



**State Emergency Service of Ukraine  
UKRAINIAN HYDROMETEOROLOGICAL CENTER**

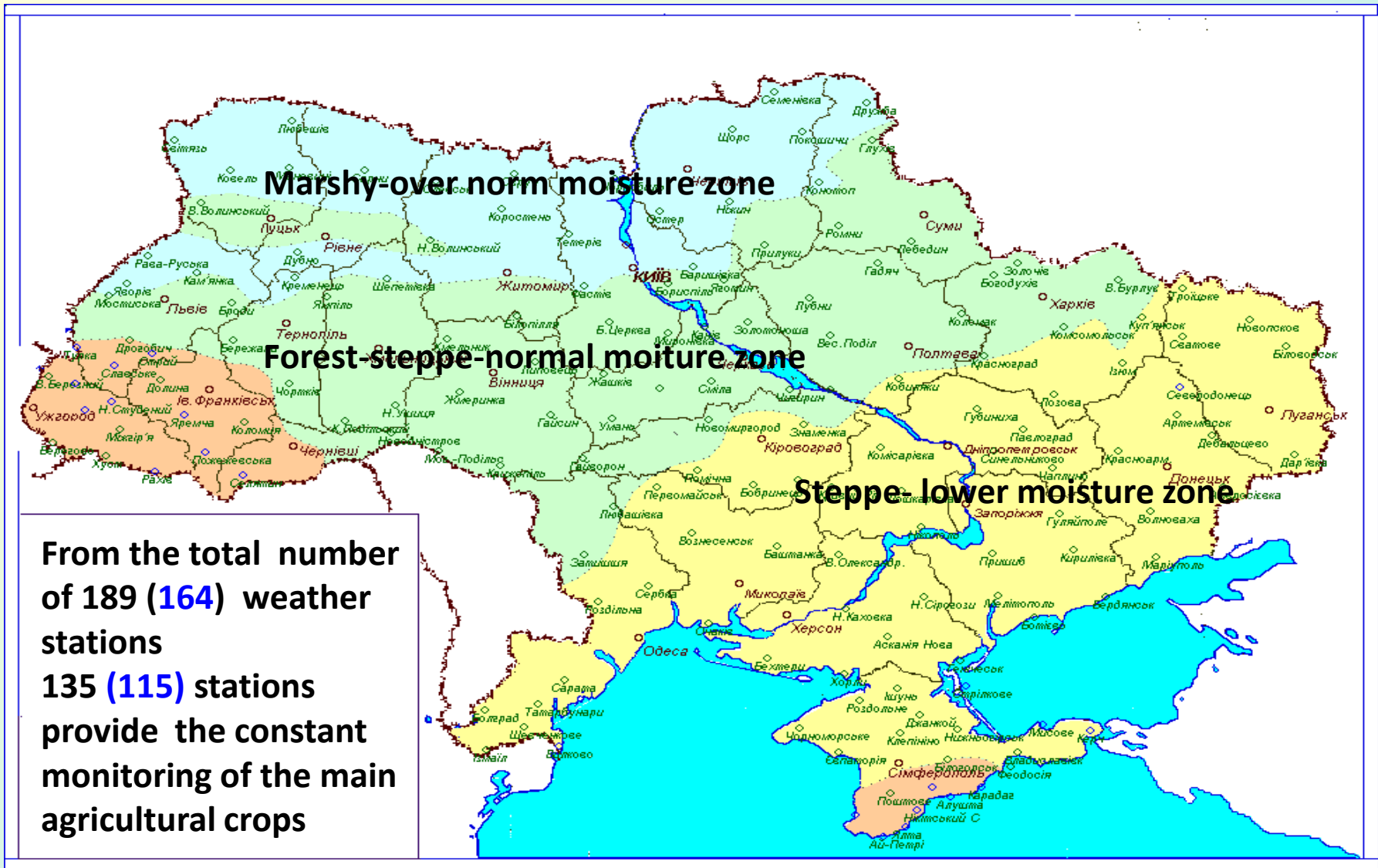
# **Agrometeorological monitoring in Ukraine**

