APPENDIX 2.2.6. CHARACTERISTICS OF THE GLOBAL ENSEMBLE PREDICTION SYSTEM (Updated on April 2019)

1. Ensemble System	
Ensemble name (Version)	GRAPES_GEPS V1
Date of implementation	26 Dec 2018
2. EPS Configuration	
Horizontal resolution (Grid spacing)	0.5 degree
Vertical resolution (model top)	60 layers top at 3hPa
Forecast length (initial time)	15 days (00 and 12 UTC)
Members	31
Coupling to ocean/wave/sea ice models	No
Integration time step	600 seconds
3. Initial conditions and perturbations	
Initial perturbation strategy	Singular vectors（SVs）
Optimization time in forecast	48 h
Initial perturbed area	Northern Hemisphere extra-tropics (30◦N–80◦N); Southern Hemisphere extra-tropics (30◦S–80◦S) ; Targeted tropical cyclone areas (20◦S–20◦N)
Data assimilation method for control analysis	4D-Var
Initial conditions for perturbed members	4D-Var analysis
4. Model uncertainty perturbations	
Model physics perturbations	Stochastically perturbed physics tendencies (SPPT) scheme
Model dynamics perturbations	Stochastic kinetic energy backscatter (SKEB) scheme
5. Surface boundary perturbations	
SST perturbations	None
Soil moisture perturbations	None
Surface wind stress/roughness perturbations	None
Other surface perturbations	None
6. Other details	
Soil scheme	CoLM
Radiation	RRTMG
Large-scale dynamics	Fully compressible, non-hydrostatic, SI-SL, lat-lon grid
Boundary layer parameterization	MRF
Convection parameterization	SAS
Cloud scheme	Prognostic cloud
7. Products	

Method of the calculation (if not unique)	
8. Further information	
Operational contact point	hujk@cma.gov.cn
URLs for system documentation	http://www.wmc-bj.net
URL for list of products	http://www.wmc-bj.net

Note: WMO-NO.485 APPENDIX 2.2.6.