The IMILAST project: Characteristics of the cyclone life cycle over the Northern Hemisphere

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Central SLP

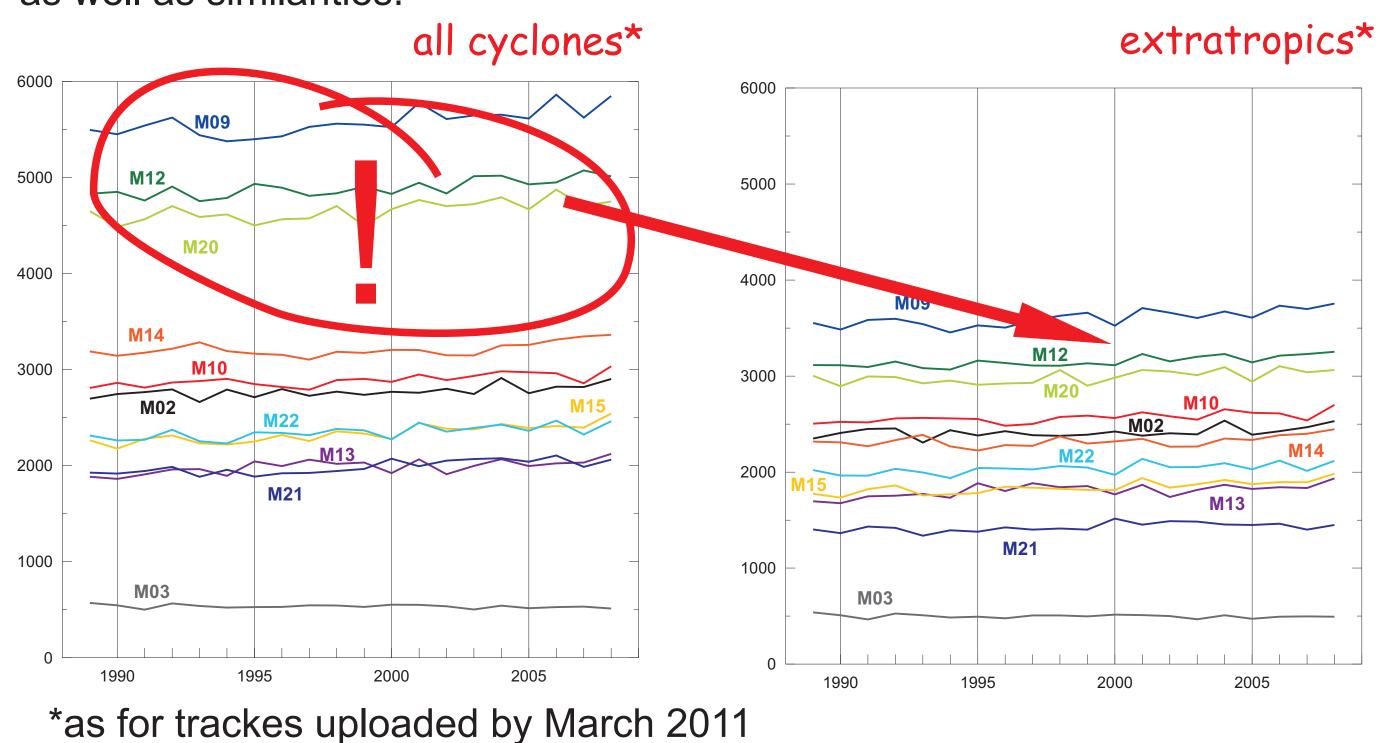
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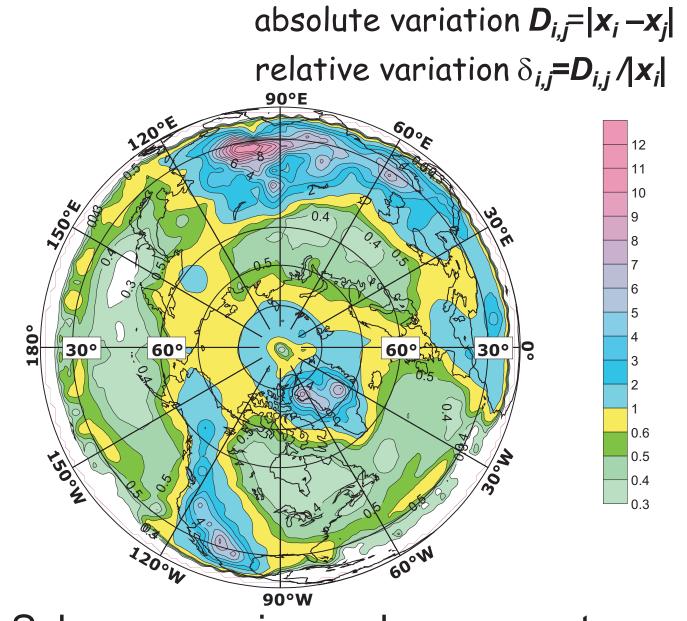
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Objectives