**Joint Workshop  
On Information Needs  
in Crop Monitoring**

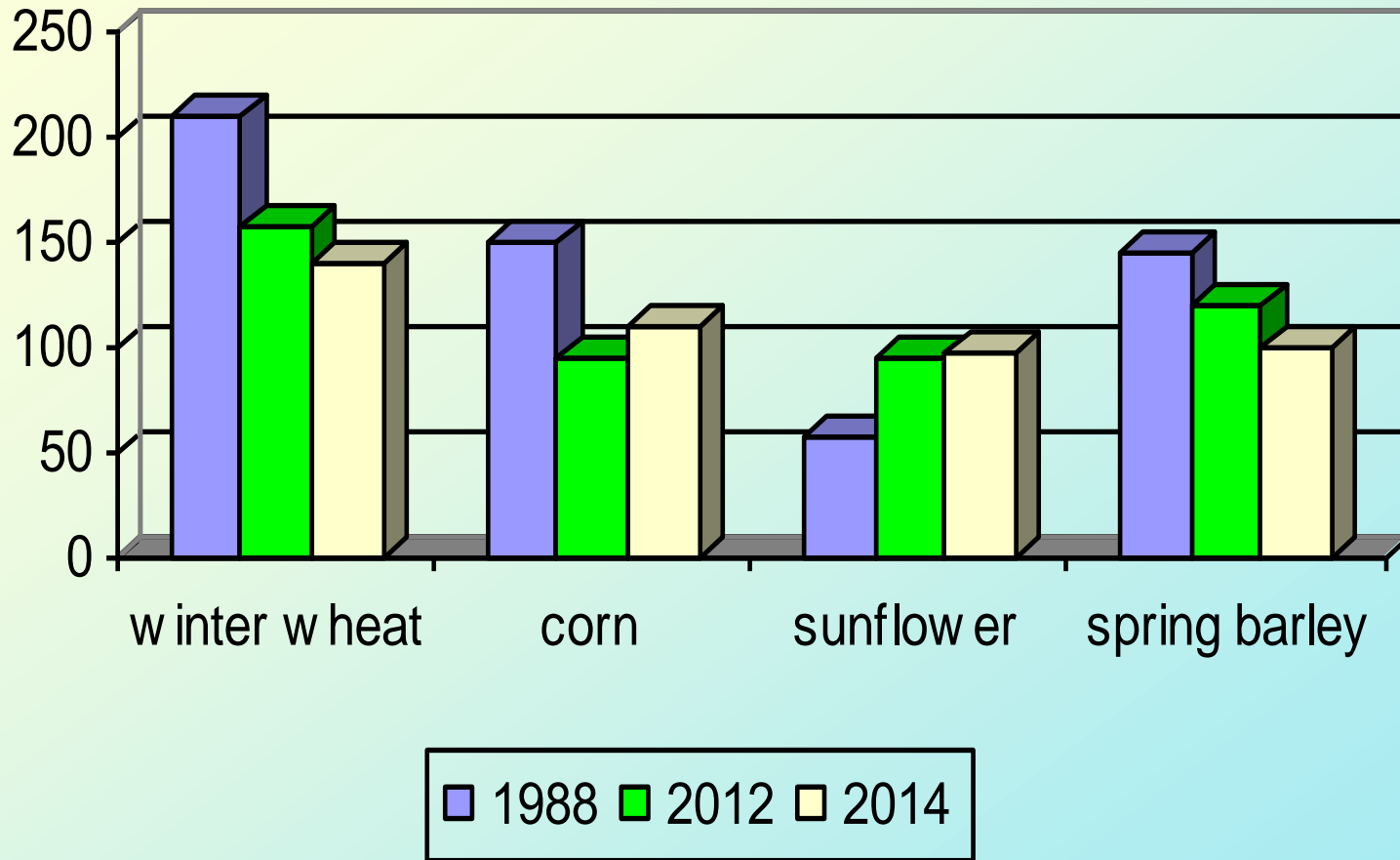
**Kyiv, 22-23 October 2015**

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[www.meteo.gov.ua](http://www.meteo.gov.ua)**

## 2. Agroclimatic zones



### 3.The number of fields for phenological observations



Changing the number of observations due to various reasons – agrarian reform, changes in the kit of agricultures, for economic reasons

## 4. The program of agro meteorological observations at meteorological stations

- plant phenology
- Assessment of the state of the crops (due to a five-point scale, 5 - excellent ..... 1 - total loss)
- plant height
- Density of crops
- Damage by pests and diseases
- A crops survey over large areas
- Monitoring of wintering conditions crops (minimum soil temperature and snow cover in the field)
- Determination of the available moisture in the soil

## 5. Crops for which observations are made

- Winter crops: wheat, rye, barley, rape
- Spring crops: barley, wheat, oats
- Maize
- Legumes (peas)
- Sunflower
- Soy
- Sugar beet
- Cereal crops: millet, buckwheat
- Perennial grasses
- Fruit, grapes

