

Assessment of Chernobyl Cancers in Belarus

Malko Mikhail

Institute for Power and Nuclear Research, NASB
Minsk, Belarus

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Where is Belarus?



Regions in Belarus



Fig. 2. Geographical map of Belarus

Landscapes of Belarus



Belarusian Girl



Independence Street in Minsk



Church in Minsk, 16 century



Chatyn memorial



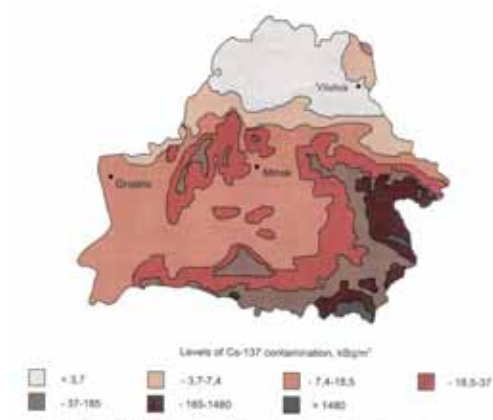
Fig. 3. Memorial Chatyn

Chatyn memorial



Fig. 4. Memorial Chatyn

Cesium-137 in Belarus



Contamination of Belarus with iodine-131

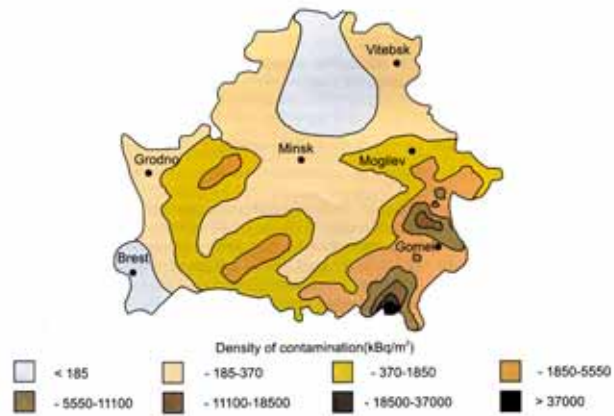
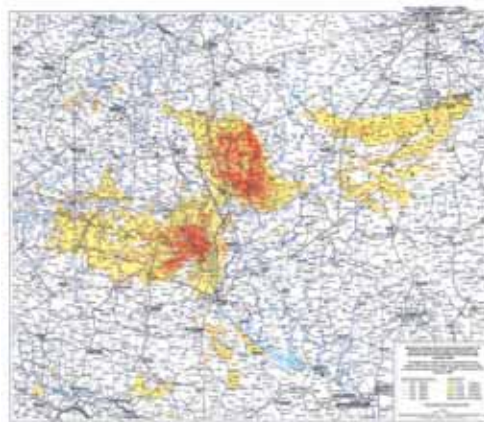


Fig. 5. Distribution of iodine-131 in soil on the territory of the Republic of Belarus on May 10, 1986 (reconstruction)

Contamination with cesium-137 of Belarus, Ukraine and Russia



Strontium-90 in Belarus



Fig.7. The current (ie, in 1998) radiological significance of the Chernobyl deposits

