

## List of Variables in NARR Files

<u>rec #</u>	<u>wgrib abbrev.</u>	<u>Name and unit</u>	<u>level/layer type</u>	<u>time</u>
<b>MERGED A (merged_AWIP32.YYYYMMDDHH)</b>				
1	MSLET	Mean sea level pressure (ETA model) [Pa]	MSL	anl
2	PRMSL	Pressure reduced to MSL [Pa]	MSL	anl
3	PRES *	Pressure [Pa]	hybrid lev 1	anl
4	HGT *	Geopotential height [gpm]	hybrid lev 1	anl
5	TMP *	Temp. [K]	hybrid lev 1	anl
6	POT *	Potential temp. [K]	hybrid lev 1	anl
7	RH *	Relative humidity [%]	hybrid lev 1	anl
8	SPFH *	Specific humidity [kg/kg]	hybrid lev 1	anl
9	MCONV *	Horizontal moisture divergence [kg/kg/s]	hybrid lev 1	anl
10	UGRD *	u wind [m/s]	hybrid lev 1	anl
11	VGRD *	v wind [m/s]	hybrid lev 1	anl
12	VVEL *	Pressure vertical velocity [Pa/s]	hybrid lev 1	anl
13	TKE *	Turbulent Kinetic Energy [J/kg]	hybrid lev 1	anl
14	VIS	Visibility [m]	sfc	anl
15	HPBL	Planetary boundary layer height [m]	sfc	anl
16	BMIXL	Blackadars mixing length scale [m]	hybrid lev 1	anl
17	HGT	Geopotential height [gpm]	100 mb	anl
18	TMP	Temp. [K]	100 mb	anl
19	SPFH	Specific humidity [kg/kg]	100 mb	anl
20	VVEL	Pressure vertical velocity [Pa/s]	100 mb	anl
21	UGRD	u wind [m/s]	100 mb	anl
22	VGRD	v wind [m/s]	100 mb	anl
23	CLWMR	Cloud water [kg/kg]	100 mb	anl
24	ICMR	Ice mixing ratio [kg/kg]	100 mb	anl
25	HGT	Geopotential height [gpm]	125 mb	anl
26	TMP	Temp. [K]	125 mb	anl
27	SPFH	Specific humidity [kg/kg]	125 mb	anl
28	VVEL	Pressure vertical velocity [Pa/s]	125 mb	anl
29	UGRD	u wind [m/s]	125 mb	anl
30	VGRD	v wind [m/s]	125 mb	anl
31	CLWMR	Cloud water [kg/kg]	125 mb	anl
32	ICMR	Ice mixing ratio [kg/kg]	125 mb	anl
33	HGT	Geopotential height [gpm]	150 mb	anl
34	TMP	Temp. [K]	150 mb	anl
35	SPFH	Specific humidity [kg/kg]	150 mb	anl
36	VVEL	Pressure vertical velocity [Pa/s]	150 mb	anl
37	UGRD	u wind [m/s]	150 mb	anl
38	VGRD	v wind [m/s]	150 mb	anl
39	CLWMR	Cloud water [kg/kg]	150 mb	anl
40	ICMR	Ice mixing ratio [kg/kg]	150 mb	anl
41	HGT	Geopotential height [gpm]	175 mb	anl
42	TMP	Temp. [K]	175 mb	anl
43	SPFH	Specific humidity [kg/kg]	175 mb	anl
44	VVEL	Pressure vertical velocity [Pa/s]	175 mb	anl
45	UGRD	u wind [m/s]	175 mb	anl
46	VGRD	v wind [m/s]	175 mb	anl
47	CLWMR	Cloud water [kg/kg]	175 mb	anl
48	ICMR	Ice mixing ratio [kg/kg]	175 mb	anl
49	HGT	Geopotential height [gpm]	200 mb	anl
50	TMP	Temp. [K]	200 mb	anl
51	SPFH	Specific humidity [kg/kg]	200 mb	anl

