Field-Map using in Ukraine

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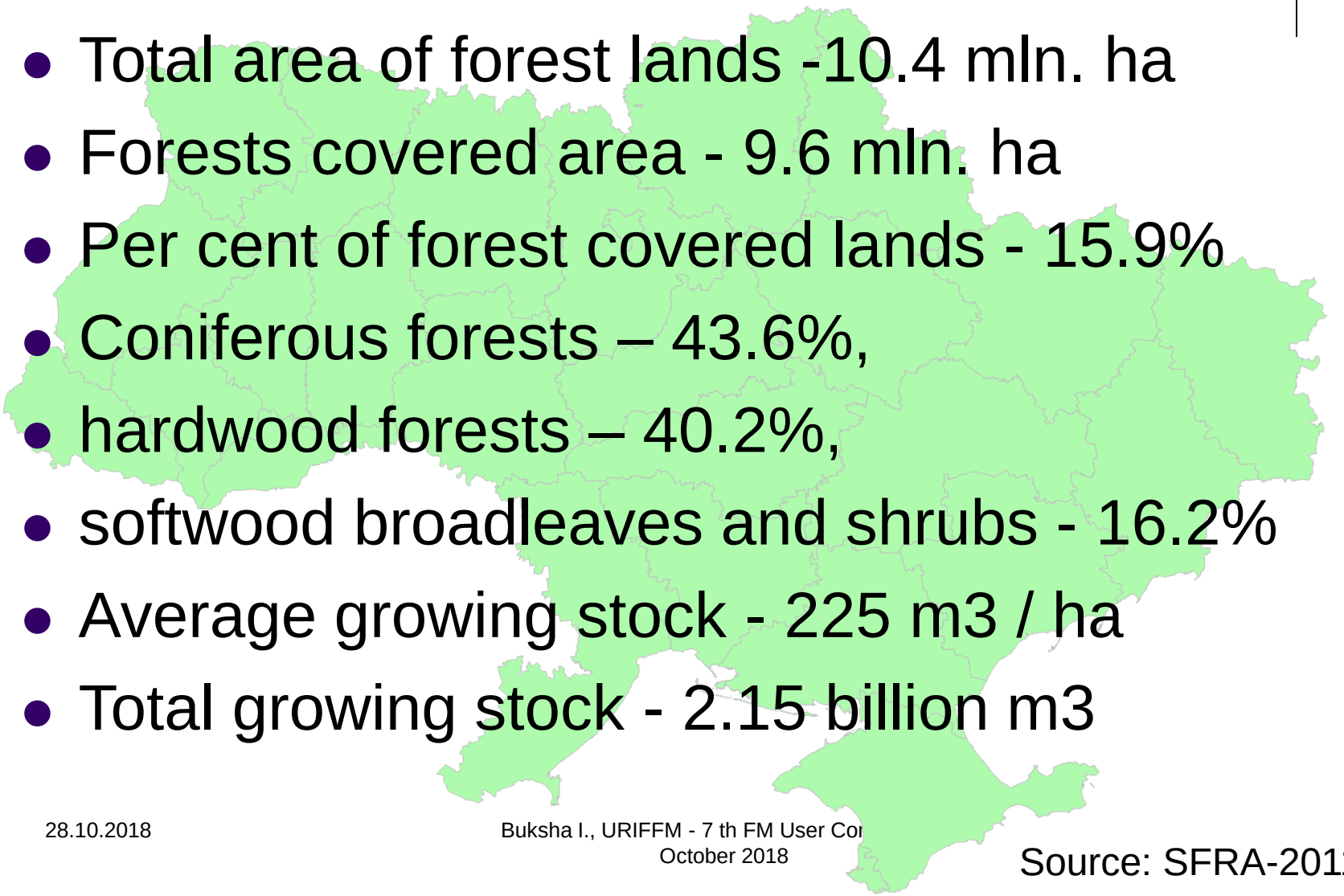
- Forestry research network in Ukraine
- International cooperation in forestry research
- Field-Map in Ukraine – the past and current
- An example of Field-Map using in Ukraine
- A future - Field-Map for NFI will use for field data collection, data processing, analysis and reporting

General information about Forestry of Ukraine

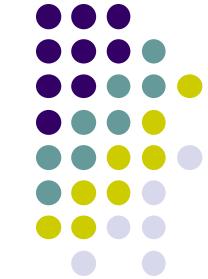


- Total area of forest lands -10.4 mln. ha
- Forests covered area - 9.6 mln. ha
- Per cent of forest covered lands - 15.9%
- Coniferous forests – 43.6%,
- hardwood forests – 40.2%,
- softwood broadleaves and shrubs - 16.2%
- Average growing stock - 225 m3 / ha
- Total growing stock - 2.15 billion m3

Source: SFRA-2011

Forestry research network in Ukraine

International cooperation of URIFFM



Німецько-український
агрополітичний діалог

The Czech-Ukrainian project “TechInLes” 2004-2010

CZECH REPUBLIC
DEVELOPMENT COOPERATION

TechInLes - ТехІнЛіс

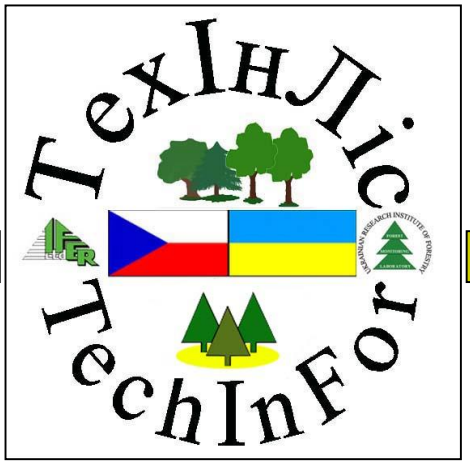
<u>Phase 1:</u> Transfer of advanced methodological and technological knowledge in the field of inventory and monitoring of forest ecosystems (TechInLes) - 2004-2006.