Plutonium contamination

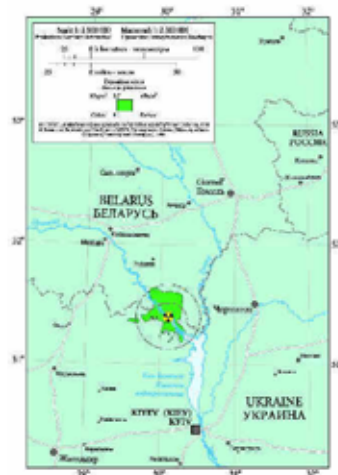
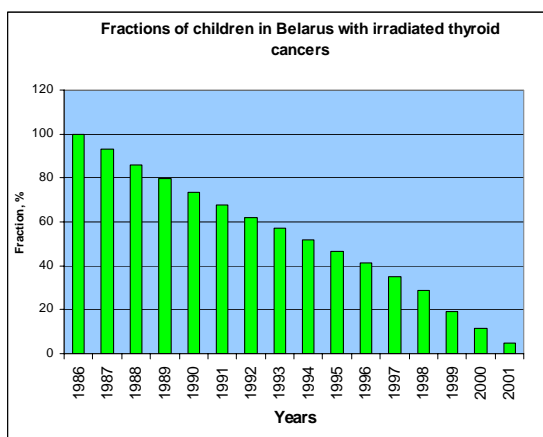
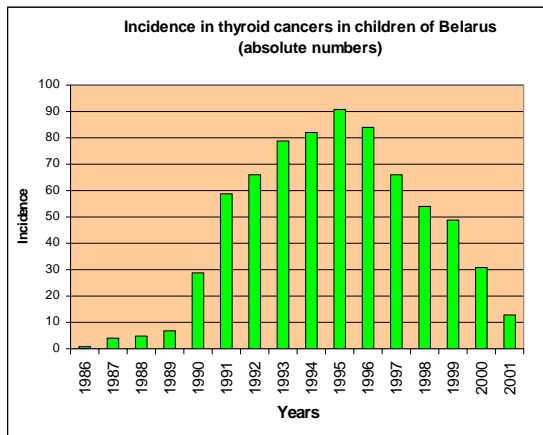
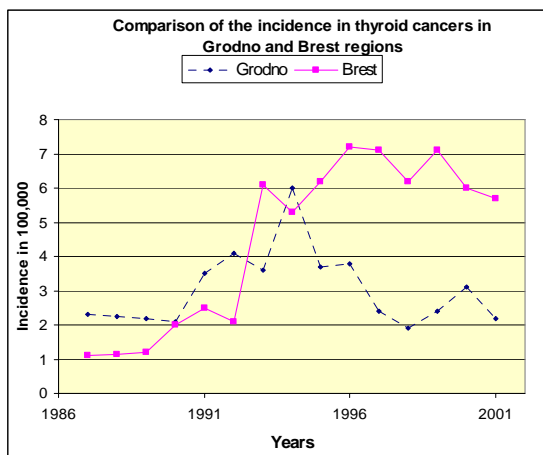
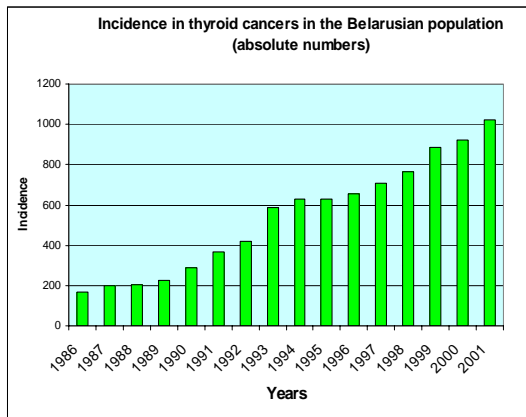
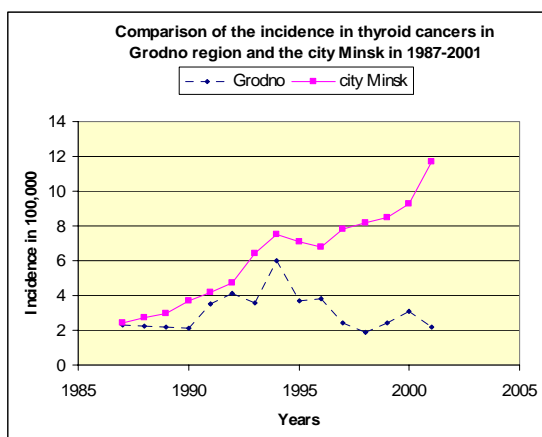
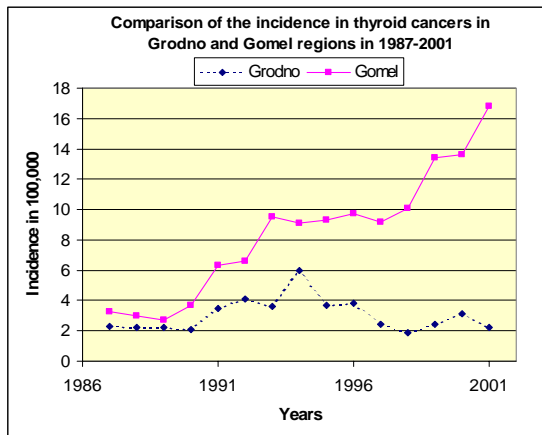
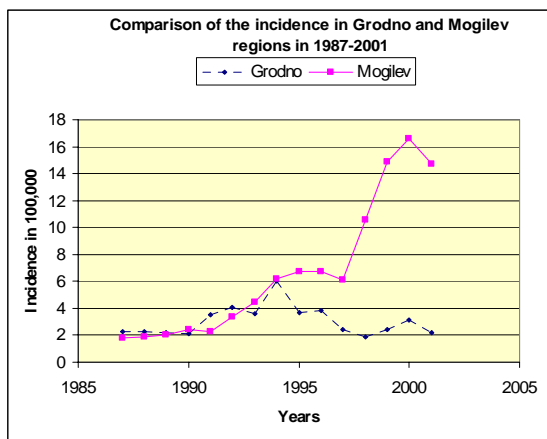
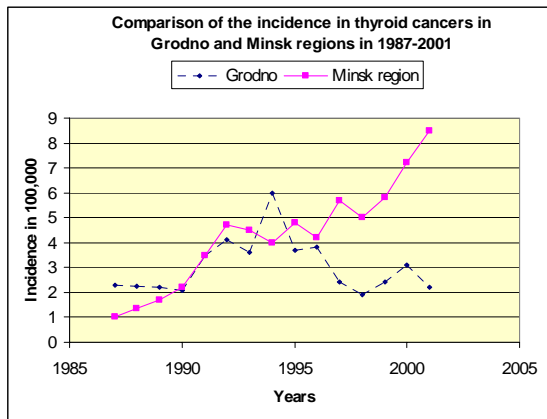


