

UNDERSTANDING SEA LEVEL RISE AND VARIABILITY

Dr Patricio Bernal's speech

Good morning everybody. I am very pleased to see this room, that is usually filled with diplomats, is now filled with scientists. On behalf of the Director General of UNESCO, Mr Koïchiro Matsuura, I would like to welcome you to the headquarters of IOC here in UNESCO.

I believe that this meeting is very, very important from many points of view. I would like to reflect on what I think is very often forgotten by some people, namely that there is an enormous amount of science in the study of sea level changes. For example, there is the fact that there has been essentially the same mass of water on the planet for millions of years. Geological and other processes have conspired to keep the amount more or less steady. Therefore, the relatively minute variations in sea level being discussed at this meeting can seem unimportant compared to the 'steady' amount. However, they need the best possible scientific attention as they can have tremendous impacts at the coast.

The science behind sea level change relates to factors that alter the distribution of this water, and this conference has been organized specifically to analyze all of them. What we want to do, on as scientific a basis as possible, is really identify all the factors that accumulate into the uncertainties to do with past and future sea levels. We are doing this because today we are facing an increased rate of change of sea level, and our coastlines and coastal populations are more vulnerable to greater sea level variability. That variability occurs across the spectrum of frequencies, from very high frequencies (e.g. storms surges) on the one extreme, to very low ones (the so-called secular trends) that are recognized by many people as one of the main factors in climate change.

These are exciting times for Sea Level Science because we are able to apply new technologies. I have seen some of the abstracts submitted to this workshop, and I was intrigued to see that the mass and volume aspects of sea level change can be teased out separately using the new GRACE space-gravity instrument. And other space technologies (e.g. the upcoming GOCE mission) will give us a precise measurement of the geoid, which will give new insights into the steady state ocean circulation and sea level variability. Also we can now perceive changes sea levels in near real-time, in addition to the changes in land levels through modern geodetic positioning of the sea level stations. So these are exciting times to try to reassess the historical record of sea level. And this has been done I know through your work as reported in the posters and in the position papers that we will be discussing this week. I am sure that this work will be synthesized into a significant workshop report.

We are facing a very interesting workshop here and I am certain that, with all of our colleagues and sponsors of the World Climate Research Programme, we will be very proud of the outcome. So, let me just finish here and wish you a very nice day. The sun has come out in Paris and you will be facing a very mellow and nice week. So, a very warm welcome to Paris and have a very productive meeting.

Thank you.