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Hurricane Relief using Stella and TI Calculator

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Hurricane Relief 2005

American Red Cross

Together, we can save a life

Fundraising Activities

American
Red Cross

Together, we can save a life

- Car washes
- Homebase race
- Candy sales
- Bottle drive
- Interest pledges

Technology Used

American
Red Cross
Together, we can save a life

- **Smartboard**
- **TI-84**
- **Stella**
- **internet**
- **Excel**
- **Laptops**

Hurdles

American
Red Cross
Together, we can save a life

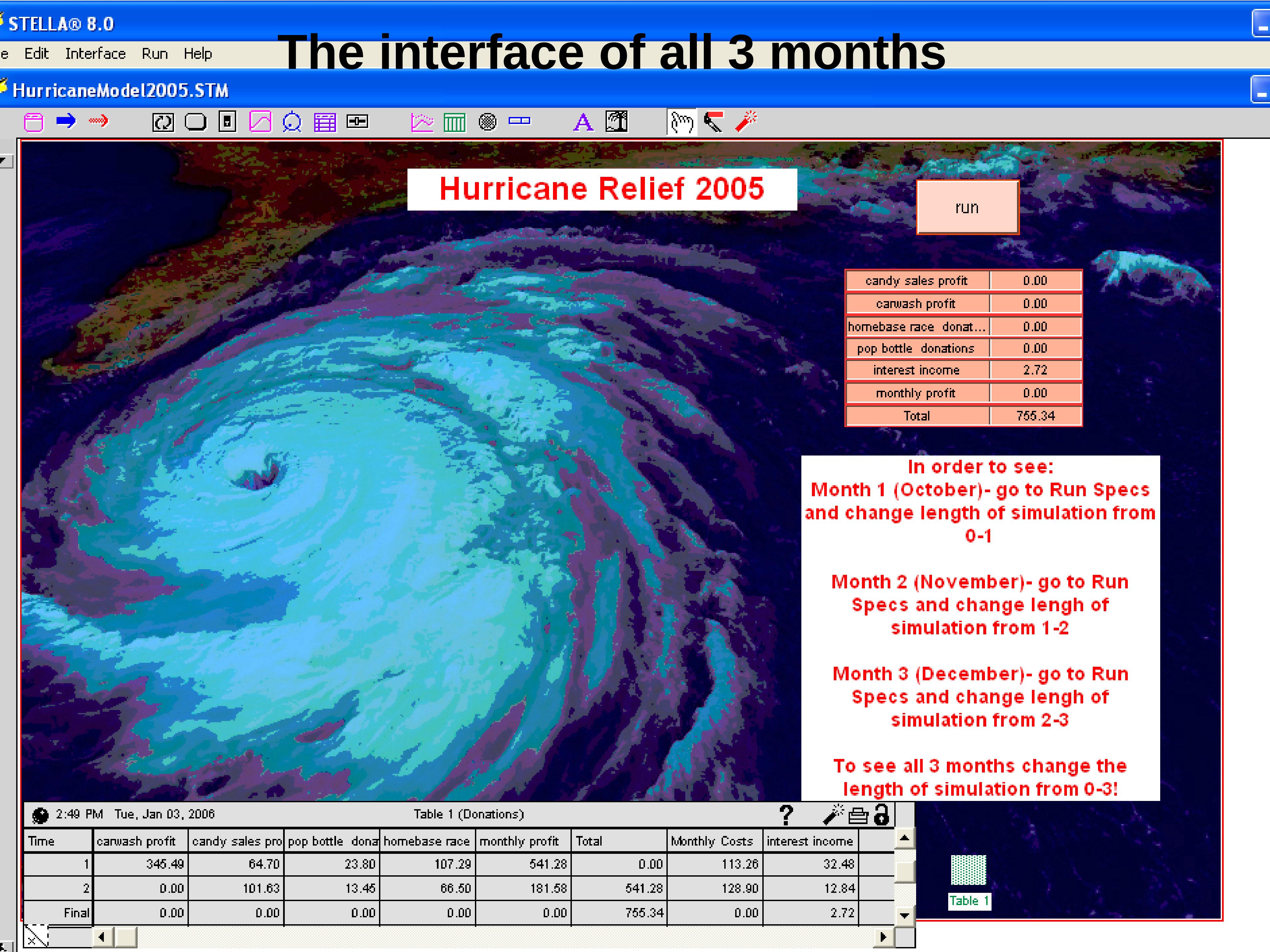
1. **Fitting in cars**
2. **Delay in selling (FDPS)**
3. **Baked food sale bomb**
4. **Background problems**
5. **Stella unit bug**
6. **Alexis' spelling**
7. **Going to Sam's Club**
8. **Excel graphs**
9. **The interest glitch**