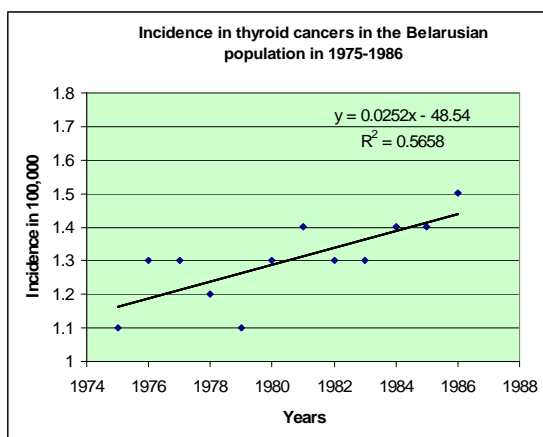
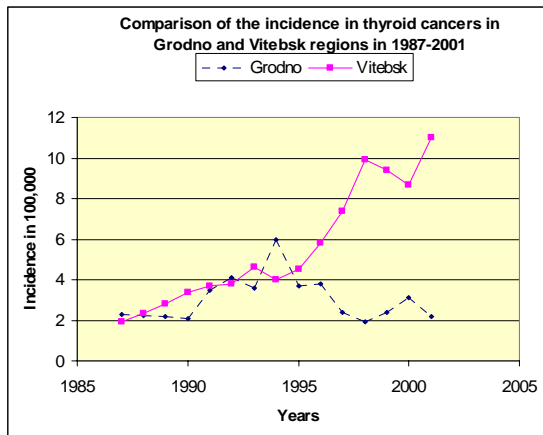
Fig. 8. Distribution, in December 1989, of deposited plutonium-239 and plutonium-240 released in the Chernobyl accident

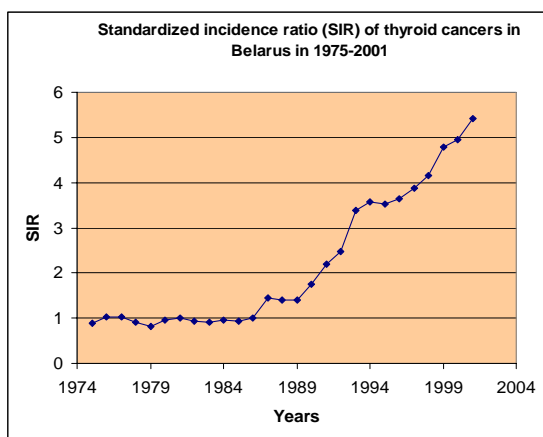
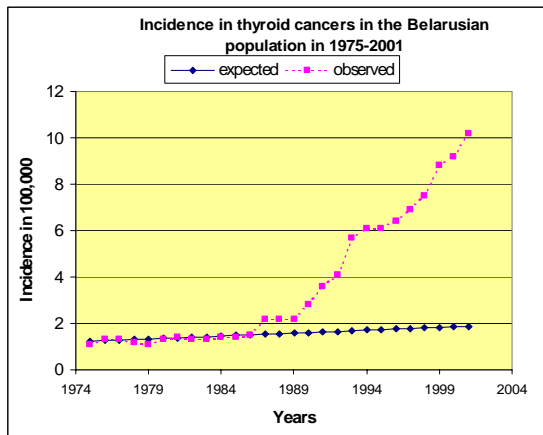












Assessment of the incidence in thyroid cancers in mixed population in different regions of Belarus

Region	Observed	Expected	Observed-expected	SIR(O/E)	Relative contribution of region, %
Brest	1,001	302	699	3.315	13.63
Vitebsk	1,163	537	626	2.166	12.21
Gomel	2,016	542	1,474	3.720	28.74
Grodno	543	392	151	1.385	2.94
Minsk	1,000	442	558	2.262	10.88
Mogilev	1,235	379	856	3.259	16.69
city Minsk	1,586	822	764	1.929	14.90
All regions together	8,644	3,416	5,128	2.501	100

