

# Residual Soil Nitrogen (RSN) & the Indicator of Risk of Water Contamination by Nitrogen (IROWCN)

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# RSN & IROWCN

- **RSN - reflects the amount of inorganic N which remains in the soil after harvest**
- **IROWCN - links RSN to climatic conditions**



# Denitrification

Atmospheric deposition



legumes

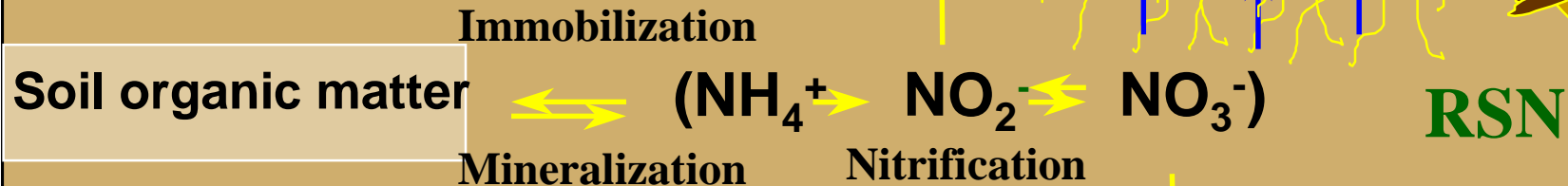
fertilizer

manure



Harvested

Residues returned



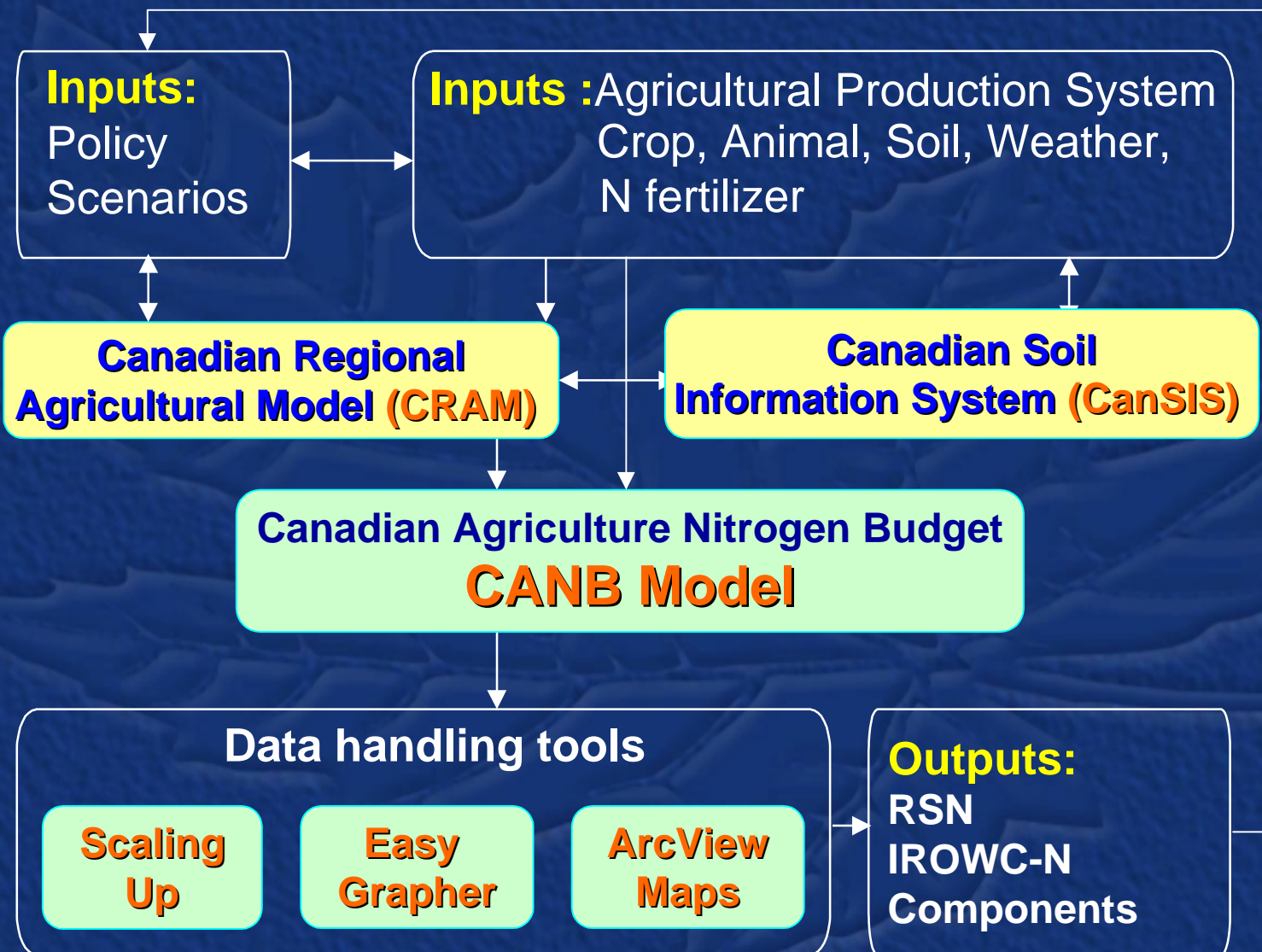
$NO_3^-$  (IROWCN)