<u>rec #</u>	<u>wgrib abbrev.</u>	<u>Name and unit</u>	<u>level/laver type</u>	<u>time</u>
52	VVEL	Pressure vertical velocity [Pa/s]	200 mb	anl
53	UGRD	u wind [m/s]	200 mb	anl
54	VGRD	v wind [m/s]	200 mb	anl
55	CLWMR	Cloud water [kg/kg]	200 mb	anl
56	ICMR	Ice mixing ratio [kg/kg]	200 mb	anl
57	HGT	Geopotential height [gpm]	225 mb	anl
58	TMP	Temp. [K]	225 mb	anl
59	SPFH	Specific humidity [kg/kg]	225 mb	anl
60	VVEL	Pressure vertical velocity [Pa/s]	225 mb	anl
61	UGRD	u wind [m/s]	225 mb	anl
62	VGRD	v wind [m/s]	225 mb	anl
63	CLWMR	Cloud water [kg/kg]	225 mb	anl
64	ICMR	Ice mixing ratio [kg/kg]	225 mb	anl
65	HGT	Geopotential height [gpm]	250 mb	anl
66	TMP	Temp. [K]	250 mb	anl
67	SPFH	Specific humidity [kg/kg]	250 mb	anl
68	VVEL	Pressure vertical velocity [Pa/s]	250 mb	anl
69	UGRD	u wind [m/s]	250 mb	anl
70	VGRD	v wind [m/s]	250 mb	anl
71	CLWMR	Cloud water [kg/kg]	250 mb	anl
72	ICMR	Ice mixing ratio [kg/kg]	250 mb	anl
73	HGT	Geopotential height [gpm]	275 mb	anl
74	TMP	Temp. [K]	275 mb	anl
75	SPFH	Specific humidity [kg/kg]	275 mb	anl
76	VVEL	Pressure vertical velocity [Pa/s]	275 mb	anl
77	UGRD	u wind [m/s]	275 mb	anl
78	VGRD	v wind [m/s]	275 mb	anl
79	CLWMR	Cloud water [kg/kg]	275 mb	anl
80	ICMR	Ice mixing ratio [kg/kg]	275 mb	anl
81	HGT	Geopotential height [gpm]	300 mb	anl
82	TMP	Temp. [K]	300 mb	anl
83	SPFH	Specific humidity [kg/kg]	300 mb	anl
84	VVEL	Pressure vertical velocity [Pa/s]	300 mb	anl
85	UGRD	u wind [m/s]	300 mb	anl
86	VGRD	v wind [m/s]	300 mb	anl
87	CLWMR	Cloud water [kg/kg]	300 mb	anl
88	ICMR	Ice mixing ratio [kg/kg]	300 mb	anl
89	HGT	Geopotential height [gpm]	350 mb	anl
90	TMP	Temp. [K]	350 mb	anl
91	SPFH	Specific humidity [kg/kg]	350 mb	anl
92	VVEL	Pressure vertical velocity [Pa/s]	350 mb	anl
93	UGRD	u wind [m/s]	350 mb	anl
94	VGRD	v wind [m/s]	350 mb	anl
95	CLWMR	Cloud water [kg/kg]	350 mb	anl
96	ICMR	Ice mixing ratio [kg/kg]	350 mb	anl
97	HGT	Geopotential height [gpm]	400 mb	anl
98	TMP	Temp. [K]	400 mb	anl
99	SPFH	Specific humidity [kg/kg]	400 mb	anl
100	VVEL	Pressure vertical velocity [Pa/s]	400 mb	anl
101	UGRD	u wind [m/s]	400 mb	anl
102	VGRD	v wind [m/s]	400 mb	anl
103	CLWMR	Cloud water [kg/kg]	400 mb	anl
104	ICMR	Ice mixing ratio [kg/kg]	400 mb	anl
105	HGT	Geopotential height [gpm]	450 mb	anl
106	TMP	Temp. [K]	450 mb	anl
107	SPFH	Specific humidity [kg/kg]	450 mb	anl
108	VVEL	Pressure vertical velocity [Pa/s]	450 mb	anl

<u>rec #</u>	<u>wgrib abbrev.</u>	<u>Name and unit</u>	<u>level/layer type</u>	<u>time</u>
109	UGRD	u wind [m/s]	450 mb	anl
110	VGRD	v wind [m/s]	450 mb	anl
111	CLWMR	Cloud water [kg/kg]	450 mb	anl
112	ICMR	Ice mixing ratio [kg/kg]	450 mb	anl
113	HGT	Geopotential height [gpm]	500 mb	anl
114	TMP	Temp. [K]	500 mb	anl
115	SPFH	Specific humidity [kg/kg]	500 mb	anl
116	VVEL	Pressure vertical velocity [Pa/s]	500 mb	anl
117	UGRD	u wind [m/s]	500 mb	anl
118	VGRD	v wind [m/s]	500 mb	anl
119	CLWMR	Cloud water [kg/kg]	500 mb	anl
120	ICMR	Ice mixing ratio [kg/kg]	500 mb	anl
121	HGT	Geopotential height [gpm]	550 mb	anl
122	TMP	Temp. [K]	550 mb	anl
123	SPFH	Specific humidity [kg/kg]	550 mb	anl
124	VVEL	Pressure vertical velocity [Pa/s]	550 mb	anl
125	UGRD	u wind [m/s]	550 mb	anl
126	VGRD	v wind [m/s]	550 mb	anl
127	CLWMR	Cloud water [kg/kg]	550 mb	anl
128	ICMR	Ice mixing ratio [kg/kg]	550 mb	anl
129	HGT	Geopotential height [gpm]	600 mb	anl
130	TMP	Temp. [K]	600 mb	anl
131	SPFH	Specific humidity [kg/kg]	600 mb	anl
132	VVEL	Pressure vertical velocity [Pa/s]	600 mb	anl
133	UGRD	u wind [m/s]	600 mb	anl
134	VGRD	v wind [m/s]	600 mb	anl
135	TKE	Turbulent Kinetic Energy [J/kg]	600 mb	anl
136	CLWMR	Cloud water [kg/kg]	600 mb	anl
137	ICMR	Ice mixing ratio [kg/kg]	600 mb	anl
138	HGT	Geopotential height [gpm]	650 mb	anl
139	TMP	Temp. [K]	650 mb	anl
140	SPFH	Specific humidity [kg/kg]	650 mb	anl
141	VVEL	Pressure vertical velocity [Pa/s]	650 mb	anl
142	UGRD	u wind [m/s]	650 mb	anl
143	VGRD	v wind [m/s]	650 mb	anl
144	TKE	Turbulent Kinetic Energy [J/kg]	650 mb	anl
145	CLWMR	Cloud water [kg/kg]	650 mb	anl
146	ICMR	Ice mixing ratio [kg/kg]	650 mb	anl
147	HGT	Geopotential height [gpm]	700 mb	anl
148	TMP	Temp. [K]	700 mb	anl
149	SPFH	Specific humidity [kg/kg]	700 mb	anl
150	VVEL	Pressure vertical velocity [Pa/s]	700 mb	anl
151	UGRD	u wind [m/s]	700 mb	anl
152	VGRD	v wind [m/s]	700 mb	anl
153	TKE	Turbulent Kinetic Energy [J/kg]	700 mb	anl
154	CLWMR	Cloud water [kg/kg]	700 mb	anl
155	ICMR	Ice mixing ratio [kg/kg]	700 mb	anl
156	HGT	Geopotential height [gpm]	725 mb	anl
157	TMP	Temp. [K]	725 mb	anl
158	SPFH	Specific humidity [kg/kg]	725 mb	anl
159	VVEL	Pressure vertical velocity [Pa/s]	725 mb	anl
160	UGRD	u wind [m/s]	725 mb	anl
161	VGRD	v wind [m/s]	725 mb	anl
162	TKE	Turbulent Kinetic Energy [J/kg]	725 mb	anl
163	CLWMR	Cloud water [kg/kg]	725 mb	anl
164	ICMR	Ice mixing ratio [kg/kg]	725 mb	anl
165	HGT	Geopotential height [gpm]	750 mb	anl