Goals

American Red Cross
Together, we can save a life

- **To interest students with new technology**
- **To raise 1,000 dollars (Red Cross)**
- **To encourage collaboration and teamwork**
- **Over coming hurdles**

The interface of all 3 months



Hurricane Relief 2005

candy sales profit	0.00
carwash profit	0.00
homebase race donat...	0.00
pop bottle donations	0.00
interest income	2.72
monthly profit	0.00
Total	755.34

In order to see:
Month 1 (October)- go to Run Specs and change length of simulation from 0-1

Month 2 (November)- go to Run Specs and change lengh of simulation from 1-2

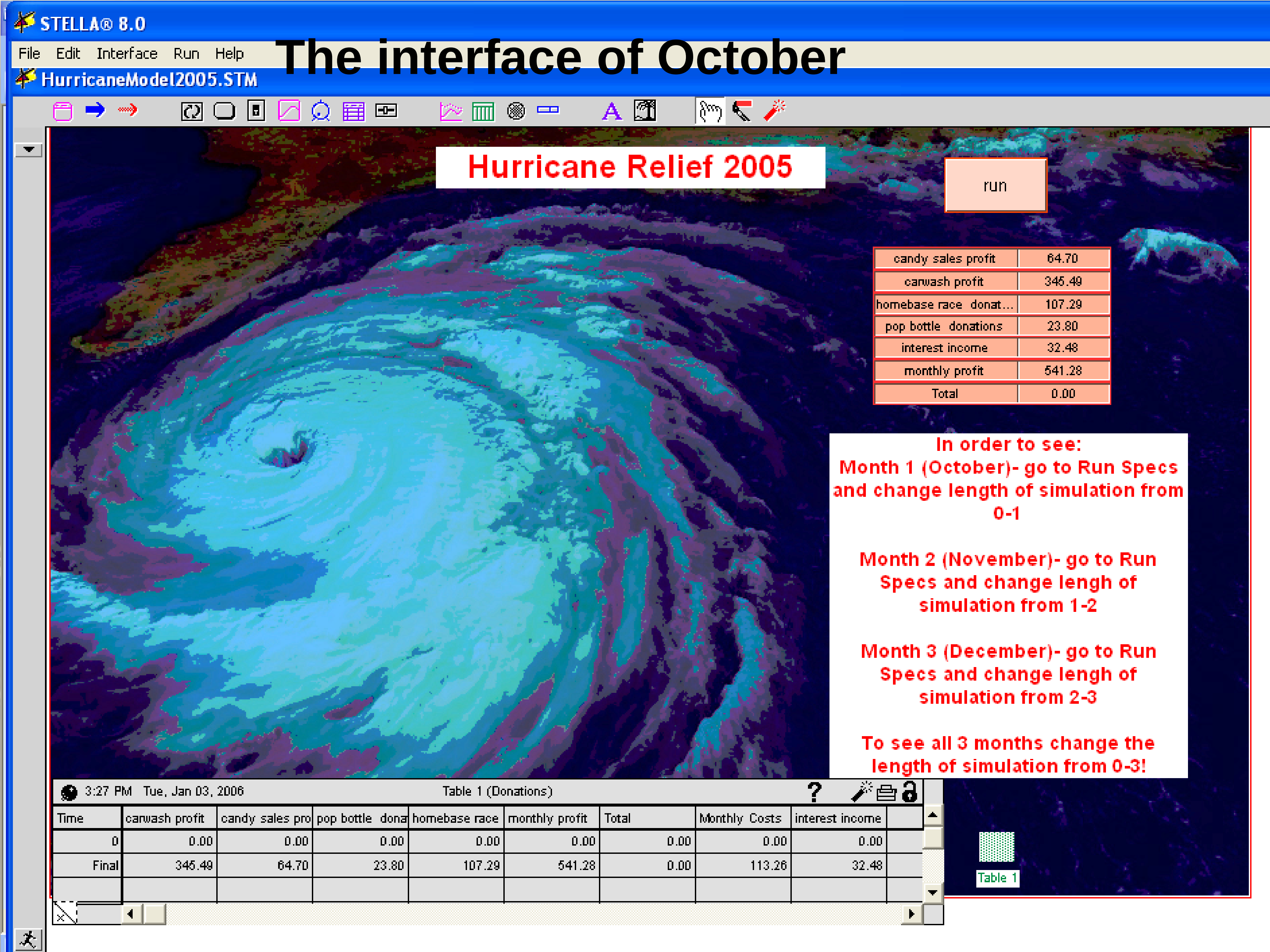
Month 3 (December)- go to Run Specs and change lengh of simulation from 2-3

