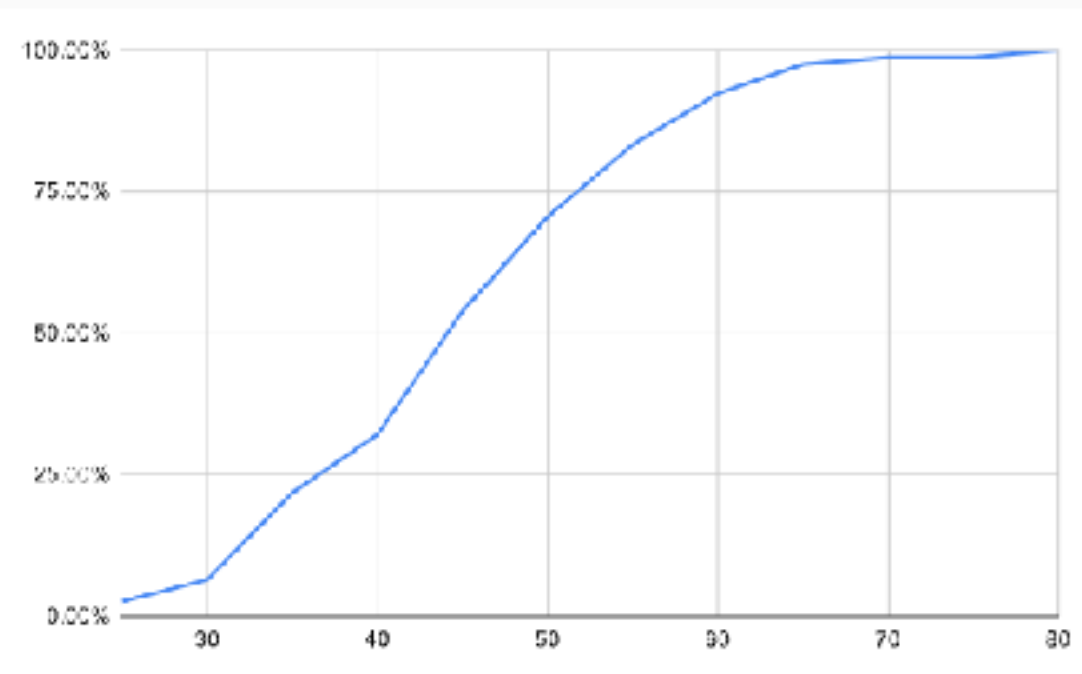
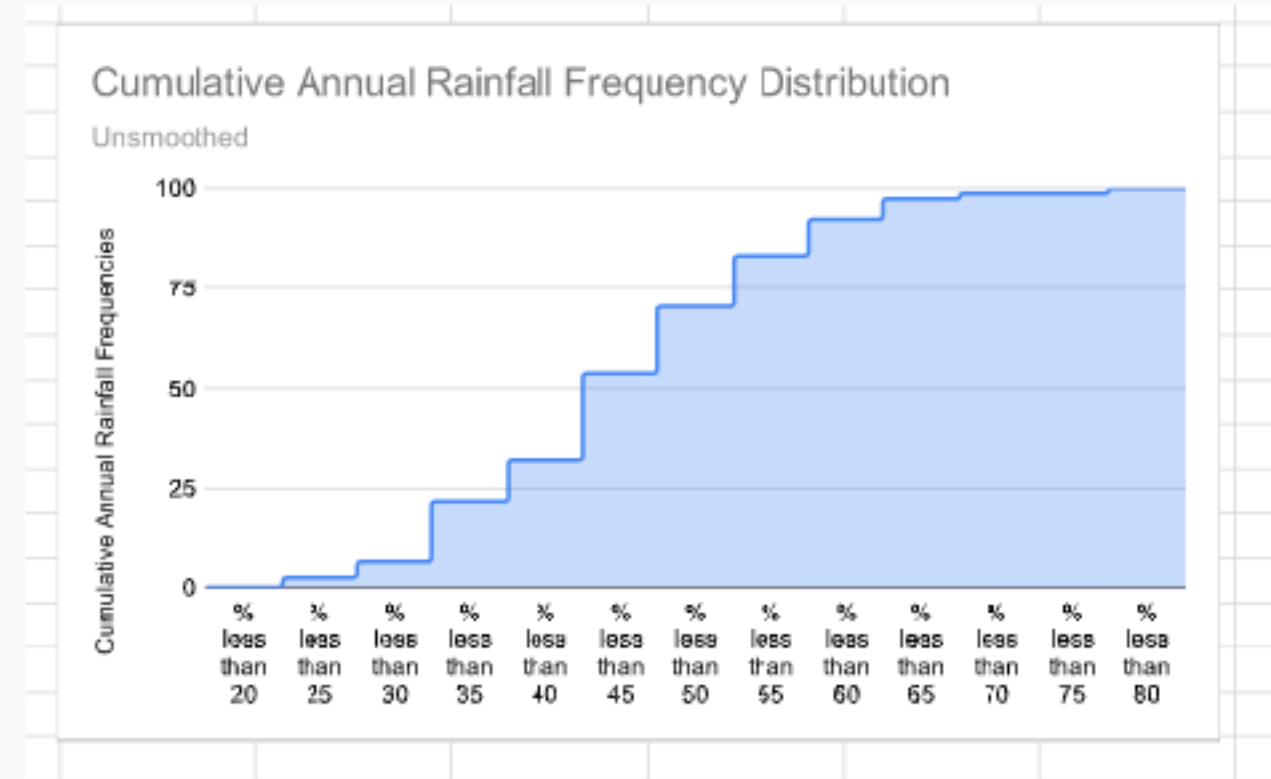


