**Impacts and Economic Costs of Climate Change on Mexican Agriculture**

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**Electronic Supplemental Material**

*Supplementary figures*

![Diagram

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Figure S1. Crop yields in ton ha-1 for the RCP8.5 and 2.6 decadal productions from the ensembles of agricultural models and GCMs for Mexico. Maize estimates are based on the EPIC model and three GCMs (HADGEM2-ES, IPSL-CM5A-LR, and MIROC-ESM-CHEM), as well as on the pDSSAT model and three GCMs (HADGEM2-ES, IPSL, and MIROC-ESM-CHEM). Rice estimates were obtained with the combination of EPIC and HADGEM2-ES models. Wheat projections are according to the EPIC model and three GCMs (HADGEM2-ES, IPSL-CM5A-LR, and MIROC-ESM-CHEM). Sorghum projections are from the EPIC and HADGEM2-ES models. Soybean estimates are based on the EPIC model and two GCMs (HADGEM2-ES and IPSL-CM5A-LR) for the rainfed management and two GCMs (HADGEM2-ES and MIROC-ESM-CHEM) for the irrigated management system. Sugarcane is based on the combination of the EPIC and HADGEM2-ES models, and LPJLM model and three GCMs (HADGEM2-ES, IPSL-CM5A-LR, and MIROC-ESM-CHEM) for the rainfed management system. For the irrigated management system, the LPJLM model with the CO2 fertilization effect was combined with the MIROC-ESM-CHEM.

![Graphical user interface

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Figure S2. Percentage of relative crop yield change under the RCP 8.5 and 2.6 from the ensembles of agricultural models and GCMs for Mexico. Maize estimates are based on the EPIC model and three GCMs (HADGEM2-ES, IPSL-CM5A-LR, and MIROC-ESM-CHEM), as well as on the pDSSAT model and three GCMs (HADGEM2-ES, IPSL, and MIROC-ESM-CHEM). Rice estimates were obtained with the combination of EPIC and HADGEM2-ES models. Wheat projections are according to the EPIC model and three GCMs (HADGEM2-ES, IPSL-CM5A-LR, and MIROC-ESM-CHEM). Sorghum projections are from the EPIC and HADGEM2-ES models. Soybean estimates are based on the EPIC model and two GCMs (HADGEM2-ES and IPSL-CM5A-LR) for the rainfed management and two GCMs (HADGEM2-ES and MIROC-ESM-CHEM) for the irrigated management system. Sugarcane is based on the combination of the EPIC and HADGEM2-ES models, and LPJLM model and three GCMs (HADGEM2-ES, IPSL-CM5A-LR, and MIROC-ESM-CHEM) for the rainfed management system. For the irrigated management system, the LPJLM model with the CO2 fertilization effect was combined with the MIROC-ESM-CHEM.

Diagram

Description automatically generated

Figure S3. Differences between the projections of the EPIC, pDSSAT models under different GCMs for the six analyzed crops for the RCP2.6 and RCP8.5 scenarios, for the long-term projection. Each dot represents information from an individual state. Colors refer to the combination between the agricultural and climate models. When there is more than one climate model, the set of the observations are spread over the RCP and management boxplot. It is important to note that sugarcane has its own specific color coding.

Chart, pie chart

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Figure S4. Percentage of total costs of climate change per state from changes in yields of maize, wheat, sorghum, soybean, rice, and sugarcane. Others include states which account for less than 0.5% each (Aguascalientes, Baja California, Baja California Sur, Coahuila, Mexico City, Durango, Queretaro, Tlaxcala, and Yucatan).

|  |  |
| --- | --- |
| a) | b) |
| c) |  |

Figure S5. Projected change in yields (%) in rainfed maize for the RCP2.6 scenario using the EPIC-HadGEM-ES combination. Panels a), b) and c) show changes in yields for the short-term (2021-2030), medium-term (2031-2060), and long-term projections (2061-2099), respectively.

|  |  |
| --- | --- |
| a) | b) |
| c) |  |

Figure S6. Projected change in yields (%) in irrigated maize for the RCP2.6 scenario using the EPIC-HadGEM-ES combination. Panels a), b) and c) show changes in yields for the short-term (2021-2030), medium-term (2031-2060), and long-term projections (2061-2099), respectively.

|  |  |
| --- | --- |
| a) | b) |
| c) |  |

Figure S7. Projected change in yields (%) in rainfed rice for the RCP2.6 scenario using the EPIC-HadGEM-ES combination. Panels a), b) and c) show changes in yields for the short-term (2021-2030), medium-term (2031-2060), and long-term projections (2061-2099), respectively.

|  |  |
| --- | --- |
| a) | b) |
| c) |  |

Figure S8. Projected change in yields (%) in irrigated rice for the RCP2.6 scenario using the EPIC-HadGEM-ES combination. Panels a), b) and c) show changes in yields for the short-term (2021-2030), medium-term (2031-2060), and long-term projections (2061-2099), respectively.

|  |  |
| --- | --- |
| a) | b) |
| c) |  |

Figure S9. Projected change in yields (%) in rainfed wheat for the RCP2.6 scenario using the EPIC-HadGEM-ES combination. Panels a), b) and c) show changes in yields for the short-term (2021-2030), medium-term (2031-2060), and long-term projections (2061-2099), respectively.

|  |  |
| --- | --- |
| a) | b) |
| c) |  |

Figure S10. Projected change in yields (%) in irrigated wheat for the RCP2.6 scenario using the EPIC-HadGEM-ES combination. Panels a), b) and c) show changes in yields for the short-term (2021-2030), medium-term (2031-2060), and long-term projections (2061-2099), respectively.

|  |  |
| --- | --- |
|  |  |
|  |  |

Figure S11. Projected change in yields (%) in irrigated soybean for the RCP2.6 scenario using the EPIC-HadGEM-ES combination. Panels a), b) and c) show changes in yields for the short-term (2021-2030), medium-term (2031-2060), and long-term projections (2061-2099), respectively.

