sought to make Bermuda from Boston during the period when conditions were likely affected by the hurricane. Similarly, Thomas Allen, Jr. was forced to return to New York by a defective pump on his vessel and wrote to his father that "a heavy gale of wind...obliged us to hoist our pump again." Isaac Senter's journal, written while on a secret expedition against Québec under the command of Benedict Arnold in September 1775, may possibly be citing the same storm; it mentions a "heavy wind" and "considerable rain" on the ocean near the mouth of the "Cenebec" [Kennebec] River late on 19 and early on 20 September. On the other hand, this may well be an unrelated follow-on event.<sup>17</sup>

Isaac Lester, a merchant with well-established trade links with Trinity Bay, included references to the storm in the diary that he kept in Poole. On 1 November, for example, he reported that "Chris Jolliff came in this afternoon & tells me There is an Acct in the Papers to Day of a Gale of Wind in NewfLd ye 11th Sept, that did a Great Deal of Damage." Two days later, Lester "Reed a Letter fm Geo Davis...Giving an Acct of ye Storm, there the 11th Sept Last." By 15 November, "Mr Kitchers Sloop Arrivd from Greenspond...[with] an Acct of The Several Loss's at Fogo & Else Where, as more than I had heard before Save John Slade had Lost 10 boats besides his Vesseles."<sup>18</sup>

One of the most useful Nova Scotian chronicles is the diary of Simeon Perkins, who lived in Liverpool on the Atlantic coast. Perkins systematically recorded a wonderful variety of information, including frequent accounts of the weather when it was out of the ordinary. At the time that the deadly hurricane was likely tracking northeastward, Perkins



made no note of the weather, perhaps because he got married on 10 September. But on 21 September he reported that "Capt. John Howland, in brig *Joseph and Judith* arriv[ed] from Dartmouth, New England, in distress...Lost mainmast."<sup>19</sup>

When Rappaport and Fernández-Partagás compiled their revised list of the deadliest Atlantic tropical cyclones, they arrived at the death toll of about 4000 for the 9-12 September 1775 storm on the Grand Banks in part by perusing *Lloyd's Lists* for vessels lost. Robert Marx's compilation of North American shipwrecks also provides wreck data for September 1775. But the discovery of further logs of vessels offshore between about 20 August and 20 September will be essential to track the path of the hurricane(s). Moreover, as Rappaport and Fernández-Partagás have noted, available records:

suggest that the population on the Atlantic was the most vulnerable to storms through the 18th century. These shipborne explorers, emigrants, combatants, fishermen, traders, pirates, privateers, slaves, and tourists made up the crews and passengers on an uncounted, but enormous number of local and transatlantic sailings. Most of the ships travelled to or from the ports of Spain, France, Great Britain, and the Netherlands. They usually proved no match for the intense inner-core region of a severe tropical cyclone.<sup>20</sup>

Similarly, I.R. Tannehill has observed that "it is doubtful if any sailing ship or any man aboard survived" if caught near the eye of a really great hurricane. Indeed, as Marx has concluded, up to 1825 "more than five percent of the vessels in the [West] Indies navigation were lost due to shipwreck; the biggest part due to bad weather." Total ship losses due to tropical cyclones will never be known; often the evidence and witnesses disappeared without a trace. But a British Parliamentary committee estimated that even as late as 1830, "the annual loss of life, occasioned by the wreck or foundering of British vessels at sea, may, on the same grounds (i.e. 'the boisterous nature of the weather and the badness of the ships'), be fairly estimated at not less than One Thousand persons in each year." Rappaport and Fernández-Partagás concluded that "the large number of ship losses was partially a consequence of the great number of ships that inadvertently encountered storms." They noted, for example, that William Redfield's 1846 analysis "of an 1844 hurricane off the U.S. mid-Atlantic coast contains, on one weather map, information from the logs of more than 50 ships within about 450 miles of the storm's center." The vessels offshore in 1775 that survived may have diligently recorded in their various logs a wide variety of useful data. If we can locate these sources, a meteorologist may be able to produce the 1775 tropical cyclone storm track(s).<sup>21</sup>

While the September 1775 hurricane has been recorded and occasionally misdated or misinterpreted in Newfoundland historical literature since 1819, it has become essentially forgotten and has never before been the subject of an in-depth study. The Atmospheric Environment Branch of Canada has no file on the storm and David W. Phillips' popular *The Climates of Canada* simply draws from Ludlum in mentioning that one of the two "deadliest hurricanes ever to strike Canada" was "the 'Independence Hurricane' that struck Newfoundland on September 9, 1775, drowning several thousand

British seamen."<sup>22</sup> We now know that the September 1775 storm was not a typical or simple tropical cyclone and that it may have comprised two (or even more) distinct components. Regardless, it caused significant damage in North Carolina and eastern Newfoundland. The search for data is made more difficult by the scattered and fragmented records of the late eighteenth century, perhaps compounded by the lack of a scientific establishment in Newfoundland for its first 300 years of European contact.

