***Marine Weather Forecaster Performance Criteria 1.1, 2.1 and 3.1: Quiz Items***

***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 warnings 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.

**Scenario**:

While Direct Observation using a think-aloud protocol, Experiential Questions and Simulation can be used to elicit useful evidence of forecasting knowledge and skill of the individual being assessed, it is unlikely that all aspects of forecast can be demonstrated in even several assessment periods, especially for the wide variety of seasonal weather situations experienced.

While Quiz Items do not provide a holistic assessment of the knowledge and skills required for forecasting, they provide opportunities that other methods lack. In addition to assessing a wider range of knowledge and skill than is likely to be observed or discussed, the advantage of Quiz Items over Direct Observations, Experiential Questions, and Simulation is that the items will be more standardized to ensure fairness, more quickly administered with lower effort by the assessor, and the results can be more rapidly assessed. They can also be administered away from the distractions of the forecast work area.

In using Quiz Items methodology, Forecasters are given a set of quiz items related to analysing and diagnosing the weather situation by properly interpreting satellite imagery, NWP products, and other observations and model products, including specialized products for marine forecasting.

Forecasters being assessed should be asked to identify areas of threat for high winds and wind gusts; sea state, including large waves, wave direction, wave period, and sea surface temperature; heavy precipitation and other convective hazards; restrictions to visibility such as fog, dust and volcanic ash; vessel icing; areas of threatening sea surface pollution; and other threats to marine operations and activities.

Forecasters can also be quizzed on the need and criteria for amendments, as required in Competency 1.3. They might also be quizzed on standard operating procedures for producing forecasts, including format, codes and regulations on content, as required in Competency 2.3. Finally, they might also be quizzed on thresholds for hazardous weather forecasts, as required in Competency 3.2.

**Evidence of competency checklist**:

The forecaster can correctly interpret:

* in-situ ocean surface observations from buoys and ships
* NWP analyses, including specialized model products such as wave model outputs and coastal surge model forecasts
* satellite imagery, including scatterometer and altimeter products
* radar imagery
* tide charts
* other available data

Quiz items might vary widely, but a few generic types might include:

* Asking forecasters to identify the key ingredients in atmospheric conditions to create a variety of severe marine weather phenomena.
* Presenting a series of different data products and asking the forecaster to interpret them, describing the atmospheric processes and phenomena depicted.
* Presenting a specific observational product or products and asking the forecaster to areas of threat for significant marine weather phenomena.
* Presenting NWP analysis and forecast products along with observations of the actual conditions at forecast times and asking the forecaster to identify areas of uncertainties in the NWP forecast.
* Presenting a set of observations and NWP products along with prepared forecast products and asking the forecaster to identify potential errors or uncertainties in the issued products.

More complex questions can be used in applying Experiential Questions and Simulation methods.