<u>Phase 2:</u> Cooperation in Inventory of Forest Ecosystems (TechInLes-2) - 2008-2010.

The main directions of the TechInLes-I:

Sample based inventory for forest management units and national parks

Development technology for NFI and FMP in Ukraine



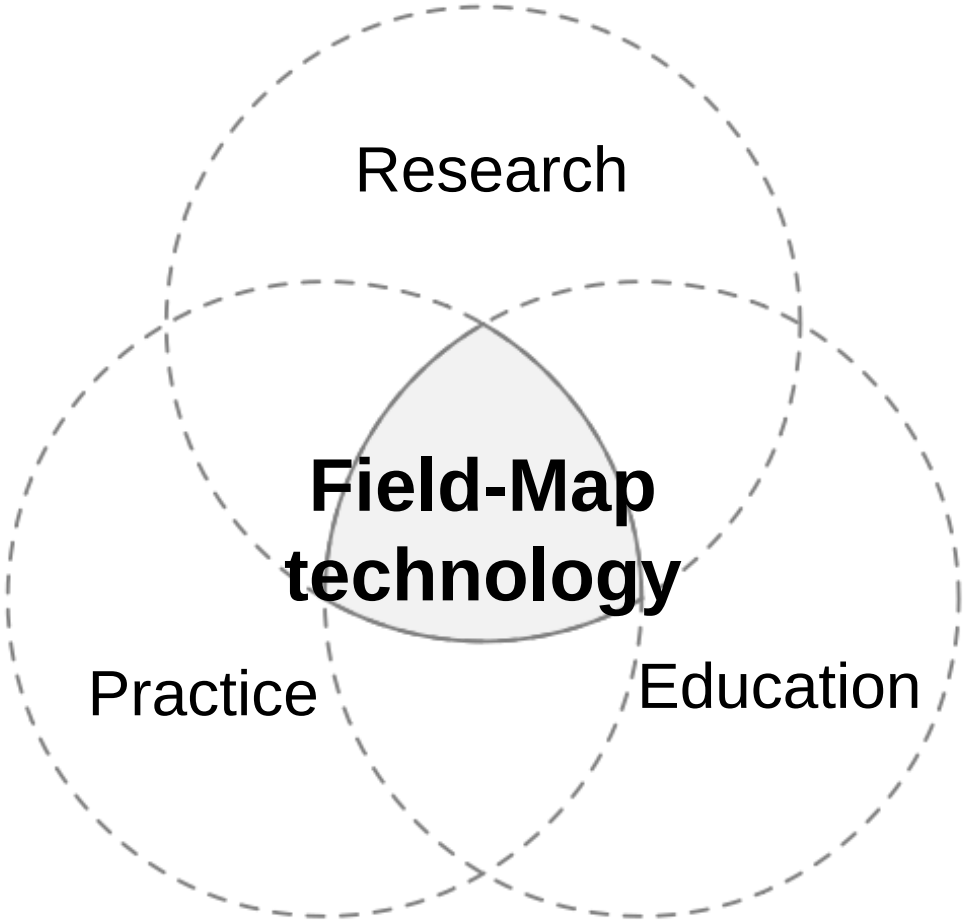
Inventory and mapping of city parks and gardens

Stand precutting assessment, evaluation of stand assortment structure

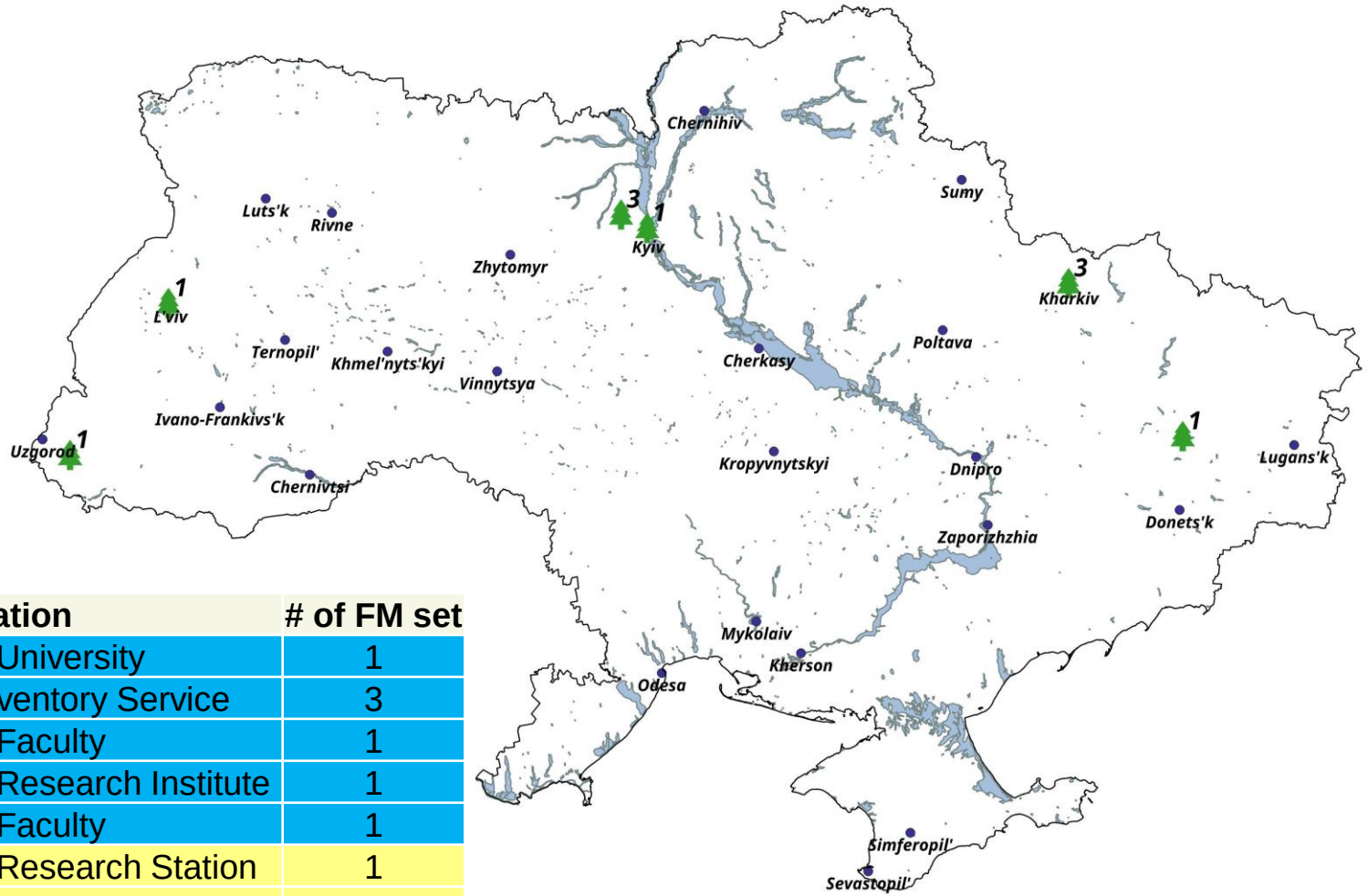
The main topics of TechInLes-II:

- Introduce of **information standard** and **exchange format** for forestry of Ukraine
- **Sample based forest inventory** on the local, regional and national levels (number of pilot experiments)
- Forest **management planning** (2 pilot experiments)
- Account of wood resource (**precutting assessment** and assortments)
- Inventory and mapping of **city parks** (pilot experiments)
- Integration and analisys of field data for **forest health monitoring**
- Conversion of data for **preparation of forestry GIS** on Transcarpathian (439,8 thous. ha)
- FM technology **support of education** on forestry faculty in 3 University (Kyiv, Lviv, Kharkiv)

A current using Field-Map in Ukraine: to combining research, education and practice



Now:10 Field-Map technology sets in Ukraine



City	Organisation	# of FM set
Lviv	Forestry University	1
Irpin	Forest Inventory Service	3
Kyiv	Forestry Faculty	1
Kharkiv	Forestry Research Institute	1
Kharkiv	Forestry Faculty	1
Mukacheve	Forestry Research Station	1
Kharkiv	Cathedral of Urban Forestry	1
Kramatorsk	Department of Ecology	1
Total		**10**

10 Field-Map sets in Ukraine

Education and Research – Forestry and Green Urban Gardening cathedral (Kyiv, Lviv and Kharkiv)

- field technology, Field-Map Project Manager, Field-Map Data Collector.

Practice – Ukrainian State Forest Inventory Service (Irpin city), Department of Ecology (Kramatorsk city)

- field technology for forest management planning, field technologies for National Forest Inventory, Field-Map Project Manager, Field-Map Data Collector.

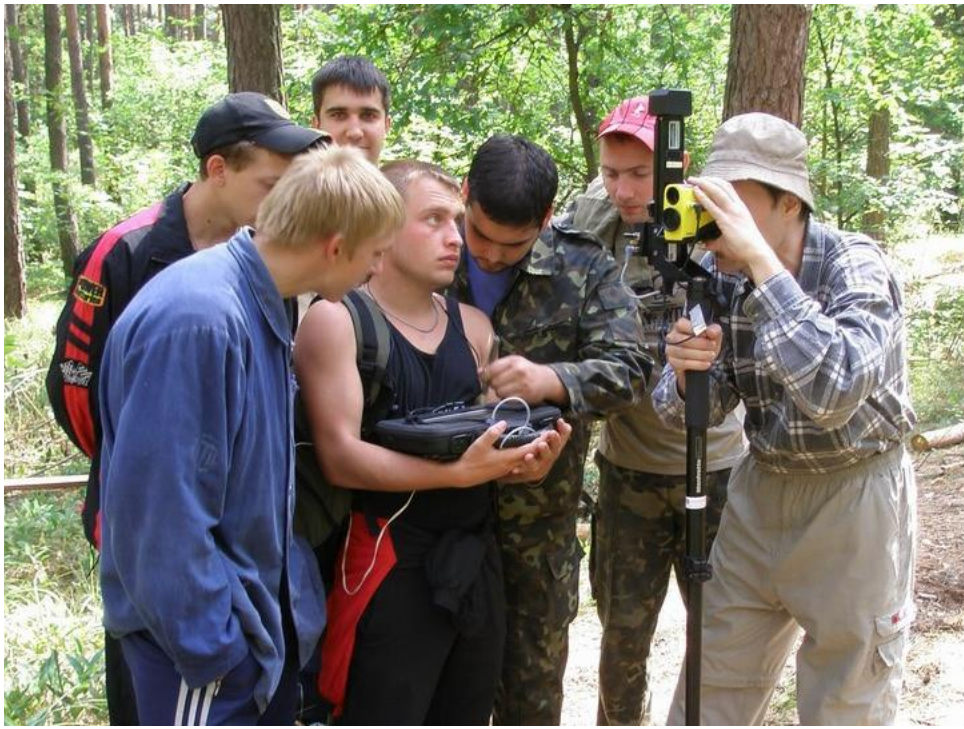
Research – URIFFM (Kharkiv) and Carpathian Forestry Research Station (Mukacheve)

- field technology, Field-Map Project Manager, Field-Map Data Collector, Field-Map Inventory Analyst.