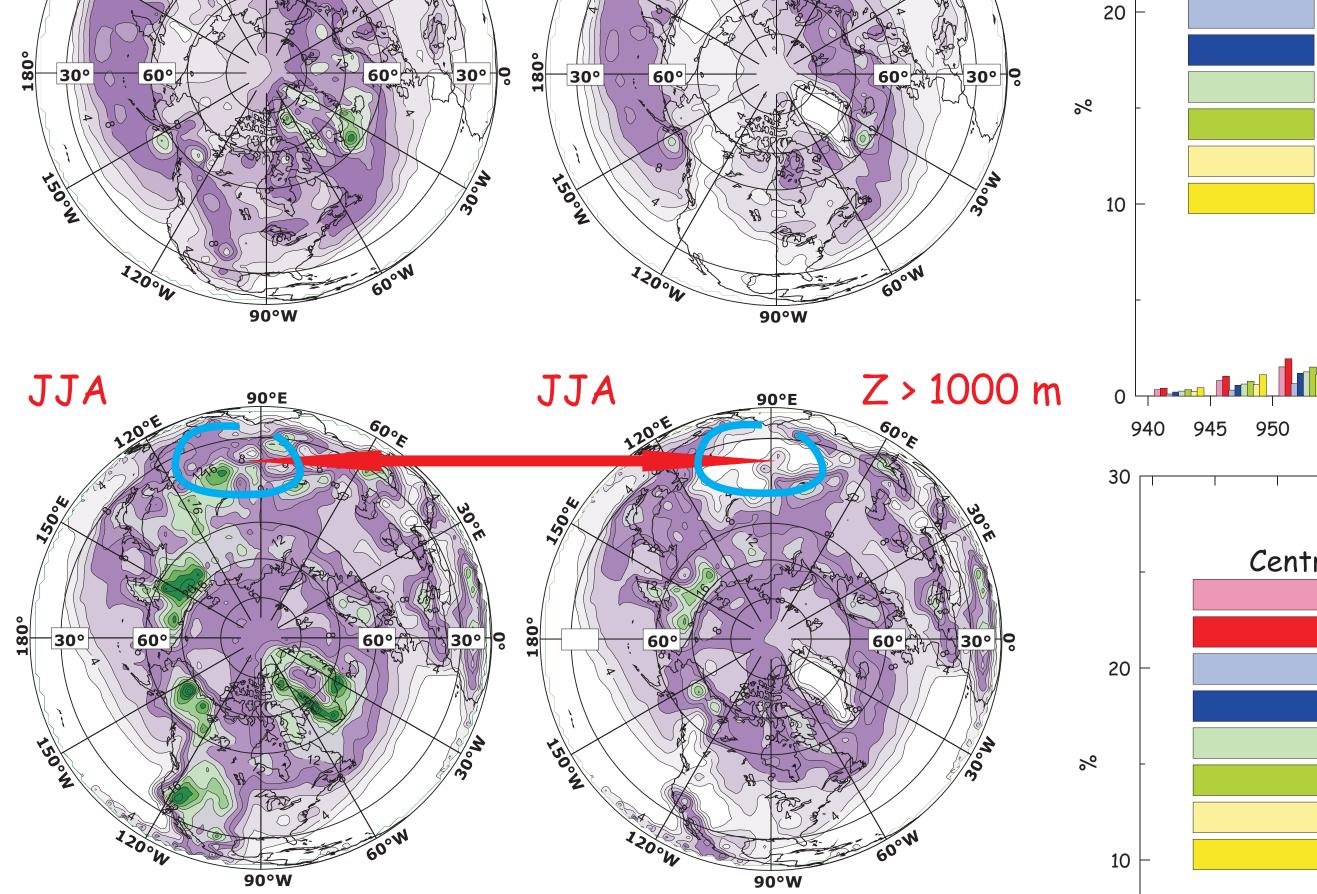
Characteristics of cyclone life cycle have been analyzed using outputs of more then 15 tracking schemes participating in the IMILAST project for the 20-yr period from 1989 till 2008. Rough comparison of cyclone climatologies shows that total number of cyclones may vary 3-fold across the schemes. On the other hand, geographical distribution of tracks is in good agreement especially in the regions of major storm tracks. Our aim is to analyse more sophisticated characteristics of cyclones to find the differences between the schemes as well as similarities.



