

# **Sea Level Rise Seminar**

## **Royal Motor Yacht Club, Newport 29 May 2008**

### **Mayoral address**

Good morning everyone and welcome to what I hope will be both an informative and groundbreaking day.

I begin by stating that Pittwater Council honours the spirit of the Guringai people and acknowledges their traditional custodianship of the Pittwater area.

I would like to acknowledge and thank the following for their assistance and support in organizing the seminar.

To Mayor Denise Wilton from Mosman Council; Mayor Peter McDonald from Manly, who is represented today by Cr Barbara Aird; Administrator Dick Persson from Warringah - thank you for your strong support.

Thanks also to the Sydney Coastal Councils Group, the Floodplain Management Authorities of NSW and the Local Government Advisory Group to the Hawkesbury Nepean Catchment Management Authority.

Thank you for the expressions of support and interest in this seminar from Councils up and down the NSW coast. We are all, so to speak, in the same boat.

I also thank and acknowledge the messages of support for today's seminar received from the NSW Minister for Planning Frank Sartor and the President of the Local Government & Shires Association, Genia McCaffery. Unfortunately the Minister and Cr McCaffery were unable to attend today due to prior commitments.

I thank my Councillor colleagues, General Manager Mark Ferguson, members of our staff and in particular my executive assistant Sally Bacon for coordinating the seminar.

I welcome and thank the facilitator for the day, Alan Gear of the Floodplain Management Authorities of NSW and of course our speakers who will be introduced in turn by Alan. Thank you and the organisations you represent for making your contribution possible.

There is one apology I should mention. The Hon Verity Firth, NSW Minister for Environment & Climate Change was unable to attend due to a prior commitment. However she will be ably represented I am sure by Jenny McAlister, Director General of the Department of Environment & Climate Change and three speakers from the Department.

Today we will deal with three matters of great importance to coastal communities.....

- The first is the predicted sea level rise and its effects on NSW coastal and estuarine communities.
- The second is the need for adaptive planning for sea level rise.
- The third is the urgent need for the state government to provide local government with planning directives to manage sea level rise in the future.

To paint a picture of the rapidity of global climate change, here is some background information which is also in your seminar folder.

Internationally accepted scientific advice has the average global rate of current Sea Level Rise running at about 3 mm per year.

The causes of this rise are now widely accepted as being temperature driven. The symptoms are the expansion of seas, and land mass ice melt forced by climate change, now accepted as the result of human activity. That said, there may be some natural forces at work, such as the-as-yet unexplained increase in upwelling Antarctic deep water which is 1.5 degrees warmer than surface waters. This is thought to contribute to an amazing current annual loss of 125 gigatonnes of Antarctic ice mass.

There is a similar unexpected elevation of Arctic sea temperatures. This is in turn driving startling predictions that the North Pole could be ice-free within one or two years at most.

The bottom line is that the world's land mass glaciers and ice sheets are receding at an unprecedented rate. This is particularly true of the tropical high-altitude ice sheets lying between 30 degrees north and south of the equator.

These land mass ice fields, such as the Chalcataya in the Peruvian Andes, the Himalayas and the Tasman glacier in New Zealand, are all receding at an alarming rate.

The prestigious Snow & Ice Institute at the University of Colorado has reported on the accelerated decline in the thickness of the Alaskan and Norwegian ice sheets and is now predicting, tragically, that most glaciers are likely to be gone from the planet within 30 years. And they are not alone in making this prediction.

If that happens, according to experts such as Meier and Djurjerov speaking just this year, there could be a doubling of the 2007 International Panel for Climate Change's prediction of the 'uncertainty of ice sheet contribution to sea level rise', up from an upper range 21 cm figure to a 46 cm upper range increase in global sea level rise.

Among the papers in your seminar folder you will find a number of very recent reports on glacier and ice sheet melt phenomena, including one from Newport resident Dr Ian Hannam on his work on behalf of the United Nations in helping countries in the Western Arctic to re-formulate their environmental laws due to the dramatic changes they are experiencing.

Turning to the UK, the Thames Barrier was designed and installed to protect London from sea water inundation. It has had to be deployed 23 times in the last year, well ahead of previous predictions and may need to be vertically extended in order to achieve its design purposes in this century.

All these pointers are leading some to assert that at least one of the world's climate 'tipping points' - that of Arctic ice loss and consequent permafrost exposure - has already been reached.

This brings us down to one of our major concerns for today's discussion; the current rate of relative sea level rise on the NSW coast. Precision monitoring of data at Port Kembla as part of the national Sea Level Monitoring Project indicates that sea level is increasing at an annual rate of 3.4 mm per year. Or in other words a centimetre every three years. This is higher than the global annual average of 3.1 mm.

Given this data, what are some of the likely effects on NSW coastal communities if a maximum projection by the CSIRO and the Department of Environment & Climate Change of a 91 cm rate of sea level rise actually occurs within the next hundred years?

The effects would include coastal inundation and shoreline recession. There would be greater storm effects with increased frequency.

There would be greater wave run-up, an increased likelihood of damage to and loss of infrastructure, marine habitat and subsequent environmental losses.

Two questions arise from this scenario:

1. What leadership and planning directives does the state government need to provide to effectively manage sea level rise?

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2. What provisional figure on sea level rise increase should local government be working to?

In terms of leadership and direction, I believe it is incumbent upon the NSW Planning Minister, acting on advice from the NSW Minister for the Environment & Climate Change and their federal counterparts, to promptly issue sea level rise planning guidelines for local government to confidently apply.

As to what such a projected figure should be - I offer my opinion that precautionary principles and the duty of care steer us toward the CSIRO and DECC high range figure of 91cm by 2090-2100. This could then be adjusted up or down as sensitivity data emerges in the years ahead.

Having said this, there is nothing magical about the year 2100, now only 92 years away. Sea level rise will not magically stop on that date. In fact, we know that sea level rise will increase to at least 1.5 or even 2 metres in the succeeding century based on expert estimates.

Indeed, internationally respected scientists are now so taken aback by the measurable rapidity of the effects of climate change that some are predicting that the 2100 high range figure may be reached as early as 2050. This is well within the lifetime of people alive today.

Inevitably, this will have a major impact on how Councils manage floodplains and the coast – and how our communities will adapt to climate change and sea level rise.

I close by repeating my call to the state government to issue definitive sea level rise planning guidelines, so that coastal councils are assured that both existing and new development in risk areas are managed safely and appropriately.

To delay will assuredly incur much more painful and expensive solutions in the future than they currently promise to be.

Thank you.