*Supplementary tables*

Table S1. Data of agricultural models, General circulation models, RCP scenarios and crops used in this study. \* Refers to CO2 fertilization effect.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Maize | | Rice | | Wheat | | Sorghum | | Soybean | | Sugarcane | |
|  | GCM | RCP | Rain | Irrig. | Rain | Irrig. | Rain | Irrig. | Rain | Irrig. | Rain | Irrig. | Rain | Irrig. |
| EPIC | HADGEM | 2.6 | X | X | X | X | X | X |  |  |  | X |  |  |
| 8.5 | X | X | X | X | X | X | X | X | X | X | X |  |
| IPSL | 2.6 |  |  |  |  |  |  |  |  |  |  |  |  |
| 8.5 | X | X |  |  | X | X |  |  |  |  |  |  |
| MIROC | 2.6 |  |  |  |  |  |  |  |  |  |  |  |  |
| 8.5 | X | X |  |  | X | X |  |  |  |  |  |  |
| pDSSAT | HADGEM | 2.6 | X | X |  |  |  |  |  |  |  |  |  |  |
| 8.5 | X | X |  |  |  |  |  |  |  |  |  |  |
| IPSL | 2.6 | X | X |  |  |  |  |  |  |  |  |  |  |
| 8.5 | X | X |  |  |  |  |  |  |  |  |  |  |
| MIROC | 2.6 | X | X |  |  |  |  |  |  |  |  |  |  |
| 8.5 | X | X |  |  |  |  |  |  |  |  |  |  |
| LPJLM | HADGEM | 2.6 |  |  |  |  |  |  |  |  |  |  | X |  |
| 8.5 |  |  |  |  |  |  |  |  |  |  | X |  |
| IPSL | 2.6 |  |  |  |  |  |  |  |  |  |  | X |  |
| 8.5 |  |  |  |  |  |  |  |  |  |  | X |  |
| MIROC | 2.6 |  |  |  |  |  |  |  |  |  |  | X, X\* | X\* |
| 8.5 |  |  |  |  |  |  |  |  |  |  | X, X\* | X\* |

Table S2. Summary at the national level of the present value of the estimated costs of climate change for rainfed and irrigated maize, rice, wheat, sorghum soybean and sugarcane under the RCP8.5 scenario.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Maize | Rice | Wheat | Sorghum | Soybean | Sugarcane | Total (rainfed + irrigated) |
| EPIC | 21,138.34 | 282.92 | 1,376.27 | 4,464.52 | 394.70 | 10,277.44 | 37,934.19 |
| All models (mean, no CO2, no irrigation sugarcane) | 16,632.68 | 199.74 | 1,407.71 | 4,464.52 | 394.70 | 2,435.37 | 25,534.73 |
| All models (min, no CO2, no irrigation sugarcane) | 7,535.66 | 199.74 | 1,128.14 | 4,464.52 | 349.27 | -5,406.69 | 8,270.66 |
| All models (min, CO2 + irrigation sugarcane) | 7,535.66 | 199.74 | 1,128.14 | 4,464.52 | 349.27 | -21,357.94 | -7,680.59 |
| All models (max) | 25,729.70 | 199.74 | 1,687.28 | 4,464.52 | 440.13 | 10,277.44 | 42,798.81 |

Note: Figures are in million dollars (2012).