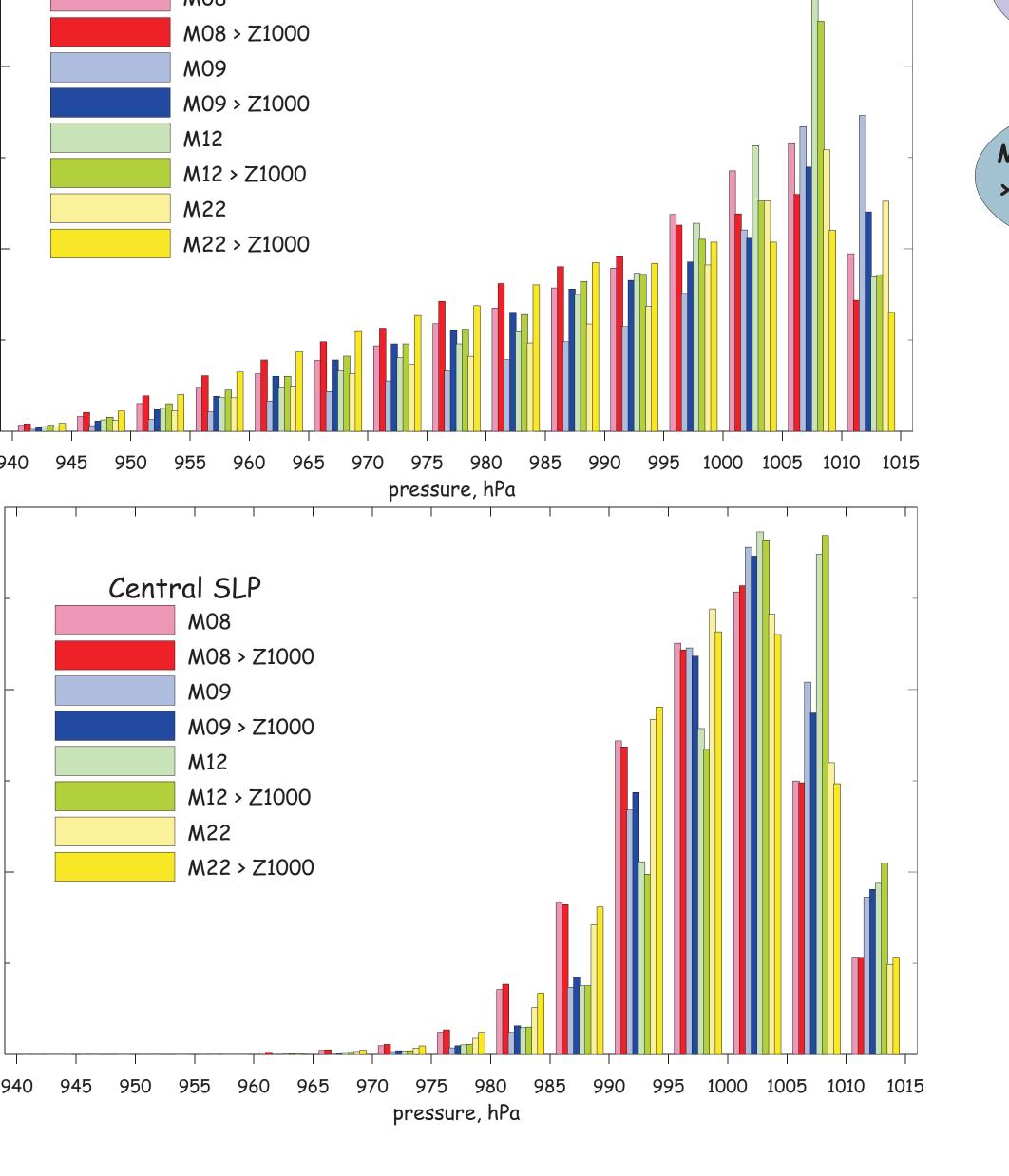


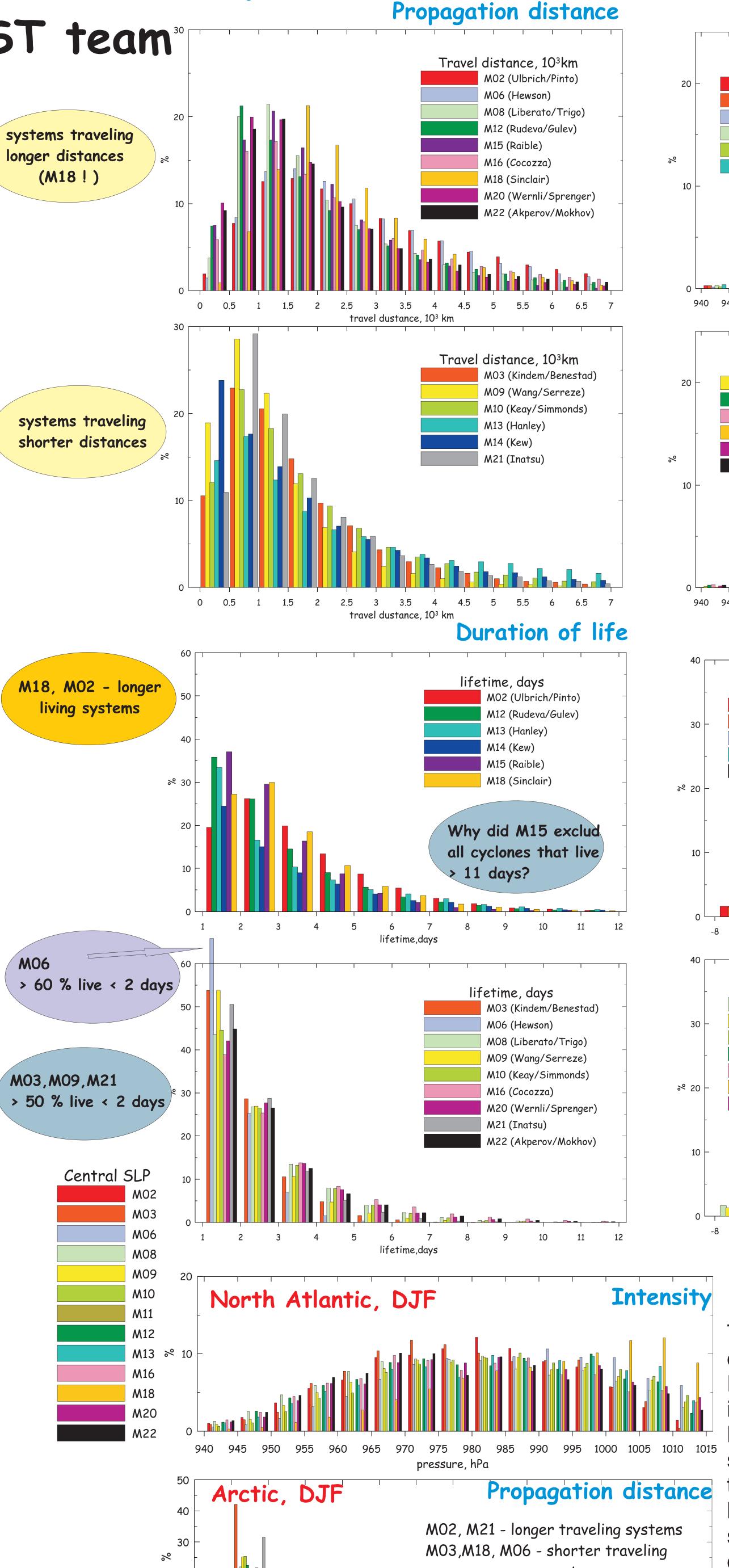
Schemes are in good agreement over the main storm tracks. The major differences occur over the continents. especially in elevated areas.