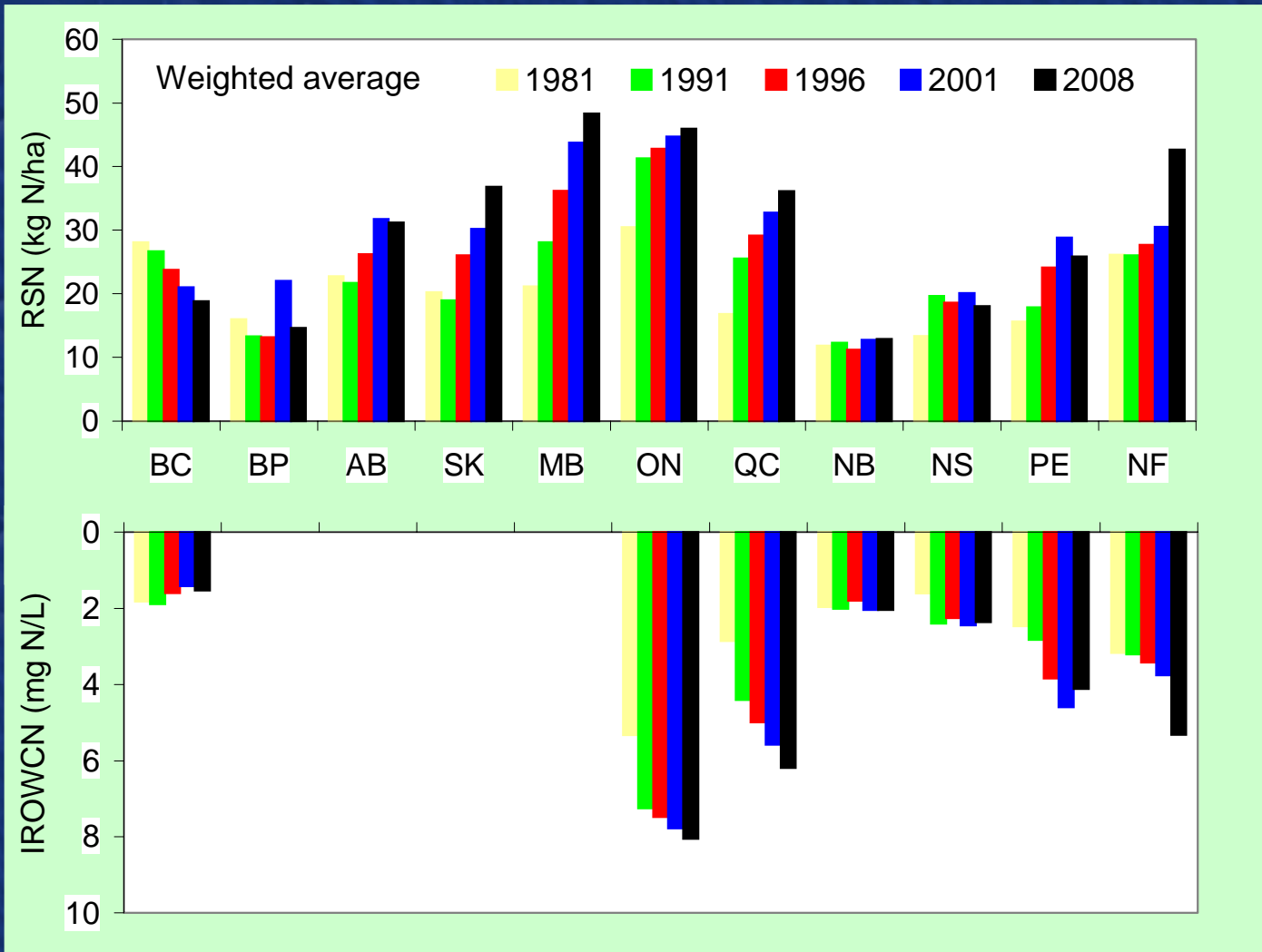
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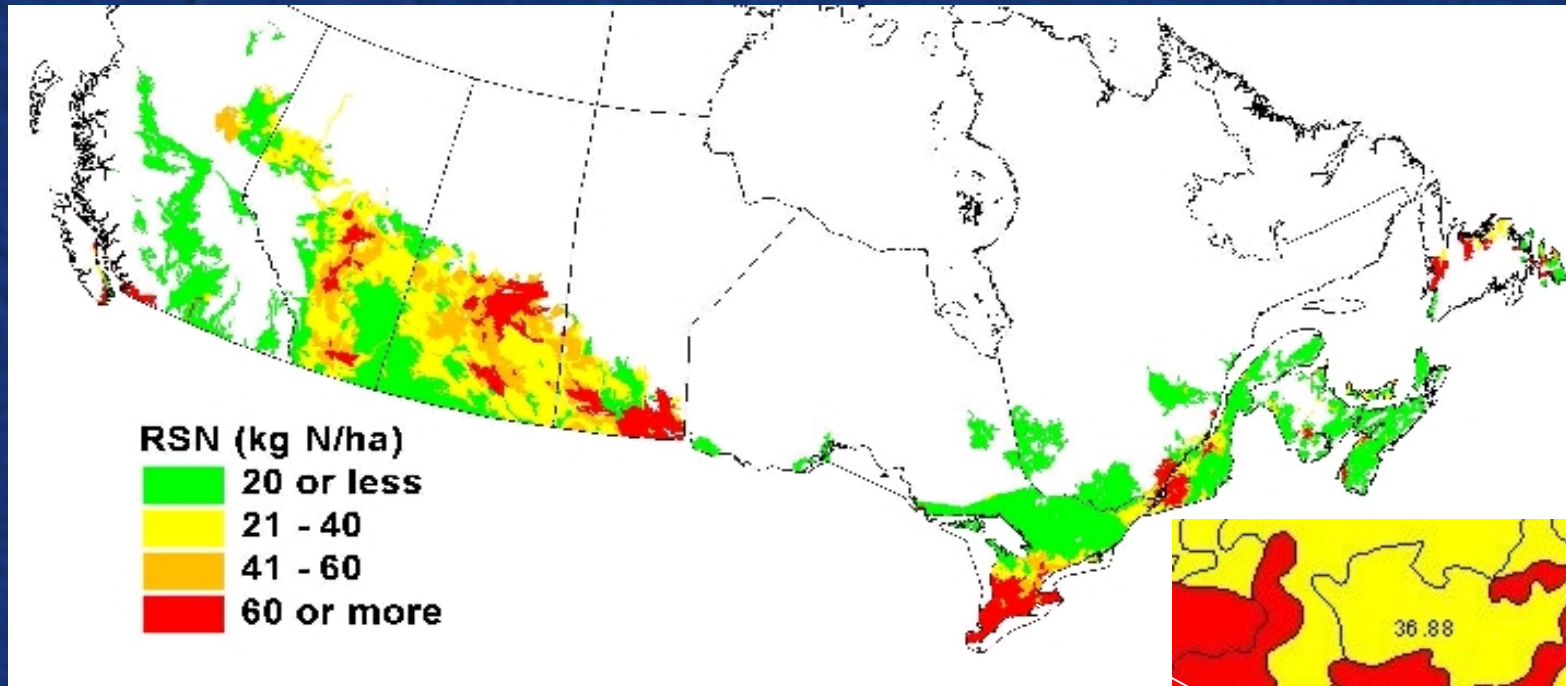
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# RSN and IROWCN – Provincial Estimates



