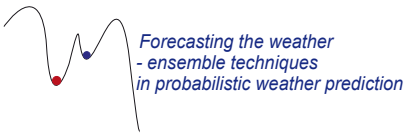
EMS Annual Meeting Abstracts
Vol. 8, EMS2011-73, 2011
11th EMS / 10th ECAM



Sea states forecasting for wave energy power production systems in la Reunion Island

L. Dubus and G. Mattarolo
EDF R&D, CHATOU, France (laurent.dubus@edf.fr, +33-1-30-87-71-08)

The Island of La Reunion is very active in the development of renewable energies. In addition to wind, solar and biomass power production, the potential and feasability of marine renewable energies systems are currently examined. This study aims at quantifying the predictability of sea states for a nearshore wave energy system, and developping a forecasting tool to assist in the installation and operations of the prototype.
An analog method was first set up and showed that significant wave height and period can be easily forecast with a relative error of around 10%. In a second step, an operational model was designed. It is based on a statistical post-processing approach, with the Metnext/DECIDE software, forced by ECMWF's WAM and IFS deterministic predictions to give 4 days forecasts at the prototype's location, twice daily. These forecasts first provided an assistance to naval operations during the installation phase. Once the system has been set up, the model's forecasts are ran routinely and the predictions will be compared to in-situ measurements. This model will also be compared to forecasts form the high-resolution PREVIMER system, based onWave Watch 3, which was released operational in february 2011.