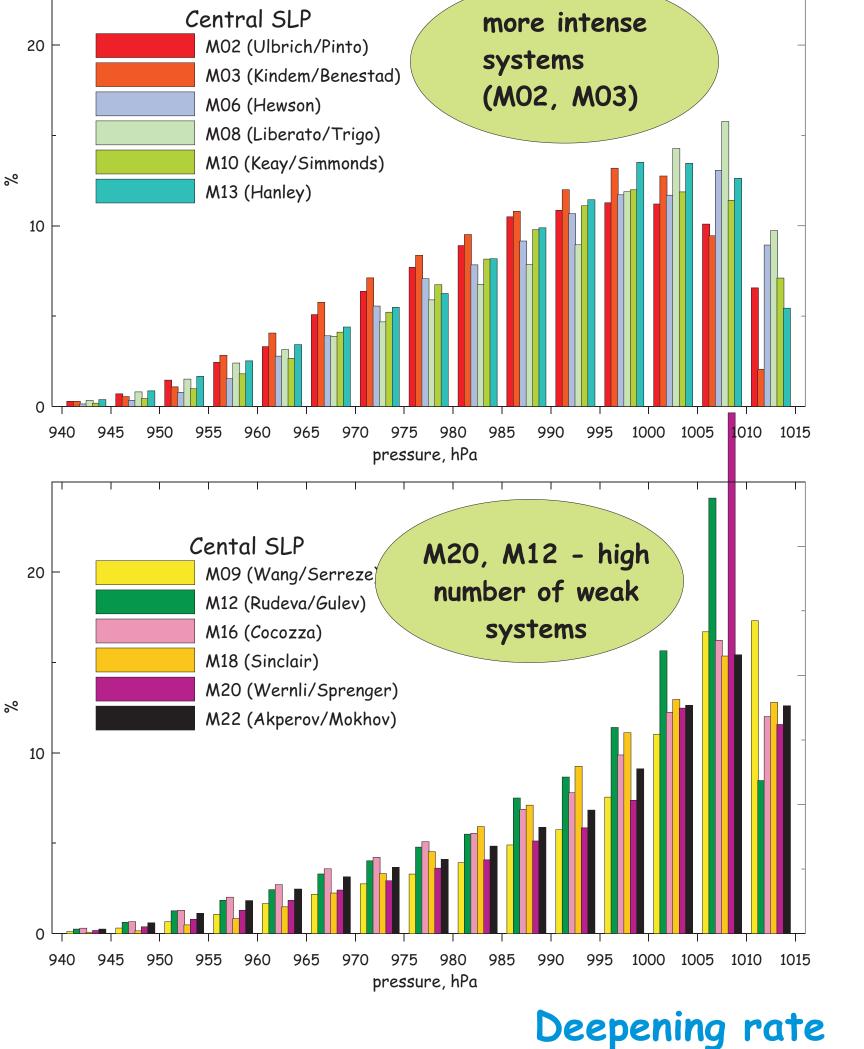
An Effect of Topography on Cyclone Characteristics