Annual Rainfall	Frequency	Distrib
21.19	0	
23.26	0.012820513	
27.7		
29.17		
29.26	0.064102564	
31.48		
31.84		
32.24		
32.45		
32.94		
33.13		
33.83		
34.01		
34.06		
34.24		
34.74		
34.78	0.217948718	
35.26		
36.81		
37.16		
37.44		
37.83		
38.6		
38.63		
39.5	0.320512821	
40.5		



**cumulative frequency distribution plot should really be a step function like shown above**

a) d statistic

0.56

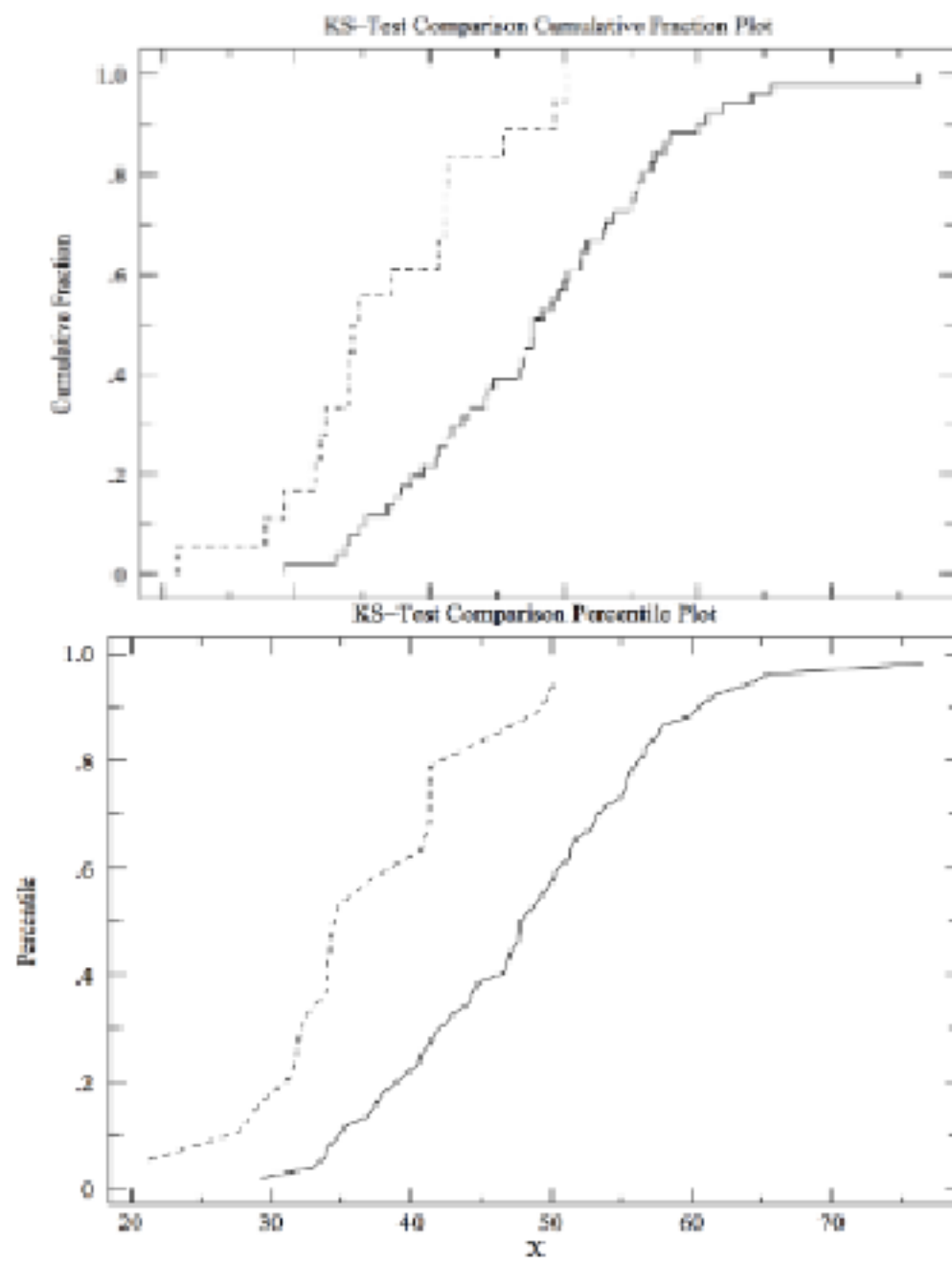
b) d statistic

0.085

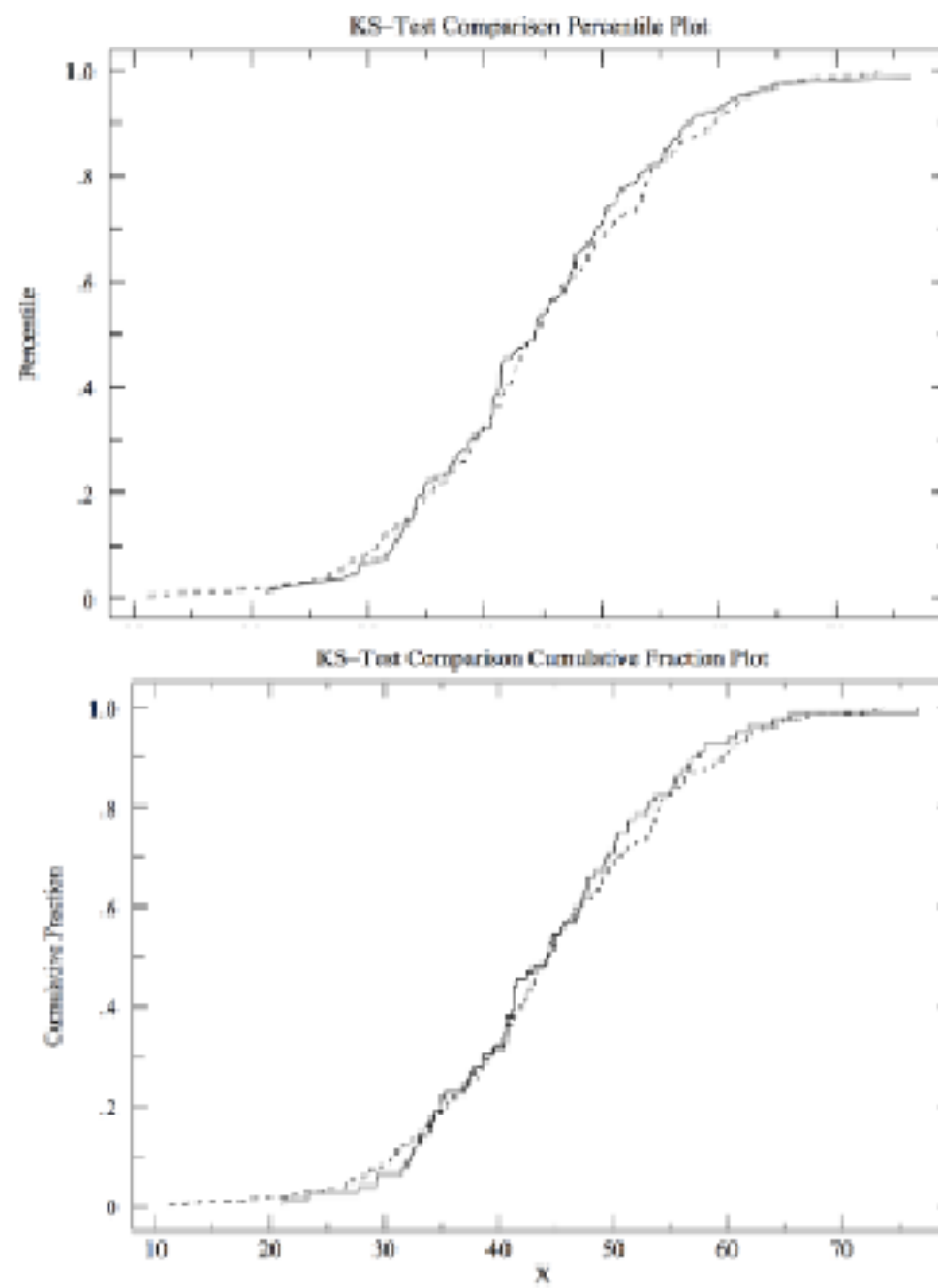
c) d statistic

0.21

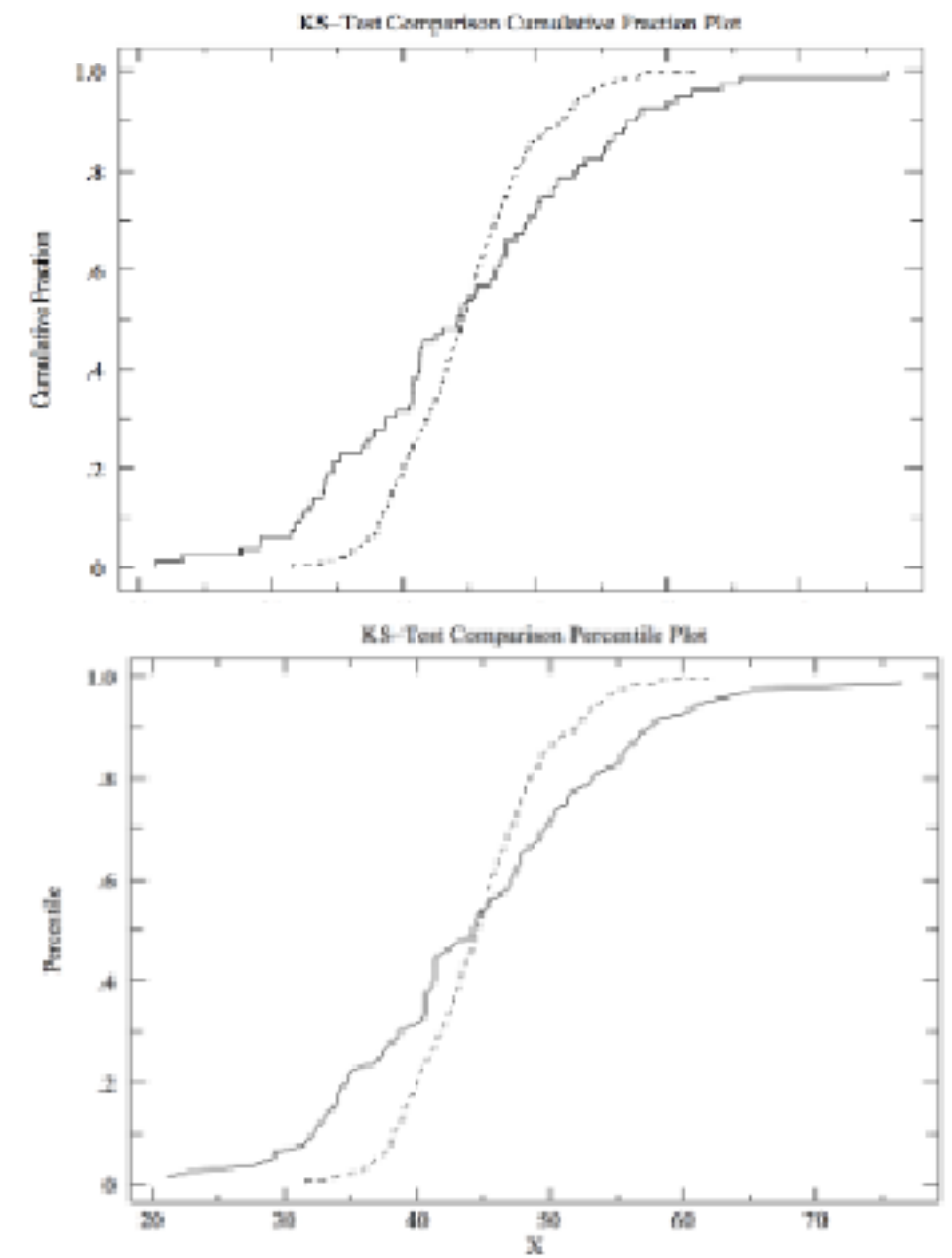
a



b



c



For  $N > 10$ :