The exploration for the details of this severe September 1775 storm is clearly not yet over. Nor is the threat of a similar future event in eastern Canada of merely theoretical interest. At one time storm deaths occurred almost entirely at sea when a tempest overtook unsuspecting or ill-equipped vessels. Now such deaths are increasingly on the land, as more urban growth is located in low-lying coastal areas. The threat from catastrophic hurricanes and related storm surges is still real and indeed increasing as we urbanise our coastlines and build shore properties. King Lear's injunction thus remains apposite:

*Blow, winds, and crack your cheeks! rage! blow!  
Your cataracts and hurricanes, spout  
Till you have drenched our steeples, drowned the cocks.*

#### NOTES

\* Alan Ruffman is President of Geomarine Associates in Halifax, Nova Scotia, and an Honorary Research Associate at the Department of Earth Sciences, Dalhousie University. Initial work on this project was funded by the Geological Survey of Canada (GSC), where John Adams has provided ongoing support. Anne Stevens of the GSC and Michael Staveley of Memorial University of Newfoundland (MUN) provided copies of reference materials, as did Edward N. Rappaport, a hurricane specialist at the US National Hurricane Center in Miami. Thanks are also due to Charles A. Armour, Martin Batterson, R. Calvin Best, Howard C. Brown, Greg Champlin, Don Chard, Chesley Crisby, Rev. Clarence J. d'Entremont, Allan Dunlop, Pierre Gouin, Joan Grandy, Dominique Guillaume, Olaf Janzen, Frank Jones, Thomas Knoles, Ronnie-Gilles LeBlanc, A. A. (Tony) Mackenzie, C. Clint Milligan, William E. Minsinger, Newton Morgan, Charles O'Reilly, James K. Owens, George S. Parkes, Robert Parsons, Stephen A. Parsons, Robert Picco, Joan Ritcey, Sally Ross, Ken Ruffman, Earle G. Shettleworth, Jr., Jennifer Tolpa, and the Reference Staff at the Halifax City Regional Library.

1. The 1711 Egg Island, Labrador wrecks of the Quebec-bound British vessels *Marlborough*, *Smyrna Merchant*, *Chatham*, *Content*, *Colchester*, *Isabella* and *Catherine*, *Nathanial* and *Elizabeth* and *Samuel* and *Alice* with over 2000 lost collectively may represent Canada's most tragic marine disaster. See Edward Rowe Snow, *Great Gales and Dire Disasters Off Our Shores* (New York, 1952), 99-106.

2. Jay White, "Exploding Myths: The Halifax Harbour Explosion in Historical Context," in Alan Ruffman and Colin D. Howell (eds.), *Ground Zero: A Reassessment of the 1917 Explosion in Halifax Harbour, Canada's Most Tragic Disaster* (Halifax, 1994), 251-274; Logan Marshall, *The Tragic Story of the Empress of Ireland, An Authentic Account of the Most Horrible Disaster in Canadian History, Constructed from the Real Facts Obtained from Those on Board Who Survived* (London, 1914; reprint, Connecticut, 1972); Walter Lewis, "The Mystery of the Edmund Fitzgerald," *Argonauta*, XII, No. 4 (October 1995), 10; E.J. Pratt, *The Titanic* (Toronto, 1935); Kenneth C. Barnaby, *Some Ship Disasters and Their Causes* (South Brunswick, NJ, 1970), 241-243; Michael V. Ralph, "Casualty of Carelessness, Fire, Flood,

Salvage: *Normandie*^ Inglorious End," *Voyage*, No. 14 (1993), 80-86; and Robert J. Russell, "SS *Normandie/USSLafayette: Death and Dismantling*," *Steamboat Bill*, No. 213 (Spring 1995), 5-30. The wreck of the *Titanic* lies within Canada's juridical limits, yet the Americans and the British have appropriated it as their own; see Alan Ruffman, Ian Townsend Gault and David VanderZwaag, "Legal Jurisdiction over the *Titanic*," *Lighthouse*, No. 37 (Spring 1988), 23-39.

