

4(a). Types of weather forecast and details

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What is weather forecast ?

Forecasting future weather change in spatial and temporal dimension by employing different scientific tools

Predicting future weather change in spatial and temporal dimension by employing different scientific tools

Foretelling future weather change in spatial and temporal dimension by employing different scientific tools

Methods of weather forecasting

Methods of forecasting	Characters
Synoptic method	Using weather elements observations at surface level and upper level,(synoptic) made from different locations, chart is prepared to indicate present status of atmosphere. Present weather and past weather chart +satellite information of the present + analogue analysis
Statistical method	Multiple regression, ARIMA
Numerical weather prediction	Equations drawn from Coriolis force, frictional force pressure gradient force and gravitational force are integrated in to multiple equations and it becomes model. Model is run from present to future. Initial condition is very important.

Types of weather forecast

- **Now cast:** A short-time weather forecast issued generally for the next few hours
- **Short range forecast:** A short term weather fore cast issued for 24 hours with an out look for another 24 hours
- **Medium range forecast:** A weather forecast issued for a period extending from about three days to seven / ten days in advance;.
- **Long range forecast:** A weather forecast issued for a period greater than seven days in advance and up to a season of more than three months.
- **Seasonal climate Forecast:** A weather forecast issued for a season especially for rain for taking farm decisions(Response farming)

Details on Different Weather Forecast

Name of the w. forecast	Issued by	Forecasted w.elements	Methods used in India	Lead time	Accuracy (%)
Now casting	IMD	Thunder storm, dust storm Cold and heat waves	Synoptic and weather map	One to two hours earlier	90-98
Short range	IMD	Cloud spread,rainfall,t emperature,cycl one warning	Synoptic and weather map, NWP	One day	80-90
Medium range	IMD	Rainfall,tempera ture,RH,wind speed, wind direction and cloud cover	GNWPM, ,RCM	3-10 days	70-75

Details on Different Weather Forecast

Name of the w. forecast	Issued by	Forecasted w.elements	Methods used in India	Lead time	Accura cy(%)
Medium range	Tamil Nadu Agricultural University (TNAU)	Rainfall,tempera ture,RH,wind speed, wind direction and cloud cover	Regional climate model	7 days	70-75
Long range	IMD	Seasonal rainfall	Statistical regression like ARIMA model	30 to 40 days	60
Seasonal climate	TNAU	Seasonal rainfall	Rain man soft ware from Australia(Statistical model)	15 to 20 days	60

Details on Different Weather Forecast

Name of the w. forecast	Clients	Mode of communication	Usefulness for agro-met advisory preparation	Resolution
Now casting	Public including farmer	Radio and Television and Dailies	Nil	State level
Short range	Public including farmer	Radio and Television and Dailies	Nil	State level
Medium range	Farmers	SMS through mobile, Web site, Dailies, television	Highly useful, since there is lead time of more than three days to Take farm decisions	District level
Medium range	Farmers	Web site,	Highly useful	Block level composing of 50 to 60 villages

Details on Different Weather Forecast

Name of the w. forecast	Clients	Mode of communication	Usefulness for agro-met advisory preparation	Resolution
Long range	Farmers	Television, dailies, radio	Moderately useful	North, south, East and West India
Seasonal climate	Farmers	Television, dailies, radio, SDA ,web site of TNAU	Highly useful	District level