Fig.6. Standardized incidence ratio of thyroid cancers in Belarus in 1987-2001

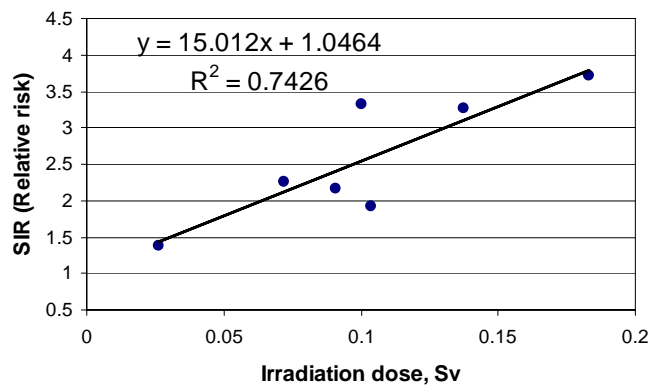
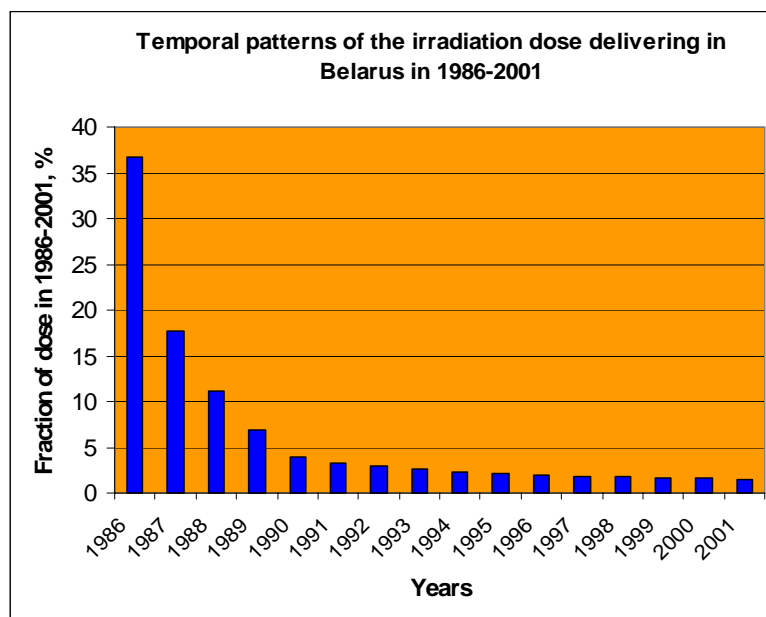
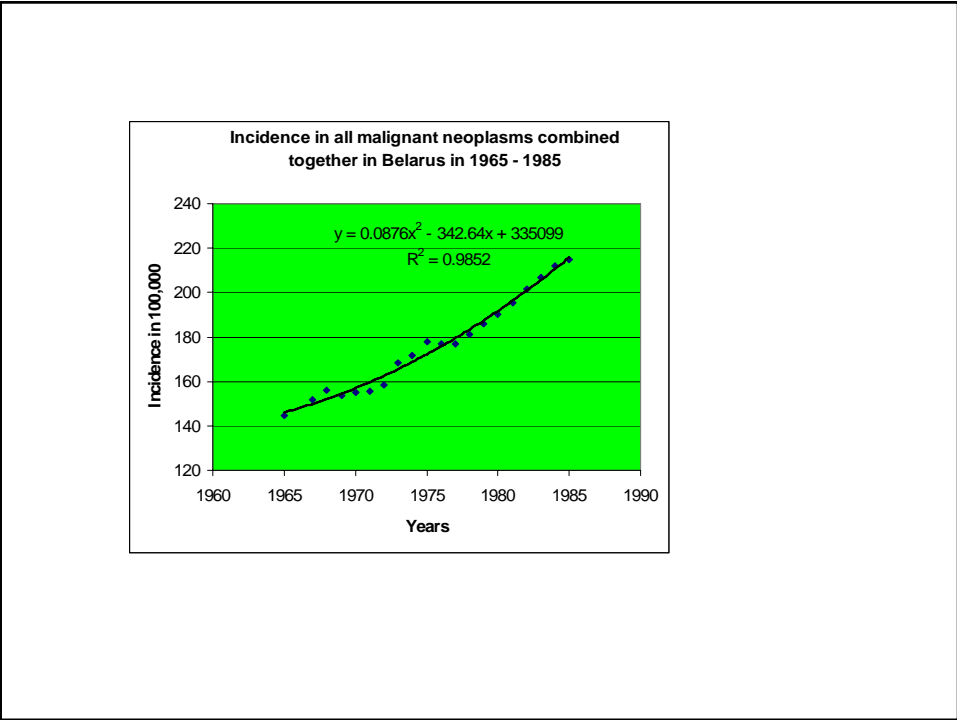
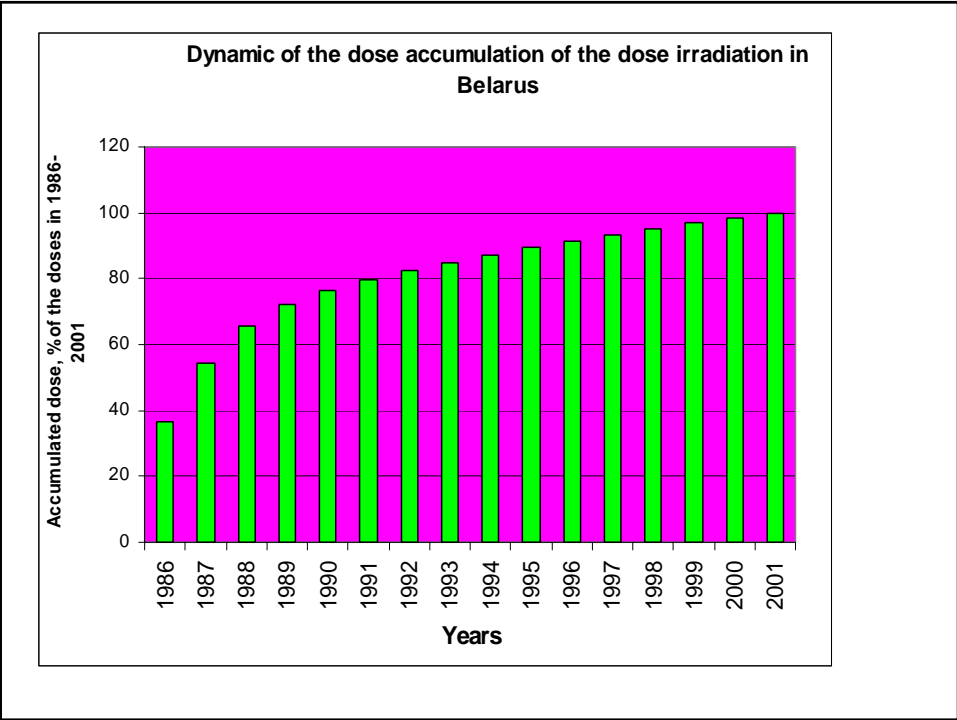
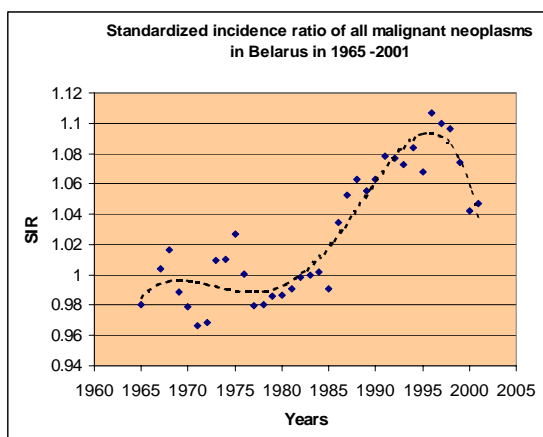
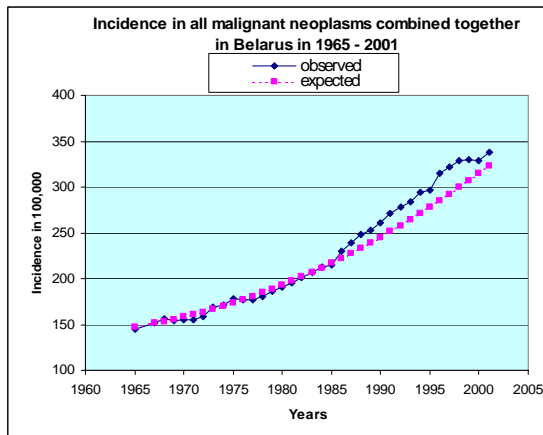