Table S3. Present value of the estimated costs of climate change for rainfed maize, rice, wheat, sorghum soybean and sugarcane under the RCP8.5 scenario.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| State | EPIC-HADGEM3 | | | | | | pDSSAT | LPJLM | LPJLM |
|  | Maize | Rice | Wheat | Sorghum | Soybean | Sugarcane | Maize | Sugarcane | Sugarcane + CO2 |
| Aguascalientes | 14.39  (8.7, 18.7) |  |  |  |  |  | 12.4  (3.7, 18.24) |  |  |
| Baja California | 0.31  (0.07, 0.56) |  | -3.31  (-7.21, 1.22) |  |  |  | -0.42  (-0.64, -0.19) |  |  |
| Baja California Sur |  |  |  |  |  |  |  |  |  |
| Campeche | 585.95  (513.39, 661.89) | 56.73 |  | 21.83 | 46.82  (36.42, 57.23) | 173.80 | 561.48  (408.71, 694.84) | 37.22  (3.59, 58.98) | -26.63 |
| Coahuila | 15.82  (10.65, 21.19) |  | 0.17  (-0.02, 0.27) | 0.29 |  |  | 5.49  (-4.94, 12.82) |  |  |
| Colima | 27.86  (23.24, 33.91) | 6.12 |  | 2.51 |  | 212.89 | 20.86  (14.5, 29.58) | 22.62  (-55.79, 134.33) | -65.81 |
| Chiapas | 1918.92  (1543.81, 2361.79) | 1.80 | 0.24  (0.19, 0.34) | 35.50 | 46.75  (37.36, 56.15) | 437.42 | 1323.93  (1199.8, 1487.21) | -198.76  (-281.67, -126.55) | -345.95 |
| Chihuahua | 109.88  (72.32, 153.15) |  | 0.01  (-0.16, 0.19) | 7.02 |  |  | -295.3  (-373.52, -244.56) |  |  |
| Mexico City | 4.67  (0.19, 7.67) |  |  |  |  |  | -5.83  (-6.42, -4.84) |  |  |
| Durango | 112.25  (89.54, 144.51) |  | 2.26  (0.77, 4.84) | 12.76 |  |  | 109.83  (87.24, 131.22) |  |  |
| Guanajuato | 237.65  (50.99, 401.54) |  | 5.64  (1.88, 9.54) | 181.68 |  |  | 265.7  (183.7, 391.81) |  |  |
| Guerrero | 1027.02  (851.36, 1231.29) | 0.48 |  | 28.37 |  |  | 650.42  (569.03, 717.75) |  |  |
| Hidalgo | 241.74  (156.06, 349.4) |  | 1.04  (0.29, 1.49) | 0.03 |  |  | 258.4  (167.16, 370.31) |  |  |
| Jalisco | 2178.02  (1731.76, 2749.34) |  | 1.76  (1.35, 2.06) | 137.86 | 0.04  (0.03, 0.04) | 231.25 | 1743.03  (1304.24, 2253.54) | -466.91  (-643.02, -292.75) | -534.07 |
| Mexico | 947.27  (447.93, 1521.62) |  | 18.56  (-0.51, 28.45) | 0.28 |  |  | 674.23  (458.48, 935.69) |  |  |
| Michoacan | 708.46  (526.88, 1039.92) | 0.20 | 1.4  (0.83, 2.09) | 154.04 |  | 0.11 | 617.17  (278.76, 899.59) | -0.08  (-0.13, -0.03) | -0.11 |
| Morelos | 82.58  (55.79, 108.99) |  | 0.46  (0.29, 0.6) | 106.97 |  |  | 63.8  (57.01, 68.22) |  |  |
| Nayarit | 103.3  (90.77, 118.08) | 3.66 |  | 225.74 |  | 502.11 | 82.58  (25.64, 124.07) | -640.24  (-851.66, -282.98) | -886.75 |
| Nuevo Leon | 60.56  (32.81, 83.16) |  | 9.95  (7.88, 12.07) | 39.97 | 0.32  (0.31, 0.33) |  | 18.4  (-3.82, 39.25) |  |  |
| Oaxaca | 748.04 (688.56, 864.81) | 0.95 | 10.42  (2.66, 15.3) | 27.29 |  | 1551.16 | 461.75  (352.49, 525.59) | -1945.66  (-2433.29, -1263.08) | -2,640.96 |
| Puebla | 810.92  (578.91, 1017.92) |  | 2.7  (0.54, 3.9) | 26.72 |  | 5.77 | 609.2  (588.44, 645.17) | -17.43  (-22.17, -10.23) | -23.59 |
| Queretaro | 76.23  (41.2, 116.46) |  | 0.17  (0.08, 0.24) | 1.18 |  |  | 89.63  (65.78, 110.09) |  |  |
| Quintana Roo | 52.17  (41.3, 68.64) | 1.19 |  | 1.70 | 5.3  (3.18, 7.42) | 330.73 | 50.38  (39.78, 68.44) | 77.62  (-19.94, 132.17) | -91.61 |
| San Luis Potosi | 115.03  (84.87, 131.65) |  | 0.49  (0.38, 0.56) | 56.46 | 44.69  (43.14, 46.23) | 985.20 | 67.57  (32.42, 105.45) | -1157.87  (-1307.17, -898.47) | -1,740.83 |
| Sinaloa | 54.02  (42.61, 64.12) |  | 0.29  (0.21, 0.4) | 216.61 |  |  | 35.8  (29.4, 48) |  |  |
| Sonora | 1.8  (0.97, 2.89) |  | 0.03  (0.01, 0.05) | 21.87 |  |  | 0.22  (-0.01, 0.67) |  |  |
| Tabasco | 248.52  (211.97, 307.73) | 36.52 |  | 14.33 |  | 730.10 | 203.41  (161.85, 236.39) | 170.88  (150.64, 206.04) | 40.91 |
| Tamaulipas | 108.47  (74.42, 130.24) |  | 0.09  (0.04, 0.14) | 1345.33 | 181.45  (170.72, 192.17) | 319.49 | 74.96 (47.59, 110.24) | -105.58  (-183.24, -52.39) | -350.85 |
| Tlaxcala | 177.08  (86.08, 256.87) |  | 67.59  (-9.72, 108.49) |  |  |  | 202.32  (123.54, 303.52) |  |  |
| Veracruz | 1344.96  (1035.06, 1577.83) | 27.81 | 0.3  (0.23, 0.4) | 32.24 | 16.48  (11.63, 21.32) | 4797.41 | 1110.98  (1025.37, 1210.26) | -1182.5  (-2029.43, -19.07) | -3,053.47 |
| Yucatan | 170.24  (140.14, 216.74) |  |  | 1.42 | 6  (3.97, 8.03) |  | 168.2  (111.51, 216.75) |  |  |
| Zacatecas | 215.25  (144.29, 273.61) |  | 10.78  (5.68, 19.87) | 2.71 |  |  | 167.04  (90.75, 209.88) |  |  |
| **Total** | **12,499.41**  **(10,581.26, 16,000.61)** | **135.47** | **131.03**  **(19.97, 201.87)** | **2,702.70** | **347.83**  **(306.75, 388.92)** | **10,277.44** | **9,347.62**  **(8,107.97, 10,573.45)** | **-5,406.69**  **(-7,345.27, -2,475.65)** | **-9,719.71** |

Note: Figures are in million dollars (2012). Numbers in parenthesis represent minimum and maximum values of the ensemble of climate and/or crop models.