To see all 3 months change the length of simulation from 0-3!

2:49 PM Tue, Jan 03, 2006 Table 1 (Donations)

Time	carwash profit	candy sales pro	pop bottle dona	homebase race	monthly profit	Total	Monthly Costs	interest income
1	345.49	64.70	23.80	107.29	541.28	0.00	113.26	32.48
2	0.00	101.63	13.45	66.50	181.58	541.28	128.90	12.84
Final	0.00	0.00	0.00	0.00	0.00	755.34	0.00	2.72

The interface of October



Hurricane Relief 2005

candy sales profit	64.70
carwash profit	345.49
homebase race donat…	107.29
pop bottle donations	23.80
interest income	32.48
monthly profit	541.28
Total	0.00

In order to see:
Month 1 (October)- go to Run Specs and change length of simulation from 0-1

Month 2 (November)- go to Run Specs and change lengh of simulation from 1-2

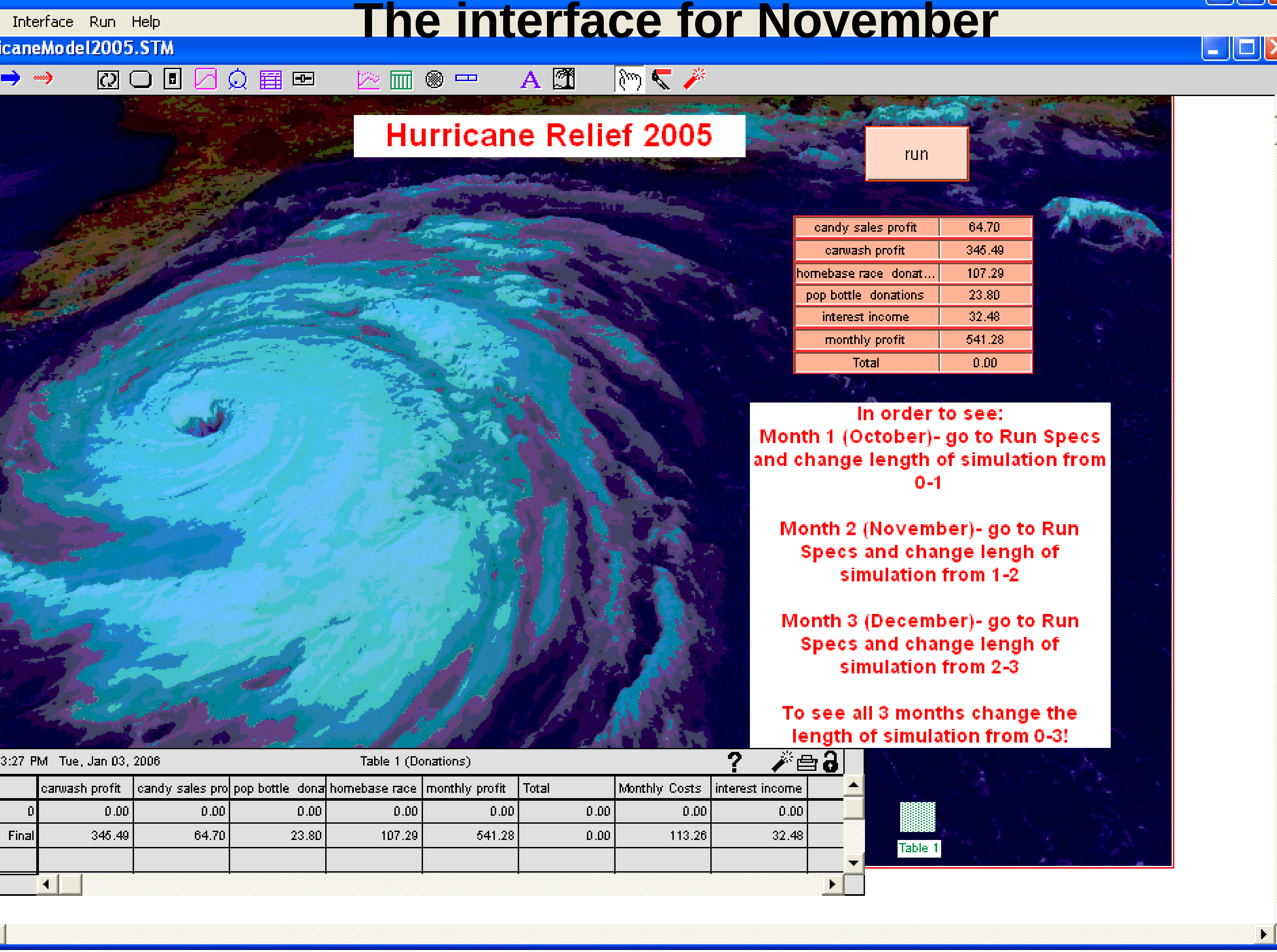
Month 3 (December)- go to Run Specs and change lengh of simulation from 2-3

To see all 3 months change the length of simulation from 0-3!

3:27 PM Tue, Jan 03, 2006 Table 1 (Donations)

Time	carwash profit	candy sales pro	pop bottle dona	homebase race	monthly profit	Total	Monthly Costs	interest income
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Final	345.49	64.70	23.80	107.29	541.28	0.00	113.26	32.48

The interface for November



Hurricane Relief 2005

candy sales profit	64.70
carwash profit	345.49
homebase race donat...	107.29
pop bottle donations	23.80
interest income	32.48
monthly profit	541.28
Total	0.00

In order to see:
Month 1 (October)- go to Run Specs and change length of simulation from 0-1

