

RAH NWP Reference (updated 2016/11/11)

Modeling Systems	Initial Time	Forecast Hours	Core	Horizontal Resolution	Vertical Levels	Output Frequency	Convection	Microphysics	PBL	Land Surface	Radiation (SWLW)	Initial Conditions	Boundary Conditions	Available in AWIPS	Date of Last Upgrade
RAP v3.0.0	Hourly	21	WRF-ARW	13 km	50	hourly	Grell-Freitas-Olson	Thompson 2014 aer	MYNN	RUC-Smirnova	RRTMG	GS1	GFS	Yes	08/2016
NAM NMM-B	00/06/12/18	84	WRF-NMM-B	12 km	60	3 hourly	BMJ	Ferrier-Aigo	MYJ	Noah	RRTM for NMMB	NDAS	GFS	Yes	08/2014
NAM NMM-B nest	00/06/12/18	60	WRF-NMM-B	4 km (CONUS)	60	3 hourly	BMJ ("light touch")	Ferrier-Aigo	MYJ	Noah	RRTM for NMMB	NDAS	NAM NMM-B	No	08/2014
GFS	00/06/12/18	0-240		13 km	64	3 hourly	Updated SAS	Zhao and Carr	EDMF PBL/TKE	Noah	RRTM/McICA	GDAS		Yes	01/2015
GFS	00/06/12/18	240-384		35 km	64	12 hourly	Updated SAS	Zhao and Carr	EDMF PBL/TKE	Noah	RRTM/McICA	GDAS		Yes	01/2015
GDPS ¹ 4.0.0 (CMC)	00/12	240		25 km	79	6 hourly	KF/ Kuo-transient ²	Sundqvist	Moist TKE	ISBA	Fouquart-Bonnef/Garand	4DENVAR		Yes	11/2014
ECMWF (HRES 43r1)	00/12	0-90		9 km	137	hourly	Mass Flux (Tiedtke)	Tiedtke	First order, non-local	H-TESSEL	RRTM/McICA	4DVAR		Yes	11/2016
ECMWF (HRES 43r1)	00/12	93-144		9 km	137	3 hourly	Mass Flux (Tiedtke)	Tiedtke	First order, non-local	H-TESSEL	RRTM/McICA	4DVAR		Yes	11/2016
ECMWF (HRES 43r1)	00/12	150-240		9 km	137	6 hourly	Mass Flux (Tiedtke)	Tiedtke	First order, non-local	H-TESSEL	RRTM/McICA	4DVAR		Yes	11/2016
High Resolution Modeling Systems															
SPC WRF	00/12	36	NMM	4 km	35	hourly	Explicit	Ferrier ³	MYJ	Noah	GFSL/GFDL	12 km NAM	12 km NAM ⁴	No	
NCEP HiresW, CONUS domain ⁵	00/12	48	WRF-ARW	4.2 km	40	3 hourly	Explicit	WSM6	YSU	Noah	Dudhia/RRTM	RAP	GFS	Yes	06/2014
NCEP HiresW, Alaska domain ⁵	06/18	48	WRF-ARW	3.5 km	40	3 hourly	Explicit	WSM6	YSU	Noah	Dudhia/RRTM	GFS	GFS	Yes	06/2014
NCEP HiresW, Hawaii domain ⁵	00/12	48	WRF-ARW	3.8 km	40	3 hourly	Explicit	WSM6	YSU	Noah	Dudhia/RRTM	GFS	GFS	Yes	06/2014
NCEP HiresW, Guam domain ⁵	00/12	48	WRF-ARW	3.8 km	40	3 hourly	Explicit	WSM6	YSU	Noah	Dudhia/RRTM	GFS	GFS	Yes	06/2014
NCEP HiresW, Puerto Rico domain ⁵	06/18	48	WRF-ARW	3.8 km	40	3 hourly	Explicit	WSM6	YSU	Noah	Dudhia/RRTM	GFS	GFS	Yes	06/2014