## **6. The frequency (period) of agrometeorological observations**

- Phenological phases (after 1 day)**
- Crops Condition (after 1 day)**
- Plant height (after 1 day)**
- Plant density (depending on the phase of plant development)**
- Soil moisture (1 in 10 days - 8, 18,28 every month, from planting to maturity)**
- Winter sowing(daily)**

**During spring time, sowing of spring crops is determined by the soil temperature daily at a depth of 5 and 10 cm and visual soil moisture at the same depths**

## **7. The rules and methods of agrometeorological observations**

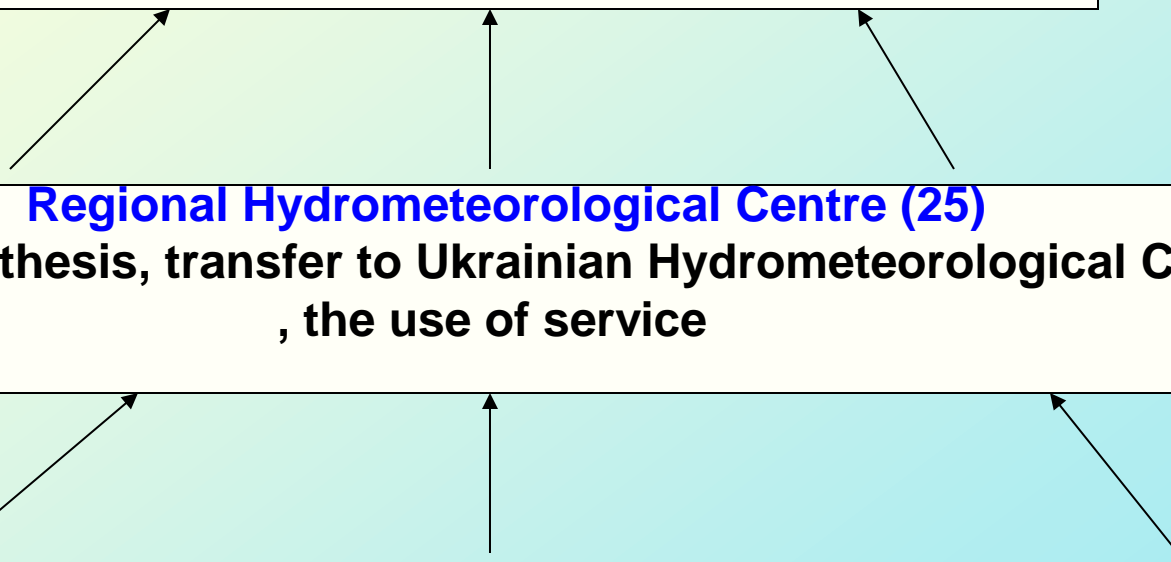
- Agro-meteorological observations are carried out on the test fields (size not less than 1 ha) with typical crops for each region. Distance from the field to the meteorological site should not be more than 5 km**
- Agrometeorological observations conducted simultaneously across the country**
- Agrometeorological observations are carried out by the same rules and methods**

## 8. Collection and processing of agrometeorological information

**Ukrainian Hydrometeorological Center**  
Control synthesis, the use of service

**Regional Hydrometeorological Centre (25)**  
Control, synthesis, transfer to Ukrainian Hydrometeorological Center  
, the use of service

**Meteorological station area (188/135)**  
Meteorological, phenological observations,  
identification of stocks of productive moisture in the soil, the transfer  
to a Regional Hydrometeorological Centre