Month 2 (November)- go to Run Specs and change lengh of simulation from 1-2

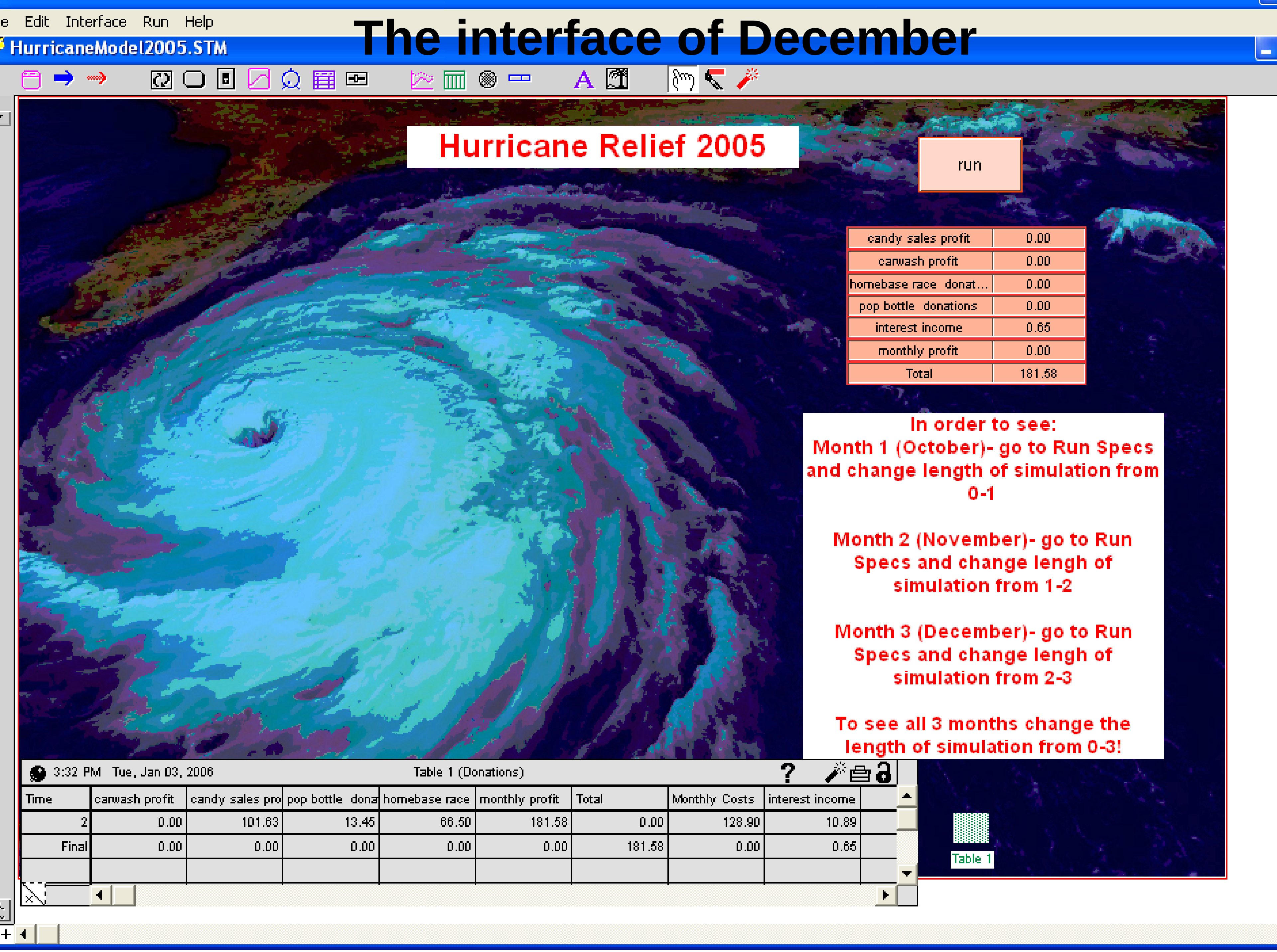
Month 3 (December)- go to Run Specs and change lengh of simulation from 2-3

To see all 3 months change the length of simulation from 0-3!

3:27 PM Tue, Jan 03, 2006 Table 1 (Donations)

	carwash profit	candy sales pro	pop bottle dona	homebase race	monthly profit	Total	Monthly Costs	interest income
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Final	345.49	64.70	23.80	107.29	541.28	0.00	113.26	32.48

The interface of December



Hurricane Relief 2005

candy sales profit	0.00
carwash profit	0.00
homebase race donat…	0.00
pop bottle donations	0.00
interest income	0.65
monthly profit	0.00
Total	181.58

In order to see:
Month 1 (October)- go to Run Specs and change length of simulation from 0-1

