

SREF products (documented by Jun Du, Nov. 12, 2019)

(basic, precipitation, winter weather, convection, aviation, fire weather, wind energy)

(a total of 80+80+180+352=692 fields)

SREF	GEFS (y/n)	HREF (y/n)	notes
Mean/spread (80x2=160)	Mean/spread	Mean/spread	Mean/spread
10-m u			
10-m v			
2-m T			
2-m Td			
2-m RH			
SLP			
u at 7 levels (1000 850 700 600 500 300 250)			
v at 7 levels (1000 850 700 600 500 300 250)			
H at 7 levels (1000 850 700 600 500 300 250)			
Thickness between 1000 and 850			
Thickness between 1000 and 500			
Thickness between 850 and 700			
Vorticity at 6 levels (850 700 600 500 300 250)			
RH at 5 levels (850 700 600 500 300)			
T at 5 levels (850 700 600 500 300)			
Td at 4 levels (850 700 500 300)			
PW			
accumulated precip amount (24/12/6/3 hr)			
dominant precip type (rain/sleet/snow/freezing rain)			
accumulated snow amount (24/12/6/3 hr)			
CAPE			
SREH			
LI			
CIN			
low-level wind shear			
visibility			
fog (intensity)			
cloud ceiling			
cloud top height			
wind speed at 7 levels (1000 850 700 600 500 300 250)			
10-m wind speed			

Probability (180)	Probability	Probability	Probability
2-m T < 273.0K (0C)			
2-m T > 298.8K (25.8C)			
850hPa T < 273.0K (0C)			
3hr-accumprecip > 10 thresholds (0.25 1.27 2.54 6.35 12.7 25.4 38.1 50.8 101.6 152.4mm)			
6hr-accumprecip > 10 thresholds (0.25 1.27 2.54 6.35 12.7 25.4 38.1 50.8 101.6 152.4mm)			
12hr-accumprecip > 10 thresholds (0.25 1.27 2.54 6.35 12.7 25.4 38.1 50.8 101.6 152.4mm)			
24hr-accumprecip > 10 thresholds (0.25 1.27 2.54 6.35 12.7 25.4 38.1 50.8 101.6 152.4mm)			
precip type in 3 categories (rain, snow, freezing rain)			
3hr-accumsnow > 10 thresholds (25.4 50.8 101.6 152.4 190.5 203.2 254.0 304.8 406.4 609.4mm)			
6hr-accumsnow > 10 thresholds (25.4 50.8 101.6 152.4 190.5 203.2 254.0 304.8 406.4 609.4)			
12hr-accumsnow > 10 thresholds (25.4 50.8 101.6 152.4 190.5 203.2 254.0 304.8 406.4 609.4)			
24hr-accumsnow > 10 thresholds (25.4 50.8 101.6 152.4 190.5 203.2 254.0 304.8 406.4 609.4)			
CAPE > 6 thresholds (250 500 1000 2000 3000 4000)			
SREH > 5 thresholds (100.0 150.0 200.0 250.0 300.0)			
LI < 5 thresholds (0.0 -2.0 -4.0 -6.0 -8.0)			
CIN < 5 thresholds (-50.0 -100.0 -200.0 -300.0 -400.0)			
Thunderstorm at 3 categories (light, moderate and severe)			
Reflectivity > 4 thresholds (10.0 20.0 30.0 40.0dbz)			
VISB < 7 thresholds (402 804 1609 3218 4827 8046 9654m)			
Ceiling < 6 thresholds (152.5 305.0 610.0 914.6 1372.0 1830.0m)			

Echo top height > 5 thresholds (1000.0 3000.0 5000.0 7000.0 10000.0m)			
cloud coverage > 5 threshold (0 20 50 80 100%)			
icing at 7 flight levels (900 800 725 650 575 500 400hPa)			
light turb at 8 flight levels (500 450 400 350 300 275 225 200hPa)			
moderate turb at 8 flight levels (500 450 400 350 300 275 225 200hPa)			
severe turb at 8 flight levels (500 450 400 350 300 275 225 200hPa)			
Flight restriction at 4 categories (1.0 2.0 3.0 4.0)			
Low-level wind shear > 20.0 1/s			
Fog > 3 thresholds (0.016/light, 0.036/moderate, and 0.103/dense)			
Fire weather index > a threshold			
10-m wind speed > 3 thresholds (12.89 17.5 25.78 m/s)			
Max, min, mode, 10%, 25%, 50% (medium), 75% and 90% percentiles (352)	Max, min, mode, 10%, 25%, 50% (medium), 75% and 90% percentiles	Max, min, mode, 10%, 25%, 50% (medium), 75% and 90% percentiles	Max, min, mode, 10%, 25%, 50% (medium), 75% and 90% percentiles
2-m T			
T at 4 levels (700 600 500 300)			
H at 7 levels (1000 850 700 600 500 300 250)			
SLP			
10-m u			
10-m v			
U at 7 levels (1000 850 700 600 500 300 250hPa)			
V at 7 levels (1000 850 700 600 500 300 250hPa)			
RH at 7 levels (850 700 600 500 300hPa)			
Td at 4 levels (850 700 500 300hPa)			
Ceiling			
Visibility			
Cloud coverage			
CAPE			