Table 1. Operational Priorities of the Tropical Cyclone Forecast and Warning Centers (NHC & CPHC, and JTWC)

NHC & CPHC Priority[1]	JTWC Priority[1]	Operational Need[1]	Linkage to Research Needs
1	**1**	Guidance for tropical cyclone intensity change, with highest priority on the onset, duration, and magnitude of rapid intensification events. Similar guidance is also needed on when rapid over-water weakening (such as had been observed in recent Gulf of Mexico hurricanes) will occur.	A1a-f, B1-B3, B6, B7
2	**2**	Improved capability to observe the tropical cyclone and its environment to support forecaster analysis and model initialization.	B1, C1-C3
3	**5**	Statistically-based real-time guidance on guidance for track, intensity and precipitation (e.g., multi-model consensus approaches), provided to forecasters in probabilistic and other formats.	B5,B6
4	**6**	Enhancements to the operational environment to increase forecaster efficiency, by expediting analysis, forecast, coordination, and/or communication activities.	C1c
5	**7**	Additional operational guidance on coastal inundation (e.g., storm surge and waves).	A4, A5, B2, B3, B6
6	**8**	Improved and extended track guidance. Identification, and then reduction of, the occurrence of guidance and official track outliers, focusing on both large speed errors (e.g., accelerating recurvers and stalling storms) and large direction errors (e.g., loops), and on specific forecast problems, including interactions between upper-level troughs and tropical cyclones, track forecasts near mountainous areas, and extratropical transition.	A2, B1-B3, B5-B6
7	**3**	Guidance for tropical cyclone genesis that exhibits a high probability of detection and a low false alarm rate, and/or provides probability of genesis.	A3, B1-B3, B5-B7
8	**9**	Operational analysis of the surface wind field (including maximum sustained winds) in tropical cyclones. This also includes methods for forecasting the wind field over elevated terrain and high-rise buildings.	B1, B2, C1-C3
9	**4**	Guidance for changes in tropical cyclone size/wind structure and related parameters, including combined sea heights.	A1a-g, B1-B7
10	**10**	Guidance on the operational utility and relative merits of high-resolution model output compared to lower resolution ensemble model output.	B6, B7
11	**11**	Guidance for tropical cyclone precipitation amount and distribution.	A4, B1-B7
12	**12**	Improved utility of microwave satellite and radar data in tropical cyclone analysis.	B1, C1c
13	**13**	Improved techniques for estimating the intensity of tropical cyclones passing over and north of sea-surface temperature gradients (e.g., in the eastern North Pacific Ocean and the Atlantic Gulf Stream).	C1
14	**14**	Quantitative guidance tools for seasonal tropical cyclone forecasts for the Atlantic and North Pacific basins, using statistical and/or dynamical methodologies.	A6,B2, B6

[1]From JHT FY09 Announcement of Federal Funding Opportunity
(http://www.ofcm.gov/wg-tcr/reference/JHTFY09_Full_text_AFFO.pdf)