## 9. The flow of information in a special code (for example 2-d decade of May 2013)

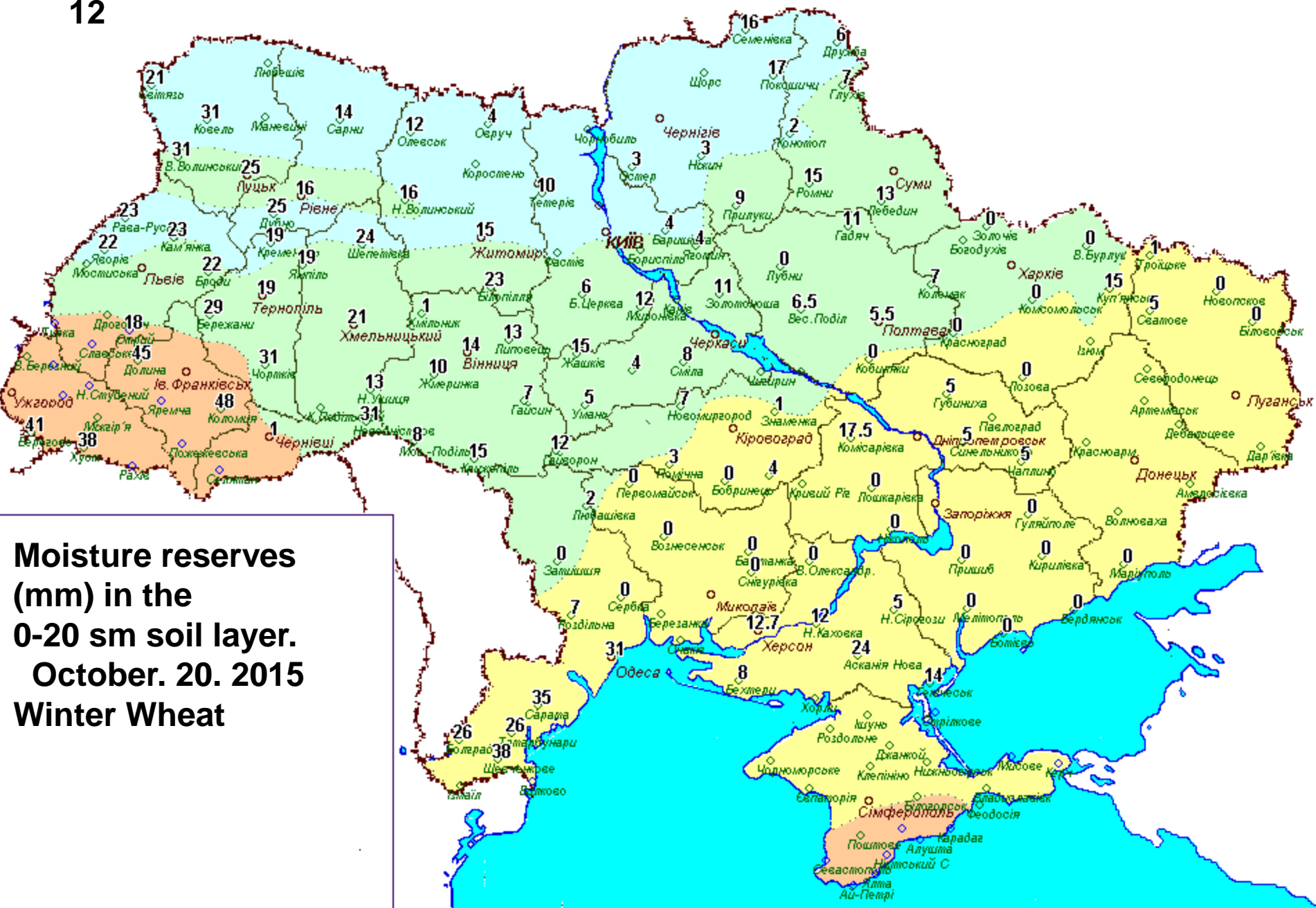
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## **10. Information processing**

- **Program is used for the treatment of agrometeorologist workplace (ARM\_AGRO), which is:**
- **Displays all received processed agro and meteorological data**
- **to map information for any period**
- **generates data bases**
- **compares the actual data with the standards**
- **used for agrometeorological forecasts**

**All this information is the basis for the preparation of analytical materials**

**.Example of agrometeorological data  
for the the 2-nd decade, October 2015**



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# Moisture reserves (mm) in the 0-20 sm soil layer.

