The RESILIENCE Climate Service for Energy

Predicting Renewable Power over Future Monthly to Decadal Timescales

Knowledge for Climate

IC3R

> "[Renewable] energy provision may be anticipated, not only in the short and long term as it is today, but also at intermediate horizons, where a huge market niche appears." Ignacio Lainez Aracama, Professor of Wind Energy, EOI and Director of Energy Assessments, EDP

MINIMISE UNCERTAINTY

The RESILIENCE service offers climate prediction reports tailored to the energy sector. It represents the cutting-edge in climate science, to predict how future climate variability will affect renewable power generation.

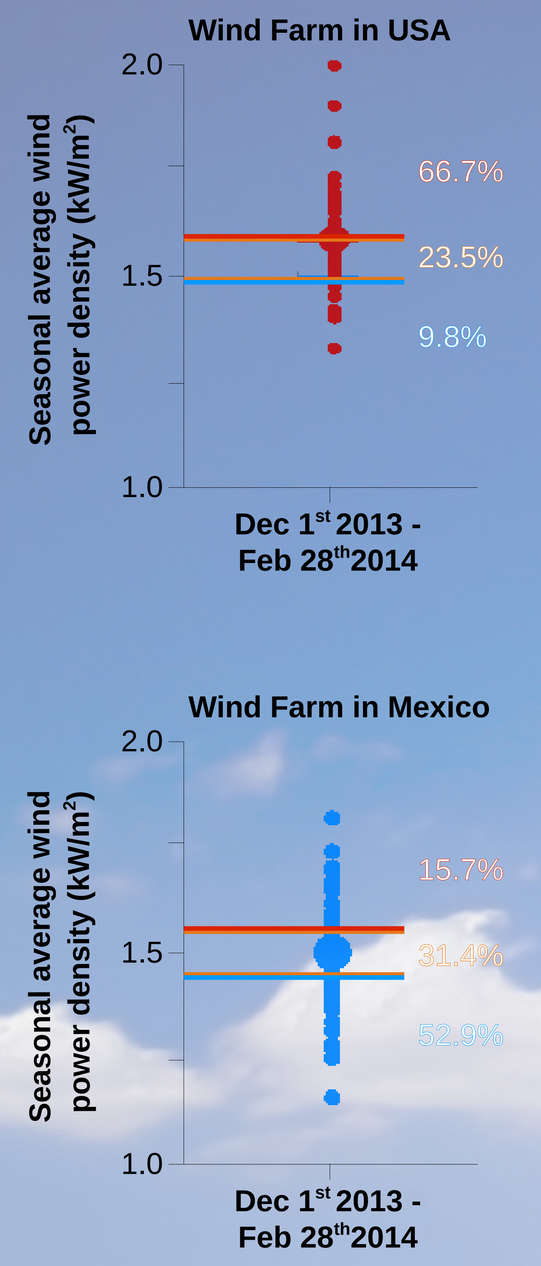
MANAGE RISK

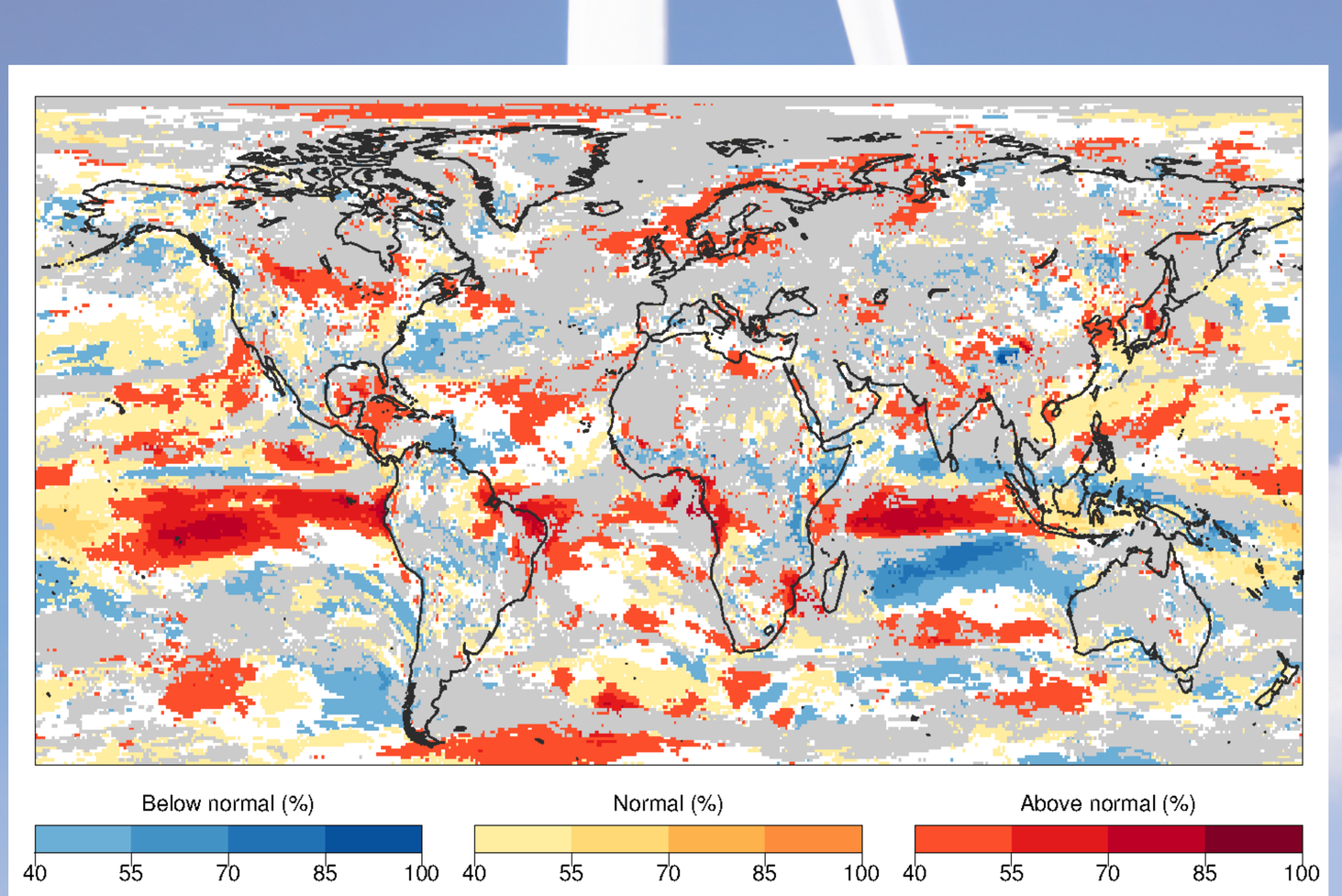
Climate predictions represent the most robust information currently available, by demonstrating a range of possible scenarios for future power generation, as well as a probability of which will be the most likely outcome.