Table S4. Present value of the estimated costs of climate change for irrigated maize, rice, wheat, sorghum soybean and sugarcane under the RCP8.5 scenario.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | EPIC- HADGEM3 | | | | | pDSSAT | LPJLM |
|  | Maize | Rice | Wheat | Sorghum | Soybean | Maize | Sugarcane + CO2 |
| Aguascalientes | 34.19  (32.55, 36.68) |  |  | 0.10 |  | 26.38  (14.76, 44.08) |  |
| Baja California | 1.29  (1.17, 1.44) |  | 51.75  (19.61, 94.38) | 17.41 |  | -1.76  (-2.97, -0.94) |  |
| Baja California Sur | 7.36  (0.99, 19.28) |  | -0.81  (-2.15, 1.66) | 6.35 |  | 18.08  (5.17, 28.2) |  |
| Campeche | 3.36  (3.12, 3.7) | 32.68 |  | 0.10 | 1.56 | 2.53  (2.24, 2.87) | 2.93 |
| Coahuila | 12.03  (8.04, 14.39) |  | 3.86  (2.98, 5.34) | 6.90 |  | 7.47  (4.89, 9.41) |  |
| Colima | 9.04  (7.68, 10.39) | 9.39 |  | 1.47 |  | 6.36  (4.85, 7.25) | -5.02 |
| Chiapas | 40.77  (36.31, 43.87) | 0.36 |  | 0.36 | 0.29 | 23.28  (17.41, 28.14) | -377.45 |
| Chihuahua | 762.53  (700.5, 882.23) |  | 29.95  (19.91, 40.91) | 58.58 | 0.50 | -2685.81  (-3046.98, -2247.11) |  |
| Mexico City |  |  |  |  |  |  |  |
| Durango | 142.19  (113.42, 157.04) |  | 4.53  (3.79, 4.94) | 3.11 |  | 82.17  (79.02, 86.23) |  |
| Guanajuato | 484.65  (342.68, 721.09) |  | 128.58  (63.84, 179.82) | 432.45 |  | 434.11  (43.68, 684.68) |  |
| Guerrero | 103.76  (86.97, 114.22) | 2.00 |  | 2.55 |  | 55.91  (45.3, 68.85) |  |
| Hidalgo | 211.02  (92.14, 273.32) |  | 0.51  (-0.01, 0.95) | 0.14 |  | 200.76  (78.82, 331.69) |  |
| Jalisco | 127.34  (111.81, 151.2) | 6.22 | 60.81  (49.31, 72.76) | 11.94 | 0.00 | 97.73  (78.23, 127.37) | -5,029.99 |
| Mexico | 188.95  (66.79, 271.13) | 0.14 | 0.16  (0.05, 0.23) | 0.05 |  | 120.06  (73.19, 159.83) |  |
| Michoacan | 351.24  (281.89, 473.82) | 22.75 | 137.57  (122.99, 162.94) | 128.27 |  | 194.92  (92.03, 333.4) | -327.39 |
| Morelos | 12.2  (7.34, 14.89) | 9.99 |  | 1.80 |  | 9.77  (7.49, 12.13) | -508.45 |
| Nayarit | 21.19  (19.06, 22.29) | 25.14 |  | 18.47 | 0.00 | 14.52  (4.95, 21.95) | -277.20 |
| Nuevo Leon | 26.46  (17.02, 33.69) |  | 12.56  (9.44, 16.19) | 48.54 | 0.58 | 13.47  (8.41, 17.31) |  |
| Oaxaca | 101.65  (98.31, 103.85) |  | 1.52  (1.08, 1.79) | 3.05 |  | 59.36  (41.94, 69.95) | -122.35 |
| Puebla | 170.4  (110.42, 217.86) |  | 0.08  (0.04, 0.12) | 5.07 |  | 124.78  (83.32, 160.66) | -2,263.29 |
| Queretaro | 99.76  (63.18, 136.91) |  | 0.52  (0.15, 0.71) | 16.27 |  | 136.15  (118.19, 161.63) |  |
| Quintana Roo | 1.91  (1.6, 2.35) | 0.76 |  |  |  | 1.32  (1.02, 1.85) | 8.18 |
| San Luis Potosi | 48.99  (42.42, 52.51) |  | 0.06  (0.04, 0.07) | 6.06 | 2.43 | 19.75  (14.96, 22.3) | -1,292.06 |
| Sinaloa | 4853.1  (3970.03, 5491.39) | 9.07 | 52.31  (39.79, 68.42) | 396.38 | 3.70 | 2257.76  (-434.54, 4184.72) | -220.93 |
| Sonora | 199.85  (157.21, 251.22) |  | 760.62  (632.46, 1016.05) | 49.32 | 9.06 | 65.63  (43.27, 104.88) |  |
| Tabasco | 0.15  (0.14, 0.17) | 5.23 |  |  |  | 0.12  (0.09, 0.15) | 3.40 |
| Tamaulipas | 431.85  (411.54, 459.24) | 8.13 | 0.1  (0.07, 0.15) | 546.74 | 28.74 | 375.58  (312.69, 479.65) | -558.98 |
| Tlaxcala | 27.31  (7.46, 42.09) |  | 0  (-0.05, 0.04) |  |  | 26.91  (-0.18, 44.7) |  |
| Veracruz | 20.67  (16.07, 24.42) | 15.60 | 0.1  (0.06, 0.12) | 0.17 |  | 14.45  (11.94, 16.93) | -669.65 |
| Yucatan | 9.06  (8.12, 10.28) |  |  | 0.02 |  | 7.67  (6.15, 8.93) |  |
| Zacatecas | 134.62  (120.6, 146.08) |  | 0.46  (0.32, 0.58) | 0.15 |  | 46.58  (42.36, 54.46) |  |
| **Total** | **8638.93**  **(7074.91, 9729.08)** | **147.45** | **1245.24**  **(1108.18, 1485.4)** | **1,761.82** | **46.87** | **1756.01**  **(-572.31, 3364.73)** | **-11,638.23** |

Note: Figures are in million dollars (2012). Numbers in parenthesis represent minimum and maximum values of the ensemble of climate and/or crop models.

