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May depressions over the area of Cyprus: associated weather, characteristics and comparison.

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May is, for the area of the East Mediterranean, a transitional month, from the cold period to the prolonged hot and dry period. The island of Cyprus, situated in the eastern Mediterranean basin, is affected by baroclinic depressions during the cold period, while during the hot and mainly dry period storms are initiated mainly by thermal instability. Storms in May are often hazardous, as they are associated with heavy thunderstorms, hail, strong winds and heavy precipitation, resulting in landslides and isolated flash flood events. Several historical May storms, either initiated by baroclinic instability or thermal instability or a blend of them, are investigated in order to identify any common synoptic, dynamic, and thermodynamic characteristics. A comparison of their characteristics is also performed in order to specify the contribution of baroclinic instability against thermal instability. For the necessary mathematical calculations ECMWF data, with grid length of 0.5° x 0.5° were used. This study was undertaken within the framework of project FLASH which is funded by the European Union (Sixth Framework Programme, Contract No. 036852).