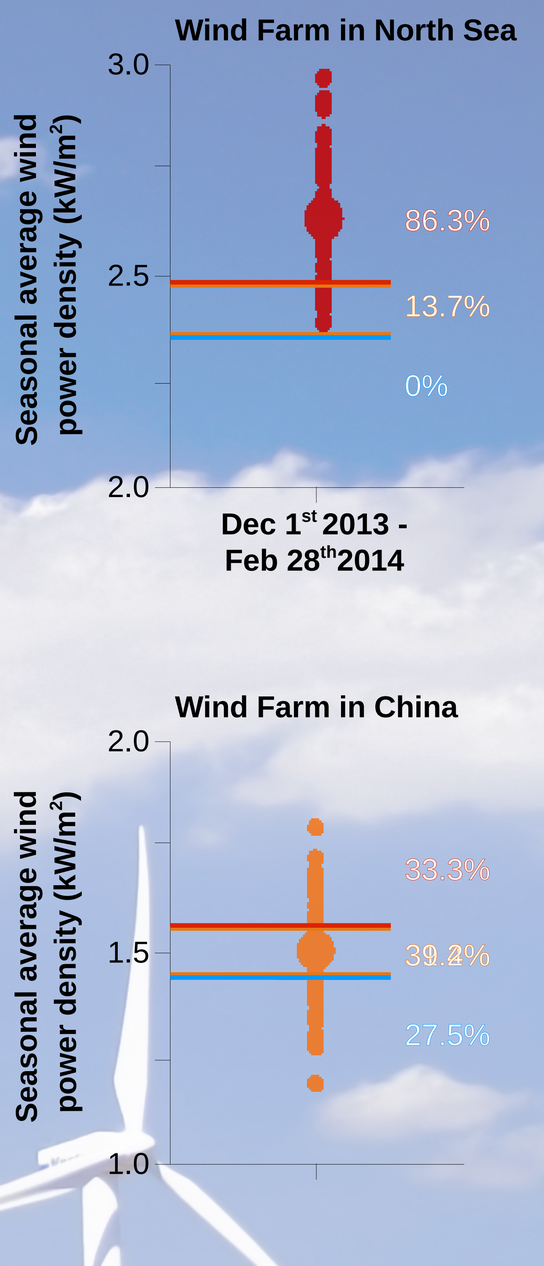
OPTIMISE STRATEGIES

Significant cost savings can be made by better anticipating market changes, thus identifying vulnerabilities and risks in advance. This, in turn, can facilitate calculated, precautionary and strategic climate adaptation action.

Illustrative examples of seasonal wind power predictions, and climate prediction model skill.







Wind power prediction for December 1st 2013 - February 28th 2014, issued on November 1st 2013.

The most likely wind power category (**below normal**, normal or **above normal**), and its percentage probability to occur is shown. "Normal" represents the average of the past 30 years.

White areas demonstrate where the probability is <40% and equal for all categories.

Grey areas shown where no prediction is available, because the climate prediction model does not improve upon the standard and current approach, which projects past climate data into the future.

Improving the forecast: observations needed, wind at nacelle height, local predictions and calibration.

ARECS Advancing Renewable Energy with Climate Services

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EUPORIAS

SPECS

SEVENTH FRAMEWORK PROGRAMME