Table S5. Present value of the estimated costs of climate change for total (rainfed and irrigated) maize, rice, wheat, sorghum soybean and sugarcane under the RCP8.5 scenario.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State | EPIC-HADGEM3 | | | | | pDSSAT | LPJLM |
|  | Maize | Rice | Wheat | Sorghum | Soybean | Maize | Sugarcane + CO2 |
| Aguascalientes | 48.58  (42.05, 55.39) |  |  | 0.10 |  | 38.78  (24.01, 62.32) |  |
| Baja California | 1.6  (1.33, 2) |  | 48.44  (12.39, 90.43) | 17.41 |  | -2.18  (-3.42, -1.13) |  |
| Baja California Sur | 7.36  (0.99, 19.28) |  | -0.81  (-2.15, 1.66) | 6.35 |  | 18.08  (5.17, 28.2) |  |
| Campeche | 589.31  (516.67, 665.58) | 89.42 |  | 21.93 | 48.38 | 564.01  (410.95, 697.71) | -23.69 |
| Coahuila | 27.85  (18.69, 35.58) |  | 4.03  (2.96, 5.6) | 7.20 |  | 12.96  (-0.05, 22.23) |  |
| Colima | 36.9  (30.92, 44.3) | 15.50 |  | 3.98 |  | 27.22  (19.35, 36.58) | -70.82 |
| Chiapas | 1959.69  (1580.13, 2405.66) | 2.16 | 0.24  (0.19, 0.34) | 35.86 | 47.05 | 1347.21  (1227.95, 1504.62) | -723.40 |
| Chihuahua | 872.41  (772.82, 1035.38) |  | 29.95  (19.75, 41.1) | 65.59 | 0.50 | -2981.11  (-3420.5, -2491.67) |  |
| Mexico City | 4.67  (0.19, 7.67) |  |  |  |  | -5.83  (-6.42, -4.84) |  |
| Durango | 254.45  (216.14, 300.62) |  | 6.8  (4.56, 9.78) | 15.87 |  | 191.99  (166.26, 217.45) |  |
| Guanajuato | 722.31  (393.68, 1122.63) |  | 134.22  (73.39, 185.33) | 614.13 |  | 699.81  (265.27, 965.78) |  |
| Guerrero | 1130.78  (938.33, 1345.51) | 2.48 |  | 30.92 |  | 706.33  (622.62, 786.6) |  |
| Hidalgo | 452.76  (248.2, 617) |  | 1.55  (1.24, 2.08) | 0.17 |  | 459.16  (245.98, 569.42) |  |
| Jalisco | 2305.36  (1843.57, 2900.54) | 6.22 | 62.58  (51.37, 74.64) | 149.79 | 0.04 | 1840.75  (1382.48, 2380.91) | -5,564.06 |
| Mexico | 1136.23  (514.72, 1792.75) | 0.14 | 18.72  (-0.31, 28.69) | 0.32 |  | 794.29  (531.67, 1062.86) |  |
| Michoacan | 1059.71  (824.9, 1513.74) | 22.95 | 138.97  (123.83, 164.22) | 282.31 |  | 812.09  (370.79, 1058.92) | -327.50 |
| Morelos | 94.78  (63.13, 123.36) | 9.99 | 0.46  (0.29, 0.6) | 108.77 |  | 73.58  (64.49, 80.35) | -508.45 |
| Nayarit | 124.49  (109.83, 140.36) | 28.80 |  | 244.20 | 0.00 | 97.1  (30.59, 146.02) | -1,163.95 |
| Nuevo Leon | 87.02  (49.84, 116.85) |  | 22.5  (17.32, 28.26) | 88.51 | 0.89 | 31.86  (4.59, 56.56) |  |
| Oaxaca | 849.69  (789.08, 968.66) | 0.95 | 11.94  (4.45, 16.99) | 30.35 |  | 521.11  (394.43, 591.79) | -2,763.31 |
| Puebla | 981.32  (689.33, 1200.84) |  | 2.78  (0.66, 3.94) | 31.80 |  | 733.97  (724.33, 749.1) | -2,286.88 |
| Queretaro | 175.99  (134.21, 253.37) |  | 0.69  (0.39, 0.88) | 17.45 |  | 225.77  (221.63, 228.28) |  |
| Quintana Roo | 54.08  (43.08, 70.99) | 1.95 |  | 1.70 | 5.30 | 51.69  (40.87, 70.28) | -83.43 |
| San Luis Potosi | 164.03  (136.92, 181.1) |  | 0.55  (0.44, 0.61) | 62.52 | 47.12 | 87.32  (54.41, 120.41) | -3,032.89 |
| Sinaloa | 4907.11  (4012.63, 5546.72) | 9.07 | 52.6  (40.04, 68.82) | 612.99 | 3.70 | 2293.56  (-404.55, 4232.72) | -220.93 |
| Sonora | 201.65  (158.18, 254.1) |  | 760.65  (632.47, 1016.1) | 71.19 | 9.06 | 65.86  (43.28, 105.55) |  |
| Tabasco | 248.67  (212.11, 307.9) | 41.75 |  | 14.33 |  | 203.53  (161.95, 236.53) | 44.32 |
| Tamaulipas | 540.32  (485.96, 579.99) | 8.13 | 0.19  (0.13, 0.29) | 1,892.07 | 210.19 | 450.54  (379.74, 589.89) | -909.82 |
| Tlaxcala | 204.39  (93.54, 289.26) |  | 67.58  (-9.68, 108.44) |  |  | 229.24  (159.75, 303.34) |  |
| Veracruz | 1365.64  (1051.12, 1599.36) | 43.42 | 0.4  (0.33, 0.51) | 32.41 | 16.48 | 1125.42  (1042.29, 1222.2) | -3,723.12 |
| Yucatan | 179.3  (148.92, 227.03) |  |  | 1.44 | 6.00 | 175.88  (117.66, 224.69) |  |
| Zacatecas | 349.87  (281.48, 419.69) |  | 11.24  (6.25, 20.19) | 2.86 |  | 213.62  (133.11, 254.93) |  |
| **Total** | **21138.34**  **(17656.17, 25729.7)** | **282.92** | **1376.27**  **(1128.14, 1687.28)** | **4,464.52** | **394.70** | **11103.63**  **(10001.14, 12726.18)** | **-21,357.94** |

Note: Figures are in million dollars (2012). Numbers in parenthesis represent minimum and maximum values of the ensemble of climate and/or crop models.

Table S6. Present value of the estimated costs of climate change for rainfed maize, rice, wheat, sorghum soybean and sugarcane under the RCP2.6 scenario.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| State | Maize (EPIC) | Maize (pDSSAT) | Rice (EPIC) | Wheat (EPIC) | Sugarcane  (LPJLM) | Sugarcane CO2  (LPJLM) |
| Aguascalientes | 2.42 | -3.46 |  |  |  |  |
| Baja California | -0.20 | -0.76 |  | -1.36 |  |  |
| Baja California Sur |  |  |  |  |  |  |
| Campeche | 310.30 | 239.69 | 35.81 |  | -0.19  (-23.92, 15.2) | -43.83 |
| Coahuila | 10.74 | 5.48 |  | 0.07 |  |  |
| Colima | 14.78 | 10.87 | 3.49 |  | -22.64  (-49.85, 7.98) | -49.84 |
| Chiapas | 1,015.66 | 682.78 | 1.07 | 0.23 | -240.19  (-300.36, -191.66) | -332.93 |
| Chihuahua | 48.92 | -237.65 |  | 0.01 |  |  |
| Mexico City | -0.43 | -4.30 |  |  |  |  |
| Durango | 36.41 | 55.55 |  | 1.47 |  |  |
| Guanajuato | 50.64 | -48.61 |  | 0.94 |  |  |
| Guerrero | 468.08 | 405.19 | 0.28 |  |  |  |
| Hidalgo | 51.88 | -27.48 |  | 0.47 |  |  |
| Jalisco | 1,049.67 | 1,164.36 |  | 0.73 | -372.45  (-472.1, -318.16) | -324.31 |
| Mexico | 163.85 | 145.70 |  | 15.75 |  |  |
| Michoacan | 302.15 | 442.32 | 0.11 | 0.17 | -0.08  (-0.11, -0.07) | -0.08 |
| Morelos | 27.24 | 26.68 |  | 0.41 |  |  |
| Nayarit | 42.49 | 43.99 | 1.96 |  | -603.53  (-717.88, -418.08) | -662.95 |
| Nuevo Leon | 44.85 | 11.13 |  | 5.69 |  |  |
| Oaxaca | 394.50 | 340.66 | 0.58 | 8.24 | -1664.31  (-2117.87, -1260.85) | -2,142.78 |
| Puebla | 302.15 | 276.54 |  | 2.08 | -15.54  (-19.14, -11.85) | -18.75 |
| Queretaro | 11.58 | -21.77 |  | 0.02 |  |  |
| Quintana Roo | 19.88 | 17.09 | 0.56 |  | -20.63  (-78.91, 22.65) | -119.76 |
| San Luis Potosi | 40.65 | 13.93 |  | 0.12 | -1154.99  (-1199.76, -1078.84) | -1,333.42 |
| Sinaloa | 22.04 | 39.95 |  | 0.21 |  |  |
| Sonora | 0.57 | -0.29 |  | 0.02 |  |  |
| Tabasco | 125.80 | 78.78 | 23.23 |  | 69.41  (23.86, 124.71) | -64.11 |
| Tamaulipas | 66.92 | 77.63 |  | 0.03 | -190.53  (-216.9, -138.98) | -304.65 |
| Tlaxcala | 39.66 | 3.55 |  | 69.25 |  |  |
| Veracruz | 556.70 | 574.83 | 16.65 | 0.24 | -1892.58  (-2579.85, -1365.68) | -3,112.88 |
| Yucatan | 75.84 | 55.37 |  |  |  |  |
| Zacatecas | 54.90 | 47.65 |  | 3.97 |  |  |
| **Total** | 5,350.63 | 4,415.42 | 83.73 | 108.77 | **-6108.25**  **(-7539.55, -4828.8)** | -8,510.28 |