<u>rec #</u>	<u>wgrib abbrev.</u>	<u>Name and unit</u>	<u>level/layer type</u>	<u>time</u>
166	TMP	Temp. [K]	750 mb	anl
167	SPFH	Specific humidity [kg/kg]	750 mb	anl
168	VVEL	Pressure vertical velocity [Pa/s]	750 mb	anl
169	UGRD	u wind [m/s]	750 mb	anl
170	VGRD	v wind [m/s]	750 mb	anl
171	TKE	Turbulent Kinetic Energy [J/kg]	750 mb	anl
172	CLWMR	Cloud water [kg/kg]	750 mb	anl
173	ICMR	Ice mixing ratio [kg/kg]	750 mb	anl
174	HGT	Geopotential height [gpm]	775 mb	anl
175	TMP	Temp. [K]	775 mb	anl
176	SPFH	Specific humidity [kg/kg]	775 mb	anl
177	VVEL	Pressure vertical velocity [Pa/s]	775 mb	anl
178	UGRD	u wind [m/s]	775 mb	anl
179	VGRD	v wind [m/s]	775 mb	anl
180	TKE	Turbulent Kinetic Energy [J/kg]	775 mb	anl
181	CLWMR	Cloud water [kg/kg]	775 mb	anl
182	ICMR	Ice mixing ratio [kg/kg]	775 mb	anl
183	HGT	Geopotential height [gpm]	800 mb	anl
184	TMP	Temp. [K]	800 mb	anl
185	SPFH	Specific humidity [kg/kg]	800 mb	anl
186	VVEL	Pressure vertical velocity [Pa/s]	800 mb	anl
187	UGRD	u wind [m/s]	800 mb	anl
188	VGRD	v wind [m/s]	800 mb	anl
189	TKE	Turbulent Kinetic Energy [J/kg]	800 mb	anl
190	CLWMR	Cloud water [kg/kg]	800 mb	anl
191	ICMR	Ice mixing ratio [kg/kg]	800 mb	anl
192	HGT	Geopotential height [gpm]	825 mb	anl
193	TMP	Temp. [K]	825 mb	anl
194	SPFH	Specific humidity [kg/kg]	825 mb	anl
195	VVEL	Pressure vertical velocity [Pa/s]	825 mb	anl
196	UGRD	u wind [m/s]	825 mb	anl
197	VGRD	v wind [m/s]	825 mb	anl
198	TKE	Turbulent Kinetic Energy [J/kg]	825 mb	anl
199	CLWMR	Cloud water [kg/kg]	825 mb	anl
200	ICMR	Ice mixing ratio [kg/kg]	825 mb	anl
201	HGT	Geopotential height [gpm]	850 mb	anl
202	TMP	Temp. [K]	850 mb	anl
203	SPFH	Specific humidity [kg/kg]	850 mb	anl
204	VVEL	Pressure vertical velocity [Pa/s]	850 mb	anl
205	MCONV	Horizontal moisture divergence [kg/kg/s]	850 mb	anl
206	UGRD	u wind [m/s]	850 mb	anl
207	VGRD	v wind [m/s]	850 mb	anl
208	TKE	Turbulent Kinetic Energy [J/kg]	850 mb	anl
209	CLWMR	Cloud water [kg/kg]	850 mb	anl
210	ICMR	Ice mixing ratio [kg/kg]	850 mb	anl
211	HGT	Geopotential height [gpm]	875 mb	anl
212	TMP	Temp. [K]	875 mb	anl
213	SPFH	Specific humidity [kg/kg]	875 mb	anl
214	VVEL	Pressure vertical velocity [Pa/s]	875 mb	anl
215	UGRD	u wind [m/s]	875 mb	anl
216	VGRD	v wind [m/s]	875 mb	anl
217	TKE	Turbulent Kinetic Energy [J/kg]	875 mb	anl
218	CLWMR	Cloud water [kg/kg]	875 mb	anl
219	ICMR	Ice mixing ratio [kg/kg]	875 mb	anl
220	HGT	Geopotential height [gpm]	900 mb	anl
221	TMP	Temp. [K]	900 mb	anl
222	SPFH	Specific humidity [kg/kg]	900 mb	anl