3. Olaf Uwe Janzen, "Newfoundland and British Maritime Strategy during the American Revolution" (Unpublished PhD thesis, Queen's University, 1983), 145.

4. David M. Ludlum, *Early American Hurricanes 1492-1870* (1963; reprint, Boston, 1989), 26-27; James D. Stevenson, "History of Tropical Cyclones and North Carolina (Unpublished ms., US National Weather Service, 1989), 4; and Dorothy Jean Chapman, "Our Southern Summer Storm — Hurricanes," (Unpublished ms., US National Weather Service, c. 1976), I.

5. Ludlum, *Early American Hurricanes*, 27; Edward N. Rappaport, "A Preliminary Listing of Deadliest Atlantic Tropical Cyclones, 1492-1994 (25 or more deaths)" (Unpublished ms., US National Hurricane Center, 1994); Rappaport and José Fernández-Partagás, "The Deadliest Atlantic Tropical Cyclones, 1492-1994," *US NOAA Technical Memorandum NWS NHC-47* (January 1995).

6. Andrés Poëy, "A Chronological Table, comprising 400 Cyclonic Hurricanes which have Occurred in the West Indies and in the North Atlantic within 362 Years from 1493 to 1855; with *i* Bibliographical List of 450 Authors, Books, etc., and Periodicals, where some interesting Accounts may be found, especially on the West and East Indian Hurricanes," *Journal of the Royal Geographical Society*, XXV (1855), Article 21, 291-328. Poëy, *Bibliographie cyclonique. Catalogue comprenant 1,008 ouvrages, brochures et écrits qui ont paru jusqu' a ce jour, sur les ouragans et les tempêtes cycloniques* (Paris, 1866); Ludlum, *Early American Hurricanes*, 26; and *Boston-Gazette, and Country Journal*, 11 September 1775.

7. Lewis Amadeus Anspach, *A History of the Island of Newfoundland Containing a Description of the Island, the Banks, the Fisheries, and Trade*

*of Newfoundland, and the Coast of Labrador* (London, 1819), 300; Philip Tocque, *Wandering Thoughts or Solitary Hours* (London, 1846), 87; Tocque, *Newfoundland: As It Was, and As It Is In 1877* (Toronto, 1878), 19; and D.W. Prowse, *A History of Newfoundland from the English, Colonial, and Foreign Records* (London, 1895), 302, 336, 338, 653.

8. W. W. Doxsee, "The Grand Banks Earthquake of November 18, 1929," *Publications of the Dominion Observatory*, Canada Department of Mines and Technical Surveys, VII, No. 7 (1948), 323-335; Alan Ruffman, "The 1929 'Grand Banks' Earthquake and the Historical Record of Earthquakes and Tsunamis in Eastern Canada," in John Adams (comp.), *Geological Survey of Canada Workshop on Eastern Seismicity Source Zones for the 1995 Seismic Hazard Maps Proceedings*, Open File No. 2437 (Ottawa, March 1991), 193; Ruffman, "Earthquakes and Tsunamis of Eastern Canada: Cause for Concern?" *Atlantic Geology*, XXXI, No. 1 (1995), 58; Anne E. Stevens and Michael Staveley, "The Great Newfoundland Storm of 12 September 1775," *Bulletin of the Seismological Society of America*, LXXXI, No. 4 (August 1991), 1398-1402; Stevens, "Reply to Comments on 'The Great Newfoundland Storm of 12 September 1775' by Anne E. Stevens and Michael Staveley," *Bulletin of the Seismological Society of America*, LXXXV, No. 2 (April 1995), 650-652. Citing their St. John's correspondent with a 22 November dateline, *The Times* (London) stated on 23 November 1929 that "There was a similar seismic wave here in 1774, with a loss of 300 lives." (p. 11)

9. W.A. Munn, "Harbour Grace History. Chapter Nine — Other Industries Start — From 1750 to 1800," *Newfoundland Quarterly*, XXXV, No. 3 (Christmas 1935), 25-26; L.E.F. English, "Stories of Newfoundland," *Maritime Advocate and Busy East*, I, No. 41 (August 1950), 12-17.

