In the manuscript, the authors use an approach based on complex networks to analyse rainfall patterns in 24 mega-cities of East Asia. The choice of the cities is based on their importance based on the degree of urbanization and their vulnerability to extreme rainfall. They used mutual information and clustering to assess the importance of the cities in terms of their strategic location and also a temporal lag based analysis to recognize how the impacts of rainfall on the cities are inter-related. The approach is novel and successfully brings to light many important relationships between the rainfall characteristics of the different cities, some of which needs to be climatologically interpreted in future research. However, I have few major revisions based on the questions related to the interpretation of results, which I feel needs to be addressed, and some more minor revisions listed below. I recommend the publication of this manuscript in HESS after the revisions are made.

Major revisions:

1. The authors rank the importance of the nodes (cities) based on the values of adjacency information entropy and average link weight. They have explained why some locations have a low rank. However, there is no physical interpretation of the cities having very high/low entropy values. Are these cities more prone to flooding due to extreme rainfall from monsoon/typhoons from the South China Sea? Also do they know any reason why the group of cities in the north of the map have low values compared to those in the south? Such an explanation would explain the purpose of conducting the vital node identification methodology.
2. I like how the clustering analysis identify the cities having similar rainfall patterns. However, the authors only explain about Seoul and Kuala Lumpur as to why they are isolated from all groups. There is no interpretation of the cities which form groups. I have a feeling that some groups may be formed because the particular cities lie in the basin of the same river, for instance, G4 is in the Yellow river basin and G3 in the middle/lower reaches of the Yangtze, which may be the cause of similar rainfall characteristics. Such knowledge is important to predict concurrent floods in multiple locations. Could you please check if such is the case of most clusters?
3. I wonder if lowering the threshold value in the clustering analysis, leads to bigger clusters, and unravels grouping together of those clusters which are found to be related in the time lag analysis. For instance, G2, G3, G4 and G6 may be related as they are linked by the anticyclone and two or more of the groups fall in the same cluster when a lower threshold is chosen. Has the authors verified that?
4. Since the authors used the rainfall time series of the whole year for the analysis, how do they know while climatologically interpreting in Sec. 4.4, that the relation between groups is due to Indian monsoon which takes place in summer, or that the anticyclone is not specific to a certain season?

Minor revisions

1. The main conclusions of the paper is not clear when reading the abstract. The concluding statement should talk more about the authors' findings.
2. There is a consistent confusion created by the consistent usage of the term 'correlation coefficient' synonymously in place of 'similarity measure'. Since correlation coefficient is a type of linear similarity measure, whereas mutual information is nonlinear, they are different. It is also not clear in the abstract, introduction and methodology Sec. 3.1 therefore whether the authors use mutual information or correlation in their work. Kindly correct it.
3. Figure 5 has a typo in labelling of boxes G2 and G3.
4. In the data, it is not clear if you use a single grid point from APRODITE to represent each city of a group of grid points.

5. Lines 58-59 in the introduction is incorrect. A complex network may be of several types. What the authors seem to refer to are functional climate networks in which connectivity is defined on the basis of 'statistical interdependence' between the pairs of nodes. Please change the sentence.
6. Line 106 in Sec 3.1, a node need not be a fixed element. A node in a complex network is a dynamical unit, it may be fixed, movable, disappearing. In case of climate network, the nodes are spatial grid points which represent a dynamical subsystem. Kindly correct the sentence.
7. Sec. 3.2 in methodology, please add a sentence on the relevance of vital nodes or high degree nodes in climate system.
8. Sentence 'Each node has different link weights' on line 169 is confusing, as link weight is between pairs of nodes. Please clarify or remove.
9. In line 175, authors talk about narrower or wider range of average, maximum and minimum link weights. They can use standard deviation of the range of av., max., min. link weights instead to quantify the 'range'.
10. Section 4.2, please specify that high ranking nodes means nodes of high adjacency information entropy. The term does not appear even once in the explanation.
11. I do not understand in lines 186-187, 'High ranking nodes in center of the maps… low-ranking nodes are diametrically opposed..' Kuala Lumpur, a high ranked node is not in center. 'diametrically opposite' is not clear. Please remove the explanation if it is not needed.
12. Lines 184-185, 'low mean of MI' and 'large average of MI', do you refer to the second column of average link weight in Table 2 ? Please clarify.
13. Line 233 onwards, Indian monsoon does not move northwest, rather the moisture bearing cross equatorial south-westerly low level jet coming from the Somalian coast, which causes Indian monsoon, moves northwest.
14. Replace 'vapour provider' and 'vapour' in line 258 with 'moisture source' and 'water vapour' respectively.
15. Mention 'belonging coefficient' specifically in line 261.