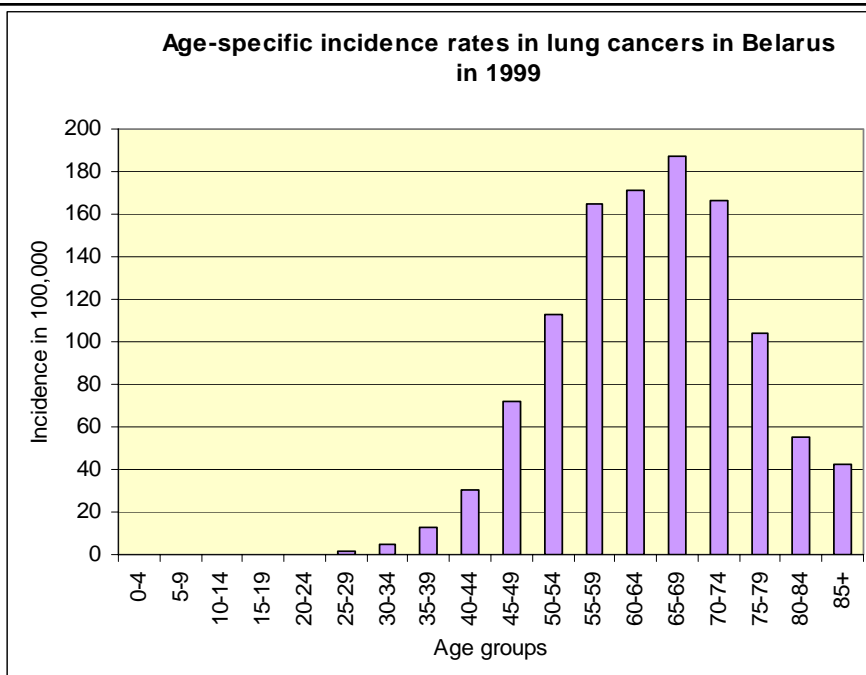
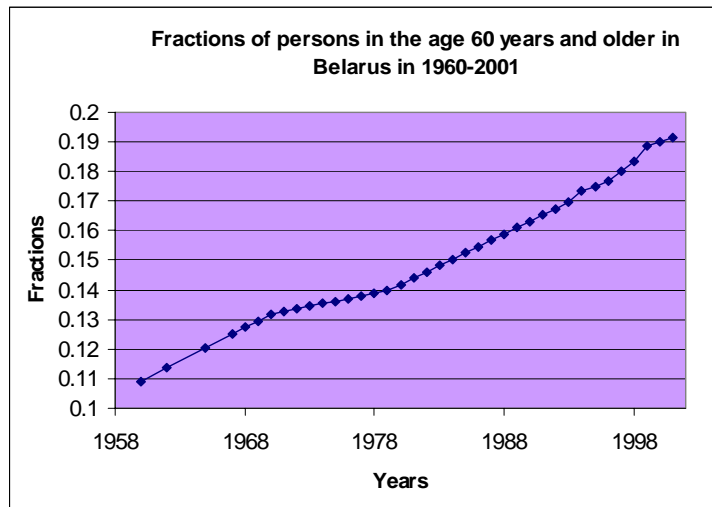
Table 3. Populations equivalent average doses of the whole body irradiation in different regions of Belarus in the period 1986-2001, mSv/person