10. Don Morris, "Mysterious Island: Strange Off-beat Stories About Newfoundland," *HERE in Newfoundland*, II, No. 1 (March 1957), 37; Tocque, *Wandering Thoughts*, 119; and Tocque, *Newfoundland*, 145. Bonavista experienced another tsunami from a teleseismic event of unknown origin on 24 September 1848; Alan Ruffman and Jean Peterson, "Pre-Confederation Historical Seismicity of Nova Scotia With an Examination of

Selected Later Events," in GSC *Open File 1917 (1988)* (2 vols., Ottawa, 1986); and Michael Staveley, *et al.*, "Historical Seismicity of Newfoundland, Phase 2" (Unpublished ms., Ottawa: Canada Department of Energy, Mines & Resources, Earth Physics Branch, March 1986). Moreover, the refracted tsunami wave from the 18 November 1929 event also affected Bonavista early on the morning of 19 November; see Ruffinan, "The 1929 'Grand Banks' Earthquake;" Ruffinan, *et al.*, "Felt Effects of the Monday, November 18, 1929, 'Grand Banks' Earthquake and its Aftershocks, Originating in the Laurentian Slope Seismic Zone, as Experienced in Nova Scotia, Prince Edward Island and Bermuda" (forthcoming).

11. Arthur Keith, "The Grand Banks Earthquake," *Earthquake Notes*, II, Nos. 1 and 2 (1930), 5; J.W. Gregory, "The Earthquake Off the Newfoundland Banks of 18 November 1929," *Geographical Journal*, LXXVII, No. 2 (1931), 133; Ernest A. Hodgson, "Earthquakes in Eastern Canada and Adjacent Areas," *Proceedings of the Royal Canadian Institute*, Series 3A, II (1937), 33; William H. Berninghausen, "Tsunamis and Seismic Seiches Reported From the Western North and South Atlantic and the Coastal Waters of Northwestern Europe," in US Naval Océanographie Office, *Informal Report IR No. 68-65* (August 1968), 8; M. Batterson, D. Liverman and D. Taylor, "The Assessment of Geological Hazards and Disasters in Newfoundland," Newfoundland and Labrador Dept. of Natural Resources, *Current Research: Report No. 95-1* (St. John's, 1995), 55-75.
12. Michael Staveley, Sandra Kavanagh and Lourdes Meana, "Historical Seismicity of Newfoundland, Part I," in *Open File 85-22* (Ottawa: Canada Department of Energy, Mines & Resources, Earth Physics Branch, March 1984), 10, 35, 49; Great Britain, Public Record Office (PRO), Colonial Office 194/32:78-80, Governor Robert Duff to Earl of Dartmouth, 14 November 1775; Staveley, *et al.*, "Historical Seismicity," 5; Stevens and Staveley, "The Great Newfoundland Storm."
13. Alan Ruffinan, "Comment on: 'The Great Newfoundland Storm of 12 September 1775' by Anne E. Stevens and Michael Staveley," *Bulletin of the Seismological Society of America*, LXXXV, No. 2 (April 1985), 646-649; Stevens, "Reply," *The Annual Register, or a View of the History, Politics, and Literature, for the Year 1775* (London, 1776), 157; *The Annual Register or a View of the History, Politics, and Literature, for the Year 1776* (London, 1777), 49. I would like to thank Joan Ritcey for references to the latter two items.
14. Ludlum's finds included the "Meteorological Journal" of Edward Augustus Holyoke, recorded at Salem, Massachusetts, 1775 and found in the Houghton Library, Harvard University, Accession No. 54M-263, Vols. 8-11, file fMS 1361 (8-11); Matthew Patten, "The Diary of Matthew Patten of Bedford, N.H., 1754-1788" (Concord, NH, 1903; reprinted, Camden, ME, 1993); Phineas Pemberton, "Register of the Weather Anno 1775 —/Duplicate. Book. B/., recorded at Philadelphia, Pennsylvania, 1775;" American Philosophical Society, Philadelphia, Manuscript No. 551.5/M56; and Ezra Stiles, "The Ezra Stiles Papers. Meteorological Journals, Vols. I-VI, January 1763-May 10, 1775," III: 432-436, The Beinecke Rare Book Room and Manuscript Library, Yale University (Stiles recorded his observations at Newport, RI and while travelling to Boston, 1775). *Nova Scotia Gazette and Weekly Chronicle*, 26 September 1775; *Pennsylvania Magazine: or, American Monthly Museum*, 7 December 1775, 581.
15. Provincial Archives of Newfoundland and Labrador (PANL), Royal Engineers Correspondence, GB2/1, I (1774-1779), folios 40-41, William Baker and Jervais Grossard to Capt. Robert Pringle, 25 September 1775; PRO, Admiralty Papers, Series 1 (Adm 1), Secretary In-Letters, vol. 2393, VIII, Lewis Robertson to Phillip Stephens, 3 April 1781; PANL, GN2/1/A, Colonial Secretary's Records of Orders and Letters, VI (Orders), folios 88-89, Governor Robert Duff, "Decision of Newfoundland Governor Duff Concerning a Dispute over a Fishing Room in Conception Bay," 29 September 1775; PANL, Manuscript Collection, Box 18 (2000 series), File No. 35, "The Great Gale September 12, 1775" (transcript copy by B.R. Robertson, December 1969, of an unknown ms.).
16. From Archives Nationales (Paris), Section Colonies, sér. B, 156, and sér. C, 4 and 6; cited in Charles de la Morandière, *Histoire de la pêche française de la morue dans l'Amérique septentrionale des origines à 1789* (Paris, 1962-66). I am grateful to Dominique Guillaume of Service d'Archives, Saint-Pierre et Miquelon for bringing this reference to my attention. See also PANL, GN2/1/A, Colonial Secretary's Records of Orders and Let-