<u>rec #</u>	<u>wgrib abbrev.</u>	<u>Name and unit</u>	<u>level/laver tyme</u>	<u>time</u>
223	VVEL	Pressure vertical velocity [Pa/s]	900 mb	anl
224	UGRD	u wind [m/s]	900 mb	anl
225	VGRD	v wind [m/s]	900 mb	anl
226	TKE	Turbulent Kinetic Energy [J/kg]	900 mb	anl
227	CLWMR	Cloud water [kg/kg]	900 mb	anl
228	ICMR	Ice mixing ratio [kg/kg]	900 mb	anl
229	HGT	Geopotential height [gpm]	925 mb	anl
230	TMP	Temp. [K]	925 mb	anl
231	SPFH	Specific humidity [kg/kg]	925 mb	anl
232	VVEL	Pressure vertical velocity [Pa/s]	925 mb	anl
233	UGRD	u wind [m/s]	925 mb	anl
234	VGRD	v wind [m/s]	925 mb	anl
235	TKE	Turbulent Kinetic Energy [J/kg]	925 mb	anl
236	CLWMR	Cloud water [kg/kg]	925 mb	anl
237	ICMR	Ice mixing ratio [kg/kg]	925 mb	anl
238	HGT	Geopotential height [gpm]	950 mb	anl
239	TMP	Temp. [K]	950 mb	anl
240	SPFH	Specific humidity [kg/kg]	950 mb	anl
241	VVEL	Pressure vertical velocity [Pa/s]	950 mb	anl
242	UGRD	u wind [m/s]	950 mb	anl
243	VGRD	v wind [m/s]	950 mb	anl
244	TKE	Turbulent Kinetic Energy [J/kg]	950 mb	anl
245	CLWMR	Cloud water [kg/kg]	950 mb	anl
246	ICMR	Ice mixing ratio [kg/kg]	950 mb	anl
247	HGT	Geopotential height [gpm]	975 mb	anl
248	TMP	Temp. [K]	975 mb	anl
249	SPFH	Specific humidity [kg/kg]	975 mb	anl
250	VVEL	Pressure vertical velocity [Pa/s]	975 mb	anl
251	UGRD	u wind [m/s]	975 mb	anl
252	VGRD	v wind [m/s]	975 mb	anl
253	TKE	Turbulent Kinetic Energy [J/kg]	975 mb	anl
254	CLWMR	Cloud water [kg/kg]	975 mb	anl
255	ICMR	Ice mixing ratio [kg/kg]	975 mb	anl
256	HGT	Geopotential height [gpm]	1000 mb	anl
257	TMP	Temp. [K]	1000 mb	anl
258	SPFH	Specific humidity [kg/kg]	1000 mb	anl
259	VVEL	Pressure vertical velocity [Pa/s]	1000 mb	anl
260	UGRD	u wind [m/s]	1000 mb	anl
261	VGRD	v wind [m/s]	1000 mb	anl
262	TKE	Turbulent Kinetic Energy [J/kg]	1000 mb	anl
263	CLWMR	Cloud water [kg/kg]	1000 mb	anl
264	ICMR	Ice mixing ratio [kg/kg]	1000 mb	anl
265	PRES	Pressure [Pa]	sfc	anl
266	PRESN *	Pressure (nearest grid point) [Pa]	sfc	anl
267	TMP *	Temp. [K]	sfc	anl
268	POT *	Potential temp. [K]	sfc	anl
269	TSOIL *	Soil temp. [K]	0-10 cm down	anl
270	SOILW *	Volumetric soil moisture (frozen + liquid) [fraction]	0-10 cm down	anl
271	SOILL *	Liquid volumetric soil moisture (non-frozen) [fraction]	0-10 cm down	anl
272	TSOIL *	Soil temp. [K]	10-40 cm down	anl
273	SOILW *	Volumetric soil moisture (frozen + liquid) [fraction]	10-40 cm down	anl
274	SOILL *	Liquid volumetric soil moisture (non-frozen) [fraction]	10-40 cm down	anl
275	TSOIL *	Soil temp. [K]	40-100 cm down	anl
276	SOILW *	Volumetric soil moisture (frozen + liquid) [fraction]	40-100 cm down	anl
277	SOILL *	Liquid volumetric soil moisture (non-frozen) [fraction]	40-100 cm down	anl
278	TSOIL *	Soil temp. [K]	100-200 cm down	anl
279	SOILW *	Volumetric soil moisture (frozen + liquid) [fraction]	100-200 cm down	anl