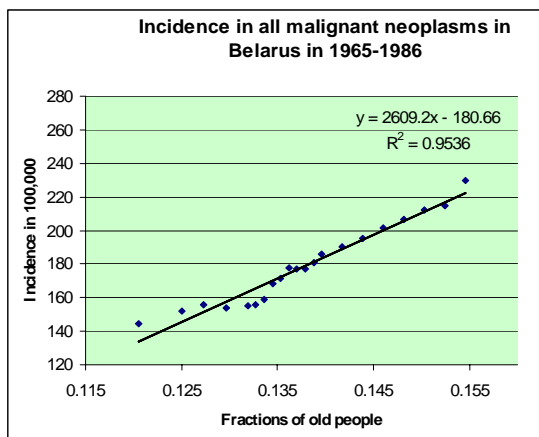
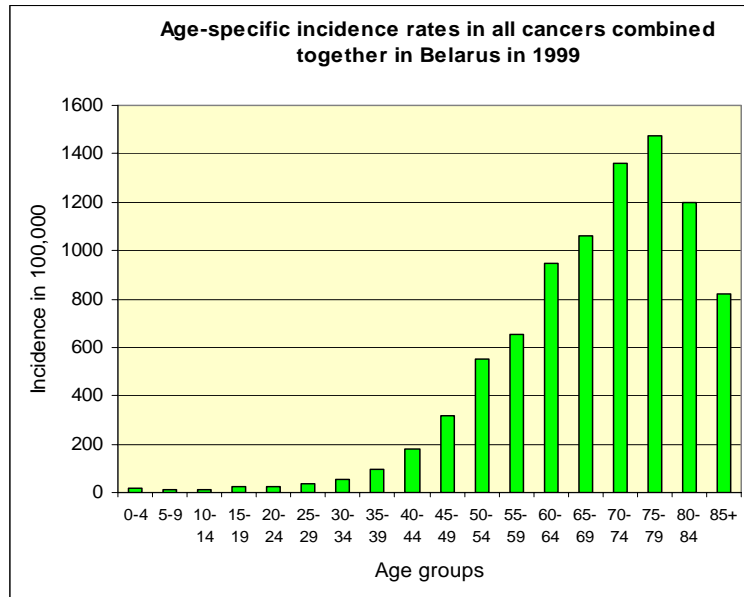
Region	Source of irradiation			
	Deposition of radionuclides	Transfer with resettlement	Transfer with liquidators	Resulting dose
Brest	1.224	0	0.300	1.524
Vitebsk	0.006	0.184	0.337	0.527
Gomel	13.080	-1.760	0	11.320
Grodno	0.348	0.286	0.319	0.953
Minsk	0.330	1.031	1.926	3.287
Mogilev	6.674	0	0	6.674
City Minsk	0.357	0.357	0.792	1.507
Belarus	3.767			3.767

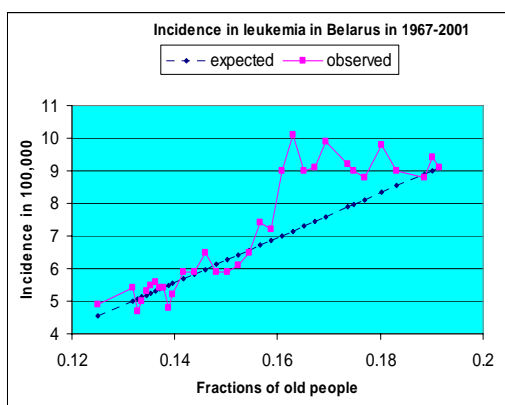
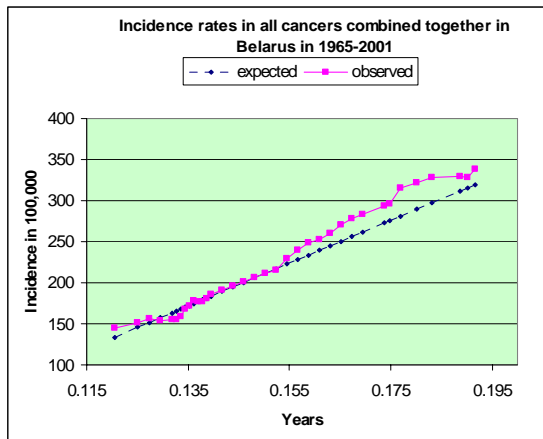


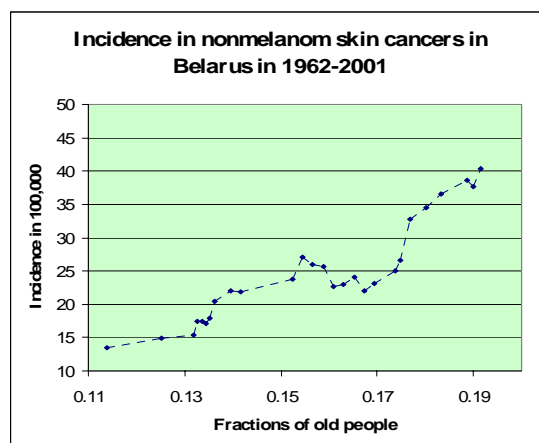
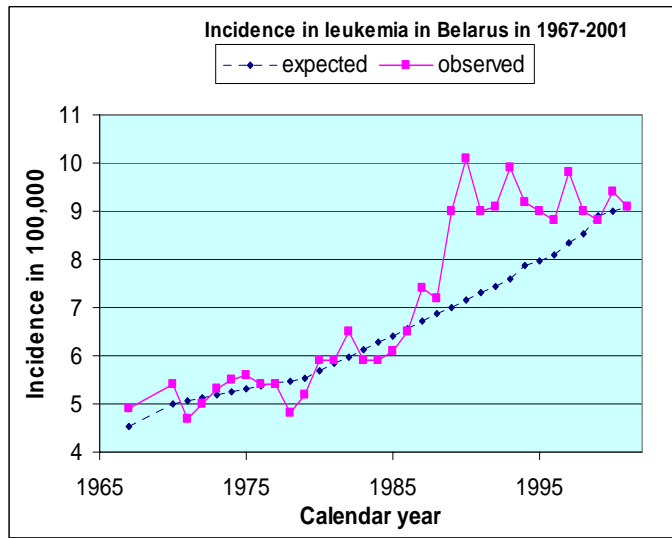