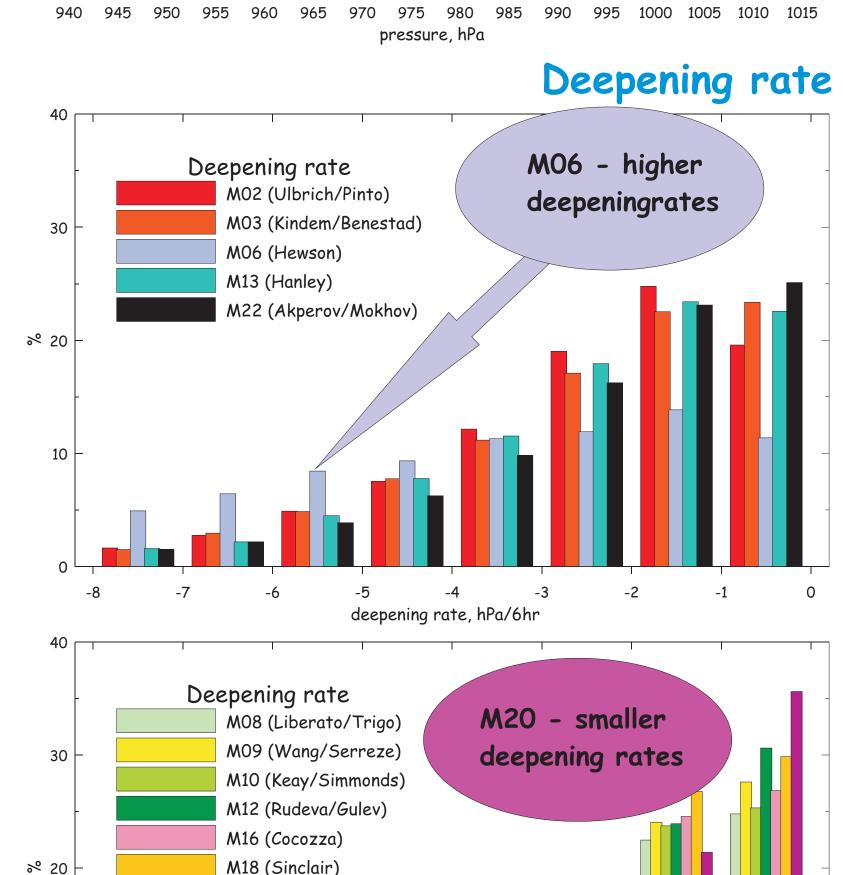


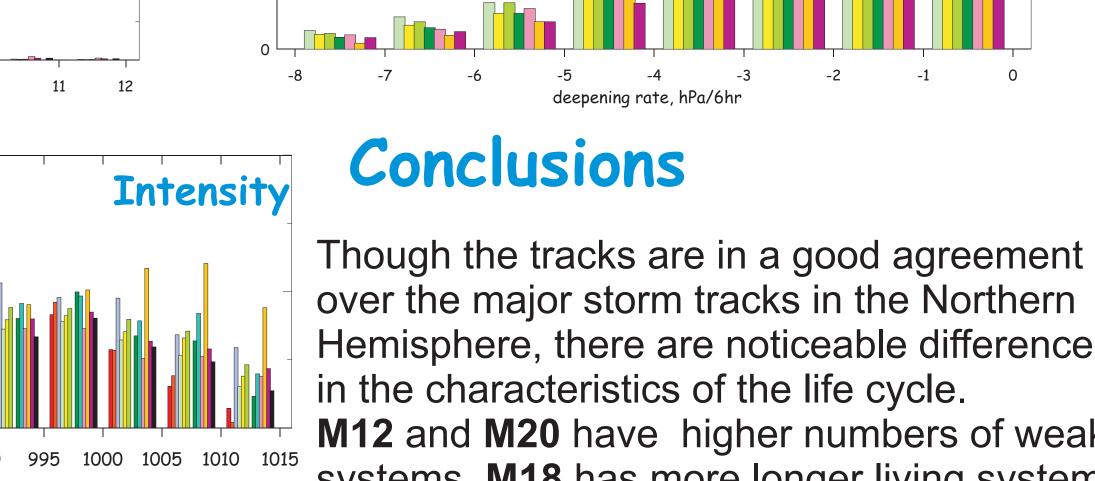
- 1. in summer more cyclones are eliminated but there are less changes in PDFs
- 2. some schemes cut off cyclones over elevated areas (e.g. M22) but there are still some features left in their tracks
- 3. differences in PDFs between schemes are higher than the changes due to the topography filter applied (Z1000)

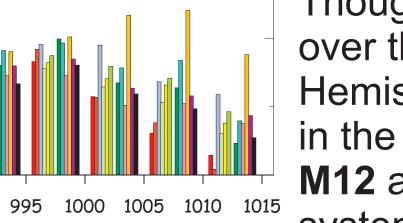


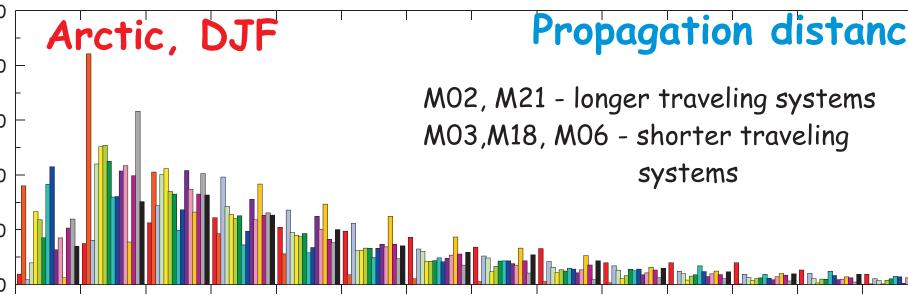












over the major storm tracks in the Northern Hemisphere, there are noticeable differences in the characteristics of the life cycle. M12 and M20 have higher numbers of weak

systems. M18 has more longer living systems, that propagate for larger distances. M06 has higher deepening rates and a lot of short-living systems, but surprisingly enough, propagation distances are quite large for this scheme. Elimination of cyclones over the elevated areas did not have a dramatic effect on PDFs. Over the ocean all schemes are in better agreement.