## October. 20. 2015 Winter Wheat

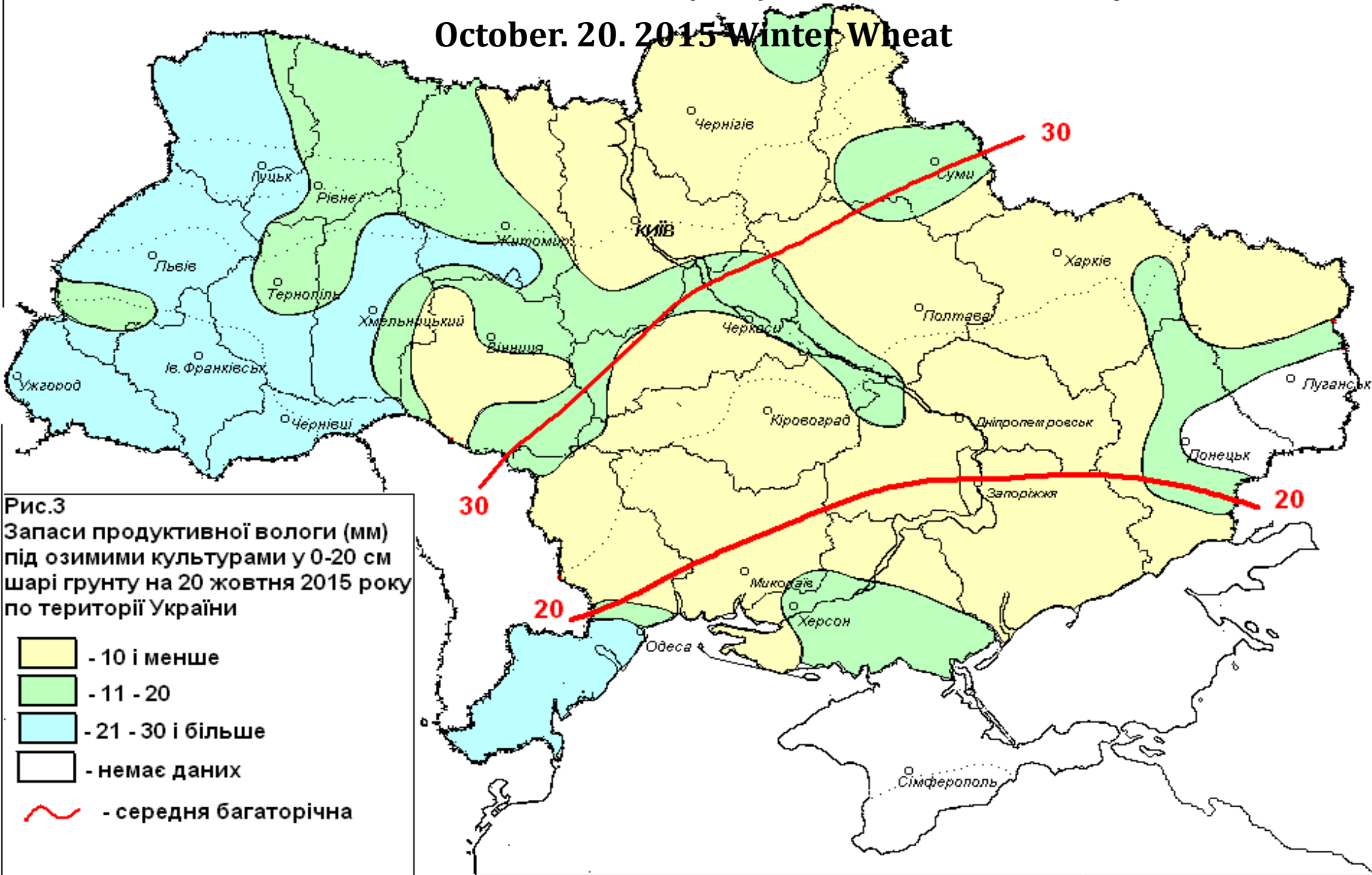