Month 2 (November)- go to Run Specs and change lengh of simulation from 1-2

Month 3 (December)- go to Run Specs and change lengh of simulation from 2-3

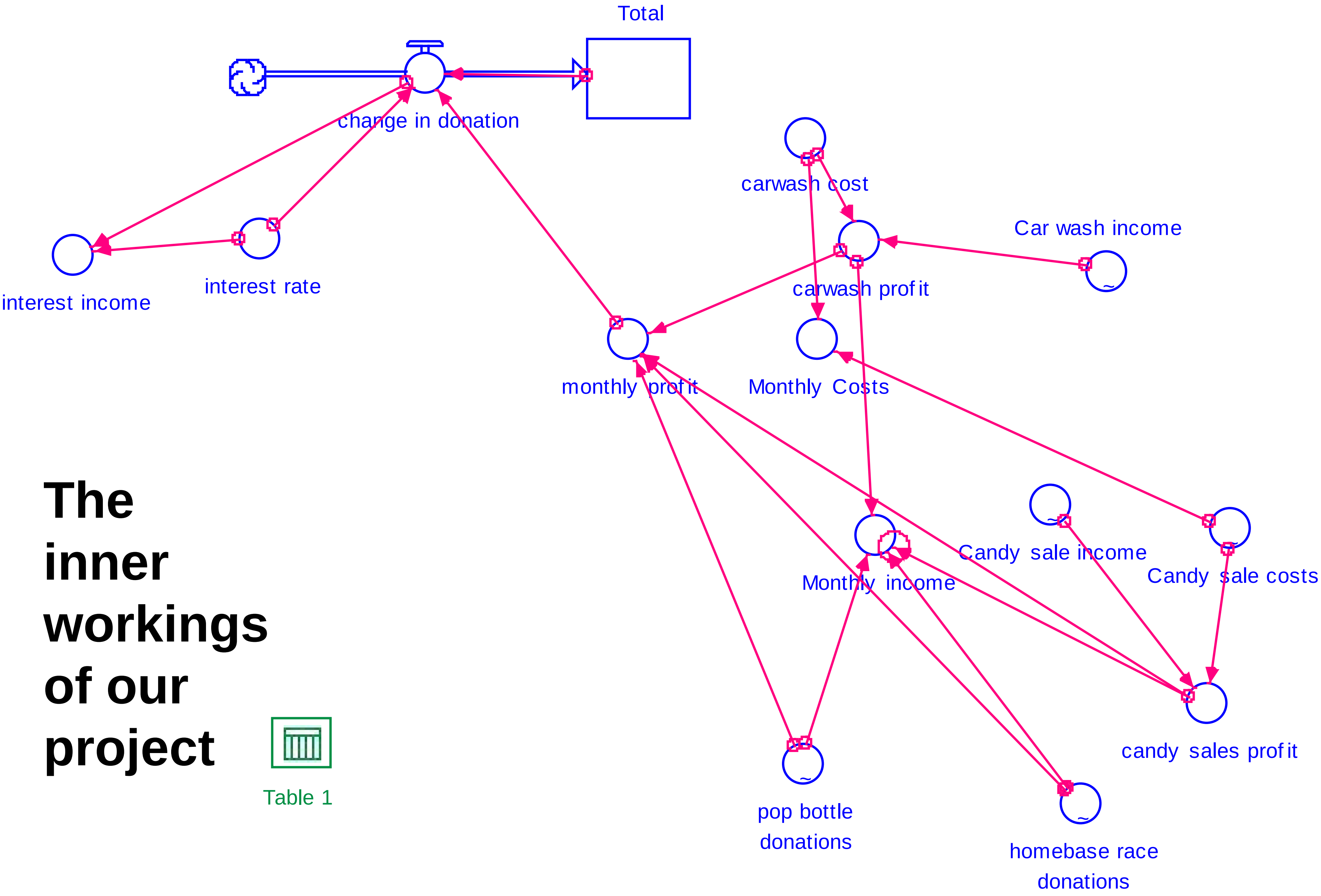
To see all 3 months change the length of simulation from 0-3!