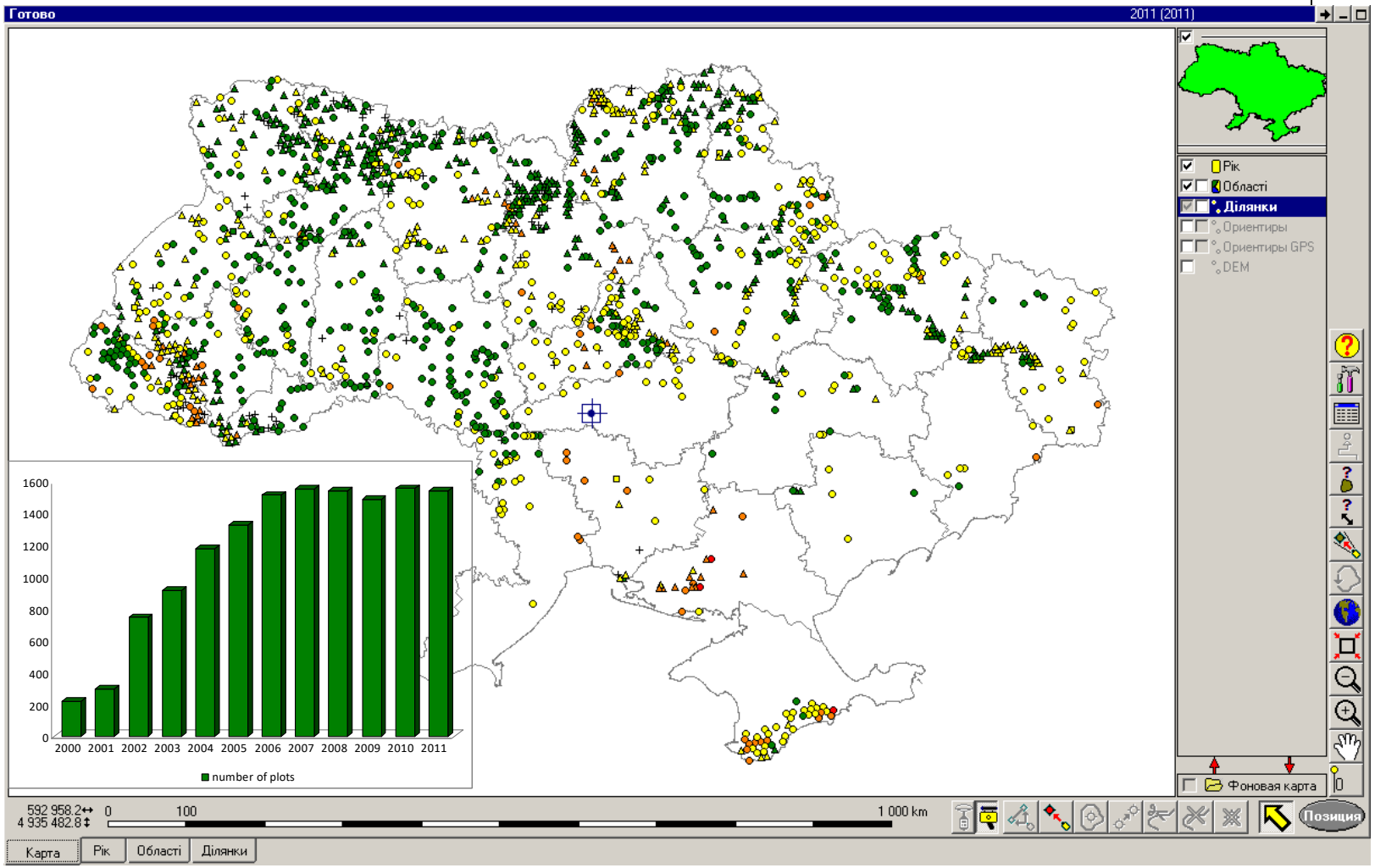
Using of Field-Map for students education on the faculties of forestry and urban forestry

In the curriculums of students on forestry faculties in Kyiv, Lviv, and Kharkiv, as well as Urban forestry cathedral in Kharkiv, included hours for a study of professional works with technology Field-Map.

In the period from 01/09/2011 to 01/09/2017 more than 700 students were educated on how to work with technology Field-Map.



Field-Map in National forest monitoring program (since 2005)



Case studies to usage of Field-Map for data collection after windfall in August 2012

Kostopolskiy forestry enterprise in Rivne region.

Great windfall in Rivne region into forests in 24-25, 26-27 of August 2012

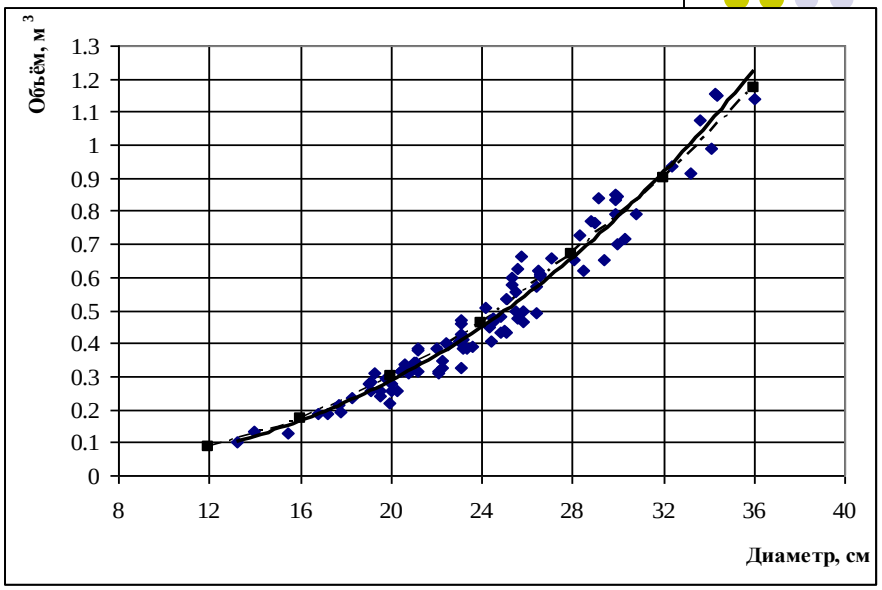
Field work from 27-31 of August 2012 (**5 days**) in pine stands (50-90 years)

By using FM for **5 days** has been investigate about **100 hectares** of windfall with creation of maps, data collection and preparation of plans for sanitary cuttings.