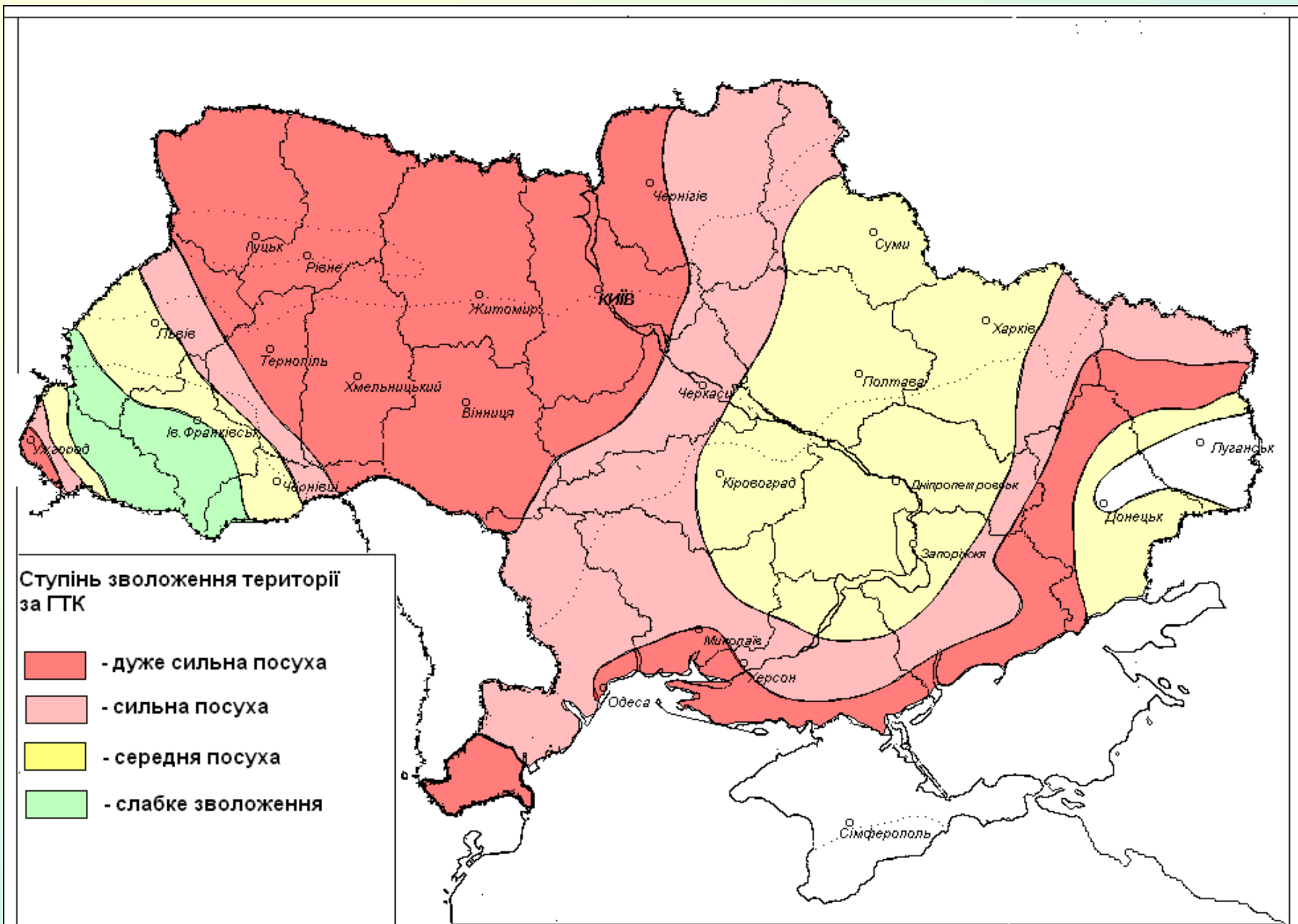