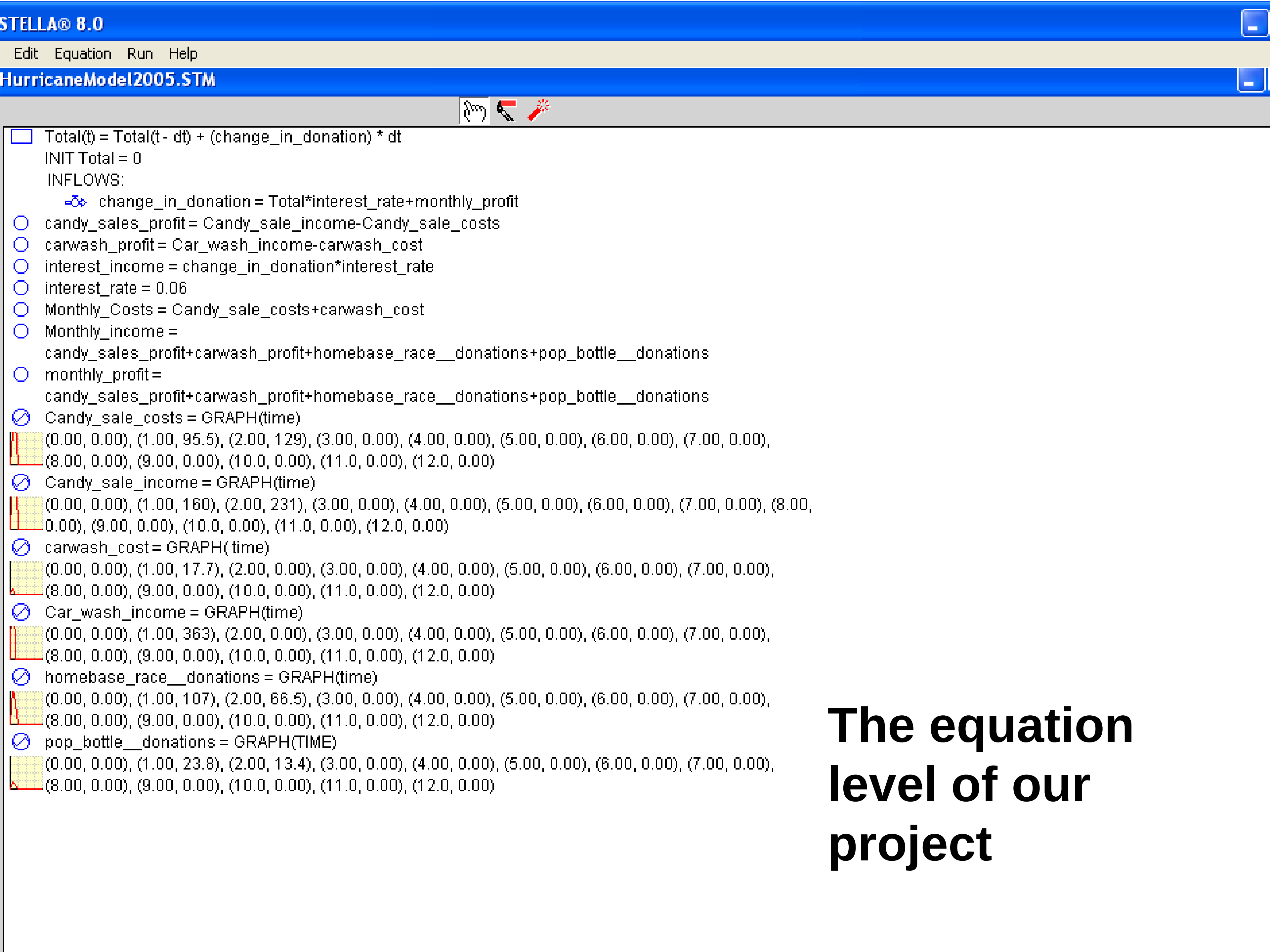
3:32 PM Tue, Jan 03, 2006

Table 1 (Donations)