Traditional technology (BAU) will take more than a month by using of azimuth circle and tree cutting in the line of view.

Stages of work	Traditional technology (BAU)	Usage of FM
Tree cutting in the line of view	Needed	No need
Field works	1 months	**5 days**

Standing timber volume assessment and assortment



Volchansky forestry enterprise, Rubezhansky forestry, compartment 34

Cutting area - 0.9 ha

Accounts trees - 94

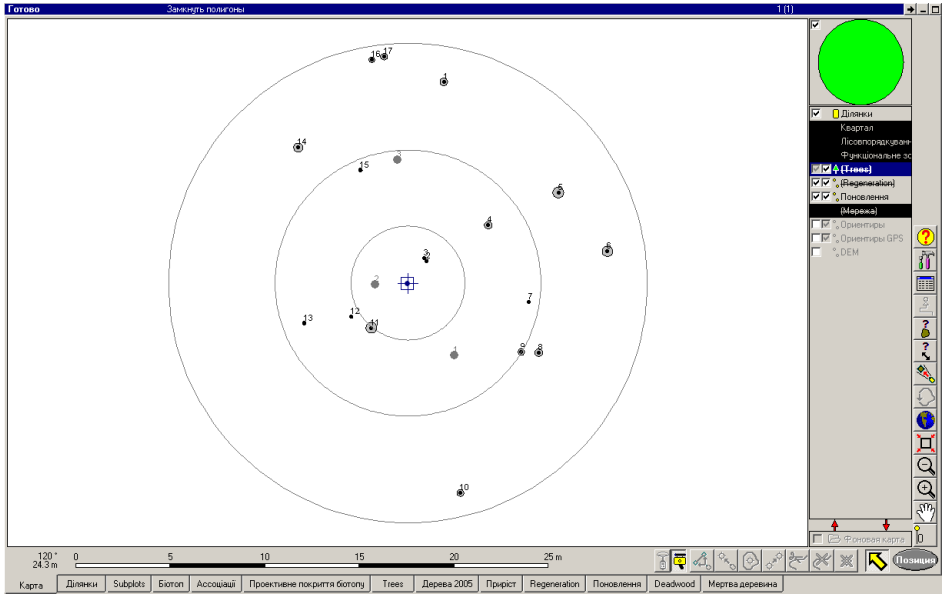
Deviations sum of volumes defined by

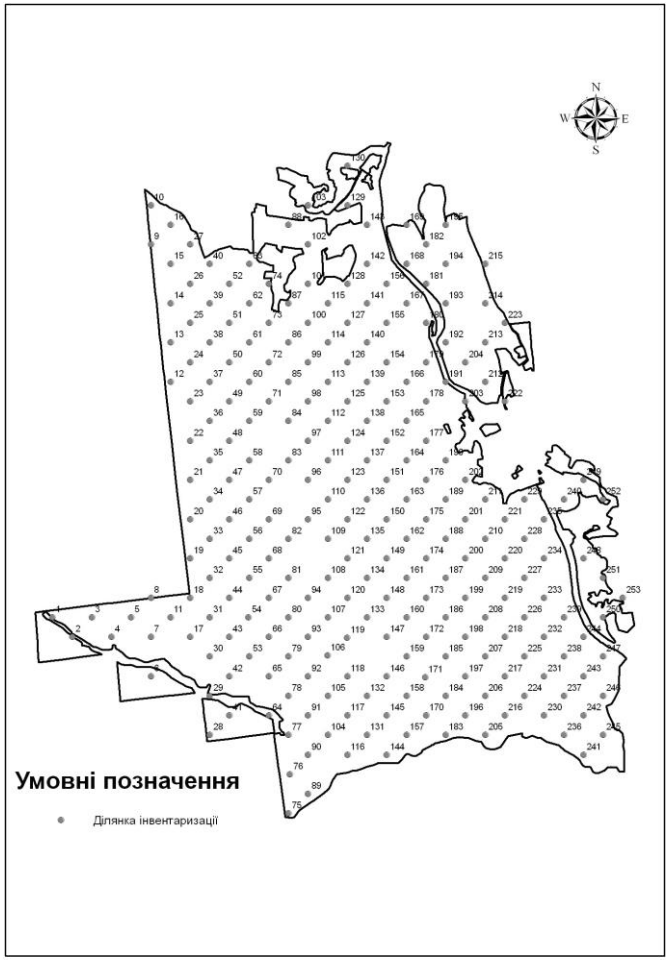
Field-Map before logging and after logging - 0.2%

By model trees (-)

By assortments tables (--)

Using of FM for statistical based inventory of National Park “Gomolsha Forests”