- .05 level =  $1.36/\sqrt{N}$
- .01 level =  $1.63/\sqrt{N}$

"Two Sided" (comparing two different data distributions or size  $m$  and  $n$ )

- .05 level =  $1.36(\sqrt{(m+n)/mn})$
- .01 level =  $1.63(\sqrt{(m+n)/mn})$

2000-2017 Period:  $n = 18$

1950 -2000 Period  $m = 51$

$m+n = 69$   $mn=918$

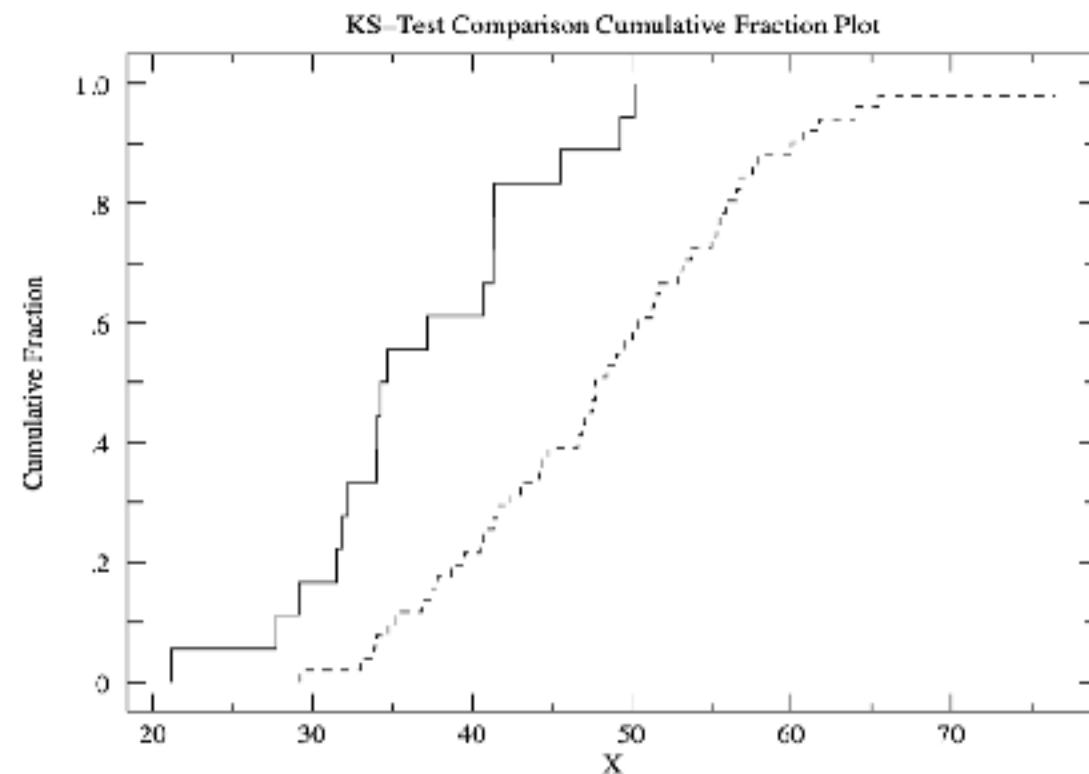
$(\sqrt{(m+n)/mn}) = \sqrt{69/918} = .27$

.05 level =  $1.36 * .27 = .37$

.01 level =  $1.63 * .27 = .44$

Observed D-statistic = .56

Clearly higher than the 1% level so these two distributions can not be the same



For the Model:  $N = 78$  (1940-2017 is the data)

$\sqrt{N} = 8.83$

.05 level =  $1.36/8.83 = 0.15$   $D = .085$ ;  $D$  is not greater than the .05 level so data and the model, column D, are the same

.01 level =  $1.63/8.83 = 0.18$   $D = 0.21$ ;  $D$  is greater than even the .01 level so the data and the model, column E, are not the same) – this means that model E does not agree with the data – we will make use of this approach later when dealing with climate change models

