***Marine Weather Forecaster Performance Criteria 1.1, 2.1 and 3.1: Experiential Questions***

***C1.1 Maintain weather watch over the marine weather situation, evolving significant weather phenomena and, where available, advisories issued by other meteorological services and model guidance***

***C2.1 Analyse and diagnose the marine weather situation as required for the preparation and issue of forecasts***

***C3.1 Forecast and issue warning for hazardous weather phenomena, variables and parameters, including spatial extent, onset and cessation, duration, intensity and its temporal variations***

***Performance criterion comments:***

These criteria include forecaster analysis and diagnosis of the current meteorological situation in space and time, as well as determining appropriate updates, forecasts and warnings.

**Scenario**:

Forecasters are given a hypothetical situation or asked to relate a time when they effectively analyzed and diagnosed a complex and significant weather situation.

Th situation should involve the need to diagnose specific weather parameters and features significant to marine meteorology and marine services users.

Forecasters being assessed should be asked to describe their anticipated or past data analysis and diagnosis processes in sufficient detail to support the competency assessment. They should be told in advance how they will be evaluated in a general way—what tools they use and decision-making processes they undertake.

**Evidence of competency checklist**:

The forecaster describes utilization of data such as

* surface data
* in-situ ocean observations
* NWP analyses and forecasts
* satellite data
* radar imagery
* tide charts
* other available data

and describes a comprehensive analysis of

* precipitation
* restrictions to visibility
* surface winds, including areas of strong winds
* areas of significant weather
* synoptic features, including large-scale motion
* sea state
* interactions with tide and river run-off, especially near the coast
* other pertinent features

The forecaster uses their meteorological knowledge to

* describe plausible meteorological processes at work that would produce the weather conditions.
* explain the meteorological processes at work
* explain what weather parameters and phenomena might result or resulted, including
  + clouds
  + precipitation
  + restriction to visibility
  + surface winds
  + state of the sea
  + tide and surge
  + other relevant information and impactful features

**Example questions and evidence criteria**:

The following questions are based on situations involving strong winds, but similar questions can be developed for other phenomena based on these models. The questions should attempt to address all the performance criteria for the phenomenon being assessed, including those related to maintaining a weather watch, analysing and diagnosing the weather, evaluating existing forecasts currently in place, making amendments, forecasting

The questions might address a hypothetical situation and provided data products or could ask the forecaster to recall a prior experience in detail.

* Describe a time when you effectively forecast Strong wind over Coastal or International Water
* Perform a synoptic analysis including latest MSLP chart analysis. Determine the synoptic flow over your area of responsibility.
* Identify significant features such as a tight pressure gradient/area of speed convergence/active cloud bands/trough lines/deepening low pressure system/ blocking high pressure system.
* Use satellite imagery or other tools to identify typical signatures or active features of concern
* Examine and describe the latest observations from coastal stations/drifting buoys/offshore wind sensors. If the area of interest is further away over open waters, use the scatterometer wind observations
* Determine the forecast wind speed by considering the latest Numerical Weather Prediction (NWP) analysis and forecasts
* Will strong wind speeds exceed your national threshold for Strong winds? Consider the area that the strong winds would affect.
* When all criteria are evaluated and thresholds are met, what type of forecast or warning is or could be required?
* Do strong winds forecasts and warnings appear consistent across neighboring forecast areas and national boundaries? What can be done to make them more consistent?
* When will impactful weather begin, and when will it cease to be a threat?
* If strong winds are identified or predicted, can this information be issued on the next scheduled international warning, or should it be issued immediately?
* How will you make your prediction as precise as possible and issue forecasts and warnings in accordance with the agreed formats?
* How will you consider the needs of your most impacted customers in formulating impact statements? Would you contact them directly if this is part of your local procedures?