<u>rec #</u>	<u>wgrib abbrev.</u>	<u>Name and unit</u>	<u>level/layer type</u>	<u>time</u>
280	SOILL *	Liquid volumetric soil moisture (non-frozen) [fraction]	100-200 cm down	anl
281	TSOIL *	Soil temp. [K]	800 cm down	anl
282	MSTAV *	Moisture availability [%]	0-100 cm down	anl
283	SOILM *	Soil moisture content [kg/m^2]	0-200 cm down	anl
284	CNWAT *	Plant canopy surface water [kg/m^2]	sfc	anl
285	WEASD *	Accum. snow [kg/m^2]	sfc	anl
286	SNOWC *	Snow cover [%]	sfc	anl
287	SNOD *	Snow depth [m]	sfc	anl
288	TMP *	Temp. [K]	2 m above gnd	anl
289	SPFH *	Specific humidity [kg/kg]	2 m above gnd	anl
290	DPT *	Dew point temp. [K]	2 m above gnd	anl
291	RH *	Relative humidity [%]	2 m above gnd	anl
292	PRES *	Pressure [Pa]	2 m above gnd	anl
293	UGRD *	u wind [m/s]	10 m above gnd	anl
294	VGRD *	v wind [m/s]	10 m above gnd	anl
295	POT *	Potential temp. [K]	10 m above gnd	anl
296	TMP *	Temp. [K]	10 m above gnd	anl
297	PRES *	Pressure [Pa]	10 m above gnd	anl
298	SPFH *	Specific humidity [kg/kg]	10 m above gnd	anl
299	UGRD *	u wind [m/s]	30 m above gnd	anl
300	VGRD *	v wind [m/s]	30 m above gnd	anl
301	POT *	Potential temp. [K]	30 m above gnd	anl
302	TMP *	Temp. [K]	30 m above gnd	anl
303	PRES *	Pressure [Pa]	30 m above gnd	anl
304	SPFH *	Specific humidity [kg/kg]	30 m above gnd	anl
305	FRICV *	Surface friction velocity [m/s]	sfc	anl
306	CD *	Surface drag coefficient [non-dim]	sfc	anl
307	UFLX *	Zonal momentum flux [N/m^2]	sfc	anl
308	VFLX *	Meridional momentum flux [N/m^2]	sfc	anl
309	SFEXC *	Exchange coefficient [(kg/m^3) (m/s)]	sfc	anl
310	VEG *	Vegetation [%]	sfc	anl
311	CCOND *	Canopy conductance [m/s]	sfc	anl
312	RCS *	Solar parameter in canopy conductance [fraction]	sfc	anl
313	RCT *	Temperature parameter in canopy conductance [fraction]	sfc	anl
314	RCQ *	Humidity parameter in canopy conductance [fraction]	sfc	anl
315	RCSOL *	Soil moisture parameter in canopy conductance [fraction]	sfc	anl
316	LFTX	Surface lifted index [K]	500-1000 mb	anl
317	CAPE	Convective available potential energy [J/kg]	sfc	anl
318	CIN	Convective inhibition [J/kg]	sfc	anl
319	PWAT	Precipitable water [kg/m^2]	atmos col	anl
320	PRES *	Pressure [Pa]	cld base	anl
321	HGT *	Geopotential height [gpm]	cld base	anl
322	PRES *	Pressure [Pa]	cld top	anl
323	HGT *	Geopotential height [gpm]	cld top	anl
324	TMP *	Temp. [K]	cld top	anl
325	HLCY	Storm relative helicity [m^2/s^2]	3000-0 m above gnd	anl
326	USTM	u-component of storm motion [m/s]	6000-0 m above gnd	anl
327	VSTM	v-component of storm motion [m/s]	6000-0 m above gnd	anl
328	PRES	Pressure [Pa]	tropopause	anl
329	HGT	Geopotential height [gpm]	tropopause	anl
330	TMP	Temp. [K]	tropopause	anl
331	UGRD	u wind [m/s]	tropopause	anl
332	VGRD	v wind [m/s]	tropopause	anl
333	VWSH	Vertical speed shear [1/s]	tropopause	anl
334	PRES	Pressure [Pa]	max wind lev	anl
335	HGT	Geopotential height [gpm]	max wind lev	anl
336	UGRD	u wind [m/s]	max wind lev	anl