NCEP HiresW, CONUS domain ⁵	00/12	48	NMM-B	3.6 km	40	3 hourly	Explicit	Ferrier ³	MYJ	Noah	RRTM	RAP	GFS	Yes	06/2014
NCEP HiresW, Alaska domain ⁵	06/18	48	NMM-B	3.0 km	40	3 hourly	Explicit	Ferrier ³	MYJ	Noah	RRTM	GFS	GFS	Yes	06/2014
NCEP HiresW, Hawaii domain ⁵	00/12	48	NMM-B	3.0 km	40	3 hourly	Explicit	Ferrier ³	MYJ	Noah	RRTM	GFS	GFS	Yes	06/2014
NCEP HiresW, Guam domain ⁵	00/12	48	NMM-B	3.0 km	40	3 hourly	BMJ	Ferrier ³	MYJ	Noah	RRTM	GFS	GFS	Yes	06/2014
NCEP HiresW, Puerto Rico domain ⁵	06/18	48	NMM-B	3.0 km	40	3 hourly	BMJ	Ferrier ³	MYJ	Noah	RRTM	GFS	GFS	Yes	06/2014
NSLL 4km WRF	00	36	ARW	4 km	35	hourly	Explicit	WSM6	MYJ	Noah	Dudhia/RRTM	40 km NAM	40 km NAM	Yes	06/2014
High Resolution Rapid Refresh v2.0.0	Hourly	18	ARW	3 km	50	hourly	Explicit	Thompson 2014 aer	MYNN	RUC-Smirnova	RRTMG	13km RUC + radar ⁶	13km RUC + radar ⁷	Yes ⁸	08/2016
WFO RAH 4km WRF	00/06/12/18	24	ARW	4 km	45	hourly	Explicit	WSM6	YSU	Noah	GFDL	12 km NAM	12 km NAM	Yes	11/2016
NC Climate Office WRF	00/12	72	ARW	4 km	41	hourly	Explicit	WSM6	MYNN2.5	Noah	Dudhia/RRTM	GFS	GFS	No	
Ensemble Modeling Systems															
NAEFS: CEFS (GEPS 4.1.1)	00/12	384		50 km	74	12 hourly	KF/Kuo	Sundqvist		ISBA	Correlated K Distribution (CKD)	ENKF		No	12/2015
NAEFS: GEFS ⁹	00/06/12/18	0-192		33 km	64	6 hourly	Updated SAS	Zhao and Carr	Pan-Mahrt	Noah	RRTM2/RRTM	GFS 3DVar EnKF		No	12/2015
NAEFS: GEFS ⁹	00/06/12/18	192-384		55 km	64	12 hourly	Updated SAS	Zhao and Carr	Pan-Mahrt	Noah	RRTM2/RRTM	GFS 3DVar EnKF		No	12/2015
ECMWF ENS 43r1	00	0-90		18 km	91	hourly	Mass Flux (Tiedtke)	Tiedtke	First order, non-local	H-TESSEL	RRTM/McICA	4DVAR		No	11/2016
ECMWF ENS 43r1	00	93-144		18 km	91	3 hourly	Mass Flux (Tiedtke)	Tiedtke	First order, non-local	H-TESSEL	RRTM/McICA	4DVAR		No	11/2016
ECMWF ENS 43r1	00	150-360		18 km	91	6 hourly	Mass Flux (Tiedtke)	Tiedtke	First order, non-local	H-TESSEL	RRTM/McICA	4DVAR		No	11/2016
ECMWF ENS extended 43r1	00	366-1104		36 km	91	6 hourly	Mass Flux (Tiedtke)	Tiedtke	First order, non-local	H-TESSEL	RRTM/McICA	4DVAR		No	11/2016
SREF Modeling System (version 7)															
nmm_b_ct	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ old shallow	Ferrier hires	MYJ	Noah	RRTM	NDAS ¹⁰	GFS	No	?
nmm_b_n1	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	SAS	WSM6	GFS	Noah	GFDL	NDAS ¹⁰	GEFS2	No	?