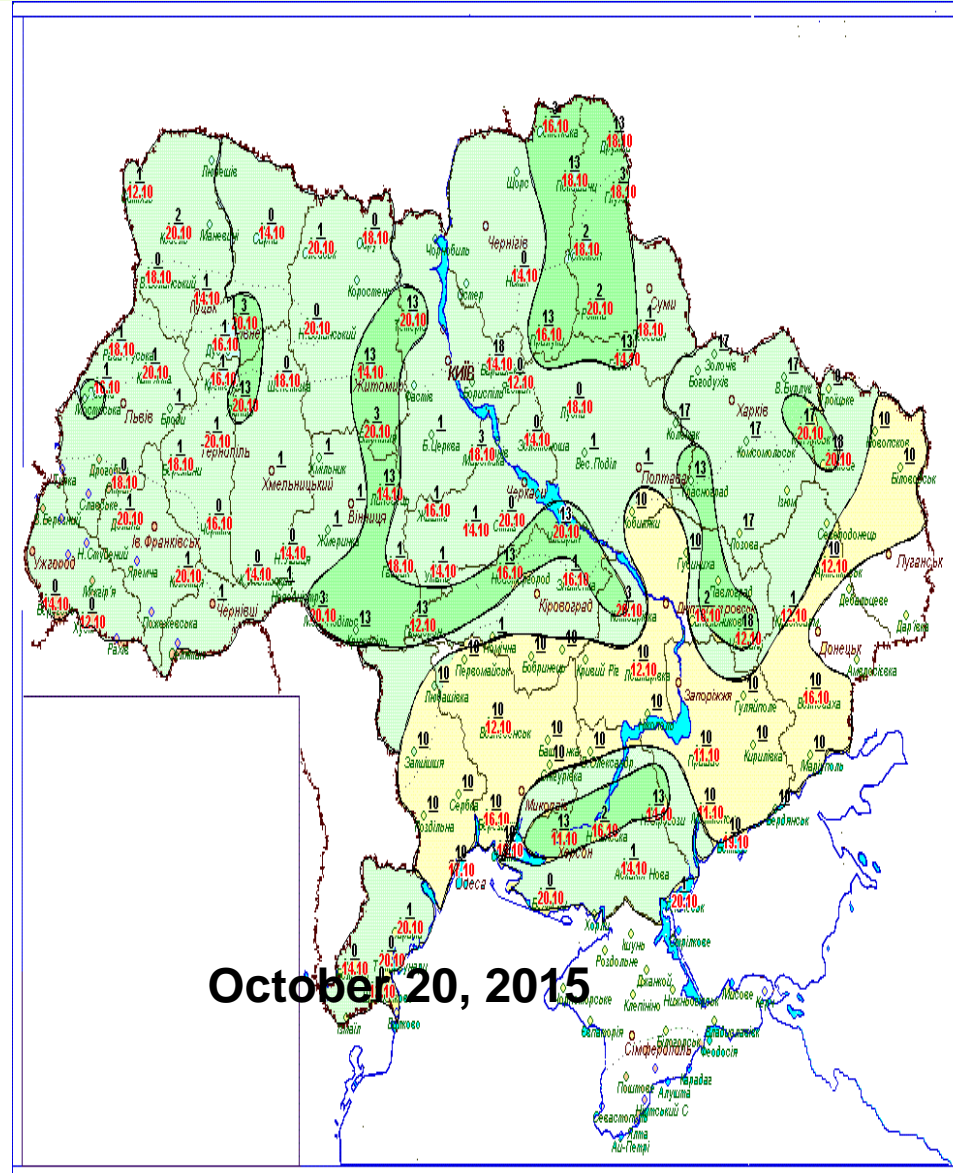
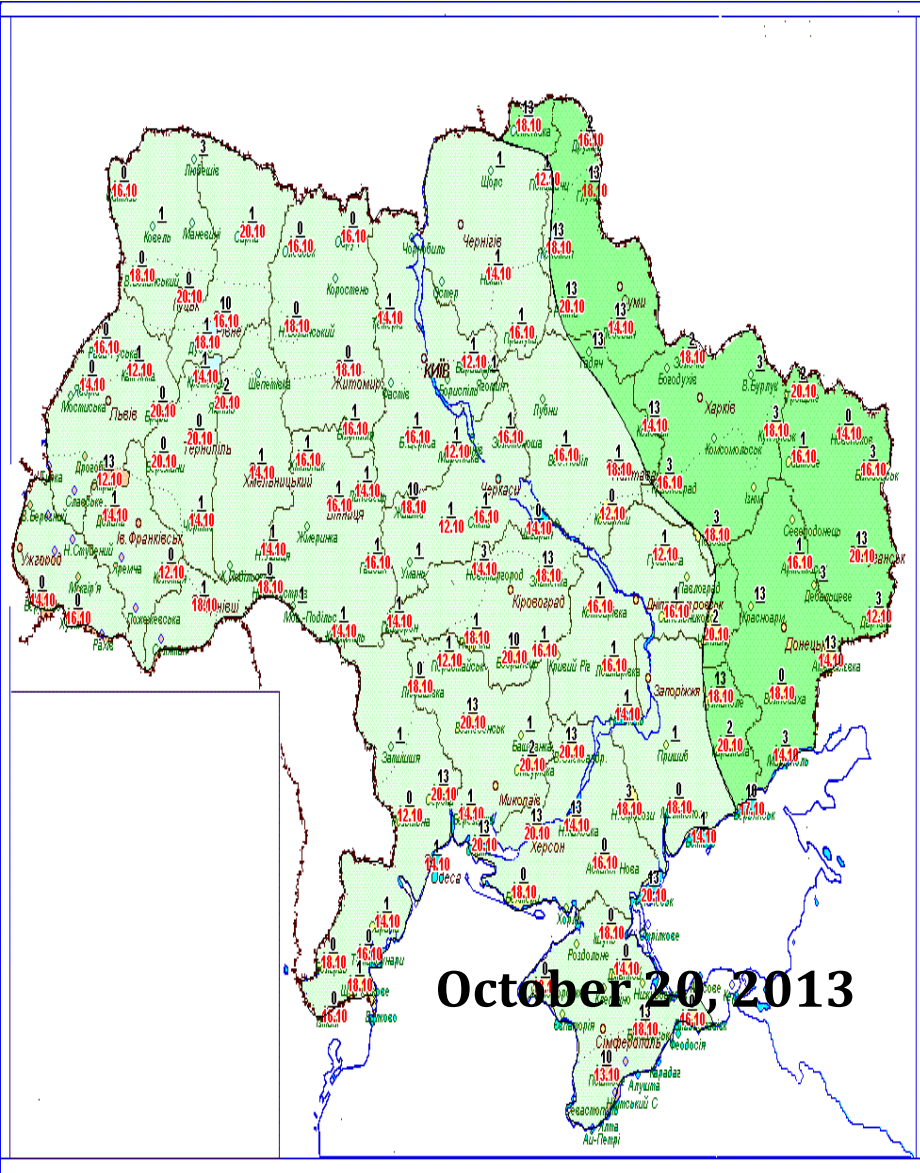
Рис.3  
Запаси продуктивної вологи (мм)  
під озимими культурами у 0-20 см  
шарі ґрунту на 20 жовтня 2015 року  
по території України