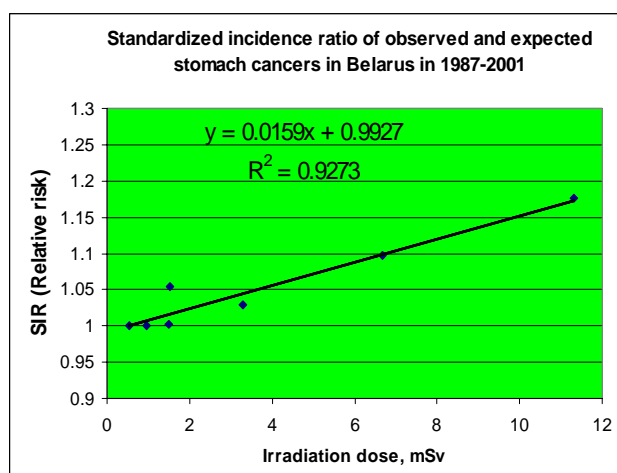
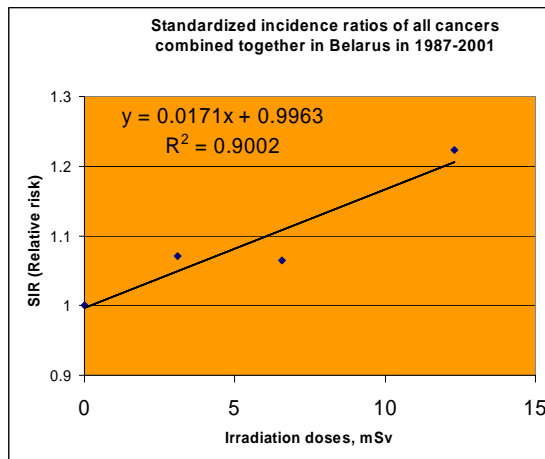


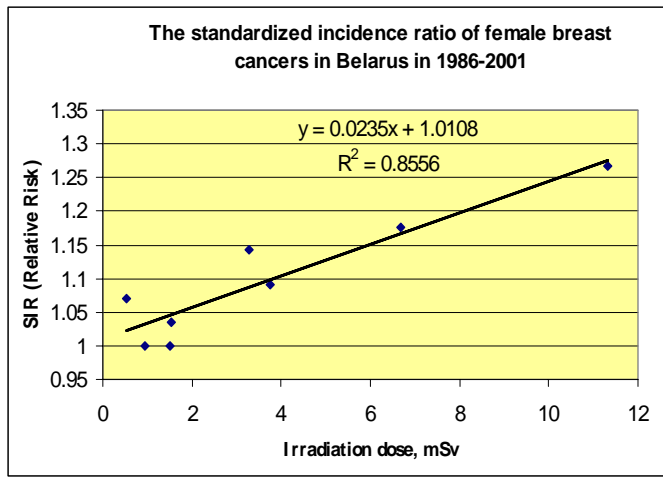
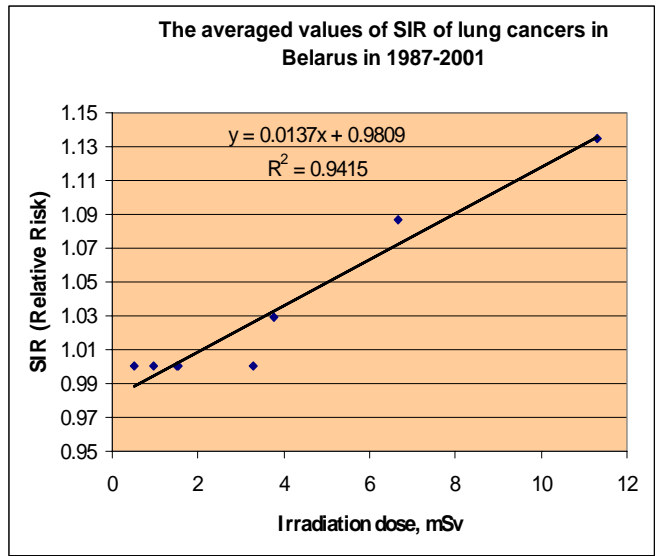