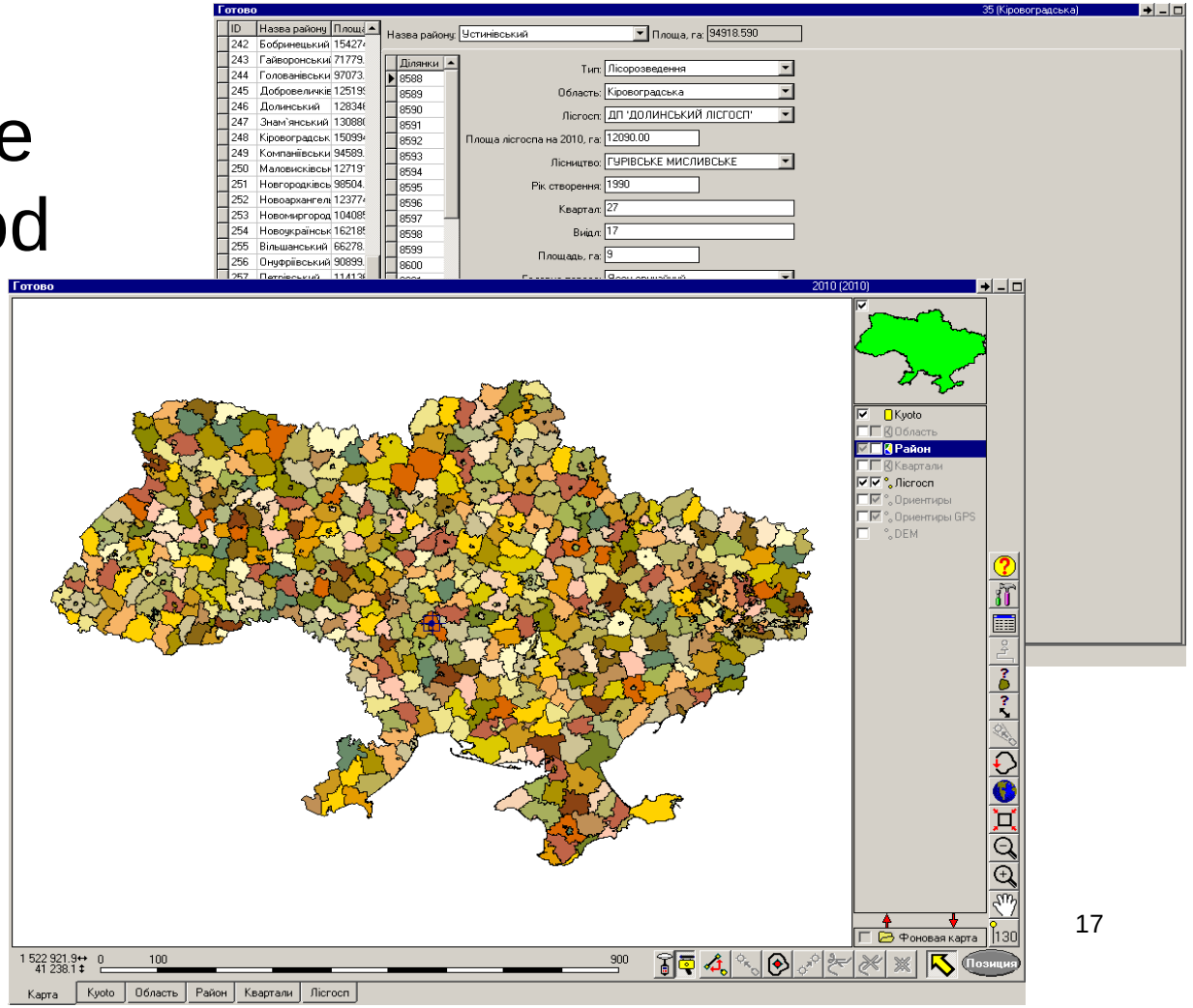




Two statistical based forest inventory was conducted in 2005 and 2009

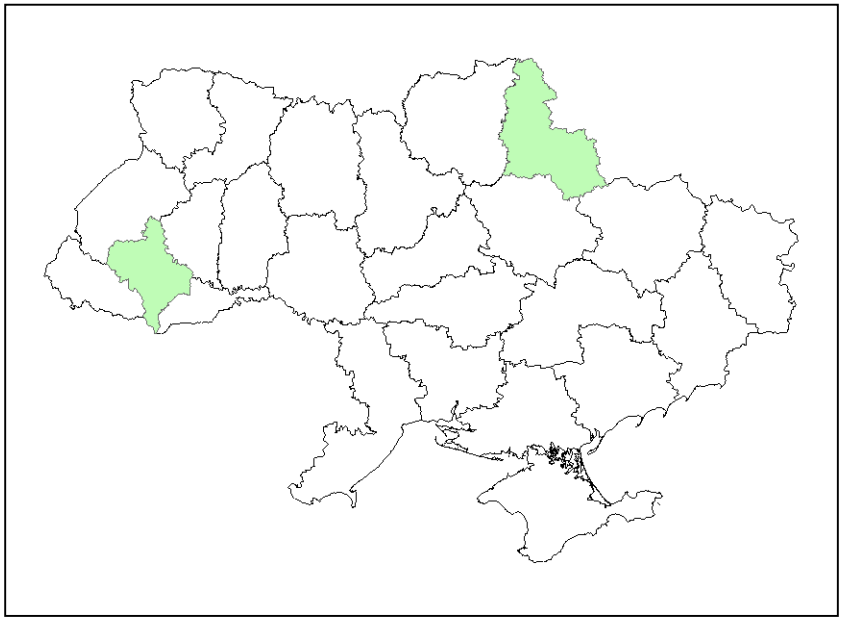
Field-Map for Ukrainian National Reporting to UNFCCC and Kyoto Protocol