<u>rec #</u>	<u>wgrib abbrev.</u>	<u>Name and unit</u>	<u>level/laver type</u>	<u>time</u>
337	VGRD	v wind [m/s]	max wind lev	anl
338	HGT	Geopotential height [gpm]	0C isotherm	anl
339	RH	Relative humidity [%]	0C isotherm	anl
340	TMP *	Temp. [K]	30-0 mb above gnd	anl
341	SPFH *	Specific humidity [kg/kg]	30-0 mb above gnd	anl
342	MCONV *	Horizontal moisture divergence [kg/kg/s]	30-0 mb above gnd	anl
343	UGRD *	u wind [m/s]	30-0 mb above gnd	anl
344	VGRD *	v wind [m/s]	30-0 mb above gnd	anl
345	VVEL *	Pressure vertical velocity [Pa/s]	30-0 mb above gnd	anl
346	TMP *	Temp. [K]	60-30 mb above gnd	anl
347	SPFH *	Specific humidity [kg/kg]	60-30 mb above gnd	anl
348	MCONV *	Horizontal moisture divergence [kg/kg/s]	60-30 mb above gnd	anl
349	UGRD *	u wind [m/s]	60-30 mb above gnd	anl
350	VGRD *	v wind [m/s]	60-30 mb above gnd	anl
351	VVEL *	Pressure vertical velocity [Pa/s]	60-30 mb above gnd	anl
352	TMP *	Temp. [K]	90-60 mb above gnd	anl
353	SPFH *	Specific humidity [kg/kg]	90-60 mb above gnd	anl
354	MCONV *	Horizontal moisture divergence [kg/kg/s]	90-60 mb above gnd	anl
355	UGRD *	u wind [m/s]	90-60 mb above gnd	anl
356	VGRD *	v wind [m/s]	90-60 mb above gnd	anl
357	VVEL *	Pressure vertical velocity [Pa/s]	90-60 mb above gnd	anl
358	TMP *	Temp. [K]	120-90 mb above gnd	anl
359	SPFH *	Specific humidity [kg/kg]	120-90 mb above gnd	anl
360	MCONV *	Horizontal moisture divergence [kg/kg/s]	120-90 mb above gnd	anl
361	UGRD *	u wind [m/s]	120-90 mb above gnd	anl
362	VGRD *	v wind [m/s]	120-90 mb above gnd	anl
363	VVEL *	Pressure vertical velocity [Pa/s]	120-90 mb above gnd	anl
364	TMP *	Temp. [K]	150-120 mb above gnd	anl
365	SPFH *	Specific humidity [kg/kg]	150-120 mb above gnd	anl
366	MCONV *	Horizontal moisture divergence [kg/kg/s]	150-120 mb above gnd	anl
367	UGRD *	u wind [m/s]	150-120 mb above gnd	anl
368	VGRD *	v wind [m/s]	150-120 mb above gnd	anl
369	VVEL *	Pressure vertical velocity [Pa/s]	150-120 mb above gnd	anl
370	TMP *	Temp. [K]	180-150 mb above gnd	anl
371	SPFH *	Specific humidity [kg/kg]	180-150 mb above gnd	anl
372	MCONV *	Horizontal moisture divergence [kg/kg/s]	180-150 mb above gnd	anl
373	UGRD *	u wind [m/s]	180-150 mb above gnd	anl
374	VGRD *	v wind [m/s]	180-150 mb above gnd	anl
375	VVEL *	Pressure vertical velocity [Pa/s]	180-150 mb above gnd	anl
376	4LFTX	Best (4-layer) lifted index [K]	180-0 mb above gnd	anl
377	CAPE	Convective available potential energy [J/kg]	180-0 mb above gnd	anl
378	CIN	Convective inhibition [J/kg]	180-0 mb above gnd	anl
379	PRES	Pressure [Pa]	cond lev	anl
380	ALBDO *	Albedo [%]	sfc	anl
381	PRATE	Precipitation rate [kg/m^2/s]	sfc	3hr fcst
382	APCP	Total precipitation [kg/m^2]	sfc	0-3hr acc
383	APCPN *	Total precipitation (nearest grid point) [kg/m^2]	sfc	0-3hr acc
384	ACPCP	Convective precipitation [kg/m^2]	sfc	0-3hr acc
385	SNOM *	Snow melt [kg/m^2]	sfc	0-3hr acc
386	SSRUN *	Surface runoff (non-infiltrating) [kg/m^2]	sfc	0-3hr acc
387	BGRUN *	Subsurface runoff (baseflow) [kg/m^2]	sfc	0-3hr acc
388	CSNOW *	Categorical snow [yes=1 no=0]	sfc	3hr fcst
389	CICEP *	Categorical ice pellets [yes=1 no=0]	sfc	3hr fcst
390	CFRZR *	Categorical freezing rain [yes=1 no=0]	sfc	3hr fcst
391	CRAIN *	Categorical rain [yes=1 no=0]	sfc	3hr fcst
392	LHTFL *	Latent heat flux [W/m^2]	sfc	0-3hr ave
393	SHTFL *	Sensible heat flux [W/m^2]	sfc	0-3hr ave

<u>rec #</u>	<u>wgrib abbrev.</u>	<u>Name and unit</u>	<u>level/layer type</u>	<u>time</u>
394	GFLUX *	Ground Heat Flux [W/m^2]	sfc	0-3hr ave
395	SNOHF *	Snow phase-change heat flux [W/m^2]	sfc	0-3hr ave
396	EVP *	Evaporation [kg/m^2]	sfc	0-3hr acc
397	PEVAP *	Potential evaporation [kg/m^2]	sfc	0-3hr acc
398	WVCONV	Water vapor flux convergence (vertical int) [kg/m^2]	atmos col	0-3hr acc
399	WVCONV	Water vapor flux convergence (vertical int) [kg/m^2]	0-700 mb	0-3hr acc
400	WCCONV	Water condensate flux convergence (vertical int) [kg/m^2]	atmos col	0-3hr acc
401	WCCONV	Water condensate flux convergence (vertical int) [kg/m^2]	0-700 mb	0-3hr acc
402	WVUFLX	Water vapor zonal flux (vertical int) [kg/m]	atmos col	0-3hr acc
403	WVUFLX	Water vapor zonal flux (vertical int) [kg/m]	0-700 mb	0-3hr acc
404	WVFLX	Water vapor meridional flux (vertical int) [kg/m]	atmos col	0-3hr acc
405	WVFLX	Water vapor meridional flux (vertical int) [kg/m]	0-700 mb	0-3hr acc
406	WCUFLX	Water condensate zonal flux (vertical int) [kg/m]	atmos col	0-3hr acc
407	WCUFLX	Water condensate zonal flux (vertical int) [kg/m]	0-700 mb	0-3hr acc
408	WCVFLX	Water condensate meridional flux (vertical int) [kg/m]	atmos col	0-3hr acc
409	WCVFLX	Water condensate meridional flux (vertical int) [kg/m]	0-700 mb	0-3hr acc
410	WVINC	water vapor added by precip assimilation [kg/m^2/s]	atmos col	0-3hr acc
411	WVINC	water vapor added by precip assimilation [kg/m^2/s]	0-700 mb	0-3hr acc
412	WCINC	water condensate added by precip assimilaition [kg/m^2/s]	atmos col	0-3hr acc
413	WCINC	water condensate added by precip assimilaition [kg/m^2/s]	0-700 mb	0-3hr acc
414	LCDC	Low level cloud cover [%]	low cld lay	3hr fcst
415	MCDC	Mid level cloud cover [%]	mid cld lay	3hr fcst
416	HCDC	High level cloud cover [%]	high cld lay	3hr fcst
417	TCDC	Total cloud cover [%]	atmos col	3hr fcst
418	CDLYR	Non-convective cloud [%]	atmos col	0-3hr ave
419	CDCON	Convective cloud cover [%]	atmos col	0-3hr ave
420	DSWRF *	Downward shortwave radiation flux [W/m^2]	sfc	0-3hr ave
421	DLWRF *	Downward longwave radiation flux [W/m^2]	sfc	0-3hr ave
422	USWRF *	Upward short wave radiation flux [W/m^2]	sfc	0-3hr ave
423	ULWRF *	Upward long wave radiation flux [W/m^2]	sfc	0-3hr ave
424	USWRF	Upward short wave radiation flux [W/m^2]	nom. top	0-3hr ave
425	ULWRF	Upward long wave radiation flux [W/m^2]	nom. top	0-3hr ave

