LEBANON– Numerical Weather Prediction (NWP)_State Of The Art

**37th EWGLAM and 22nd SRNWP Meeting in Belgrade
5th – 8th October 2015**

Wissam Abdallah

**Computer Engineer & Forecaster
At
Meteorological Service Of Rafic Hariri International Airport**

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PLAN

1) **Description of ARPEG Numerical Weather Prediction Implemented At Meteorological Services Of Beirut Rafic Hariri International Airport (BRHIA)**

   A. **Definition Of ARPEG(NWFM)**
   B. **Meteorological elements Predicted By ARPEG(NWFM)**
   C. **Out puts**

2) **Weakness Of ARPEG**

3) **Efficient Numerical forecasting model Developed by the Meteorological Service of BRHIA becomes inevitable.**

1) Description of ARPEG

A. Definition Of ARPEG(NWFM)

- ❑ Commonly Weather Forecasting Modeled (WFM)Used In Lebanon
- ❑ Developed by MeteoFrance
- ❑ 70 km high,
- ❑ Horizontally 10km resolution over Paris
- ❑ widens as it extends away from the French capital reaching a size of 60 km over its antipode.)

B. Meteorological elements Predicted By ARPEG(104 Hours)

- ❑ temperature
- ❑ Humidity
- ❑ Thickness
- ❑ Mean See level

- ❑ Absolute Temperature
- ❑ Vertical Velocity
- ❑ Precipitation
- ❑ Cape

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- ❑ Vertical Velocity
- ❑ Precipitation
- ❑ Cape
- ❑ Nebulosity …

C. Out put

- ❑ Predicted Maps Regarding many meteorological elements.
- ❑ Real Satellites Maps Images Related to the Meteorological Data…
- ❑ Graphs….

2) Weakness Of ARPEG

❑ Obtained predictions are misleading, as observed by practitioners and meteorological engineers and forecasters.

- Measurement errors in the initial atmospheric state,
- Absence of analytical solutions to the primitive Equations….. etc

3) Efficient Numerical forecasting model Developed by the Meteorological Service of BRHIA becomes inevitable.

❑ **Phase: Collecting Meteorological data stream**.

❑ Phase: Processing.

❑ Phase: Filtering and integrating the data.

❑ Phase: analyzing.

4) Conclusion

- **Developed a local forecasting model become an inevitable process.**

- **A big amount of data are available in our meteorological service:**

- **Phase: Collecting Meteorological data stream is almost completed.**

- **Other phases: Processing, Filtering and integrating the data, analyzing they are under constraution.**