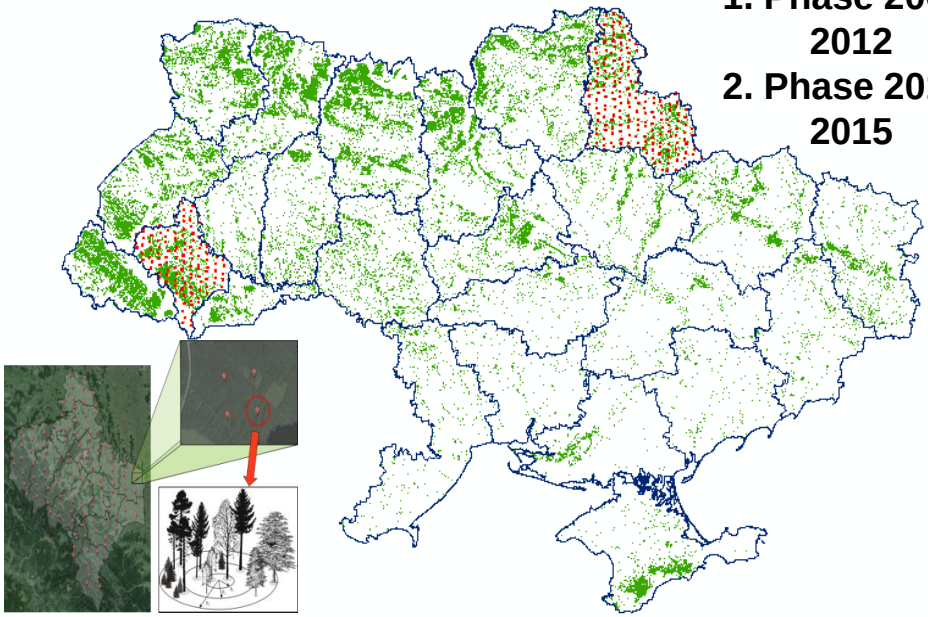
Data from 25 regions of Ukraine for 20 years period (1990 – 2010)



Using of Field-Map for inventory of Urban Forests and Parks

National forest inventory (NFI) in Ukraine: pilot studies 2009-2015





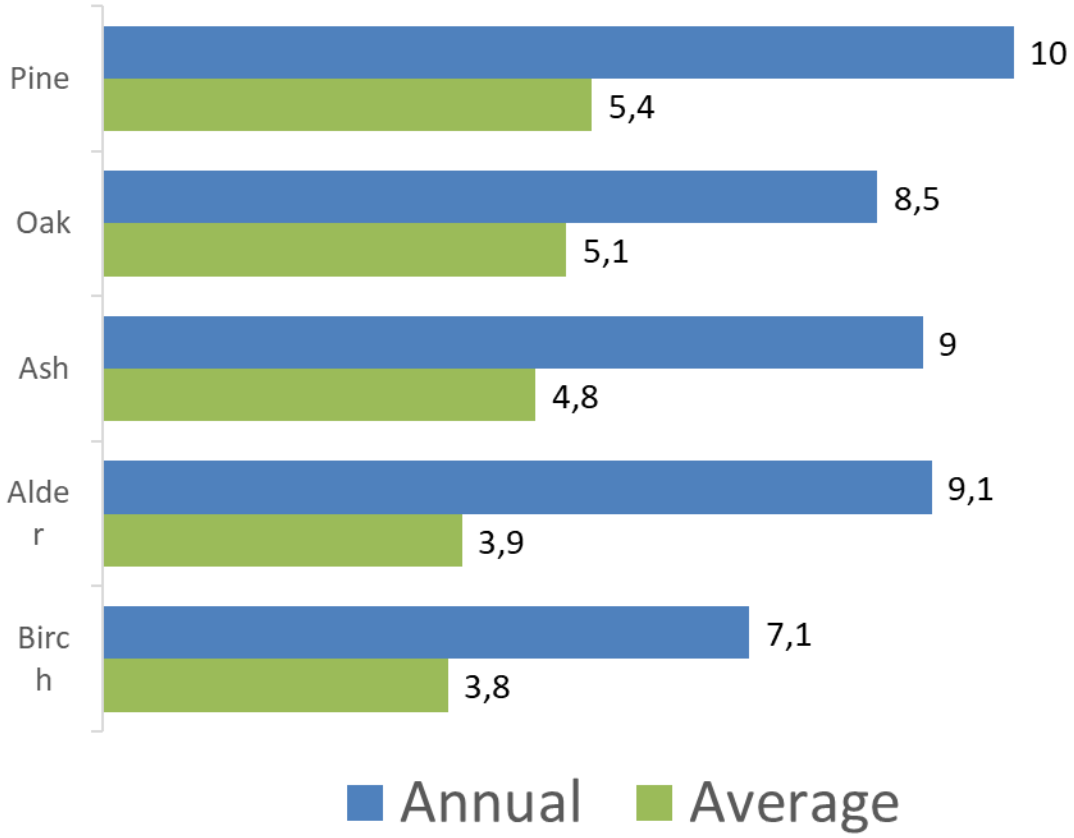
Oblast Sumy
1. Phase 2008-2012
2. Phase 2013-2015

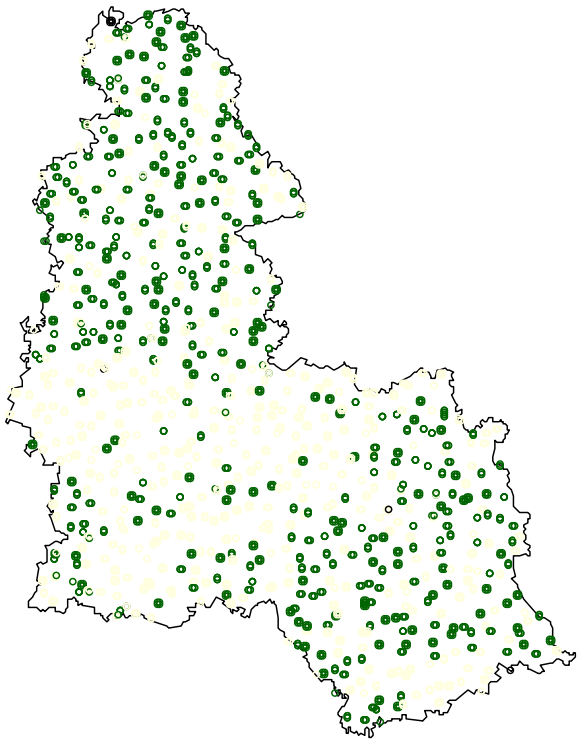
State Agency of Forest Resources of Ukraine has decided to use the Field-Map as base technology for NFI