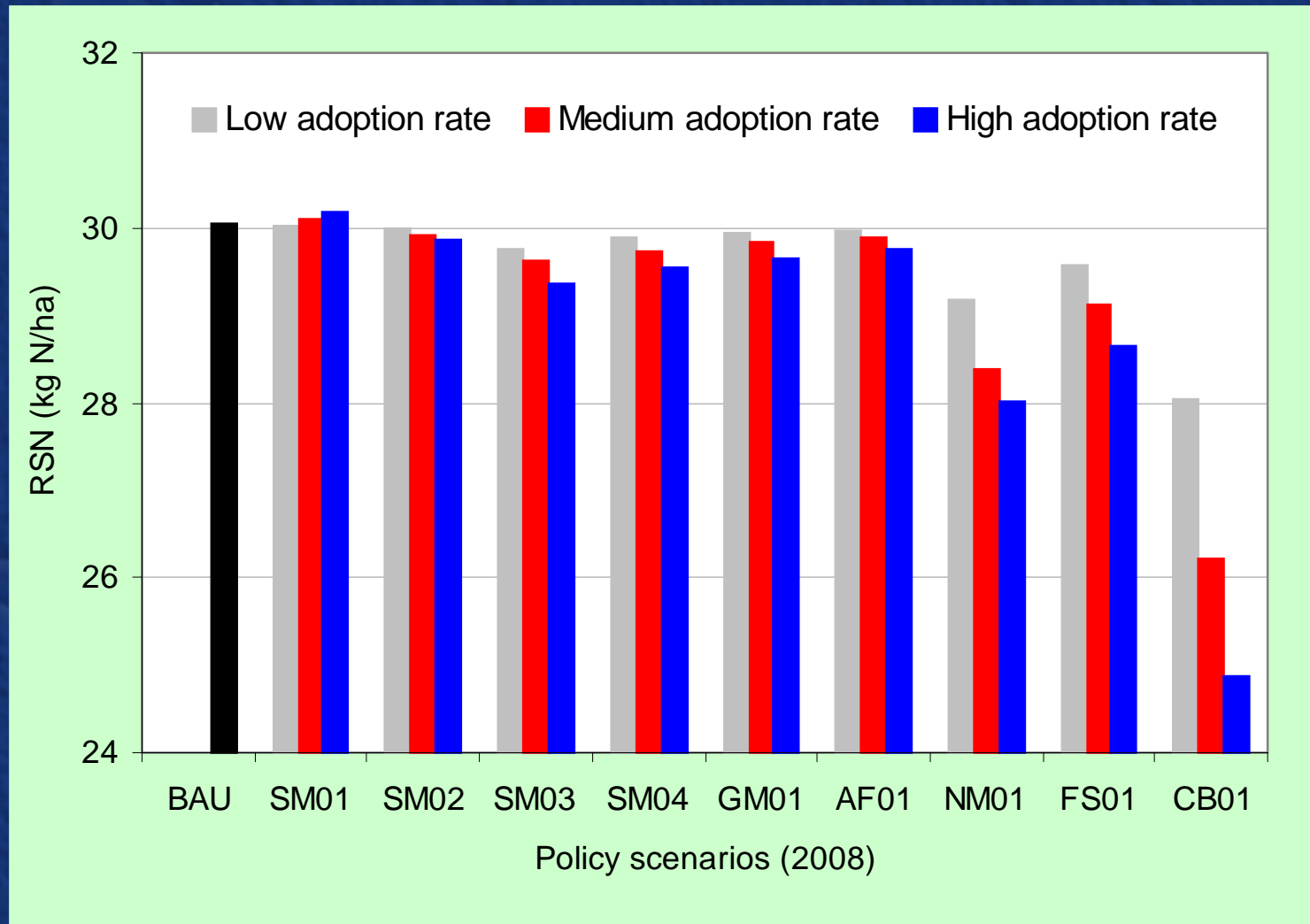
# Residual Soil Nitrogen (RSN) at the SLC scale (2008 Business as usual scenario)



350074



# RSN under various policy scenarios



# Short-term Objectives

- Standardize model between Eastern & Western Canada
- Incorporate revised coefficients
- Improve water budget routine
- Incorporate new Soil Landscape of Canada (SLC 3.0) & 2001 Census of Canada databases
- Incorporate various management scenarios (eg tillage, manure management)





# Long-term Objectives

**Development of a process-based dynamic model which will simulate RSN and IROWCN in fields and watersheds.**

**Model validation and the testing of various management scenarios will also be emphasized in this phase of the work.**





**Thank You!**



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