nmm_b_p1	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ new shallow	Ferrier hires	MYJ	Noah	RRTM	NDAS ¹⁰	GEFS1	No	?
nmm_b_n2	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	SAS	Ferrier hires	GFS	Noah	GFDL	NDAS ¹⁰	GEFS4	No	?
nmm_b_p2	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ old shallow	WSM6	MYJ	Noah	RRTM	NDAS ¹⁰	GEFS3	No	?
nmm_b_n3	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	SAS	Ferrier hires	GFS	Noah	GFDL	GFS ¹⁰	GEFS6	No	?
nmm_b_p3	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ new shallow	WSM6	MYJ	Noah	RRTM	GFS ¹⁰	GEFS5	No	?
nmm_b_n4	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	SAS	WSM6	GFS	Noah	RRTM	GFS ¹⁰	GEFS8	No	?
nmm_b_p4	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ old shallow	Ferrier hires	MYJ	Noah	GFDL	GFS ¹⁰	GEFS7	No	?
nmm_b_n5	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	SAS	WSM6	GFS	Noah	RRTM	RAP ¹⁰	GEFS10	No	?
nmm_b_p5	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ new shallow	Ferrier hires	MYJ	Noah	RRTM	RAP ¹⁰	GEFS9	No	?
nmm_b_n6	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	SAS	Ferrier hires	GFS	Noah	GFDL	RAP ¹⁰	GEFS12	No	?
nmm_b_p6	03/09/15/21	87	NMMB	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ old shallow	WSM6	MYJ	Noah	GFDL	RAP ¹⁰	GEFS11	No	?
arw_ct	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	KF	WSM6	YSU	Noah	RRTMG	RAP ¹⁰	GFS	No	?
arw_n1	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ	Ferrier	MYJ	Noah	GFDL	RAP ¹⁰	GEFS14	No	?
arw_p1	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	Grell	Thompson	MYNN	Noah	RRTM/GSFC	RAP ¹⁰	GEFS13	No	?
arw_n2	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	KF	Ferrier	YSU	Noah	GFDL	RAP ¹⁰	GEFS16	No	?
arw_p2	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ	Thompson	MYJ	Noah	RRTMG	RAP ¹⁰	GEFS15	No	?
arw_n3	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	Grell	WSM6	MYNN	Noah	RRTMG	GFS ¹⁰	GEFS18	No	?
arw_p3	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	KF	Thompson	YSU	Noah	RRTM/GSFC	GFS ¹⁰	GEFS17	No	?
arw_n4	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ	WSM6	MYJ	Noah	RRTMG	GFS ¹⁰	GEFS20	No	?
arw_p4	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	KF	Ferrier	YSU	Noah	GFDL	GFS ¹⁰	GEFS19	No	?
arw_n5	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	Grell	Ferrier	MYNN	Noah	GFDL	NDAS ¹⁰	GEFS2	No	?
arw_p5	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	KF	WSM6	YSU	Noah	RRTMG	NDAS ¹⁰	GEFS1	No	?
arw_n6	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	BMJ	Thompson	MYJ	Noah	RRTM/GSFC	NDAS ¹⁰	GEFS4	No	?
arw_p6	03/09/15/21	87	ARW	16 km	40	hourly (0-39), 3 hourly (39-87)	Grell	Thompson	MYNN	Noah	RRTMG	NDAS ¹⁰	GEFS3	No	?

Footnotes

- 1 - Global Deterministic Prediction System (CMC)
- 2 - Kuo-transient (Shallow) and Kain-Fritsch (Deep)
- 3 - Microphysics are tweaked to allow for larger raindrops and thus more intense simulated radar signals
- 4 - Boundary conditions updated hourly
- 5 - As of the 2014 upgrade, there is no longer pre-emption due to hurricane model runs
- 6 - HRRR initial conditions are from the 13 km ESRL-backup-RUC using the so-called RUC-DFI file (native grid, after application of digital filter initialization (DFI) using temperature tendencies from the latest 3-d radar reflectivity data).
- 7 - HRRR boundary conditions are from the previous hours 13 km ESRL-backup-RUC