Statistics 726 **Assignment 3** **Due: May 16**

1. The following table shows average monthly milk production for cows in the United States over the period 1962 to 1975.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1962	589	561	640	656	727	697	640	599	568	577	553	582
1963	600	566	653	673	742	716	660	617	583	587	565	598
1964	628	618	688	705	770	736	678	639	604	611	594	634
1965	658	622	709	722	782	756	702	653	615	621	602	635
1966	677	635	736	755	811	798	735	697	661	667	645	688
1967	713	667	762	784	837	817	767	722	681	687	660	698
1968	717	696	775	796	858	826	783	740	701	706	677	711
1969	734	690	785	805	871	845	801	764	725	723	690	734
1970	750	707	807	824	886	859	819	783	740	747	711	751
1971	804	756	860	878	942	913	869	834	790	800	763	800
1972	826	799	890	900	961	935	894	855	809	810	766	805
1973	821	773	883	898	957	924	881	837	784	791	760	802
1974	828	778	889	902	969	947	908	867	815	812	773	813
1975	834	782	892	903	966	937	896	858	817	827	797	843

   (Don't type the data in. It's available from the class web pages.)

   Write a report which predicts monthly milk prediction for 1976. The report should include an "executive summary" (i.e. it should use only the simple kind of language that a typical executive might understand if they had both neurons firing) as well as an in-depth report that would explain the process of generating the forecast to someone knowledgeable about forecasting time series, but not necessarily knowledgeable about R. (To be clear: I don't want to see code, but you need explain, in detail, what you did.)

2. The following data set gives the monthly number of road fatalities in New Zealand from 1997 to 2004 (data from the LTSA Web Site).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1997	35	38	44	48	38	37	32	37	29	35	43	52
1998	37	38	43	29	32	36	37	24	35	44	41	39
1999	42	39	27	47	29	30	29	49	30	35	39	37
2000	25	31	34	39	36	32	26	23	38	23	30	46
2001	38	34	34	36	44	29	30	21	26	28	26	49
2002	32	34	34	21	39	36	29	27	22	26	31	34
2003	31	32	35	40	32	31	37	35	31	33	29	39
2004	33	33	39	25	24	35	32	34	27	24	29	40

(Don't type the data in. It's available from the class web pages.)

Fit a time series model and forecast the values for 2005. Write a report as in question 1, but this time try to make some real conclusions about the forecasts and what they mean.

Note that this is a "live" data set, not some tame example from a textbook. You may encounter some difficulties `:-)`. It's up to you to figure out what to do.