SOTIETAL AND ECONOMIC IMPACT OF HEAVY PRECIPITATION IN THE SOUTHEAST OF KAZAKHSTAN

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I. INTRODUCTION

There are more than 20 kinds of the natural disasters experienced over the territory of Kazakhstan. They are: blizzard, high wind speed, squall, heavy snowfall, heavy rain, snow avalanches, mudflows, severe frost, a touch of frost, rime, fog, hail, thunderstorms, penetrating heat, wind-induce surges, high flood, drought.

Zailiisky Alatau mountains (ridge of Tien Shan) are located in the southeast of Kazakhstan. In warm season, as result of intensive shower and thawing weather, mudflow passages are possible, processes as of coastal slopes destruction and landslides are observed.

II. PRESENTATION OF RESEARCH

Zailiisky Alatau mountains are stretched almost in latitudinal direction; some ridge picks reach 5500 m above sea level and is covered with eternal snow and glaciers. Zailiisky Alatau northern slopes are strongly indented by gorges. River valleys have the general direction from south to the north. The rivers are narrow and rough.

The territory located to the north from mountains is characterized by moderate climatic conditions, has diverse natural resources and densely populated. In a foothill zone agriculture and gardening are widely developed.

Heavy snow in the mountains promotes snow accumulation and mass avalanches in winter. In warm season due to heavy precipitation and warm weather, mudflow occurs, slopes destruction and landslides are observed.

On 1st of June 2006 (evening) the mudflow on Pryamuha river was generated. According to reports of mass-media about 300 houses in microdistrict Duman were suffered. The damage is estimated in 70 million tenge

Mudflow was formed as a result of heavy rain in the top part of Pryamuha river basin. The observed record was 73 mm during 1 hour in Meteorological station Medeo.

The forecasters of Kazhydromet use available forecasting models, standard meteorological data sources and NOAA satellites images for weather forecasts making up.

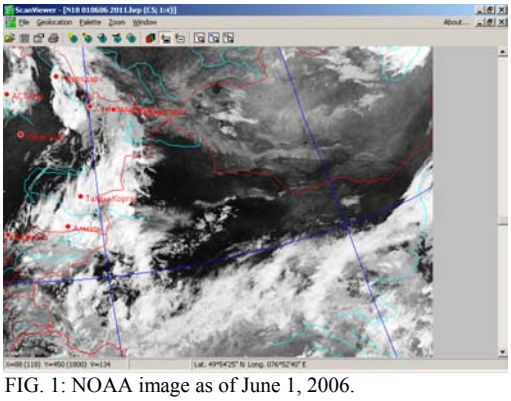

FIG. 1: NOAA image as of June 1, 2006.

Absence of perfect precipitation forecast method, available satellite images resolution and periodicity, limitation of numerical products kinds, makes difficult decision-making on heavy precipitation forecasting for mountain region in the southeast of Kazakhstan.

III. RESULTS AND CONCLUSIONS

Heavy precipitation leads to slope slip, destruction of hydro technical constructions and habitat houses. In mountain areas flooding and mudflow due to heavy rain leads to strong impact on regional economy.

The risk of dangerous natural phenomena demands to take action to considerably reduce the resulting loss of life and socio-economic damage. Provision of early warnings is based on qualitative weather forecast.

IV. Aknowledgments

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V. REFERENCES

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