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THEORY OF MERIDIONAL TRANSPORT IN THE EXTRATROPICAL LOWER STRATOSPHERE

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The nature of the meridional circulation in the middle and upper stratosphere has been well understood for some time, but the more complex flow in the extratropical lower stratosphere continues to cause confusion. This region is strongly affected by vigorous tropospheric weather systems. The mean meridional transport in the upper stratosphere is polewards in the winter hemisphere and many cherish the belief that this is also the case in the lower stratosphere. A theoretical framework explaining why this is not the case will be reviewed, backed up by operational analyses from the European Centre for Medium Range Weather Forecasting.