**MERGED B (merged\_AWIP32.YYYYMMDDHH.b)**

1	WEASD *	Accum. snow [kg/m^2]	sfc	3hr fcst
2	SHTFL *	Sensible heat flux [W/m^2]	sfc	3hr fcst
3	LHTFL *	Latent heat flux [W/m^2]	sfc	3hr fcst
4	GFLUX *	Ground Heat Flux [W/m^2]	sfc	3hr fcst
5	PWAT	Precipitable water [kg/m^2]	atmos col	3hr fcst
6	DSWRF *	Downward shortwave radiation flux [W/m^2]	sfc	3hr fcst
7	DLWRF *	Downward longwave radiation flux [W/m^2]	sfc	3hr fcst
8	USWRF *	Upward short wave radiation flux [W/m^2]	sfc	3hr fcst
9	ULWRF *	Upward long wave radiation flux [W/m^2]	sfc	3hr fcst

**LAND A subset (landa.YYYYMMDDHH)**

1	PRES	Pressure [Pa]	sfc	anl
2	TMP *	Temp. [K]	2 m above gnd	anl
3	SPFH *	Specific humidity [kg/kg]	2 m above gnd	anl
4	RH *	Relative humidity [%]	2 m above gnd	anl
5	UGRD *	u wind [m/s]	10 m above gnd	anl
6	VGRD *	v wind [m/s]	10 m above gnd	anl
7	POT *	Potential temp. [K]	10 m above gnd	anl
8	TMP *	Temp. [K]	10 m above gnd	anl



<u>rec #</u>	<u>wgrib abbrev.</u>	<u>Name and unit</u>	<u>level/layer type</u>	<u>time</u>
9	PRES *	Pressure [Pa]	10 m above gnd	anl
10	SPFH *	Specific humidity [kg/kg]	10 m above gnd	anl
11	APCP	Total precipitation [kg/m^2]	sfc	0-3hr acc
12	ACPCP	Convective precipitation [kg/m^2]	sfc	0-3hr acc
13	DSWRF *	Downward shortwave radiation flux [W/m^2]	sfc	0-3hr ave
14	DLWRF *	Downward longwave radiation flux [W/m^2]	sfc	0-3hr ave
15	CAPE	Convective available potential energy [J/kg]	180-0 mb above gnd	anl

**LAND B subset (landB.YYYYMMDDHH)**

1	MSLET	Mean sea level pressure (ETA model) [Pa]	MSL	anl
2	TMP	Temp. [K]	1000 mb	anl
3	PRESN *	Pressure (nearest grid point) [Pa]	sfc	anl
4	UGRD *	u wind [m/s]	30 m above gnd	anl
5	VGRD *	v wind [m/s]	30 m above gnd	anl
6	POT *	Potential temp. [K]	30 m above gnd	anl
7	TMP *	Temp. [K]	30 m above gnd	anl
8	PRES *	Pressure [Pa]	30 m above gnd	anl
9	SPFH *	Specific humidity [kg/kg]	30 m above gnd	anl
10	PRES *	Pressure [Pa]	hybrid lev 1	anl
11	HGT *	Geopotential height [gpm]	hybrid lev 1	anl
12	TMP *	Temp. [K]	hybrid lev 1	anl
13	POT *	Potential temp. [K]	hybrid lev 1	anl
14	SPFH *	Specific humidity [kg/kg]	hybrid lev 1	anl
15	UGRD *	u wind [m/s]	hybrid lev 1	anl
16	VGRD *	v wind [m/s]	hybrid lev 1	anl
17	TKE *	Turbulent Kinetic Energy [J/kg]	hybrid lev 1	anl
18	BMIXL	Blackadars mixing length scale [m]	hybrid lev 1	anl
19	FRICV *	Surface friction velocity [m/s]	sfc	anl
20	CD *	Surface drag coefficient [non-dim]	sfc	anl
21	UFLX *	Zonal momentum flux [N/m^2]	sfc	anl
22	VFLX *	Meridional momentum flux [N/m^2]	sfc	anl
23	SFEXC *	Exchange coefficient [(kg/m^3)(m/s)]	sfc	anl
24	HPBL	Planetary boundary layer height [m]	sfc	anl
25	TMP *	Temp. [K]	sfc	anl
26	POT *	Potential temp. [K]	sfc	anl
27	TSOIL *	Soil temp. [K]	0-10 cm down	anl
28	SOILW *	Volumetric soil moisture (frozen + liquid) [fraction]	0-10 cm down	anl
29	SOILL *	Liquid volumetric soil moisture (non-frozen) [fraction]	0-10 cm down	anl
30	TSOIL *	Soil temp. [K]	10-40 cm down	anl
31	SOILW *	Volumetric soil moisture (frozen + liquid) [fraction]	10-40 cm down	anl
32	SOILL *	Liquid volumetric soil moisture (non-frozen) [fraction]	10-40 cm down	anl
33	TSOIL *	Soil temp. [K]	40-100 cm down	anl
34	SOILW *	Volumetric soil moisture (frozen + liquid) [fraction]	40-100 cm down	anl
35	SOILL *	Liquid volumetric soil moisture (non-frozen) [fraction]	40-100 cm down	anl
36	TSOIL *	Soil temp. [K]	100-200 cm down	anl
37	SOILW *	Volumetric soil moisture (frozen + liquid) [fraction]	100-200 cm down	anl
38	SOILL *	Liquid volumetric soil moisture (non-frozen) [fraction]	100-200 cm down	anl
39	MSTAV *	Moisture availability [%]	0-100 cm down	anl
40	SOILM *	Soil moisture content [kg/m^2]	0-200 cm down	anl
41	CNWAT *	Plant canopy surface water [kg/m^2]	sfc	anl
42	WEASD *	Accum. snow [kg/m^2]	sfc	anl
43	SNOD *	Snow depth [m]	sfc	anl
44	SNOWC *	Snow cover [%]	sfc	anl
45	ALBDO *	Albedo [%]	sfc	anl