ters, VI (Letters), folios 94-98, Baron de l'Espérance to John Montagu, Governor of Newfoundland, 26 May 1776.

17. American Antiquarian Society (AAS), "Belcher Noyes Diary," I, recorded in Boston, 1775; US National Archives, New England Region, Record Group 370, Records of the US National Oceanic and Atmospheric Administration, Blue Hill Meteorological Collection, John Jeffries, "Weather Observations from the Journal of Dr. John Jeffries of Boston, Massachusetts that covers the period August 24 to September 15, 1775;" Thomas Smith, *Journal of the Rev. Thomas Smith, and the Rev. Samuel Deane, Pastors of the First Church in Portland: with Notes and Biographical Notices: and a Summary History of Portland by Wm. Willis* (Portland, 1849), 265-284; John Tollemache, *Captain Tollemache's Journal of the Proceedings of H.M.S. Scorpion June 21, 1775-September 18, 1775* (Columbia, SC, 1919); AAS, Allen Family Papers, Thomas Allen Jr. to Thomas Allen Sr., 26 September 1775; Isaac Senter, "The Journal of Isaac Senter, Physician and Surgeon to the Troop detached from the American Army Encamped at Cambridge, Mass., On a Secret Mission Against Quebec under the Command of Col. Benedict Arnold in September, 1775," *Bulletin of the Historical Society of Pennsylvania*, I, No. 5 (1845-1847).

18. MUN, Maritime History Archives, Isaac Lester, "Diary of Isaac Lester August 5, 1775-February 8, 1776" (recorded at Poole, England), 1, 3 and 15 November 1775. I would like to thank Gordon Handcock and Frank Jones for sharing their transcripts of the diary.

19. Harold A. Innis (ed.), *The Diary of Simeon Perkins 1766-1780* (Champlain Society, XXIX; Toronto, 1948), 101.

20. Robert F. Marx, *Shipwrecks in the Americas* (New York, 1983); Rappaport and Fernández-Partagás, "Deadliest Atlantic Tropical Cyclones," 6.

21. Robert F. Marx (trans. and rev., Janet Nelson de Zambie), *Shipwrecks in Mexican Waters* (2nd ed., Mexico, 1981), 14; and I.R. Tannehill, *The Hurricane Hunters* (Cornwall, NY, 1955), 34; Great Britain, Parliament, House of Commons Sessional Papers, *Report of the Select Committee on Shipwrecks of Timber Ships*, IX, Paper 333 (London, 1839); Rappaport and Fernández-Partagás, "Deadliest Atlantic Tropical Cyclones," 7; William C. Redfield, "On Three Several Hurricanes of the American Seas and their Relations to the Northers, so-called, of the Gulf of Mexico and the Bay of Honduras, with Charts Illustrating the Same," *American Journal of Science and Arts*, 2nd Series, I (1846), No. 1 (January), Article I, 1-16; No. 2 (March), Article I, 153-169 plus map following 315; No. 3 (May), Article II, 333-367; Vol. II, No. 5 (September), Article XV, 162-187; and No. 6 (November), Article XXIX, 311-334.

22. David W. Phillips, *The Climates of Canada* (Ottawa, 1990), 58.