Note: Figures are in million dollars (2012). Numbers in parenthesis represent minimum and maximum values of the ensemble of climate and/or crop models.

Table S7. Present value of the estimated costs of climate change for irrigated maize, rice, wheat, sorghum soybean and sugarcane under the RCP2.6 scenario.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| State | Maize (EPIC) | Maize (pDSSAT) | Rice (EPIC) | Wheat (EPIC) | Soybean  (EPIC) | Sugarcane CO2  (LPJLM) |
| Aguascalientes | 17.59 | -9.35 |  |  |  |  |
| Baja California | 0.64 | -2.29 |  | 13.14 |  |  |
| Baja California Sur | -6.22 | -9.39 |  | 0.44 |  |  |
| Campeche | 1.95 | 1.36 | 12.62 |  | 0.76 | 2.29 |
| Coahuila | 6.80 | 3.07 |  | 1.27 |  |  |
| Colima | 4.98 | 3.48 | 4.29 |  |  | -12.14 |
| Chiapas | 23.98 | 15.49 | 0.15 |  | 0.15 | -355.98 |
| Chihuahua | 377.24 | -2,314.46 |  | 20.29 | 0.25 |  |
| Mexico City |  |  |  |  |  |  |
| Durango | 58.34 | 19.20 |  | 2.69 |  |  |
| Guanajuato | 190.74 | -35.69 |  | 113.60 |  |  |
| Guerrero | 46.63 | 33.74 | 0.91 |  |  |  |
| Hidalgo | 37.18 | -24.98 |  | 0.39 |  |  |
| Jalisco | 68.84 | 60.79 | 3.01 | 34.17 | 0.00 | -3,162.52 |
| Mexico | 22.65 | 30.84 | 0.10 | 0.14 |  |  |
| Michoacan | 152.29 | 216.25 | 10.74 | 102.96 |  | -276.09 |
| Morelos | 3.79 | 3.87 | 4.78 |  |  | -557.07 |
| Nayarit | 9.20 | 7.73 | 12.12 |  | 0.00 | -214.21 |
| Nuevo Leon | 17.89 | 8.14 |  | 3.66 | 0.41 |  |
| Oaxaca | 57.32 | 42.61 |  | 1.00 |  | -100.82 |
| Puebla | 60.85 | 64.02 |  | 0.05 |  | -1,940.03 |
| Queretaro | 23.21 | 14.07 |  | 0.48 |  |  |
| Quintana Roo | 0.97 | 0.78 | 0.31 |  |  | 5.38 |
| San Luis Potosi | 18.99 | 3.72 |  | 0.03 | 1.24 | -997.96 |
| Sinaloa | 2,076.64 | 2,487.31 | 3.76 | 29.40 | 0.99 | -255.60 |
| Sonora | 104.94 | 42.11 |  | 623.93 | 5.79 |  |
| Tabasco | 0.08 | 0.06 | 2.03 |  |  | 2.44 |
| Tamaulipas | 234.44 | 301.92 | 3.28 | 0.04 | 12.73 | -613.09 |
| Tlaxcala | 2.20 | 0.77 |  | 0.01 |  |  |
| Veracruz | 9.22 | 6.81 | 6.17 | 0.06 |  | -733.36 |
| Yucatan | 5.09 | 3.64 |  |  |  |  |
| Zacatecas | 61.36 | 5.12 |  | 0.27 |  |  |
| **Total** | 3,689.85 | 980.73 | 64.27 | 948.03 | 22.31 | -9,208.75 |

Note: Figures are in million dollars (2012).