<u>rec #</u>	<u>wgrib abbrev.</u>	<u>Name and unit</u>	<u>level/layer type</u>	<u>time</u>
46	VEG *	Vegetation [%]	sfc	anl
47	CCOND *	Canopy conductance [m/s]	sfc	anl
48	RCSOL *	Soil moisture parameter in canopy conductance [fraction]	sfc	anl
49	VIS	Visibility [m]	sfc	anl
50	LCDC	Low level cloud cover [%]	low cld lay	3hr fcst
51	TCDC	Total cloud cover [%]	atmos col	3hr fcst

**LAND C subset (landC.YYYYMMDDHH)**

1	APCPN *	Total precipitation (nearest grid point) [kg/m <sup>2</sup> ]	sfc	0-3hr acc
2	SNOM *	Snow melt [kg/m <sup>2</sup> ]	sfc	0-3hr acc
3	SSRUN *	Surface runoff (non-infiltrating) [kg/m <sup>2</sup> ]	sfc	0-3hr acc
4	BGRUN *	Subsurface runoff (baseflow) [kg/m <sup>2</sup> ]	sfc	0-3hr acc
5	EVP *	Evaporation [kg/m <sup>2</sup> ]	sfc	0-3hr acc
6	PEVAP *	Potential evaporation [kg/m <sup>2</sup> ]	sfc	0-3hr acc
7	LHTFL *	Latent heat flux [W/m <sup>2</sup> ]	sfc	0-3hr ave
8	SHTFL *	Sensible heat flux [W/m <sup>2</sup> ]	sfc	0-3hr ave
9	GFLUX *	Ground Heat Flux [W/m <sup>2</sup> ]	sfc	0-3hr ave
10	SNOHF *	Snow phase-change heat flux [W/m <sup>2</sup> ]	sfc	0-3hr ave
11	ULWRF *	Upward long wave radiation flux [W/m <sup>2</sup> ]	sfc	0-3hr ave
12	USWRF *	Upward short wave radiation flux [W/m <sup>2</sup> ]	sfc	0-3hr ave

**FIXED fields**

1	HGT	Geopotential height [gpm]	sfc	anl
2	HGTN	Geopotential Height (nearest grid point) [gpm]	sfc	anl
3	TSOIL	Soil temp. [K]	800 cm down	anl
4	SMDRY	Direct evaporation cease (soil moisture) [fraction]	sfc	anl
5	POROS	Soil porosity [fraction]	sfc	anl
6	SFCR	Surface roughness [m]	sfc	anl
7	VGTYP	Vegetation type [Index]	sfc	anl
8	SOTYP	Soil type [Index]	sfc	anl
9	SLTYP	Surface slope type [Index]	sfc	anl
10	RSMIN	Minimal stomatal resistance [s/m]	sfc	anl
11	RLYRS	Number of soil layers in root zone [non-dim]	sfc	anl
12	WILT	Wilting point [fraction]	sfc	anl
13	SMREF	Transpiration stress-onset (soil moisture) [fraction]	sfc	anl
14	NLAT	Latitude (-90 to +90) [deg]	sfc	anl
15	ELON	East longitude (0-360) [deg]	sfc	anl
16	LAND	Land cover (land=1;sea=0) [fraction]	sfc	anl
17	SNFALB	Snow-free albedo [%]	sfc	anl
18	MXSALB	Maximum snow albedo [%]	sfc	anl

Notes:

- asterisk in third colum denotes fields interpolated using nearest-neighbor option
- 8 merged A and B files (every 3 hours) are archived in a single daily tar file (approx. 450Mb)
- 8 land A, B and C files (every 3 hours) are archived in a single daily tar file (approx. 75Mb)