# The delightful, disappearing beaches of the northern East Falklands

Prof Joseph (Joe) Kelley from the Climate Change Institute, University of Maine, visited the Falkland Islands for a week in early November. Here is the blog entry he provided of his visit.

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I have studied beaches for 30 years, but those I visited in the Falklands are among the most beautiful, interesting and unusual ones I have come across! Sadly, though, they are also the most endangered. At Gypsy Cove, just northeast of- and only fifteen minutes from Stanley, the beach is composed of almost pure quartz; New Jersey (USA) would die for this. The dunes, however, are covered with European Marram grass, a species very similar to that along the U.S. East Coast. At first, I did not understand why this might have been planted – clearly decades, if not centuries, before.

At Cow Bay and Volunteer Point, a two and a half hour drive to the north of Stanley, I saw more beautiful beaches, but also saw a darker side to the coast. Aside from the beautiful, white two kilometer long beach at Volunteer Point, penguins are probably what most people notice first on these beaches (and why they travel to them). But as a person who studies beaches, I could not help but see past the surface novelty and beauty: the sand on Cow Bay beach is clearly blowing away to the southeast. Blowing dunes and erosional remnants of peat abound on the southeast side of the beach. The sand continues on after that, however, and leaves the beach forever. Lacking a supply of "new" sand, this beach will move landward rapidly and no longer exist in its current form at its current location.

At Volunteer Point, a more complete picture was evident (photo 1). The back of the beach exposes a bluff with an upper peat layer (dark), a lower gravel layer, and a clay deposit in between. Like Cow Bay, the sand is also blowing away to the southeast and will not return to the beach and there is no accumulation of new dune sand occurring here. The cobble layer is probably exposed on the lowest part of the underwater section of the beach as well and kelp has attached to these cobbles. This is evident by the presence of cobbles with attached kelp on the beach, which have clearly been blown onto shore by storm activities. My guess is that loss of sand from the beach has unearthed the cobble layer underwater, and the cobbles are becoming more common on the once all-sand beach.

Running this scene into the future indicates that both beaches are likely to hold less and less sand in the future, with so much blowing to the southeast and no new sand coming into the system, and therefore they will migrate landward into their respective lagoons. I, personally, cannot predict what impact this will have on the various species of penguins that live on these beaches. At present, they do not seem to notice, thankfully!

However, one thing I *do* know: marram grass (which has already been introduced into the Islands) or any dune grass would go a long way to maintaining and sustaining these wonderful coastal sites which we are at real risk of losing!