Table S8. Present value of the estimated costs of climate change for total (rainfed and irrigated) maize, rice, wheat, sorghum soybean and sugarcane under the RCP2.6 scenario.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| State | Maize (EPIC) | Maize (pDSSAT) | Rice (EPIC) | Wheat (EPIC) | Sugarcane CO2  (LPJLM) |
| Aguascalientes | 20.01 | -12.81 |  |  |  |
| Baja California | 0.45 | -3.05 |  | 11.78 |  |
| Baja California Sur | -6.22 | -9.39 |  | 0.44 |  |
| Campeche | 312.25 | 241.04 | 55.87 |  | -41.54 |
| Coahuila | 17.55 | 8.55 |  | 1.34 |  |
| Colima | 19.75 | 14.35 | 8.59 |  | -61.98 |
| Chiapas | 1,039.64 | 698.26 | 1.28 | 0.23 | -688.91 |
| Chihuahua | 426.16 | -2,552.11 |  | 20.30 |  |
| Mexico City | -0.43 | -4.30 |  |  |  |
| Durango | 94.75 | 74.75 |  | 4.16 |  |
| Guanajuato | 241.38 | -84.30 |  | 114.54 |  |
| Guerrero | 514.71 | 438.93 | 1.37 |  |  |
| Hidalgo | 89.06 | -52.46 |  | 0.86 |  |
| Jalisco | 1,118.51 | 1,225.15 | 3.20 | 34.90 | -3,486.83 |
| Mexico | 186.51 | 176.54 | 0.04 | 15.89 |  |
| Michoacan | 454.44 | 658.57 | 12.13 | 103.13 | -276.17 |
| Morelos | 31.03 | 30.55 | 5.21 | 0.41 | -557.07 |
| Nayarit | 51.70 | 51.72 | 14.97 |  | -877.16 |
| Nuevo Leon | 62.74 | 19.27 |  | 9.35 |  |
| Oaxaca | 451.82 | 383.27 | 0.58 | 9.24 | -2,243.60 |
| Puebla | 363.00 | 340.56 |  | 2.14 | -1,958.78 |
| Queretaro | 34.78 | -7.69 |  | 0.50 |  |
| Quintana Roo | 20.85 | 17.87 | 1.00 |  | -114.38 |
| San Luis Potosi | 59.64 | 17.65 |  | 0.15 | -2,331.37 |
| Sinaloa | 2,098.68 | 2,527.26 | 5.30 | 29.61 | -255.60 |
| Sonora | 105.51 | 41.82 |  | 623.95 |  |
| Tabasco | 125.88 | 78.84 | 26.43 |  | -61.67 |
| Tamaulipas | 301.36 | 379.55 | 4.85 | 0.08 | -917.74 |
| Tlaxcala | 41.86 | 4.32 |  | 69.26 |  |
| Veracruz | 565.92 | 581.64 | 26.08 | 0.30 | -3,846.23 |
| Yucatan | 80.94 | 59.02 |  |  |  |
| Zacatecas | 116.26 | 52.77 |  | 4.24 |  |
| **Total** | **9,040.48** | **5,396.15** | **166.91** | **1,056.80** | **-17,719.03** |

Note: Figures are in million dollars (2012).

Table S9. Present value of the estimated benefits of the RCP2.6 with respect to the RCP8.5 scenario for rainfed maize, rice, wheat, sorghum soybean and sugarcane under scenario.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| State | Maize (EPIC) | Maize (pDSSAT) | Rice (EPIC) | Wheat (EPIC) | Sugarcane  (LPJLM) | Sugarcane CO2  (LPJLM) |
| Aguascalientes | 13.34 | 18.72 |  |  |  |  |
| Baja California | 0.27 | 0.32 |  | -5.85 |  |  |
| Baja California Sur |  |  |  |  |  |  |
| Campeche | 203.09 | 169.03 | 20.92 |  | 37.41  (27.51, 50.83) | 17.21 |
| Coahuila | 10.44 | 7.34 |  | -0.09 |  |  |
| Colima | 11.65 | 7.62 | 2.63 |  | 45.26  (-5.94, 126.34) | -15.96 |
| Chiapas | 835.51 | 517.03 | 0.73 | 0.12 | 41.43  (3.59, 102.01) | -13.02 |
| Chihuahua | 55.23 | -30.17 |  | -0.17 |  |  |
| Mexico City | 0.61 | -1.94 |  |  |  |  |
| Durango | 66.31 | 75.67 |  | -0.70 |  |  |
| Guanajuato | 209.79 | 270.20 |  | 4.57 |  |  |
| Guerrero | 383.28 | 163.84 | 0.20 |  |  |  |
| Hidalgo | 104.18 | 194.64 |  | 1.01 |  |  |
| Jalisco | 1,003.30 | 1,089.18 |  | 0.62 | -94.45  (-170.92, 25.41) | -209.77 |
| Mexico | 284.08 | 312.78 |  | 12.70 |  |  |
| Michoacan | 256.44 | 230.83 | 0.09 | 1.11 | 0  (-0.03, 0.04) | -0.03 |
| Morelos | 28.55 | 39.50 |  | 0.19 |  |  |
| Nayarit | 48.28 | 80.08 | 1.71 |  | -36.7  (-133.78, 135.1) | -223.80 |
| Nuevo Leon | 38.31 | 28.12 |  | 2.18 |  |  |
| Oaxaca | 296.27 | 184.93 | 0.37 | 7.06 | -281.35  (-526.39, -2.23) | -498.19 |
| Puebla | 276.76 | 317.44 |  | 1.57 | -1.9  (-4.29, 1.63) | -4.84 |
| Queretaro | 59.45 | 114.77 |  | 0.16 |  |  |
| Quintana Roo | 21.41 | 22.69 | 0.64 |  | 98.25  (58.98, 126.24) | 28.15 |
| San Luis Potosi | 91.00 | 91.52 |  | 0.26 | -2.88  (-120.81, 180.37) | -407.41 |
| Sinaloa | 20.57 | 8.05 |  | 0.00 |  |  |
| Sonora | 0.99 | 0.96 |  | -0.01 |  |  |
| Tabasco | 86.17 | 83.07 | 13.29 |  | 101.46  (81.33, 126.78) | 105.02 |
| Tamaulipas | 63.32 | 32.61 |  | 0.01 | 84.95  (32.47, 164.51) | -46.19 |
| Tlaxcala | 46.43 | 176.36 |  | 34.74 |  |  |
| Veracruz | 478.36 | 522.47 | 11.16 | 0.16 | 710.09  (233.24, 1346.61) | 59.41 |
| Yucatan | 64.29 | 56.14 |  |  |  |  |
| Zacatecas | 172.94 | 162.24 |  | 2.83 |  |  |
| **Total** | **5,230.63** | **4,946.03** | **51.74** | **62.48** | **701.57**  **(-442.72, 2353.15)** | **-1,209.43** |

Note: Figures are in million dollars (2012). Numbers in parenthesis represent minimum and maximum values of the ensemble of climate and/or crop models.