Time	carwash profit	candy sales pro	pop bottle dona	homebase race	monthly profit	Total	Monthly Costs	interest income
2	0.00	101.63	13.45	66.50	181.58	0.00	128.90	10.89
Final	0.00	0.00	0.00	0.00	0.00	181.58	0.00	0.65

The inner workings of our project


Total
change in donation
interest income
interest rate
carwash cost
Car wash income
carwash profit
monthly profit
Monthly Costs
Monthly income
Candy sale income
Candy sale costs
candy sales profit
pop bottle donations
homebase race donations
Table 1



```
Total(t) = Total(t - dt) + (change_in_donation) * dt
INIT Total = 0
 INFLOWS:
   change_in_donation = Total*interest_rate+monthly_profit
candy_sales_profit = Candy_sale_income-Candy_sale_costs
carwash_profit = Car_wash_income-carwash_cost
interest_income = change_in_donation*interest_rate
interest_rate = 0.06
Monthly_Costs = Candy_sale_costs+carwash_cost
Monthly_income =
candy_sales_profit+carwash_profit+homebase_race__donations+pop_bottle__donations
monthly_profit =
candy_sales_profit+carwash_profit+homebase_race__donations+pop_bottle__donations
Candy_sale_costs = GRAPH(time)
(0.00, 0.00), (1.00, 95.5), (2.00, 129), (3.00, 0.00), (4.00, 0.00), (5.00, 0.00), (6.00, 0.00), (7.00, 0.00),
(8.00, 0.00), (9.00, 0.00), (10.0, 0.00), (11.0, 0.00), (12.0, 0.00)
Candy_sale_income = GRAPH(time)
(0.00, 0.00), (1.00, 160), (2.00, 231), (3.00, 0.00), (4.00, 0.00), (5.00, 0.00), (6.00, 0.00), (7.00, 0.00), (8.00,
0.00), (9.00, 0.00), (10.0, 0.00), (11.0, 0.00), (12.0, 0.00)
carwash_cost = GRAPH( time)
(0.00, 0.00), (1.00, 17.7), (2.00, 0.00), (3.00, 0.00), (4.00, 0.00), (5.00, 0.00), (6.00, 0.00), (7.00, 0.00),
(8.00, 0.00), (9.00, 0.00), (10.0, 0.00), (11.0, 0.00), (12.0, 0.00)
Car_wash_income = GRAPH(time)
(0.00, 0.00), (1.00, 363), (2.00, 0.00), (3.00, 0.00), (4.00, 0.00), (5.00, 0.00), (6.00, 0.00), (7.00, 0.00),
(8.00, 0.00), (9.00, 0.00), (10.0, 0.00), (11.0, 0.00), (12.0, 0.00)
homebase_race__donations = GRAPH(time)
(0.00, 0.00), (1.00, 107), (2.00, 66.5), (3.00, 0.00), (4.00, 0.00), (5.00, 0.00), (6.00, 0.00), (7.00, 0.00),
(8.00, 0.00), (9.00, 0.00), (10.0, 0.00), (11.0, 0.00), (12.0, 0.00)
pop_bottle__donations = GRAPH(TIME)
(0.00, 0.00), (1.00, 23.8), (2.00, 13.4), (3.00, 0.00), (4.00, 0.00), (5.00, 0.00), (6.00, 0.00), (7.00, 0.00),
(8.00, 0.00), (9.00, 0.00), (10.0, 0.00), (11.0, 0.00), (12.0, 0.00)
```

The equation level of our project

Special thanks to:

American Red Cross
Together, we can save a life

*Homebase 245 (FDPS) for their pizza party donation

*And an extra special thanks to Dr. Little, Jeff Commaroto, and Jerry Moon for all their support and encouragement!

American
Red Cross
Together, we can save a life

Our H:\test2.mov Movie