

SMR 301: DYNAMIC METEOROLOGY

STUDY GUIDE

1. Course Unit Description

The content of Weather analysis course builds upon what students have already learnt in their first year meteorological courses. It is practical course that helps students to appreciate meteorology as an applied science.

While weather analysis is a core course for students specializing in Meteorology, it is also offered to undergraduate students studying science who wish to gain knowledge in the science of weather. It is mainly concerned with the determination of the 3D state of the atmosphere and its interpretation in terms of the distribution of weather in space and time.

2. General Course Unit Objectives

The course provides one with a basic background on weather analysis focusing on the following objectives

- Understanding the weather analysis process
- Recognizing why meteorology demands international cooperation
- Using weather analysis to explain the observed weather
- Types of weather analysis and their characteristics
- Interpreting the various analysis

3. Course Unit Outcomes

At the end of this unit, the student should be able to:

- State the importance of international cooperation in the field of meteorology
- Identify the codes used in exchange of meteorological data
- Plot the codes on maps/charts/diagrams to reveal the space-time patterns
- Analyze and interpret the various patterns revealed from the plotted data
- Use the patterns revealed from analyses to infer where active weather may occur
- Determine the stability of the atmosphere from tephigram analysis

4. Selected Resources & references

- 1) Retallack B. J. 1971: Compendium of Lecture Notes for Training Class III Meteorological Personnel, WMO No. 291
- 2) Sauser, J. W. 1955: Principles of Meteorological Analysis. University of Chicago Press, Chicago; Illinois
- 3) WMO, 1973: The use of satellite in Weather Analysis and Forecasting. WMO- Technical Note No. 124
- 4) WMO, 1988: The World weather Watch. 25th Anniversary 1963-1988, WMO No. 707
- 5) WMO:- Manual on codes Volume I & II, WMO No. 306
- 6) WMO, 1956:- International Cloud Atlas. 62pp and 72 Plates. Reprinted 1969

5. Lecturers

Dr. R. E. Okoola, Dr. W. Gitau