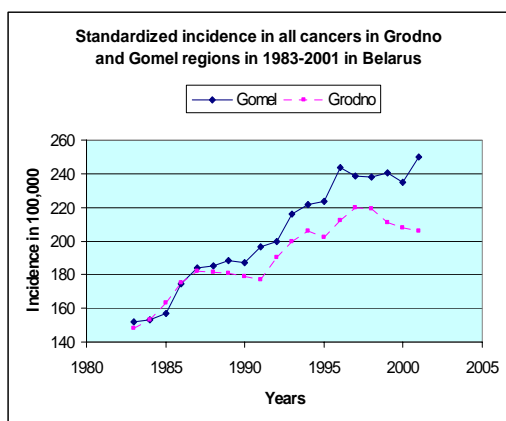
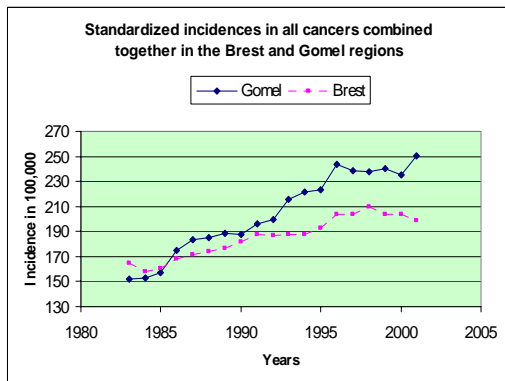


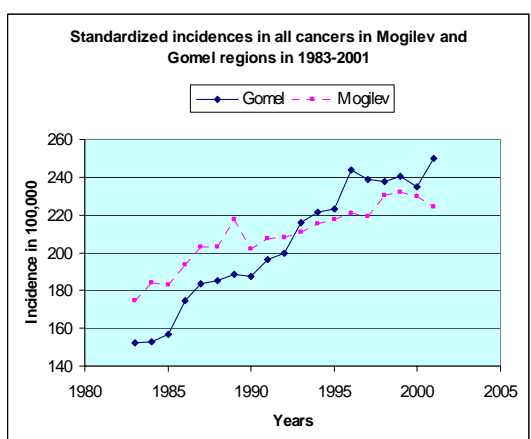
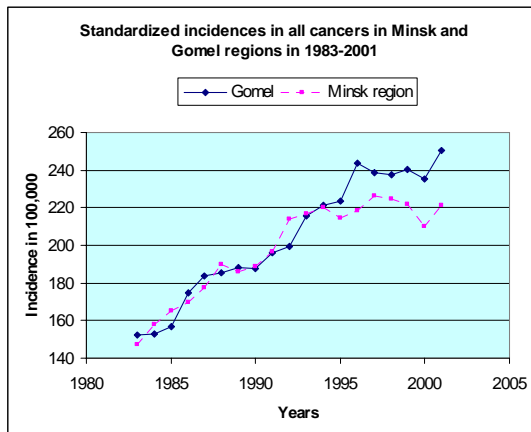












Assessment of the incidence in stomach cancers in mixed population in different regions of Belarus

Region	Observed	Expected	Observed-expected	SIR(O/E)	Relative contribution of region, %
Brest	7,375	6,977	378	1,054	13.2
Vitebsk	9,268	9,268	0	1,0	12.21
Gomel	9,629	8,185	1444	1,176	28.74
Grodno	6,439	6,439	0	1,0	2.94
Minsk	10,209	9,914	295	1,030	10.88
Mogilev	8,174	7,453	721	1,097	16.69
city Minsk	7,680	7,657	23	1,003	14.90
All regions together	58,774	55,913	2861	1,051	100

Assessment of the incidence in lung cancers in mixed population in different regions of Belarus

Region	Observed	Expected	Observed-expected	SIR(O/E)	Relative contribution of region, %
Brest	8.150	8.150	0	1.0	0
Vitebsk	9.863	9.863	0	1.0	0
Gomel	9.418	8.302	1.116	1.134	62
Grodno	7.861	7.861	0	1.0	0
Minsk	11.532	11.532	0	1.	0
Mogilev	8.518	7.835	683	1.087	38
city Minsk	8.126	8.126	0	1.0	0
All regions together	63.409	61.632	1.777	1.029	100

Assessment of the incidence in female breast cancers in mixed population in different regions of Belarus

Region	Observed	Expected	Observed-expected	SIR(O/E)	Relative contribution of region, %
Brest	4,549	4,397	152	1.035	5.1
Vitebsk	5,244	4,901	343	1.070	11.6
Gomel	5,644	4,456	1,188	1,267	40.1
Grodno	3,862	3,862	0	1.0	0
Minsk	5,173	4,530	643	1,142	21.7
Mogilev	4,267	3,630	637	1,175	21.5
city Minsk	7,239	7,239	0	1.0	0
All regions together	35,978	33,015	2,963	1,090	100

Table 5 Assessment of the incidence in nonmelanom skin cancers in mixed population in different regions of Belarus

Region	Observed	Expected	Observed-expected	SIR(O/E)	Relative contribution of region, %
Brest	5,828	5,828	0	1.0	0
Vitebsk	6,471	6,471	0	1.0	0
Gomel	7,968	6,275	1,693	1.270	72.8
Grodno	5,169	5,169	0	1.0	0
Minsk	5,745	5,745	0	1.0	0
Mogilev	6,083	5,450	633	1.116	27.2
city Minsk	7,385	7,385	0	1.0	0
All regions together	44,649	42,323	2326	1.055	100