Table S10. Present value of the estimated benefits of the RCP2.6 with respect to the RCP8.5 scenario for irrigated maize, rice, wheat, sorghum soybean and sugarcane under scenario.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| State | Maize (EPIC) | Maize (pDSSAT) | Rice (EPIC) | Wheat (EPIC) | Soybean  (EPIC) | Sugarcane CO2  (LPJLM) |
| Aguascalientes | 14.96 | 24.11 |  |  |  |  |
| Baja California | 0.61 | -0.69 |  | 6.47 |  |  |
| Baja California Sur | 8.03 | 14.56 |  | -2.38 |  |  |
| Campeche | 1.33 | 0.88 | 12.62 |  | 0.80 | 0.64 |
| Coahuila | 7.59 | 6.33 |  | 1.71 |  |  |
| Colima | 4.08 | 3.77 | 4.29 |  |  | 7.12 |
| Chiapas | 18.14 | 12.66 | 0.15 |  | 0.15 | -21.47 |
| Chihuahua | 327.63 | -448.88 |  | -0.38 | 0.24 |  |
| Mexico City |  |  |  |  |  |  |
| Durango | 55.08 | 67.02 |  | 1.10 |  |  |
| Guanajuato | 199.44 | 79.37 |  | 66.22 |  |  |
| Guerrero | 40.34 | 19.85 | 0.91 |  |  |  |
| Hidalgo | 54.96 | 103.81 |  | 0.20 |  |  |
| Jalisco | 50.18 | 66.58 | 3.01 | 26.21 | 0.00 | -1,867.46 |
| Mexico | 44.14 | 42.35 | 0.10 | 0.09 |  |  |
| Michoacan | 129.60 | 117.15 | 10.74 | 59.98 |  | -51.30 |
| Morelos | 3.54 | 5.84 | 4.78 |  |  | 48.62 |
| Nayarit | 9.85 | 14.23 | 12.12 |  | 0.00 | -62.99 |
| Nuevo Leon | 15.80 | 9.18 |  | 5.79 | 0.17 |  |
| Oaxaca | 40.99 | 23.59 |  | 0.70 |  | -21.53 |
| Puebla | 49.56 | 66.34 |  | 0.04 |  | -323.25 |
| Queretaro | 39.97 | 114.55 |  | 0.22 |  |  |
| Quintana Roo | 0.81 | 0.31 | 0.31 |  |  | 2.80 |
| San Luis Potosi | 23.44 | 11.24 |  | 0.03 | 1.20 | -294.10 |
| Sinaloa | 1,893.39 | 1,697.41 | 3.76 | 19.31 | 2.72 | 34.66 |
| Sonora | 86.17 | 62.77 |  | 8.53 | 3.28 |  |
| Tabasco | 0.06 | 0.05 | 2.03 |  |  | 0.96 |
| Tamaulipas | 190.34 | 177.73 | 3.28 | 0.05 | 16.01 | 54.11 |
| Tlaxcala | 5.26 | 43.93 |  | -0.01 |  |  |
| Veracruz | 6.84 | 7.66 | 6.17 | 0.05 |  | 63.71 |
| Yucatan | 3.69 | 2.51 |  |  |  |  |
| Zacatecas | 59.24 | 37.81 |  | 0.20 |  |  |
| **Total** | **3,385.07** | **2,384.00** | **64.27** | **194.11** | **24.56** | **-2,429.48** |

Note: Figures are in million dollars (2012).

Table S11. Present value of the estimated benefits of the RCP2.6 with respect to the RCP8.5 scenario for total (rainfed and irrigated) maize, rice, wheat, sorghum soybean and sugarcane under scenario.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| State | Maize (EPIC) | Maize (pDSSAT) | Rice (EPIC) | Wheat (EPIC) | Sugarcane CO2  (LPJLM) |
| Aguascalientes | 28.29 | 42.82 |  |  |  |
| Baja California | 0.88 | -0.37 |  | 0.61 |  |
| Baja California Sur | 8.03 | 14.56 |  | -2.38 |  |
| Campeche | 204.42 | 169.91 | 33.54 |  | 17.85 |
| Coahuila | 18.03 | 13.67 |  | 1.62 |  |
| Colima | 15.73 | 11.39 | 6.92 |  | -8.84 |
| Chiapas | 853.66 | 529.68 | 0.88 | 0.12 | -34.49 |
| Chihuahua | 382.86 | -479.05 |  | -0.55 |  |
| Mexico City | 0.61 | -1.94 |  |  |  |
| Durango | 121.39 | 142.69 |  | 0.41 |  |
| Guanajuato | 409.23 | 349.57 |  | 70.79 |  |
| Guerrero | 423.62 | 183.69 | 1.11 |  |  |
| Hidalgo | 159.14 | 298.44 |  | 1.22 |  |
| Jalisco | 1,053.48 | 1,155.76 | 3.01 | 26.82 | -2,077.23 |
| Mexico | 328.22 | 355.13 | 0.10 | 12.80 |  |
| Michoacan | 386.04 | 347.98 | 10.82 | 61.09 | -51.33 |
| Morelos | 32.10 | 45.34 | 4.78 | 0.19 | 48.62 |
| Nayarit | 58.14 | 94.30 | 13.83 |  | -286.79 |
| Nuevo Leon | 54.11 | 37.30 |  | 7.97 |  |
| Oaxaca | 337.26 | 208.52 | 0.37 | 7.75 | -519.71 |
| Puebla | 326.33 | 383.78 |  | 1.61 | -328.10 |
| Queretaro | 99.42 | 229.32 |  | 0.38 |  |
| Quintana Roo | 22.22 | 23.00 | 0.95 |  | 30.95 |
| San Luis Potosi | 114.44 | 102.76 |  | 0.29 | -701.51 |
| Sinaloa | 1,913.96 | 1,705.45 | 3.76 | 19.31 | 34.66 |
| Sonora | 87.16 | 63.73 |  | 8.52 |  |
| Tabasco | 86.23 | 83.12 | 15.32 |  | 105.98 |
| Tamaulipas | 253.66 | 210.34 | 3.28 | 0.05 | 7.91 |
| Tlaxcala | 51.68 | 220.29 |  | 34.74 |  |
| Veracruz | 485.20 | 530.13 | 17.33 | 0.21 | 123.12 |
| Yucatan | 67.98 | 58.65 |  |  |  |
| Zacatecas | 232.18 | 200.05 |  | 3.03 |  |
| **Total** | **8,615.69** | **7,330.03** | **116.01** | **256.59** | **-3,638.91** |

Note: Figures are in million dollars (2012).