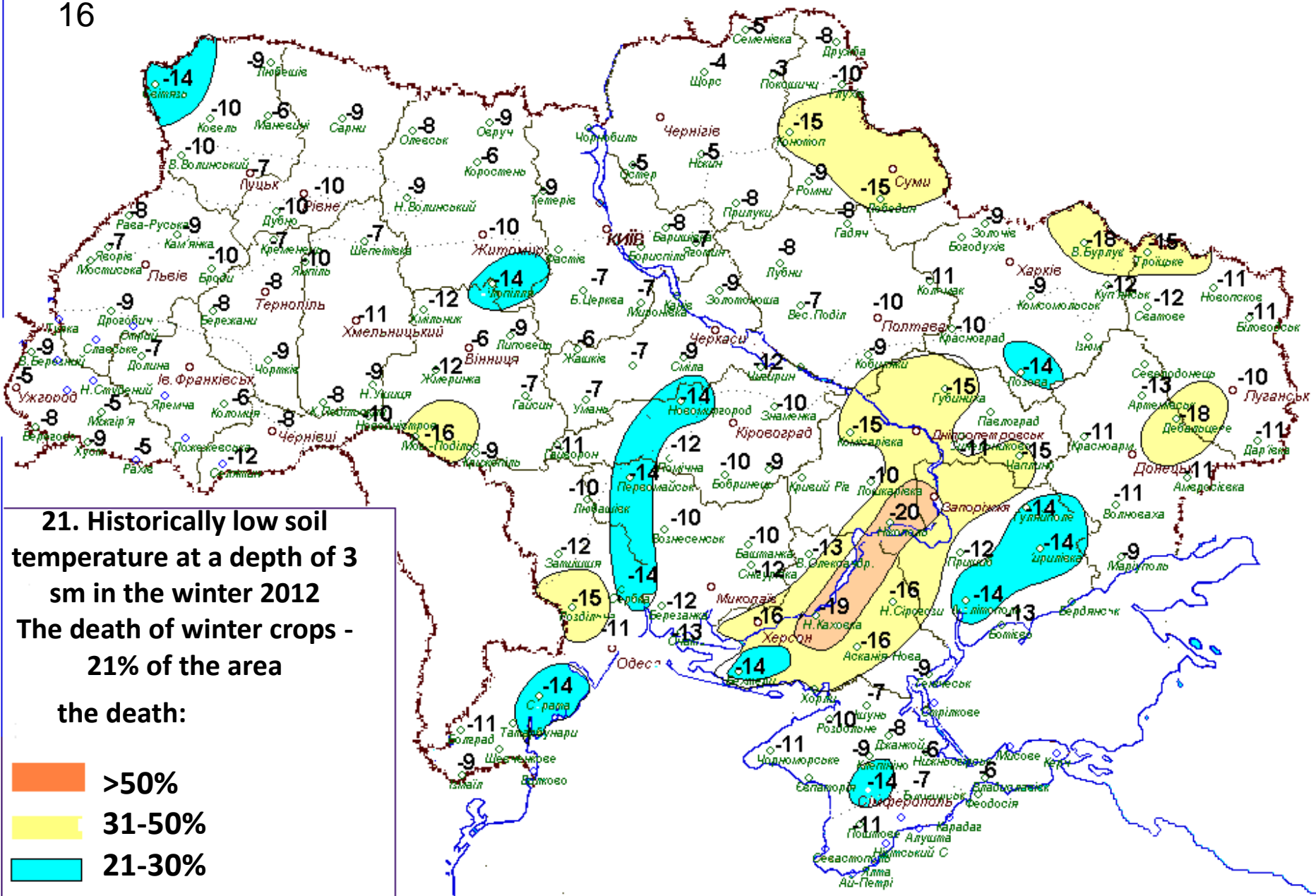
- 10 і менше
- 11 - 20
- 21 - 30 і більше
- немає даних
- середня багаторічна

# The drought in July-September 2015



# 15. Phase of plant development and the date of its occurrence. Winter Wheat





**21. Historically low soil temperature at a depth of 3 sm in the winter 2012**  
**The death of winter crops - 21% of the area**

**the death:**

- >50%
- 31-50%
- 21-30%



## Agrometeorological information for the crop prediction

- ❑ Characteristics of the initial state of the crops (date mass shoots of plants)
- ❑ Average long-term agrometeorological information
- ❑ The current agrometeorological information (air temperature, soil moisture, rainfall, lighting), plant density
- ❑ The model parameters

ДЯКУЮ!!!