Oblast Ivano-Frankivsk
1. Phase 2009-2013
2. Phase 2014-2015

Source: nfi.org.ua

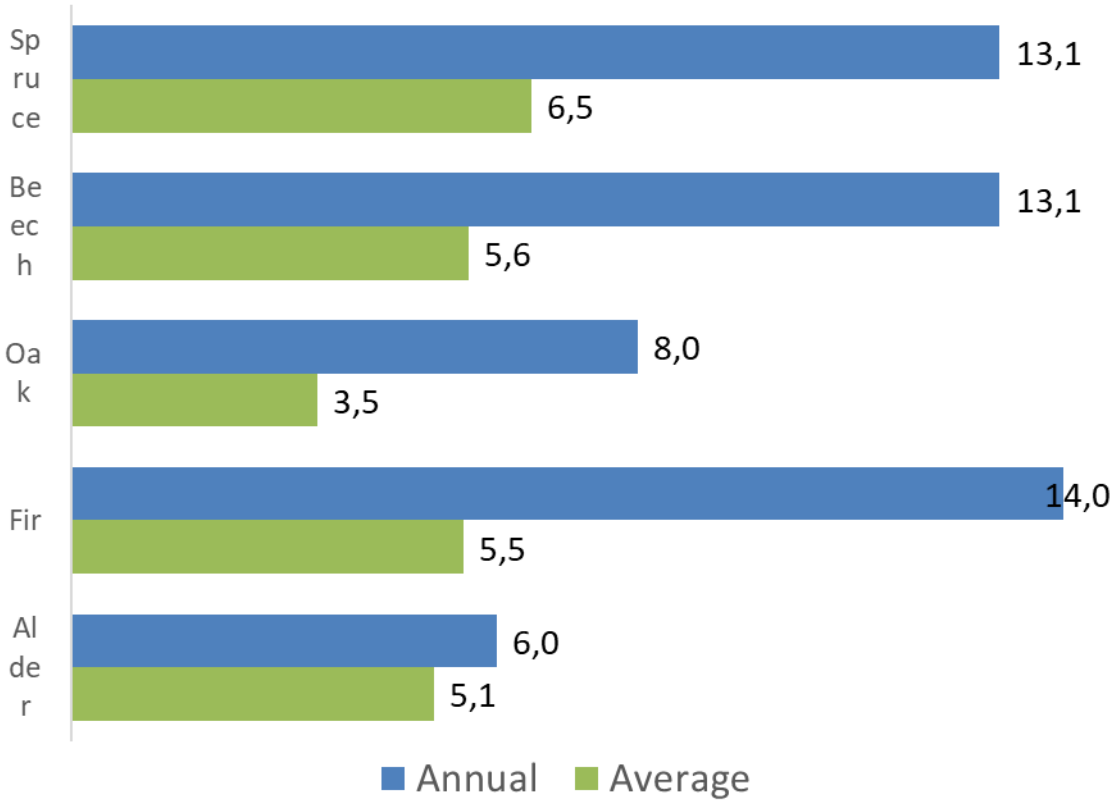
NFI pilot studies: Increment of stands of main tree species in Sumy oblast, m³/ha per year

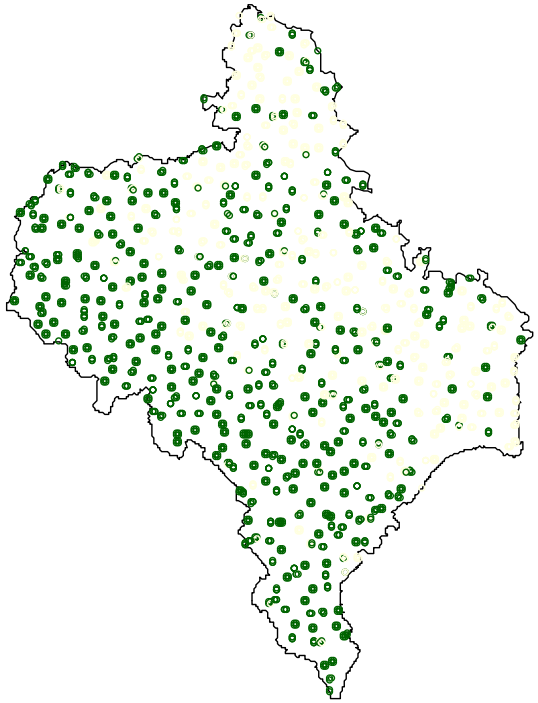




Source: nfi.org.ua

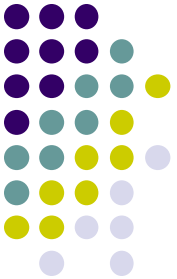
NFI pilot studies: Increment of stands of main tree species in Ivano-Frankivsk oblast, m³/ha per year





Source: nfi.org.ua

Main features of the future Ukrainian NFI



- 6 year cycle = 5 years for field data collection + 1 year for reporting
- Projected numbers of forest inventory plots ~16,7 thousand
- NFI in Carpathian, Temporal Forests and Forest-steppe zones – yearly investigation more than 2.8 thous. forest inventory plots (sampling 20%)
- NFI in Steppe zone – investigation in one year up to 2,5 thous. forest inventory plots (sampling 100%)

- For field works need 12 inventory crews + 1 control crew,
- and in the year of NFI in Steppe zone – 16 inventory crews + 2 control crews.
- During field season 1 inventory crew have to assess in average 240 forest inventory plots

Inventory of forest shelterbelts

Decree of Cabinet Ministry of Ukraine to develop of agroforestry of 18.09.2013 p № 725-p. - the need of the forest shelter belt's inventory.

Inventory of forest shelterbelts is part of GEF-FAO project "Integrated Natural Resources Management in Degraded Landscapes in the Forest-Steppe and Steppe Zones of Ukraine (2018-2019)"

Thank you for your attention!

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