NDFD border consistency checks

All NDFD elements have border consistency thresholds. Some thresholds are tied to terrain complexity. Other thresholds are graduated according to the value forecast.

For elements that use graduated thresholds, the NDFD compares relative differences to a variable threshold on a gridpoint by gridpoint basis. Border consistency is determined by whether the average of the relative differences is positive (exceeds the threshold) or negative (less than threshold). For elements not using graduated thresholds, the appropriate threshold is selected for each gridpoint according to terrain complexity.

The following tables show the NDFD thresholds. The columns of the table are defined as follows:

Elem. – NDFD element name
Reg. – threshold that applies to all forecast values for that element when not in complex terrain
Complex – threshold for adjacent gridpoints that differ by more than 500 feet in elevation (points that differ by more than 1000 feet or cross coastal boundaries are excluded from checks)
Condition – forecast characteristics that must apply to one or both adjacent gridpoints in order for check to be performed
Grad. – thresholds that vary according to values of gridpoints

NDFD border consistency thresholds

Elem.	Reg.	Complex	Condition	Grad.								
MaxT	5	7										
MinT	5	7										
PoP12	20	20										
QPF			>.25 (one)	.25 for <1.5	.50 for <3.0	1.0 for >=3.						
Sky	25	35										
Snow Amt			>2 (one)	2 for <6	4 for <12	6 for >=12						
T	5	7										
Td	5	7										
Wave Height			>0 (both) >2 (one)	2 for <6	3 for <12	4 for <16	5 for <20	6 for <24	7 for <28	8 for <32	9 for <36	10 for >=36
Wind Dir	45	90	>=12 kts (both)									
Wind Spd			>=12 kts (one)	10 for <20	15 for >=20							
Wind Gust			>=12 kts (one)	10 for <20	15 for >=20							
RH				10 for <25	15 for <50	20 for <75	25 for <100					
AppT	7	9										